This document must be used

for training purposes only.

Under no circumstances

should this document be used as a reference.

It will not be updated.

I HAVE READ AND FULLY UNDERSTOOD THIS NOTICE.

NAME :	***FIRST NAME :***
AIRLINE :	***COURSE NUMBER :***
DATE :	***SIGNED :***

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FLIGHT CREW TRAINING MANUAL

VOLUME 1 - TRAINING SUPPORT

AIRBUS INDUSTRIE
TRAINING & FLIGHT OPERATIONS SUPPORT DIVISION

CHAPTER 00 - GENERAL INFORMATION

CHAPTER 01 - Left intentionally blank

CHAPTER 02 - NORMAL OPERATION BRIEFINGS

CHAPTER 03 - ABNORMAL OPERATION BRIEFINGS

CHAPTER 04 - PERFORMANCE

CHAPTER 05 - MASTER MINIMUM EQUIPMENT LIST (MMEL)

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CHAPTER 00

- GENERAL INFORMATION -

1.00.01 - ORGANISATION OF THE MANUAL

1.00.02 - LIST OF NORMAL REVISIONS

1.00.03 - LIST OF TEMPORARY REVISIONS

1.00.04 - LIST OF EFFECTIVE PAGES

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01 - FOREWORD

The Flight Crew Training Manual (FCTM) is the support documentation for Flight Crew trainees and instructors and has three objectives :

- It gives Airbus Industrie's philosophy referring to the FCOM and when necessary supplements the FCOM normal, abnormal/emergency procedures to perform training exercises, ensuring homogeneous instruction and operational use
- It contains teaching advises and key points essential for the correct performance of procedures and exercises.
- It deals with the details of the various phases of instruction (briefings, syllabi, ...)

02 - COMMENTS - QUESTIONS - SUGGESTIONS

The FCTM is sent to each Customer Airline's Flight Operation Department and is updated via a "Revision Service" .

All manual holders and users are encouraged to forward their questions and suggestions regarding the Flight Crew Training Manual.
Any questions with respect to use of this manual or information contained herein shall be directed to :

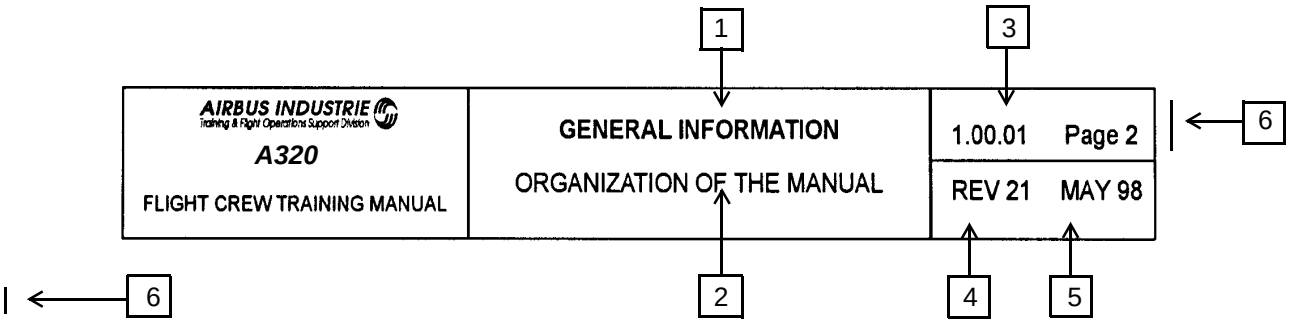
AIRBUS INDUSTRIE TRAINING CENTRE
Customer Services Directorate
5 rue Gabriel Clerc
31707 BLAGNAC CEDEX - FRANCE
ATTN. : Training Policy Department
FAX : 33.(0)5.62.11.07.40

03 - CONTENTS

The FCTM is divided into two volumes :

- Volume 1 : Training Support
- Volume 2 : Training Syllabi

04 - PAGINATION



1 Chapter title

2 Section title

3 FCTM volume number - Chapter number - Section number - Page number

4 Revision number

5 Revision date

6 A revision bar in front of a line indicates that the line has been revised
A revision bar in front of the page number indicates that the whole page has been revised.

05 - NORMAL REVISIONS

They are issued periodically to cover changes and / or to add new data.
Two documents added to each revision facilitate its incorporation :

- The "Filing Instructions" sheet : it lists the pages to be removed or inserted
- The "List of Effective Pages (LEP)" sheet : it list all the FCTM valid pages

Normal revisions are recorded in the "List of Normal Revisions" section

06 - TEMPORARY REVISIONS

They are printed on yellow paper and are issued when justifying urgent action between normal revisions.
They are recorded in the "List of Temporary Revisions" section.

07 - CUSTOMIZATION

When some items of the Airbus Industrie training philosophy are not adopted by a Customer Airline, they are replaced by those of the Airline. The corresponding header pages bear the name of the Airline and are printed in blue.

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N°	ISSUE DATE	ENTRY INTO SERVICE DATE
01	NOV 89	-
02	JAN 90	-
03	MAR 90	-
04	MAY 90	-
05	JUN 90	-
06	AUG 90	-
07	NOV 90	-
08	FEB 91	-
09	NOV 92	-
10	DEC 92	-
11	JAN 93	-
12	APR 93	-
13	JUL 93	-
14	OCT 93	-
15	NOV 93	-
16	MAR 94	-
17	AUG 94	-
18	FEB 95	-
19	JUL 95	-
20	JUL 96	-
21	MAY 98	-
22	OCT 98 *(Volume 2 ONLY)*	-
23	JUL 99	-
24	JUN 2001	03 OCT 2001 *(EDW n° 011114)*

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N°	DATE IN	DATE OUT	LOCATION	ENTRY INTO SERVICE DATE
01	JAN 91	REV 08	03.03 Page 5C 05.01 Page 2 07.02 Page 3	-
02	FEB 93	REV 12	Chapter 08 - LOFT	-
03	FEB 93	REV 12	Chapter 08 - LOFT	-
04	MAR 94	REV 17	17.05 Page 7	-
05	AUG 94	REV 17	10.03 page 3	-
06	NOV 95	REV 21	Chapter 02 Chapter 06 Chapter 07	-
07	APR 96	REV 20	Chapter 04 Chapter 21	-
08	OCT 96	REV 21	Chapter 11	-
09	AUG 97	REV 21	Chapter 08	-
10	JAN 98	REV 21	Chapter 12 Chapter 13	-
11	NOV 99	TR 13	VOL 2 - Chapter 02	-
12	JAN 2000	REV 24	VOL 2 - Chapter 02	-
13	AUG 2000	REV 24	VOL 2 - Chapter 02	04 OCT 2000

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TO BE ISSUED LATER ON

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CHAPTER 02

- NORMAL OPERATION BRIEFINGS -

1.02.01 - GENERAL

- Welcome Briefing
- Airbus Documentation
- LOFT Briefing
- Base Training Briefing

1.02.05 - EXTERIOR INSPECTION

1.02.06 - COCKPIT PREPARATION

1.02.07 - TAKE-OFF BRIEFING

1.02.08 - ENGINE START - AUTO OR MANUAL -

1.02.10 - TAXI

1.02.12 - TAKE-OFF

- Crosswind or Tailwind

1.02.14 - CLIMB

1.02.15 - CRUISE MANAGEMENT

1.02.16 - DESCENT AND APPROACH - PREPARATION AND BRIEFING -

1.02.17 - DESCENT

- Standard Approach
- Glide Slope Interception from Above
- Raw Data Approach

1.02.19 - NON PRECISION APPROACHES

1.02.20 - VISUAL APPROACH - TRAFFIC PATTERN AND SIDE STEP -

1.02.21 - CAT II - CAT III LOW VISIBILITY OPERATIONS

1.02.22 - LANDING - LANDING AND STOPPING THE AIRCRAFT -

1.02.23 - GO AROUND

1.02.27 - FLIGHT WITH GEAR DOWN

1.02.28 - GPWS WARNING

1.02.29 - FMGS

1.02.30 - GLOBAL POSITIONING SYSTEM

1.02.32 - ADVERSE WEATHER

- Cold/hot Weather and High Altitude Runway Operation
- Flight in Severe Turbulence
- Windshear - Take-off / Approach

1.02.33 - PERFORMANCE

- Flight Preparation - Fuel Calculation
- Approach Speeds
- Contaminated Runways
- Climb and Descent
- Preflight Planning for One Engine Out

1.02.34 - FLIGHT CONTROLS - FLIGHT CHARACTERISTICS

1.02.35 - FLIGHT DIRECTOR MODE REVERSIONS

1.02.36 - USE OF TRACK / FPA / FPV / FPD

WELCOME BRIEFING
(By simulator instructor)

01 - TRAINING OBJECTIVE

- To familiarize the trainee with course schedule and documentation.
- To familiarize the trainee with the training center facilities.

02 - SCHEDULE

Briefing duration : 1:30

03 - EQUIPMENT

- Document demonstration bag
- Course schedule
- Golden Rules Card
- Blank Trainees' file
- Welcome "Power Point" presentation on the network

04 - INSTRUCTOR'S ACTIONS

A. MAIN

- The Welcome presentation includes :
  - Explanation of course phases, trainee's schedule and training equipment.
  - Presentation and use of documentation (Performance Training Manual).
  - Golden rules video.
  - Training center organization and layout.

- Training Center orientation
- Portable computer
- Files to be correctly filled out by trainees.

a. Day before briefing

- Check the scheduled room (Planning Department) and equipments (overhead projector, video system, ...)
- Check availability of course information (Airline, number of trainees, VIPs).
- Check availability of blank training files and syllabi in accordance with the course requested (customized or not).
- Check availability of CBT stations and documentation in the lockers.
- Check time of arrival with the hostess.

WELCOME BRIEFING (CONT'D)
(By simulator instructor)

04 - INSTRUCTOR'S ACTIONS (CONT'D)

A. MAIN (END)

b. Day of the briefing

- Check about items not available the day before (room, systems, lights)
- Take the Golden Rules video.
- Take the document demonstration bag
- Join the hostess in the welcome room

B. BRIEFING CONTENTS

- Check that nothing is missing
- Introduce yourself and welcome the trainees.
- Using the Welcome presentation :
  - Explain the role of the course coordinator.
  - Show and explain course phases and equipment involved
  - Specify default briefing times according to different course phases - where and when to meet the instructor
- Use DOC demonstration bag (Trainees' Library) but keep in mind that this documentation is obsolete and used only as an example :
  - FCOM Volumes 1, 2, 3 and 4
  - FCTM Volumes 1 and 2
  - Approach charts (this booklet is for the whole Airbus fleet, so some airports are not used for a particular aircraft)
  - PTM (Performance Training Manual). Emphasize this book must be used to solve performance course and exam exercises. As the CBT course can't be continuously updated or customized, FCOM Volume 2 should not be used for CBT and exam.
- Explain that a portable computer will be issued on day 3 of the course. It must be returned after the exam, the last day of CBT.
  Stress that there are 2D trainers availab le in every briefing room for use during session briefings. Trainees may also use these in their own time to prepare for FBS or FFS sessions.
- Present and explain the use of headset (CBT) and earpads (FFS headset).
- Ask trainees to complete the file with requested information ; remind them that all files should be signed by the team leader.

WELCOME BRIEFING (END)
(By simulator instructor)

04 - INSTRUCTOR'S ACTIONS (END)

B. BRIEFING CONTENTS (END)

Training Center presentation :

- Takes trainees for a center walkaround, emphasizing position of toilets, prayer room if applicable, briefing rooms, FBS, FFS, F3D Trainers and CBT room.
- In the CBT room, show trainees their lockers ; ask them to check their documentation and to sign on the list.
- Before end of walkaround, show the location of the "boutique" where souvenirs are sold.
- Ask hostess at what time she wishes trainees for photography.
- Don't forget to bring back the documentation bag to trainees library and training files to trainees office.

05 - TRAINEES' ACTIONS

- Attendance

06 - COMPLETION STANDARDS

Not applicable

07 - COMMON ERRORS

- Trainees' files incorrect and/or incomplete.
- Course structure not adequately explained.
- Documentation insufficiently explained.

AIRBUS DOCUMENTATION

01 - TRAINING OBJECTIVE

- To use the Airbus documentation, effectively, during the course and in subsequent airline operations.

02 - SCHEDULE

Briefing duration : 1:00

03 - EQUIPMENT

DOC references :
- FCOM Vol. 1 to 4
- QRH
- MMEL

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- ATA chapters
- FCOM (Flight Crew Operating Manual) Volumes 1 to 4
- QRH
- MMEL & MEL use.

B. SECONDARY

- FCOM revisions.
- OEBs and FCOM Bulletins

05 - TRAINEES' ACTIONS

The FCOM consists of Volumes 1 to 4 and the QRH. The information contained in the FCOM is a compromise between the following two contradictory requests from airlines :

The FCOM should only contain information which is "Need to know" for the operation of the

The FCOM should contain a full and in depth description of the aircraft technical systems and associated procedures.

Consequently the information may seem too comprehensive for some operators and too superficial for others. At the beginning of each of the Volumes 1 to 4 there is a contents page followed by a small section which describes the organization of the manual.

AIRBUS DOCUMENTATION (CONT'D)

05 - TRAINEES' ACTIONS (CONT'D)

Due to the fact that the modification standard of aircraft within an airline's fleet may vary, each page will identify the aircraft to which it is applicable. This is done by printing a registration, or manufacturer serial, number (MSN) at the foot of the page. A decode of MSNs and registrations are included in each FCOM volume. This section also contains some information on revising the manual with temporary and permanent revisions.
The purpose of this briefing note is to give additional information on the use and applicability of each volume. Volume 1 to 4, QRH and MMEL will be described in turn.

A. FCOM VOLUME 1

This manual contains a technical description of the aircraft systems. A list of abbreviations and symbols used in all FCOMs, FCTM and QRH is included at the beginning of the manual. At the beginning of each chapter there is a contents list. Each chapter covers a specific system. The main components, controls and indications are described. The cautions and warnings associated with each system are included in each chapter as is the electric bus distribution.
In volume 1 the chapter numbers correspond to the ATA (Air Transport Association) 100 BREAKDOWN chapter numbers. This represents the official reference for the classification of airplane systems and/or functions. The ATA breakdown consists of six digits, the first two of which refer to a particular aircraft system. The full six digits are used in the MEL and the MMEL. The list below details the ATA chapter numbers used in FCOM Vol. 1.

Chapter :	System :
21	Air Conditioning, Pressurization & Ventilation
22	Auto Flight
23	Communications
24	Electrical
25	Equipment
26	Fire Protection
27	Flight Controls
28	Fuel
29	Hydraulic
30	Ice and Rain Protection
31	Indicating/ Recording Systems
32	Landing Gear
33	Lights
34	Navigation Systems
35	Oxygen
36	Pneumatic
38	Water & Waste System
49	Auxiliary Power Unit
52	Doors
70	Power Plant

The classification of the systems is in alphabetical order apart from the last four systems.

AIRBUS DOCUMENTATION (CONT'D)

05 - TRAINEES' ACTIONS (CONT'D)

A. FCOM VOLUME 1(END)

This volume will be of use in the Ground phase of the course to reinforce and compliment the lessons learnt on CBT. However the CBT should be considered the prime source of technical information. Once the CBT phase is successfully completed and upon completion of training, FCOM Vol. 1 will become the prime source of information on aircraft systems.

B. FCOM VOLUME 2

This manual contains information on loading, performance and pre-flight planning. Also included is performance information for special operations (contaminated runway, ETOPS etc.).

This volume is of use during the performance course, and during Line Orientated Flight Training (LOFT) exercises. It will continue to be of use in line operations. This volume is not normally used in flight with the exception of certain specific circumstances.

C. FCOM VOLUME 3

This volume contains chapters on operating limitations, abnormal/emergency procedures, standard operating procedures (SOPs), supplementary techniques, in-flight performance and single engine operation.

a. Operating Limitations :

This chapter includes limitations required by the regulating authority and contained in the flight manual. You will not be tested on these limitations unless specified by VACBI or regulatory authorities.

b. Abnormal and Emergency Procedures :

The contents to this chapter constitute a complete list of all the ECAM failure messages and other failures requiring the use of the QRH. Each section in the main body of this chapter corresponds to the relevant ATA chapter number. In the chapter introduction there is information on ECAM use and task sharing. The section on operating techniques contains information on such topics as rejected take-off, engine failure after V1 etc. Within each ECAM procedure there are notes which amplify and clarify the procedure. These do not appear on ECAM and it is not necessary to consult this volume during ECAM procedures.

c. Normal Procedures :

This chapter contains all information on Airbus SOPs and techniques required for the conduct of a normal flight.

AIRBUS DOCUMENTATION (CONT'D)

05 - TRAINEES' ACTIONS (CONT'D)

C. FCOM VOLUME 3 (END)

d. Supplementary Techniques :

This chapter begins with a definition of operating speeds such as green dot, 'S' speed etc. The rest of the chapter contains valuable information concerning systems and operational situations. Most of the sections conform to the ATA 100 breakdown.

e. In Flight Performance :

Contains information on performance for use in flight.

f. Single Engine Operations :

This chapter details the three strategies possible following an engine failure in flight. Further information is given to assist in planning and preparing for a single engine landing.

g. OEBs :

These are used as the fastest way to advise operators of revised or significant new technical information, flight crew procedures or changes to limitations. OEBs are not approved by the airworthiness authorities and will be superseded by a modification or service bulletin. Some OEBs may have an impact on the safe conduct of flight operations and these are reproduced in the QRH.

h. FCOM Bulletins :

Are used to provide supplementary operational information which normally falls outside the content of the FCOM. Each bulletin may deal with one or more subjects. Only bulletins applicable to the aircraft in service with your airline will be issued.

The limitations will be introduced during the Ground phase. The remainder of the volume is mainly of use from the FBS phase onwards, although there will be an introduction to standard operating procedures (SOPs) during F3D exercises.

D. FCOM VOLUME 4

This volume provides in depth information about the FMGS principles, procedures and interface. It may sometimes duplicate the information already contained in Volumes 1 and 3, however the aim is to have all the information regarding the FMGS in one book.

FMGS principles and procedures will be introduced during the F3D exercises. As the course progresses, an increasing knowledge of the FMGS is required and the volume will become more useful.

AIRBUS DOCUMENTATION (CONT'D)

05 - TRAINEES' ACTIONS (CONT'D)

E. FCOM REVISIONS

There are two types of revision to the FCOM : normal and temporary.

- The normal revisions are issued periodically by Airbus Industrie and are of a non urgent nature. Normal revisions are accompanied by filing instructions and an updated list of effective pages.
- Temporary revisions cover urgent matters arising between normal revisions, are printed on yellow paper and are accompanied by filing instructions.

The filing instructions accompanying the revisions contain a list of pages to be inserted, removed or replaced. Bear in mind that the manual may contain more than two pages with the same page number as the two pages will refer to aircraft with different modification states.

The MSN or registration of the aircraft, within a fleet, to which a page applies will be clearly marked. Follow the filing instructions carefully in order to avoid removing pages which are still valid. The list of effective pages will allow confirmation that the contents of the FCOM are complete and valid for a particular airline's fleet.

F. QUICK REFERENCE HANDBOOK (QRH)

Most emergency and abnormal procedures are presented to the crew on ECAM. The QRH contains checklists which cannot be presented on ECAM and additional emergency and abnormal procedures which may be required by ECAM (e.g. SMOKE/TOXIC FUMES REMOVAL). At the front of the QRH there is an important note concerning task sharing and ECAM procedures.

Normal procedures and task sharing are detailed. Also included are in flight performance, operational data and OEBs. The normal checklist is printed on the back of the QRH along with the ON GROUND EMER/ EVACUATION checklist.

The QRH is required for the FBS and FFS.

AIRBUS DOCUMENTATION (END)

05 - TRAINEES' ACTIONS (END)

G. MASTER MINIMUM EQUIPMENT LIST (MMEL) & MINIMUM EQUIPMENT LIST (MEL)

Trainees will not be provided with a copy of the MMEL during the course at Airbus Training. MMEL description is provided in the FCTM and extracts can be used when necessary for specific simulator exercises.
The main purpose of the MMEL is to permit aircraft dispatch when items of equipment or functions are inoperative, to avoid delays and cancellations.
The MEL is the operators' own version of the MMEL. The MMEL is produced by Airbus Industrie. The MMEL cannot be used as a substitute for the MEL. The MEL is neccessarily more restrictive than the MMEL.

During training at Airbus the MMEL will be used for LOFT exercises. In airline service the MEL produced by the airline will be used as the sole reference.

The MEL contains the following basic information :
- a list of equipment or functions which may be inoperative for dispatch
- associated operational procedures
- associated maintenance procedures
- list of ECAM warnings, associated with the corresponding dispatch conditions

When a failure is detected or identified, the crew must enter the MEL to determine if dispatch is possible, and limitations or conditions. The MMEL and MEL are organized using the ATA 100 breakdown (as described earlier). The full six figures of this breakdown are used in the MMEL/MEL. For example 21-52-01; the 21 refers to the air conditioning system, 52 to the air cooling system and 01 to the air conditioning pack. Items not listed in this section indicate NO DISPATCH. A list of ECAM messages is given along with the MMEL reference for each message.

If an (O) is associated with an item, then dispatch may be possible following an operational procedure. Operational procedures are contained within the MEL document.

If an (M) is associated, then a maintenance procedure must be applied. Maintenance procedures are generally to be found in maintenance manuals which are not held on the aircraft.

Further guidance on the use of the manuals and the abbreviations therein is contained in the front of the MMEL.

06 - COMPLETION STANDARDS

Not applicable.

07 - COMMON ERRORS

- Lack of understanding of the FCOM structure.

LOFT BRIEFING

01 - TRAINING OBJECTIVE

The meaning of "L.O.F.T." is Line Oriented Flight Training.
This session has been developed for self evaluation. The objective is to enable the crew, even if unusual (2 Captains or 2 First Officers), to assess their assimilation of the course content and to review items as necessary before the check.The session is also to demonstrate a real time flight with real time problems. It is designed to facilitate the training of two (2) pilots and ensure that each does some flying from their normal crew position.

Additionally, the exercises provide opportunities for the trainees to practice applied Crew Resource Management (CRM) techniques to optimise their solutions to the problems which they are presented with.

02 - SCHEDULE

Regular Course LOFT Briefing duration = 0:15 / 0:20.
Briefing should begin 45 mn prior to the simulator start time, leaving the crew sufficient time to prepare the flight as they would on the line before going to the aircraft.

03 - EQUIPEMENT

Full Flight Simulator

The required documents for the Regular LOFT sessions are :
- LOFT package (Trainees' Office - To be returned after session)

The required documents for the Adapted LOFT sessions are :
- Computerized flight plan (FCTM Vol 2 - Adapted LOFT session)
- MET reports (FCTM Vol 2 - Adapted LOFT session)
- Flight plan(s) (FCTM Vol 2 - Adapted LOFT session)
- MMEL extracts (FCTM Vol 1 - MMEL chapter)
- RTOLW (FCTM Vol 1 - Performance chapter)

LOFT BRIEFING (CONT'D)

04 - INSTRUCTOR'S ACTION (CONT'D)

A. RULES

The instructor will present dispatch release documents to trainees in the briefing room and give a general briefing on the conduct of the loft session. At this stage, he will answer questions and clarify any questions trainees may have regarding documentation.

Although LOFT exercises are part of the training course, trainees gain the maximum benefit from the flights when there are no direct instructions. Where inputs are necessary, they should be made within the role play, e.g. with the instructor acting as cabin crew, ATC, etc.

The instructor's role is that of a facilitator. However, LOFT flights are training exercises and, as a last resort, direct instruction may be given. If this is necessary, the instructor must seriously consider recommending that the exercise be repeated as it may imply a lack of basic knowledge, serious flaws in technique or a complete breakdown in intra-crew communication.

The value of a LOFT exercise is greatly increased by realistic and timely role play by the facilitator. For example, ATC communication with "other" aircraft or cabin crew input can be used to set or enhance part, or all, of a scenario. Additionally, different crews are likely to reach alternative solutions to the same problem and the facilitator must be flexible enough in its role within the exercise.

B. BRIEFING AND PREPARATION

Prior to the briefing, the trainees should have access to a minimum of information only. Therefore, their FCTM will detail the exercise as LOFT from ---- (departure airport) to ---- (destination airport) with little supporting documentation.
The briefing should emphasize :

- LOFT is a real time flight with events and incidents to produce a busy environment, but not one which should overload the trainees.
- The aircraft will be flown into XXX by another XXX airline crew and will require transit cockpit preparation only.
- Scenarii are designed to exercise basic operating techniques and require good use of CRM for the trainees to achieve the optimum solution. (The availability of the CRM package on the training aids in the briefing rooms should be mentioned. However, this is not the place to give a mini-CRM course as it would serve as a distraction only).
- The instructor is present as a facilitator and will play roles within the scenario but will not act as an instructor per se.
- Trainees must play the exercise for real and aim to solve any problems they encounter as though they were on a line flight.
- Trainees must avoid turning around and addressing the instructor. Questions may not be asked directly to the instructor once the exercise has begun.
- Company or Airbus SOPs should be used, as appropriate.
- Crew may communicate between themselves in their own language, but ATC must be carried out in English, through an interpreter if necessary.

LOFT BRIEFING (CONT'D)

04 - INSTRUCTOR'S ACTION (CONT'D)

B. BRIEFING AND PREPARATION (END)

- There is no requirement to brief the flight profile, weather or NOTAMs in detail.
- At the end of the briefing, trainees are to be provided with the Jeppesen based FPLN fuel for the exercise, estimated ZFW, weather data and NOTAMs.
- The final load and trim sheet should be expected during the final stages of the cockpit preparation.

C. FLIGHT SEGMENT

Instructors should be able to both observe and perform ancillary roles. They should be trained in observing both technical and CRM skills. The instructor should also be trained in proper pacing, proper introduction of abnormal/emergency procedures, and methods of handling unforseen crew actions.

D. FAILURES

The failures introduced must not be too excessive. The crew workload should be consistent as to be expected on a very busy flight, not more.

E. ASSESSMENT

The instructor may, with the express consent of the crew, video tape the session and use it for debriefing. Any recording made will be erased immediately after the debriefing and in the presence of the trainees. The debriefing sequence should be initiated by the crew followed by the instructor who will amplify (if necessary) the crew input, and conclude with his general debriefing.

F. DEBRIEFING AND CRITIQUE

Instructors should provide both positive and negative feedback during critiques of individual and crew performance. Prior to the instructor's critiques, crewmembers should be encouraged to critique themselves. Instructors will provide feedback to the crew to encourage the changes needed for improved performance. Instructors should also provide specific recommendations to improve individual crewmembers' performance.

G. COMPUTERIZED FLIGHT PLAN (CFP) :

CFP should be checked by the crew before the flight, and fuel corrections may be made by the PF. Block fuel may be increased due to weather and NOTAMS.

NOTE : *Computed flight plan decode keys are printed on the following pages.*

H. MET REPORTS :

Weather, wind and temperature at FL to be inserted into MCDU during cockpit preparation should be analysed. The weather data supplied are valid for the intended flight period.

LOFT BRIEFING (CONT'D)

05 - TRAINEES' ACTION (END) :

I. NOTAMS :

Should be analysed and applied.(i/e: inoperative VOR's deselected during cockpit preparation)

J. MMEL :

The crew should analyse deffered items using the MMEL. It should be considered as the company MEL and the information given in column n° 4 understood, more particularly the following symbols :

***** : Asterisk requires inoperative equipment component system or function to be placarded in the cockpit to inform crew members of the equipment condition. Unless specified herin, placard wording and location will be determined by the operator (not simulated here).

(o) : Identifies a crew operational procedure.

(m) : Indicates a requirement for a specific maintenance procedure with must be accomplished by maintenance personnel or other personnel if qualified and approved by national authorities.

Both symbols (o) and (m) used singularly, or in combination, require the appropriate procedures to be established, published, and complied with, if the flight is accomplished with one item inoperative.

K. REGULATORY TAKE-OFF AND LANDING WEIGHT (RTOLW) :

Crew should compute T/O configuration, T/O speeds and acceleration altitude.

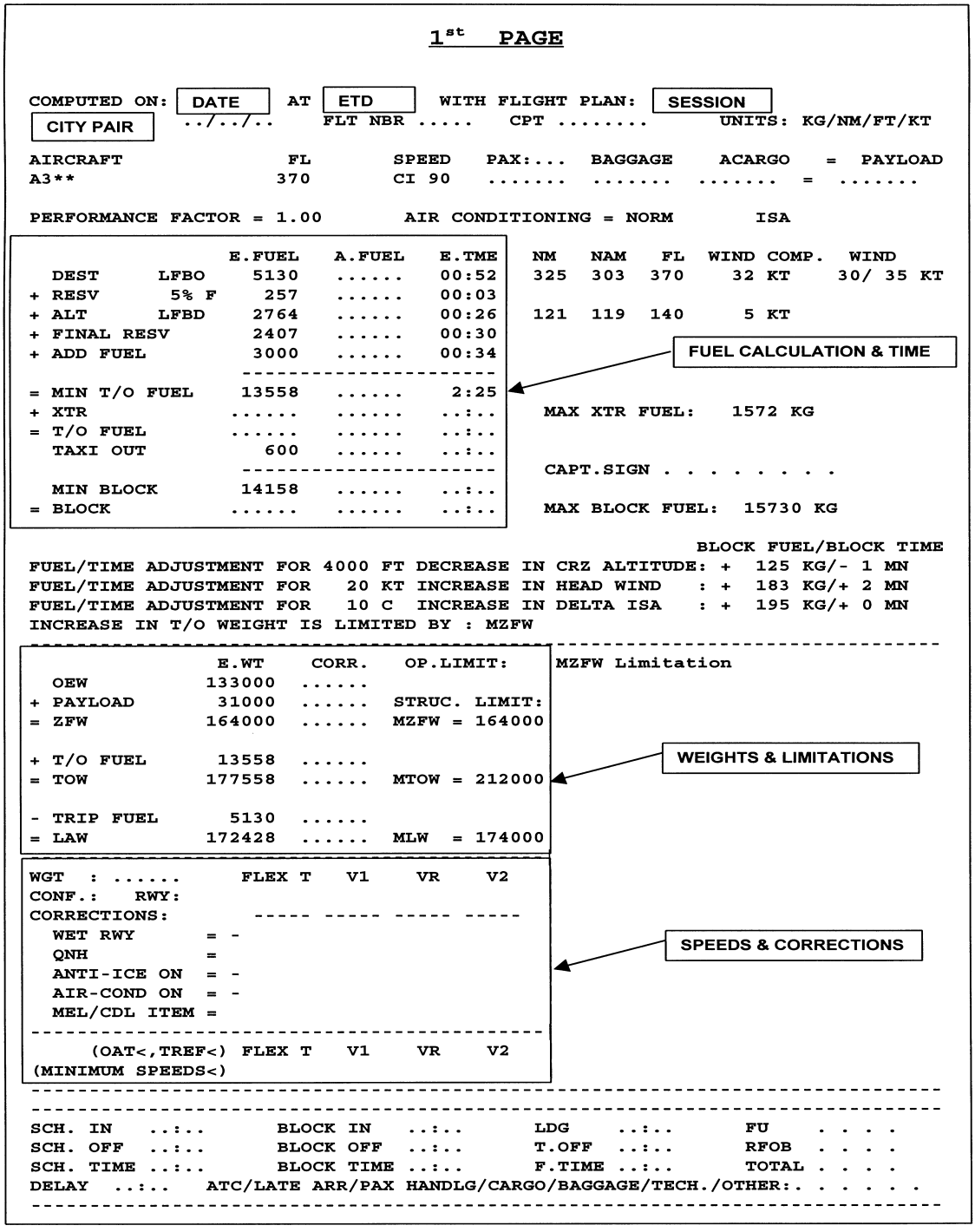
04 - COMPLETION STANDARDS

- Correct application of standard procedures demonstration.
- Safe , correct action in case of failure taken.
- Problem solving and appropriate decision made.
- Good communication ensured and CRM skills applied.

05 - COMMON ERRORS

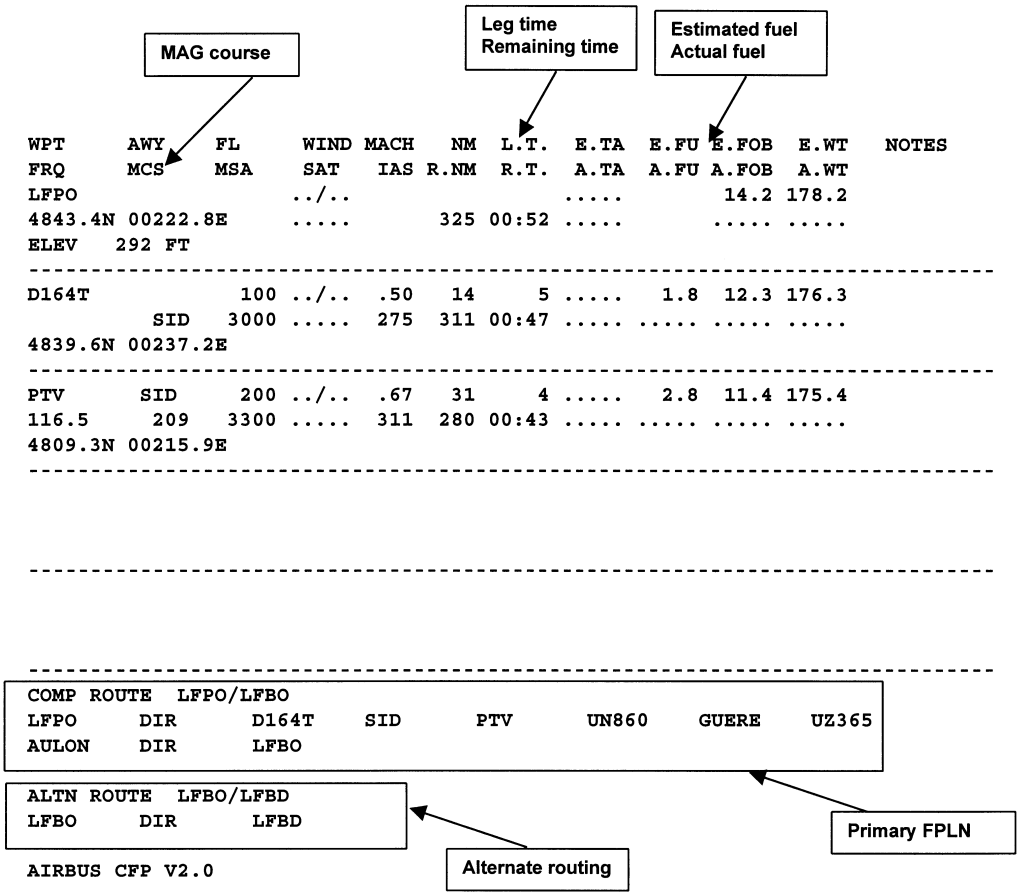
- Insufficient assessment and planning in abnormal situation.
- Incorrect or unappropriate decision.
- Use of back up or alternate systems not considered.
- Poor CRM

LOFT BRIEFING (CONT'D)
(Computed flight plan decode keys)



LOFT BRIEFING (END)
(Computed flight plan decode keys)

2nd PAGE



BASE TRAINING BRIEFING

01 - TRAINING OBJECTIVE

- Base Training is intended to confirm the "transfer of knowledge" from the Full Flight Simulator to the aircraft. Additionnally, it affords the trainee the opportunity to experience, for the first time, the real aircraft particularly during ground operations and inflight maneuvering using predominantly visual references.
- Trainees should read the the briefing to understand the content and requirements of the session. A full briefing will be given by the training Captain prior to the flight

02 - SCHEDULE

Pre flight briefing duration = 1:00

03 - EQUIPMENT

AIRCRAFT :

A. GENERAL

Training flights must be conducted in accordance with Airbus Industrie training regulations. Training flights at Toulouse or nearby airports will be conducted under the direct authority of the Airbus Industrie Training Director. In the above case the AI/ST Operations Department will be responsible for the organisation, documentation and coordination of the flight training. Flight training away from Toulouse will be undertaken under the joint authority of the AI/ST Team leader and the Chief Pilot of the customer Airline, using the operational resources of that Airline. Where such training is undertaken, Flight Instructors will observe the Airbus Industrie rules regarding the conduct of the Flight Training.

B. TRAINING IN TOULOUSE - TRAFFIC PATTERNS

The red, green, blue and yellow patterns provided in the Base Training book will form the basis of circuit training patterns at Toulouse, subject to any ATC amendments. Overflight of Francazal Air Base, 5 NM south of Toulouse, is forbidden or subject to special ATC clearance. The crossing of it's approach flight path may be required by ATC owing to traffic conditions at Blagnac when runways 33 L/R are in use. ATC will then order a climb to 3000 ft on an "extended yellow" pattern to clear any inbound Francazal traffic.

In general, overflight of all surrounding densely populated areas is prohibited, especially the communities of Colomiers, Cornebarrieu and Blagnac. Purpan Hospital to the south east and "Clinic des Cedres" to the northwest of Toulouse Blagnac should also be avoided.

BASE TRAINING BRIEFING (CONT'D)

03 - EQUIPMENT (CONT'D)

AIRCRAFT (CONT'D) :

C. CREW REPORTING PROCEDURE

Trainees are normally required to report 2 hours before scheduled departure time to Airbus Training where they will meet their instructor. Whenever a technical delay is known or expected, Airbus Training Operations will advise all persons concerned of the delay and the revised reporting time.

D. CARRIAGE OF PASSENGERS

The carriage of passengers is limited to technical observers from Airbus Industrie or the customer Airline, ATC controllers and other specifically approved by the Airbus Industrie Training Director or his Deputy, and with the agreement of the instructor. The number of passengers may not exceed two (2). If the aircraft is under customer foreign registry, approval must also be obtained from the Airline's Representative. Passengers' names will be provided to Airbus Training Operations for inclusion in the flight program.

E. CONDUCT OF TRAINING FLIGHTS

a. Seating Policy

Trainees will occupy their respective operating seats under the supervision of their instructor until cockpit preparation is complete. The instructor will then occupy the appropriate non-flying pilot's seat. Normally, Captain trainees will occupy the left seat, First Officer trainees the right seat. However, if a First Officer is being type-rated and the licensing authorities require it, the First Officer trainee will be trained in the left seat. The observers' seat will be occupied by the non-flying trainee Pilot.

b. Flight Training Policy

As a general rule, all the items in the training syllabus should be completed and repeated, if necessary, until proficiency is achieved.

1. Unauthorized Manoeuvres

NO unauthorized manoeuvre which might jeopardize the safety of flight will be allowed. In addition, NO demonstrations of the flight envelope protection systems will be intentionally carried out unless expressly authorized by the Airbus Industrie Training Director or his Deputy.

BASE TRAINING BRIEFING (CONT'D)

03 - EQUIPMENT (CONT'D)

AIRCRAFT (CONT'D) :

E. CONDUCT OF TRAINING FLIGHTS (CONT'D)

b. Flight Training Policy (cont'd)

2. Engine Failure Simulation

No engine shutdown is allowed for training purposes. Engine failure will be simulated by setting the thrust lever to the idle stop (having first checked the correct functioning of the other engine). Engine failure on take off or touch and go should only be simulated after the gear has been selected up and, during go around, only after a steady climb attitude has been achieved. Touch and go after a simulated one engine out landing should only be made in exceptional circumstances, a full stop landing should normaly be performed.

3. Check-lists

Full check-lists will be performed except for touch and go landings and go arounds. The ECAM landing memo may then be used at the instructor's discretion.

4. Accelerate / Stop

No acceleration / stop training will be conducted in the aircraft. The decision to reject a take-off during a Base Training flight is made exclusively by the instructor who will immediately take over control of the aircraft. A briefing in this regard will be made prior to flight and reinforced during the take-off briefing.

5. Touch and Go

Touch and go are used to reduce the amount of training time wasted in taxying the aircraft back to the holding point and awaiting take-off clearance. In order to maintain a high level of safety they must be conducted in a properly disciplined manner.

BASE TRAINING BRIEFING (CONT'D)

03 - EQUIPMENT (CONT'D)

AIRCRAFT (CONT'D) :

E. CONDUCT OF TRAINING FLIGHTS (CONT'D)

b. Flight Training Policy (cont'd)

5. Touch and Go (cont'd)

The following technique is to be used :

- Prior to EVERY touch and go, the instructor will confirm with the trainee that :
  - the spoilers will not be armed
  - reverse thrust will not be used
  - brakes (auto or manual) will not be used
- The trainee will :
  - land the nosewheel after main gear touchdown (which also allows pitch trim reset)
  - track the runway centreline using rudder pedal inputs only
  - advance the thrust levers approximately 2" (5 cm) forward (to prevent engines reducing to ground idle).
- The instructor will :
  - call "stand up"
  - move the flap handle to the position two detent and confirm the flaps are running
  - reset the rudder trim if necessary
  - monitor the forward movement of the pitch trim
  - place one hand behind the thrust levers ensuring they are advanced approximately 2" (5 cm)
  - reset the FDs and crossbars as necessary
  - call "GO".
- The trainee will :
  - advance the thrust levers to the TOGA detent
  - maintain the runway centreline.
- The instructor will :
  - monitor engine acceleration
  - check FMA announciation (when appropriate)
  - check GA thrust obtained and call "POWER SET"
  - call "ROTATE" at VAPP
  - maintain his hand behind the thrust levers to ensure no inadvertent reduction of power or no unwanted stop
- The trainee will :
  - rotate the aircraft to the pitch attitude commanded by the SRS or 15° if no FD is available.

(See following diagram)

BASE TRAINING BRIEFING (CONT'D)

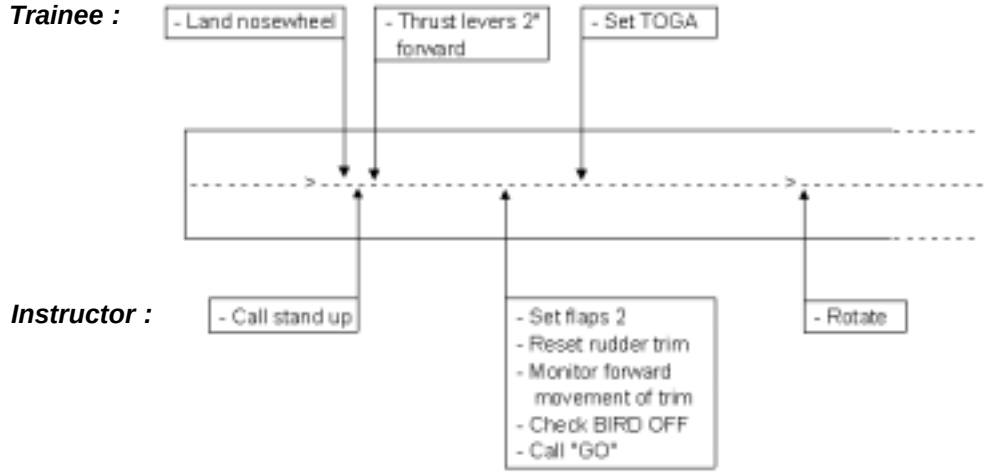
03 - EQUIPMENT (CONT'D)

AIRCRAFT (CONT'D) :

E. CONDUCT OF TRAINING FLIGHTS (CONT'D)

b. Flight Training Policy (cont'd)

5. Touch and Go (end)



- Following gear retraction the instructor will call for CLB thrust.
- The trainee will move the thrust levers to the CLB detent (the FMA will read CLB SRS GA TRK).

At acceleration altitude or ALT*, which ever occurs first, and F speed : select FLAP 1. Approach may be activated at this stage, or as soon as the required flaps configuration for the following circuit is reached (configuration other than 1).

Emergencies :
If the instructor wishes to abandon the touch and go he will call "STOP" simultaneously taking control of the aircraft and bring it to a halt using maximum braking and reverse. Once the aircraft has stopped he will call for any appropriate ECAM actions. The decision to discontinue a touch and go after the application of TOGA must only be taken if the instructor is certain that the aircraft cannot safely fly. Remember there is no V1 on a touch and go. Note that the take-off configuration warning may sound if the application of TOGA is made while the flaps or pitch trim are resetting but still outside of the take-off range.

BASE TRAINING BRIEFING (CONT'D)

03 - EQUIPMENT (CONT'D)

AIRCRAFT (CONT'D) :

E. CONDUCT OF TRAINING FLIGHTS (CONT'D)

b. Flight Training Policy (cont'd)

6. Radio Communications / External Lookout

The instructor is responsible for all radio communications and maintaining a visual lookout for conflicting air traffic. The trainees (including the observer in the jump seat) should be encouraged to back up the instructor in this regard and to immediately inform him of any potential conflict.

7. Next Exercise

The instructor will inform the trainee of the next exercise to be performed during the downwind leg, and he will confirm the trainees' understanding of this exercise. During each approach, the instructor will remind the trainee whether a full stop, a touch and go, or a go around will be performed.

8. Instructor Take-over

In Flight :
On the A320 there is no intermediate step for corrections between voice recommendations (oral guidance) and total take-over by pressing the push-button on the sidestick. Because of the nature of the "fly by wire" system, additive control inputs by the instructor may be of negative value for instruction purposes and can generate confusion in the handling of the trajectory. This should be emphasized and reviewed with the trainees during the preflight briefing. If take-over becomes necessary during the flight, instructor will clearly call "I HAVE CONTROL" and press sidestick priority push-button. The trainee will acknowledge by calling "YOU HAVE CONTROL", release the sidestick and observe the red arrow on the sidestick priority panel on the glareshield. Instructor will keep his side priority pushbutton depressed until the aircraft is under full control and it is safe to return control to the trainee. However there may be cases where it is necessary to apply back stick without warning in case of a very late flare. It must be emphasized that a take-over is a very rare occurence and that if a take-over is necessary the trainee should not regard this as a negative development but the normal take-over method for an A320.

On The Ground :
It should be emphasized that the nosewheel steering tiller should NOT be used at high speeds (GS > 30 kt) because of overcontrolling. Steering inputs from both tillers are additive, and corrective inputs by the instructor can be confusing and potentialy dangerous. Should a take-over be necessary, the instructor will immediately call out "I HAVE CONTROL", and if necessary, be prepared to use differential braking to regain control or bring the aircraft to a stop.

BASE TRAINING BRIEFING (CONT'D)

03 - EQUIPMENT (CONT'D)

AIRCRAFT (CONT'D) :

E. CONDUCT OF TRAINING FLIGHTS (CONT'D)

b. Flight Training Policy (cont'd)

9. Fuel Management

For normal Flight Training sessions, 15 tonnes will be the normal fuel load for flights not requiring positioning. If for operational reasons or for training flights requiring positioning, more fuel is loaded, the auto mode of fuel feeding will be used. This means that during circuit training the centre tank fuel will not normally be used and a non-standard fuel loading will result i.e. fuel in the centre tank with inner tank cells not full. The maximum centre tank fuel added to an average aircraft empty weight will never exceed the maximum zero fuel weight. If extended circuit training is required, centre tank fuel may be utilised (if necessary by selecting AUTO/MAN P/B to MAN) at any part of the flight except the take-off or touch and go. The above procedure is to be used until the publication of a Flight Manual derogation allowing the centre tank to feed during training take-offs and touch and go's.

10. Automatic Landings

For demonstration purposes, instructors may carry out automatic landings provided the weather and the ILS meet CAT 1 criteria or better. The instructor should be prepared to take manual control immediately if the flight path or roll out deviate. Trainees should be reminded of all the conditions and limitations required prior to conducting an automatic landing during commercial operations.
NOTE : *See FCOM references for limitations on the use of the automatic landing system.*

11. FMGS Use

The FMGS should be initialised for the intended flight either by data base company route e.g. Red or Blue circuit or by waypoint and PBD. Managed lateral navigation may be used for the first ILS assisted approach and when weather makes visual flight impossible. All visual circuits should be flown with FDs off and FPA selected. The fact that the approach and runway will remain displayed is of considerable assistance for positioning the aircraft on final approch.

12. Cockpit Preparation and Engine Start

The trainee crew will occupy the left and right seat for cockpit preparation with the instructor supervising from the jumpseat. Just prior to engine start the instructor will occupy either the right or the left seat. Either engine can be started first, though normally number two engine is the first to be started.

BASE TRAINING BRIEFING (CONT'D)

03 - EQUIPMENT (CONT'D)

E. CONDUCT OF TRAINING FLIGHTS (CONT'D)

b. Flight Training Policy (cont'd)

13. Taxi

Little if any power above idle thrust will be required to get the aircraft moving at training weights. Thrust should be used symmetrically. Avoid high thrust settings at low ground speeds due to the risk of ingestion (FOD). The wing mounted engines are close to the ground, this is a particular point to note for ex DC9, BAC1-11 and B727 pilots. Avoid placing engines over unconsolidated or unprepared ground e.g. over the edge of taxiways. Brakes may be checked once the aircraft is moving and thereafter the normal maximum taxi speed should be 20 kt in a straight line, 10 kt for a sharp turn. As pilot eye height at 15 ft is higher than in many other aircraft, monitor ND groundspeed displays to help assess taxi speed. Do not "ride" the brakes, as 20 kt is exceeded, apply brakes smoothly and decelerate to 10 kt, release the brakes and allow the aircraft to accelerate again.

NOTE : Use of engine anti-ice increases ground idle thrust, care must be taken on slippery surfaces. Nosewheel steering is also fly by wire. The inputs of the nosewheel steering tillers are additive (just like the sidestick).
Care is needed to steer the aircraft smoothly with small tiller inputs.
Sharp turns particularly need care as the rate of response of the nosewheel to tiller input is not linear.

BASE TRAINING BRIEFING (CONT'D)

03 - EQUIPMENT (CONT'D)

E. CONDUCT OF TRAINING FLIGHTS (CONT'D)

b. Flight Training Policy (cont'd)

14. Take-off

Half forward stick is used at the commencement of the take-off run, this gives full down elevator. For crosswind take-off, routine use of into-wind aileron is not recommended. In strong crosswind conditions, small amounts of lateral control may be used to maintain wings level, but the pilot should avoid using excessive amounts. This causes excessive spoiler deployement, which increases the aircraft tendency to turn into wind. A two stage power application to TOGA or FLEX is made and the aircraft is kept straight by use of the rudder. At 130 kt the connection between the nosewheel steering and the rudder pedals is removed (the nosewheel now centralizes) hence in strong crosswinds more rudder input will be required at this point to prevent the aircraft turning into wind. The down elevator input may be gently removed by 100 kt.

- At VR, use a constant pitch rate to rotate the aircraft smoothly to a pitch attitude of 10°.
- If some lateral control has been applied on the ground, center the stick during rotation so that the aircraft gets airborne with a zero roll rate demand.
- After lift off, follow the SRS pitch command bar.
  If no FD is functionning :
  - select 15° pitch with two engines
  - if one engine has failed, adapt pitch to maintain at least V2 (pitch about 12.5°).

15. Initial Climb

Having confirmed a positive rate of climb, the gear is retracted and the aircraft climbs away following the FD commands. Care should be taken to restrict control inputs to those necessary to change or correct the flight path only i.e. avoid overcontrolling. At thrust Reduction Altitude "CLB" will flash on the upper left portion (ATHR) of the PFD. Move the thrust levers to the CLB detent (two "clicks" from TOGA or one "click" from FLEX). Do not do this too slowly or there is a risk that the ATHR may disconnect. The autothrust is now active. If the acceleration altitude was coincident with the thrust Reduction Altitude, then the speed target will have changed to the ECON climb speed or the climb preset speed. If acceleration altitude is higher than Thrust Reduction Altitude, the speed change will occur when acceleration altitude is reached. Retract the flaps on schedule at F and S speed. When the final configuration for the exercise has been achieved (normally flap 1 for circuit training) activate approach and ensure that managed speed is active, and check VAPP on both PFD's.

BASE TRAINING BRIEFING (CONT'D)

03 - EQUIPMENT (CONT'D)

AIRCRAFT (CONT'D) :

E. CONDUCT OF TRAINING FLIGHTS (CONT'D)

b. Flight Training Policy (cont'd)

16. Circuit Handling

Remember that in pitch the sidestick is demanding "g" and that in roll it is demanding roll rate, take care not to overcontrol. All visual circuits MUST be flown with FDs off and FPV selected, bank angle should be limited to 30×. It is usual to switch FDs off at the begining of the downwind leg. Use of managed speed is normal procedure as well as use of autothrust. The standard timing of 45 seconds (+/- wind) may be used from abeam the end of the runway prior to turning base leg. Flap 2 is selected at this point followed by gear down, and a descent commenced.

The most useful PFD display is the raw FPV symbol to assist in setting the aircraft up on the correct downwind, approach path, to maintain altitude and to avoid gross errors.

NOTE : *With the FDs off the speed target remains magenta VAPP target and the ATHR controls the GS mini.*

17. Final Approach and Landing

ILS guidance may be used, if available, for the first ILS assisted visual approach, after this the use of the ILS should be restricted. Trainees are required to demonstrate their ability to fly a visual approach without ILS or VASI guidance. As has already been stated the FDs are not to be used for visual approaches. The FPV symbol is the most useful aid to establishing the correct approach path. Autothrust is normally used, again however, trainees must demonstrate their ability to fly the approach using both manual and automatic thrust. The speed trend arrow is particularly useful for achieving timely and correct thrust response. Care should be exercised to avoid descent through the correct approach path with idle thrust. Late recognition of this situation without prompt thrust increase may lead to considerable speed decay and altitude loss. Endeavour to have the aircraft "stabilised" by 500' AGL, that is on the correct approach path at VAPP (or GS mini) with the appropriate thrust applied ; if stabilisation is not achieved, a go around should be considered. Avoid any tendency to "duck under" in the later stages of the approach. One dot below the glide at 50' is 14' below the ideal glide path, 2 dots is 28'. When the aircraft's glideslope antenna is at 50' the main gear is at 37' AGL and at threshold the main gear is at 34'. In any event, avoid destabilisation of the approach in the last 100' to give the best chance of achieving a good touch down at the required position.

BASE TRAINING BRIEFING (CONT'D)

03 - EQUIPMENT (CONT'D)

AIRCRAFT (END) :

E. CONDUCT OF TRAINING FLIGHTS (END)

b. Flight Training Policy (end)

18. Flare and Landings

Standard Landings :
The pilot's view from the cockpit during approach and landing is particularly good. The cockpit cut off angle is 20× which gives a superb view of the runway close to the aircraft. Students must make sure that they look well ahead during the flare and landing to enhance their ability to judge the position of the aircraft relative to the ground.

At 20' "Retard" will be called. Reduce the thrust levers promptly to idle. Commence a gentle progressive flare and allow the aircraft to touch down without a prolonged floating flare. Do not attempt to "hold the aircraft off" as considerable float may be followed by a hard touchdown.

Crosswind Landings :
Either the "forward slip" or the "decrab" technique may be used. The preferred technique is the decrab method ; allow the aircraft to point into wind, pushing it straight with gentle use of rudder during the flare. If the decrab is gentle, little, use of into wind aileron will be required if any. For rapid decrab using large or fast rudder inputs, the aircraft will roll conventionally and aileron sidestick inputs will be required (see also FCOM bulletin n° 21). REMEMBER the sidestick demands roll rate, once the wings are level centre the sidestick.

19. Caution

Avoid flaring high and prolonged "hold offs". Tailstrike will occur if the pitch attitude exceeds 13.5° (11.3° with the oleos compressed). Similarly the wing tip will scrape the ground at roll attitudes approaching 18°. It should also be remembered that there is a pitch up tendency with ground spoiler extension. If any doubt exists as to the safety of the flare or landing an immediate go around should be executed (see also FCOM bulletin 22).

BASE TRAINING BRIEFING (CONT'D)

03 - EQUIPMENT (CONT'D)

DOCUMENTATION :

The following documentation will be provided, as appropriate, prior to the commencement of the flight. In particular, the weather folder, notams, ATC flight plan, overflight clearances and computer flight plan (where necessary), will be provided by AI/ST Operations by the time the crew report for briefing

A. AIRCRAFT UNDER AIRLINE REGISTRATION AND F.O. REGISTRATION

a. Aircraft Documentation

- Contract
- Certificate of insurance
- Airworthiness certificate
- Certificate of aircraft registration
- Radio station licence
- Flight Manual /
- FCOM / QRH / MEL
- Airline maintenance LOG (if needed)

b. Training Documentation

- Weight and balance report *
- RTOLW *
- JEPPESEN documentation *
- Notams * / Weather folder *
- AI/ST-T flight LOG and briefing book
- Airbus maintenance LOG
- Flight syllabus
- Take-off data cards (if needed)

c. ATC Flight Plan

d. Documentation for Flight Outside France

- Certificate of insurance *
- Crew general declaration *
- Manifests for passengers and cargo *
- Overflight and landing permits *

e. Personal Documents

- Flight crew licence
- Individual licence validation or copy of a telex indicating that the instructor is duly authorized by the relevant Authorities to conduct the Flight Training.

NOTE : *Items marked * are under Airbus Training OPS responsibility, but if any other document is missing, they will coordinate with the appropriate Office.*

f. Flight Logs and Trainees Files

- AI/ST Flight log must be filled in at Airbus Training OPS counter.
- The daily flight log (blue cover) must be filled in.
- The trainee syllabus must be filled in, signed by the instructor AND the trainee (the orignal must be brought back to AI/ST).
- The type rating certificate and certificate of Course completion must be signed by the instructor : originals to be given to the trainee.

BASE TRAINING BRIEFING (CONT'D)

03 - EQUIPMENT (END)

DOCUMENTATION (END) :

B. AIRCRAFT UNDER AIRBUS REGISTRATION (FWW...)

a. Aircraft Documentation

- Permit to fly : DGAC "LAISSER PASSER EXCEPTIONNEL" **
- Certificate of insurance **
- Flight Manual **
- FCOM **
- Quick Reference Handbook **
- Airbus maintenance LOG **
-

b. Training Documentation

- Weight and balance report *
- RTOLW *
- JEPPESEN documentation *
- Notams *
- Weather folder *
- AI/ST-T flight LOG
- AI/ST-T briefing book
- Flight syllabus
- Take-off data cards (if needed)

c. ATC Flight Plan *

d. Documents for Flight Outside France

- Certificate of insurance
- Crew general decleration
- Manifests for passengers and cargo
- Overflight and landing permits

e. Personal Documents

- Flight crew licence
- Instructor licence

NOTES :

- Items marked * are under Airbus Training OPS responsiblity, but if any document is missing contact Airbus Training OPS who will coordinate with the appropriate Office.

  Items marked ** are under AI/EV - OPS responsibility.

- AIRBUS FLIGHT LOG must be filled in at AI/EV - OPS after the flight.

04 - INSTRUCTOR'S ACTIONS

Refer to 03 - E. b. "Flight Training Policy"

BASE TRAINING BRIEFING (END)

05 - TRAINEES' ACTIONS

Refer to 03 - E. b. "Flight Training Policy"

06 - COMPLETION STANDARDS

Not applicable

07 - COMMON ERRORS

Not applicable

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01 - TRAINING OBJECTIVE

- To perform a standard exterior inspection.

02 - SCHEDULE

Briefing duration : 5 minutes

03 - EQUIPMENT

- CBT Video

DOC references :

- QRH 3.01 (Normal Procedures)
- FCOM 3.03.04 (Preliminary cockpit preparation)
- FCOM 3.03.05 (Exterior inspection)
- FCOM 3.04.91 (Adverse Weather)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Safety exterior inspection.
- Preliminary cockpit preparation items.
- Walk around pattern.
- Tire wear limitations.

B. SECONDARY

- Brake wear indicators.
- APU fire extinguisher overpressure indicator.
- Crew oxygen overboard discharge indicator.

05 - TRAINEES' ACTIONS

Importance of safety exterior inspection and preliminary cockpit inspection particularly if it is first flight of the day.

Detail brake and tire wear limits and note that the brakes must be on for the brake wear indicators to be checked. This can be confirmed from the parking brake light on the nose leg.

06 - COMPLETION STANDARDS

- Makes a systematic, methodical and complete inspection.

07 - COMMON ERRORS

- Inspection not conducted during transit stop.
- Preliminary cockpit inspection forgotten.

01 - TRAINING OBJECTIVE

- To perform normal and transit cockpit preparation in accordance with standard operating procedures.

02 - SCHEDULE

Briefing duration : 20 minutes

03 - EQUIPMENT

DOC references :

- QRH 3.01 & 3.02 (Normal procedures)
- FCOM 3.03.01 to 3.03.07 (SOP's)
- FCOM 4.03.20 (FMGS Pilot interface)
- FCOM 4.04.20 (FMGS - How to use)
- FCOM 4.05.10 (FMGS procedures)
- FCOM 3.04.91 (Adverse weather - Cold weather)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Safety check before power connected to aircraft.
- Push button and "lights-out" philosophy.
- Preliminary inspection.
- Exterior inspection.
- Overhead panel scan.
- FMGS initialization.
- Remainder of scan.
- Take-off briefing.

B. SECONDARY

- Cockpit preparation adapted for special conditions e.g. cold weather.
- Performance calculations take into account actual conditions (weather/aircraft).

05 - TRAINEES' ACTIONS

On ECAM a check of hydraulic fluid and engine oil levels should be made. Additionally press RCL pb (more than 3 sec) in order to check any defects and refer to MMEL if necessary.
Check of technical log with reference to MMEL if necessary.
Pattern of scan depends on whether the pilot is PF, PNF, CM1 or CM2, with differing areas of responsibility (FCOM 3 chapter 03 [SOPs - Cockpit Preparation]).
A useful mnemonic for cockpit preparation is :

S ----> Scan (Overhead panel scan and area of responsibility)
P ----> Program (Program the FMGS with data)
I ----> Instruments (Check flight instruments)
T ----> Take off briefing (Done before engine start)

Again, a mnemonic may be helpful to program the FMGS in the following order. Remember to fill in all the amber boxes. Enter other information as time allows.

I ----> INIT A page
F ----> F-PLN page A & B
S ----> SEC F-PLN
R ----> RAD NAV page
I ----> INIT B page
P ----> PERF page

Consider using the secondary flight plan to have available one or more of the following alternatives ; an alternate runway, departure routing, return to the departure airfield or routing to take off alternate.

- PNF should cross check all data entries in FMGS.
- Once scan is complete there should be no white lights on the overhead panel, making it easy to verify that all items have been done.
- Once the completed load sheet has been received, the FMGS INIT B page may be filled in with relevant information.
- Take-off briefing to be accomplished prior to engine start.
- Completion of Before Start checklist above and below the line.

06 - COMPLETION STANDARDS

- Completes all actions in correct sequence in a timely manner (30 minutes normal preparation, 20 minutes for transit preparation).
- Respects task sharing and areas of responsibility.
- Ensures good crew communication and mutual cross-checking.

07 - COMMON ERRORS

- Correct sequence and areas of responsibility not respected.
- MCDU preparation incomplete or in wrong sequence.
- Take-off briefing not completed before push back / engine start.
- APU not started
-

01 - TRAINING OBJECTIVE

- To conduct an effective and comprehensive take-off briefing.

02 - SCHEDULE

Briefing duration : 10 minutes

03 - EQUIPMENT

DOC references :
- QRH 3.02 (Normal procedures)
- FCOM 3.03.06 (Cockpit preparation)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Confirmation of task allocation (PF / PNF)
- Take-off briefing conducted at the right time (prior to before start checklist).
- EFIS and MCDU used as main reference during briefing.
- Applicable NOTAMs mentioned.
- All items covered in a logical sequence.
- Re-briefs in case of late changes.

B. SECONDARY

- Importance of ensuring that the briefing is fully understood by PNF.

05 - TRAINEES' ACTIONS

The take-off brief should be a clear and comprehensive statement of intended courses of action covering the normal and abnormal cases. It should be given at a time when the workload is low, so that both pilots may concentrate on its content. Due regard should be taken of the actual weather conditions. It should occur at the end of the cockpit preparation, prior to the engine start.
Maximum use should be made of the FMGS MCDU and EFIS as the prime reference for the departure briefing.

All items should be covered in a logical manner, and a check of the PNF's understanding done at an appropriate stage.
If items such as runway changes, last minute passengers are anticipated, then the brief should be updated accordingly e.g. V speeds.
For typical brief contents see FCOM 3.03.06 (SOPs - Cockpit Preparation).
Special attention should be paid to actual conditions affecting the take-off (runway characteristics, restriction of any kind, difficult SID, weather etc.) rather than merely giving a generalised take-off briefing.

06 - COMPLETION STANDARDS

- Performs a briefing that is clear and covers all required items, according to actual circumstances.
- Confirms that the briefing is fully understood by all crew members.

07 - COMMON ERRORS

- Take-off briefing not carried out before engine start.
- Real weather conditions not taken into account.
- PF does not confirm that all aspects are fully understood by PNF.
- Logical briefing sequence not respected.
- Briefing excessive in length and/or contents.
- EFIS, ECAM, MCDU, FCU not used to confirm briefing data.

01 - TRAINING OBJECTIVE

- To perform normal engine start.
- To recognize the need to use manual engine start procedure.
- To carry out manual engine start procedure.

02 - SCHEDULE

Briefing duration : 15 minutes

03 - EQUIPMENT

DOC references :
- QRH 3.03 (Engine Start)
- FCOM 1.70.80 (Ignition and starting)
- FCOM 3.03.08 (Engine Start Auto)
- FCOM 3.04.70 (Engine Start Manual)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- FADEC power check complete before setting ENG MASTER sw ON.
- Check of bleed pressure on lower ECAM.
- Correct monitoring of parameters during starting sequence in particular for manual start.
- Hand on ENG MASTER switch (for manual start).
- Use of CHRONO during manual start - Engine limitations.

B. SECONDARY

- Significance of maximum motoring speed (manual start).
- Abort of manual start

05 - TRAINEES' ACTIONS

Automatic start is normally used, although at hot or high airfields, bleed duct pressure may be low, necessitating a manual start. Furthermore, low air pressure from an external source may require a manual start.

a. Auto Starting

- Check thrust levers at idle before selecting IGN/START switch to START (usually ENG 2 first).
- Check ECAM amber crosses disappear from screen before selecting master switch to "on" (IAE, amber crosses remain on N1 and N2 until about 3.5%)
- Check bleed pressure sufficient.
- Monitor parameters in order :

	CFM	IAE
- Start valve opens		
- N2 increases		
- Bleed pressure indication green.		
- Igniter displayed (16% N2)		
- Fuel flow	22% N2	50 sec after master switch to ON
- Light up	15 sec max after FF	20 sec max after FF
- Starter valve closes	50% N2	43% N2
- Igniter indication off		
- EGT peaks then decreases		

- Repeat for second engine start.
- Engine mode selector to NORM.

b. Manual Starting

- Check thrust levers at idle before selecting ENG MODE SELECTOR.
- Remember use of stopwatch.
- Check ECAM amber crosses disappear from screen before selecting MAN START pb to "on" (V2500, amber crosses remain on N1 and N2 until about 3.5%).
- Delay selecting MASTER switch to "on" until max motoring speed (minimum 20% for CFM and 15% for IAE, also for IAE MASTER switch must be set to on 50 sec after setting MAN START pb to ON). If unable to achieve these figures, load shedding may be required . (See FCOM 3.04.70 [Supplementary Techniques - Power Plant] for definition of max motoring and load shedding)
- Monitor parameters with regard to time limits.
- At N2 = 50 % for CFM - 43% for IAE, check start valve cross line.
- MAN START pb to "off".
- Engine mode selector to NORM.

The action of putting the engine mode selector switch to NORM will trigger the after start scan (FCOM 3.03.09 [SOPs - After Start]). This is followed by the after start checklist.

06 - COMPLETION STANDARDS

- Determines and applies appropriate engine start procedure (Auto or manual).
- Monitors engine parameters on ECAM during the starting sequence.

07 - COMMON ERRORS

- Thrust lever(s) not at idle.
- IGN/START not selected before ENG MASTER sw ON.
- Bleed pressure not checked.
- APU Bleed not on.
- Hand not on the ENG MASTER sw (manual start).
- Stopwatch not used or not started at ENG MASTER sw ON (manual start).
- ENG MASTER sw ON below maximum motoring speed (manual start).
- ENG START sel left at IGN/START after start completion.

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01 - TRAINING OBJECTIVE

- To taxi safely using correct nose wheel steering and braking techniques.
- To perform the required procedures during taxi.

02 - SCHEDULE

Briefing duration : 10 minutes

03 - EQUIPMENT

DOC references :

- QRH 3.03 & 3.04 (Taxi and before take off)
- FCOM 1.32.20 (Nose wheel steering)
- FCOM 3.03.10 (SOPs)
- FCOM 3.04.27 (Supplementary Techniques)
- FCOM 4.05.20 (FMGS procedures - Taxi)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Technique for use of "Taxi by Wire" nose wheel steering.
- Control of ground speed.
- Task sharing during flight controls check and final briefing.
- Confirmation of final data using EFIS, ECAM and MCDU.

B. SECONDARY

- Location of related items :
- Antiskid and nose wheel steering switch.
- Brake and ACCU PRESS Indicator.
- Brake temperature.
- Ground speed.
- Packs off policy and procedure.

05 - TRAINEES' ACTIONS

On receipt of taxi clearance, set nose light "on". Release the parking brake then smoothly depress the pedals after the aircraft starts to move. Check brake pressure reads zero, indicating a successful hydraulic power changeover then release the brakes. If the parking brake hydraulic accumulator leaks or has a low pressure with parking brake set to ON, and the aircraft moves forward after or during engine start, release the parking brake and press on the pedals so as to stop the aircraft. At light weights no power is needed for the airplane to start moving. At heavy weights apply minimum power smoothly to get the aircraft moving, thereafter little power is required to maintain motion.

05 - TRAINEES' ACTIONS (END)

Avoid high power settings due to the risk of FOD (Foreign Object Damage). Maintain suitable ground speed with reference to the ND. Maximum taxi speeds of 30 kt (in a straight line) and 10 kt (for sharp turns). Do not ride the brakes. Allow aircraft to accelerate, brake, then accelerate again. This reduces brake wear. On carbon brakes, brake wear is a function of number of brake applications not the pressure applied nor the duration of the braking. Brake wear is greatest when the brakes are cold. Carbon brakes do not "fade" at high brake temperatures.

If brakes fail during taxi, select A/SKID & N/W STRG sw to "off ", modulating brake pressure with pedals. Pedals should be released when switching A/SKID to "off ". Steering is then achieved through differential braking. Only in extreme emergency should the aircraft be stopped with parking brake, as full pressure is immediately applied.

Nose wheel steering is "fly by wire" with no mechanical connection between tiller and nose wheel. The relationship between tiller deflection and nosewheel angle is not linear. Forces are light and care is necessary to make gentle movements on the tiller to avoid unnecessary high rate turns. Very tight turns may be made, but over controlling may be noticeable. When turning at low speed, maintain chosen tiller position and if necessary, accept a tighter turn radius than intended to achieve a smooth turn. On very wet runways, tight turns could lead to jerkyness. This is uncomfortable for the passengers.

The sensitivity of nosewheel steering responses to inputs from rudder pedals or hand wheels reduces as speed increases
(FCOM 1.32.20 [Landing Gear - Nosewheel Steering]).
Nosewheel steering will not be effective above 130 kt .

According to SOPs, flight control checks may be made. The F/CTL page is automatically displayed on movement of the controls.

ATC clearance may then be received or confirmed, the FMGS and briefing should be modified if there are any changes. When a packs off take-off is planned, the packs should be switched off just prior to completing the before take off checklist.

Complete the Before take off checklist.

06 - COMPLETION STANDARDS

- Monitors and controls ground speed using correct technique.
- Does not exceed maximum taxi speed of 30 kts in a straight line or 10 kts in a sharp turn.
- Makes smooth, progressive use of nose wheel steering.
- Strict application of task-sharing requirements.

07 - COMMON ERRORS

- Excessive thrust application after break release.
- Taxiing too fast.
- Riding the brakes.
- PF distracted by control check.
- Overcontrolling on the tiller in a turn leading to scuffing of nose wheel tire.

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01 - TRAINING OBJECTIVE

- To perform a take-off and initial climb to acceleration altitude in accordance with standard procedures.

02 - SCHEDULE

Briefing duration : 15 minutes

03 - EQUIPMENT

DOC references :
- QRH 3.04 (Normal procedures)
- FCOM 3.02.70 (Thrust lever faults)
- FCOM 3.03.12 (SOP's)
- FCOM 3.04.27 (Flight controls - Take off modes)
- FCOM 4.05.30 (FMGS - Take-off)
- FCOM Bulletin (Tailstrike)<O>

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Stabilize engine before setting take-off power
- PNF : check of take-off power.
- Rotate to initial pitch attitude and maintain until SRS established.

B. SECONDARY

- Rolling take-off recommended.
- No flap retraction until acceleration altitude, speed trend positive and speed target above current airspeed.
- Pack operation

05 - TRAINEES' ACTIONS

While turning onto the runway, it is important not to waste any runway available, and a rolling take-off is recommended. In normal conditions i.e. no strong crosswind or very aft CG, apply half forward stick. This should be progressively reduced to neutral between 80 kt and 100 kt. Start the CHRONO as the take-off roll is started.

Set the power in two stages, allowing engines to stabilize at approximately 50% N1/1.05 EPR, before setting FLEX or TOGA power. The engine page will be automatically displayed on the SD. A thrust disagree warning will be triggered if the FADECs select a different thrust take-off mode on the ground.

05 - TRAINEES' ACTIONS (END)

Ensure FMA annunciation's are called and a check of the FM position update is performed (on ND, airplane symbol is centered on runway). FLEX or TOGA thrust must be achieved before reaching 80 kt. Remember to check power is set correctly and to call "Power Set".

Maintain runway centeline with rudder pedals, the stick remaining neutral (unless very strong crosswinds or very aft CG/tailwinds). This is because any sidestick displacement will cause the spoilers to deploy. By 130 kt , the connection between nosewheel steering and rudder pedals is removed, and more rudder input will gradually be required to prevent the aircraft turning into wind.

At VR, rotate the aircraft smoothly to 10° nose up, thereafter follow SRS. During this time the control laws will change to flight mode. Above 30 ft auto pilot is available.
A positive rate of climb should be confirmed on altimeter, VSI and RA before requesting retraction of the undercarriage.
Good technique is required in order to avoid tail strike, particularly on the A321. Early rotation, over-rotation and excessive pitch rate (or any combination) may all cause a tailstrike on take-off (refer to FCOM bulletin). In the event of a tail strike, flight at high altitude is not recommended and an immediate return should be considered.

At thrust reduction altitude, reduce aircraft pitch attitude, and with a positive speed trend, reduce thrust to the climb gate. Check FMA annunciation's and retract flaps on schedule. The F and S speeds are minimum speeds for flap retraction and not speeds at which retraction is essential. Ensure a positive speed trend before flap retraction. When accelerating through 210 kt with CONF 1 + F selected, the flaps will automatically retract to CONF 1, well before VFE of 215 kt.
Flaps will not automatically re-extend if speed drops below 210 kt (FCOM 1 chapter 27 [Flight Controls - Flaps and Slats]). Complete after take-off items and then the after take-off checklist.

If a packs off take-off was carried out, PACK 1 should be selected on at thrust reduction and PACK 2 when the flaps have been retracted.

06 - COMPLETION STANDARDS

- Lines up on and maintains centerline.
- Confirms FMA modes and check the FMGS position update.
- Makes standard call-outs on schedule.
- Rotates at correct rate (3°/sec) to initial pitch target (15°).
- Accurately follows flight director commands.
- Maintains speed between V2 and V2+20 kt during initial climb.
- Ensures landing gear and flap retraction according to standard procedures.
- Follows published SID or ATC clearance.
- Respects task sharing requirements.

07 - COMMON ERRORS

- Runway wasted during line-up and initial power setting.
- Use of nosewheel steering tiller during take-off roll.
- Not starting CHRONO.
- FMA callouts late or missed.
- FMA callouts not acknowledged.
- "Power set" call missed or made before parameters stabilized and checked.
- Half forward stick not applied.
- "Positive climb" call made without confirmation on altimeter, VSI and RA.

CROSSWIND OR TAILWIND

01 - TRAINING OBJECTIVE

- To apply correct technique for take-off when crosswind exceeds 20 kt.

02 - SCHEDULE

Briefing duration : 5 minutes

03 - EQUIPMENT

DOC references :
- FCOM 3.03.12 (Procedure)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Stick / Thrust lever procedure.
- Use of into wind aileron.

05 - TRAINEES' ACTIONS

In cases of strong crosswind and/or tailwind, the following technique is recommended :

- PF applies full forward stick
- PF sets 50% N1 (1.05 EPR) on both engines then rapidly increases thrust to about 70% N1 (1.15 EPR) then progressively to reach take-off thrust at 40 kt ground speed, while maintaining stick full forward up to 80 kt. Release stick gradually to reach neutral at 100 kt.

Small inputs on the sidestick laterally may be made, although too large an input will cause spoiler deployment. During rotation, the stick should be centralized so that the aircraft gets airborne with zero roll rate demand.

06 - COMPLETION STANDARDS

- Knows and applies correct technique.

07 - COMMON ERRORS

- Stick not fully forward.
- Too much into wind aileron causing spoiler activation.
- Aircraft deviation from centerline.

01 - TRAINING OBJECTIVE

- To perform a climb to cruising altitude in accordance with standard operating procedures and techniques.

02 - SCHEDULE

Briefing duration : 5 minutes

03 - EQUIPMENT

- FMS Freeplay Trainer

DOC references :
- QRH 3.04 & 3.05 (Normal procedures)
- FCOM 1.22.30 (Auto Flight)
- FCOM 3.03.13 & 3.03.14 (SOPs)
- FCOM 3.04.27 (Flight controls)
- FCOM 3.04.91 (Adverse Weather)
- FCOM 4.05.40 (FMGS - Climb)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Use of managed speed for normal climb with CLB or OP CLB.
- Use of V/S, EXP CLBor selected speed for improved climb rates.
- Correct setting of altimeters at transition altitude.
- FMGS procedures.

B. SECONDARY

- Turbulence speeds in the climb.
- Presetting climb speed (MCDU PERF CLB page) and cancelling.
- Climb predictions and constraints (MCDU PROG page).

05 - TRAINEES' ACTIONS

At an appropriate time in the climb the following actions should be accomplished :

- above transition altitude, check all altimeters set to standard setting.
- copy active flight plan into secondary, to ensure that secondary sequences with primary.
- clear the manually tuned navaids on RAD NAV page to allow auto tuning.
- carry out a check of navigation accuracy (may be left until in cruise).
- switch off seat belt signs (according to Airline policy).

The best speed for economy climb is FMGS managed speed. If however a greater rate of climb is required there are several options.

- Best rate of climb is achieved by selecting green dot speed (or EXP CLB which gives a target of green dot, on the A320), however at high altitude it will take a long time to accelerate from green dot to cruise speed.
- For long term maximization of climb rate, use a selected speed between green dot and ECON speed.
- Use of V/S is possible but A/THR mode becomes SPEED when V/S is selected. Care should be taken to monitor speed trend. If speed decays into VLS, a mode reversion will occur (FCOM 1.22.30 [Vertical Modes] and Briefing Note - Flight Director Mode Reversions.). In respect to whether the aircraft has Global Speed Protection capability or not, the mode reversions will be different.

If turbulence is forecasted, or experienced, in the climb use turbulence speeds of 250 kt below 20,000 ft, and 275 kt /0.76 Mach above.

06 - COMPLETION STANDARDS

- Demonstrate the ability to use the various climb techniques available.
- Maintains speed within +/-10 kt of target.
- Follows SOP's.

07 - COMMON ERRORS

- Omitting to set BARO REF to STD.
- Not monitoring the speed when using V/S

01 - TRAINING OBJECTIVE

- To efficiently manage the cruise phase.

02 - SCHEDULE

Briefing duration : 20 minutes

03 - EQUIPMENT

- FMS Freeplay Trainer

DOC references :

- QRH 3.05 & 4.08 to 4.10 (OPS data)
- FCOM 1.22.20 & 30 (Auto Flight)
- FCOM 3.03.15 (SOP's)
- FCOM 3.05.15 (Cruise)
- FCOM 3.05.20 (In cruise check)
- FCOM 4.05.50 (FMGS Procedure)
- Normal Briefing Notes - "Global Positionning system" and "FMGS Position updating"

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Maximum flight level.
- Optimum flight level.

B. SECONDARY

- Long range cruise.
- Atmospheric influence.
- Step climb.
- Insertion of forecast winds in F-PLN page on VERT REV page and of STEP ALTITUDE on VERT REV STEP ALT page if not done during preflight preparation.

05 - TRAINEES' ACTIONS

At the top of climb, and periodically throughout the cruise, conduct a check of the ECAM system pages. Navigation accuracy should be checked regularly and monitored using raw data as required. If FMGS navigation performance is unsatisfactory, use selected guidance and navigate using raw data. See also Briefing Notes - "Global Positioning System" and "FMGS Position Updating".

Selection of cruise altitude and speed will depend on several factors including the overall sector length, cost index and aircraft weight.

Cost index is a number which takes account of fuel costs and aircraft operating costs to allow the FMGS to compute an optimum cruise speed taking into consideration headwind, or tailwind, component. For example, low fuel costs and high operating costs will lead to a high cost index and fast cruise speed. Cost index will also affect climb and descent speeds.

In order for the FMGS to enter the cruise phase and the F-PLN page predictions of fuel on arrival (destination and alternate) to be correct, it is necessary to ensure that the cruise altitude entered in the PROG page and the actual cruise altitude are the same. Forecast winds and temperatures should also be entered in the F-PLN at appropriate points along the route so that accurate predictions will be calculated. Additionally any step climbs should be included in the F-PLN.

Should these predictions indicate that the aircraft will arrive below minimum fuel or late, then manipulation of the cost index may allow the target to be achieved. Selection of a CI of 0 will select maximum range and a CI of 999 will select minimum time in the FMGS predictions and managed speeds.

If actual cruise altitude is less than that entered in PROG page the FMA will indicate ALT. To enable engagement of ALT CRZ (soft altitude mode) the actual altitude must be entered in the PROG page. Selection of a higher altitude on the FCU than that entered in PROG will automatically update PROG page with a new cruise altitude.

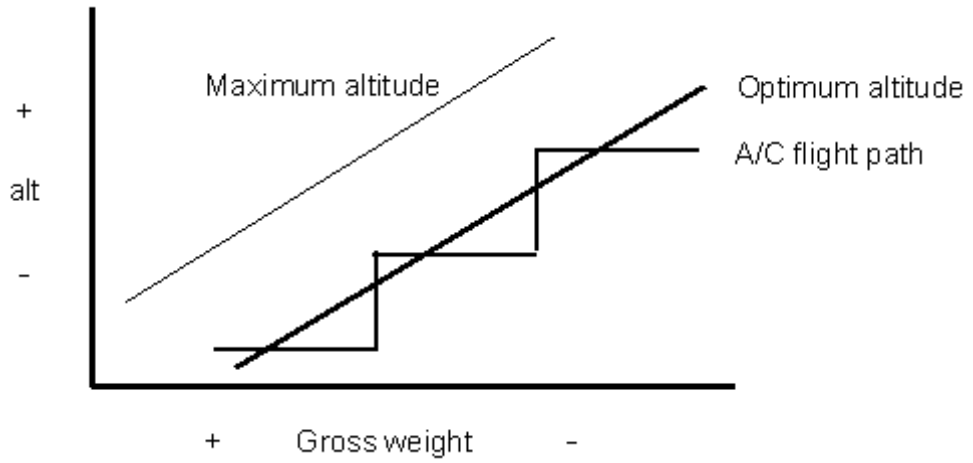
For short sector lengths the most economic cruise altitude is not necessarily the maximum which can be achieved. See FCOM 3.05.15 (In Flight Performance - Cruise) for a graph which enables selection of the best cruise altitude on short sectors.

Optimum altitude (OPT) is the altitude at which the aircraft covers the maximum distance per kilogram of fuel. It is computed from aircraft current GW, CI, deviation from ISA, winds at different levels and a minimum of 5 minutes in the cruise. Recommended Maximum (REC MAX) altitude ensures a 0.3 g buffet margin, a minimum rate of climb at MAX CL thrust and level flight at MAX CRZ thrust, limited to FL 390. (FCOM 2.05.20 [Flight Planning - Cruise Level])

05 - TRAINEES' ACTIONS (END)

In order to fly at maximum range, an aircraft must operate continuously at optimum altitude. This would mean that the aircraft would have to climb continuously in order to remain at optimum altitude (cruise climb). Usually this is not possible so the most fuel efficient way is to step climb to an altitude that is slightly above optimum. As gross weight decreases the optimum altitude will increase and another step climb is required.

The diagram overleaf demonstrates the ideal flight path given the constraint of maintaining given cruising altitudes
:



The FMGS PROG page gives an optimum altitude and a recommended maximum altitude. Recommended maximum altitude is limited to FL 390. Selecting a cruise altitude not more than 2000 ft above optimum will maintain fuel efficiency and a sensible maneuver margin.

QRH 4.08 provides graphs for use in flight to determine maximum altitudes.

06 - COMPLETION STANDARDS

- Correctly determines optimum cruising altitude using FMGS and QRH.
- Maintains cruise altitude +/-100 ft and speed +/-10 kt or +/-0.01Mach.
- Adjusts cruise parameters according to flight circumstances.

07 - COMMON ERRORS

- Atmospheric influence not taken into account.
- Speed/Mach change not considered to improve fuel economy.
- Wrong cruise altitude in PROG page

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01 - TRAINING OBJECTIVE

- To carry out a complete and comprehensive preparation for descent and approach.
- To carry out a crew briefing, in a timely manner, covering all aspects of the descent and approach.

02 - SCHEDULE

Briefing duration : 15 minutes

03 - EQUIPMENT

- FMGS Freeplay Trainer

DOC references :
- QRH 3.05 (Task sharing)
- QRH chapter 4 (In Flight Performance)
- FCOM 3.03.16 (Standard Procedures)
- FCOM 4.05.60 (FMGS Procedures)
- Briefing note - Performance (Climb and descent)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Descent and approach preparation carried out in good time before top of descent.
- Procedure for data entry into MCDU must be methodical.
- All data entries cross-checked by other crew member.
- Briefing conducted with maximum use of EFIS and MCDU displayed data.

B. SECONDARY

- Navigation accuracy and Minimum Enroute Altitude (MEA) check before beginning descent.

05 - TRAINEES' ACTIONS

At a suitable time prior to descent, the PNF should obtain the latest destination airport weather. Other pertinent information such as runway in use, its condition, and airport NOT-AMS should be obtained at this time.
The FMGS should then be programmed using the most up to date information, following the "FPRPS" format :

- ***F*** - Flight plan modifications (check that TOD is at a reasonable position)
- ***P*** - Performance descent winds, destination airfield weather and landing flap selection (CONF 3 if windshear anticipated or in certain failure case)
- ***R*** - Radio aid selection, tuning, and course selection
- ***P*** - Progress page for NAV ACCY check if required
- ***S*** - Secondary flight plan to cover contingencies e.g. runway change

The fuel predictions (fuel at destination, alternate and extra fuel) on the FUEL PRED page will only be accurate if the F-PLN is constructed correctly in terms of arrival routing, go-around routing and route to alternate.

The descent and approach briefing should be given at a time of low workload so that both pilots may concentrate on its content. Approximately ten minutes before the start of descent point, the brief should be begun, allowing time to complete a thorough brief. Use the EFIS and MCDU to brief routes and procedures. (Items to be covered are listed in FCOM 3.03.16 [SOPs - Descent Preparation]). As for the before take-off briefing, it is important that actual conditions are briefed rather than merely repeating a standard brief.

Emphasis must be placed on Minimum Enroute Altitudes (MEA), and safe altitudes near destination airport. Other items, such as special requirements (anti-ice, failure cases), descent strategy or other constraints should be mentioned.
All data entries must be cross-checked by both pilots and any ambiguities resolved.
Prior to commencing the descent or 50 NM from destination at the latest, a navigational accuracy check should be carried out. Throughout the descent, only one "head down " at any time.

06 - COMPLETION STANDARDS

- Obtains valid information for the destination airport.
- Carries out all items required to prepare the aircraft for the descent and arrival procedure.
- Conducts a comprehensive descent and approach briefing as detailed in FCOM 3.03.16 (SOPs) and includes any special requirements.

07 - COMMON ERRORS

- Late, and therefore, rushed descent and approach preparation and briefing leading to important items being omitted.
- Data entries not checked by both crew members.
- Distraction, leading to "two heads down" situations.
- NAV accuracy not timely checked.

01 - TRAINING OBJECTIVE

- To understand and implement the correct descent entry according to aircraft position and required descent path.
- To use all information and symbols available from MCDU and EFIS to properly monitor descent progress.
- To use the appropriate method to adjust descent rate as necessary to regain required path.

02 - SCHEDULE

Briefing duration : 15 minutes

03 - EQUIPMENT

- FMGS Freeplay Trainer

DOC references :
- QRH 3.05 (Task sharing)
- QRH 4.10 (OPS Data)
- FCOM 3.01.20 (Limitations)
- FCOM 3.03.17 (Standard Procedures)
- FCOM 4.02.30 (Flight guidance)
- FCOM 4.05.60 (Procedures)
- FCOM Bulletin nº 41 (VMO/MMO Exceedance)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Techniques for initiating descent.
- FMA/AP and A/THR descent modes.
- MCDU and EFIS descent information and symbols.
- Techniques for adjusting descent rate.
- Controlled Flight Into Terrain (CFIT)
- GPWS warnings and required reactions.

B. SECONDARY

- Descent planning "rules of thumb"
- Engine Anti-ice requirements.
- Radar tilt angles.
- Level-off techniques.

05 - TRAINEES' ACTIONS

The calculated top of descent point is only valid for the routing entered in the F-PLN page. Ensure that the F-PLN page contains the routing you expect to fly.

A. MANAGED DESCENT

The normal method of initiating a descent is to select DES mode at the FMGS calculated top of descent point. However, if an early descent is required by ATC, engaging descent mode will give 1000 fpm rate of descent until regaining the computed profile. If descent is delayed, a DECELERATE message appears in amber. To regain the optimum descent profile, a decrease in speed may be permitted towards green dot. Thereafter, managed descent mode is used to "catch up" with the ideal profile, when cleared for descent.

In DES mode, there is a target speed with high and low speed brackets. Speed will vary between these brackets to maintain the airplane on the required descent path. The speed will vary because the actual conditions (wind, temperature, use of anti-ice etc.) encounter in the descent will differ from the assumptions made by the FMGS. If the speed decays towards the lower bracket, power will be applied to maintain the programmed path and MACH (SPEED) is annunciated in the FMA. Should the speed rise to the upper bracket, and it is computed that the required profile will not be regained, a white MORE DRAG message is displayed. The PROG page and on the ND, the level symbol should be used to monitor progress in the descent. At lower altitudes the energy circle is useful.

Under normal circumstances, thrust will be at idle. However, if a slow descent is required, or the speed has decayed then the thrust mode changes to speed. Similarly, if a speed increase is required (maybe due to ATC) then using a selected speed in excess of optimum will command the autothrust to speed mode, as the aircraft applies power to keep on profile.

If an increased rate of descent is required, OPEN DES must be selected and speedbrake used as appropriate. Selecting only speedbrake in DES mode will not achieve an increase in rate of descent, as power will be applied to maintain the airplane on profile and at target speed.

B. OPEN DESCENT

An alternative to the managed descent is the OPEN DES mode. This will give a descent with thrust at idle, and retains the option of using a managed speed or a pilot selected speed. Speedbrake is very effective in increasing descent rate. If the aircraft is not in managed navigation, i.e. in HDG mode, then managed descent mode is not available. The aircraft will not follow a descent path but will merely descend at an idle thrust setting, and a set speed.
By monitoring the ND, the level off point can be found and the PROG page gives a deviation from planned profile.

05 - TRAINEES' ACTIONS (END)

C. RECOVERING IDEAL PROFILE

If the airplane is below profile in the OPEN DES case, the simplest way of regaining the profile is to use V/S. Once on the profile again, adjust rate of descent accordingly, with speed, V/S changes or OPEN DES.

If high on profile in the OPEN DES case, speed may be increased (with the permission of ATC), or drag used. Note that in DES mode, if drag is used when attempting to steepen profile, the airplane will apply power to offset the drag and maintain the ideal profile. Thus, to increase descent rate, OPEN DES must be selected and drag used, ensuring that thrust remains at idle.

D. EXPEDITE DESCENT

Another option is to use the EXPED pb which will command target speed close to MMO/ VMO. This will give a very high rate of descent and its use must be closely monitored.

NOTE : *When in descent the aircraft is high above descent path, it is more efficient to descent at high speed and decelerate in level or very shallow.*
LDG DOWN is a very efficient way to decelerate ; in order not to overstress the doors, extend it at around 220 kt or below.

E. OVERVIEW

In all modes the ideal profile is tracked by the VDEV indicator on the PFD. It is important at all times to bear in mind terrain and MSA considerations. The procedure for terrain checking is especially important with thrust at idle. Bear in mind the drill for recovery from GPWS warnings QRH chapter 1 (GPWS Warning). A rule of thumb calculation for descent is that track miles to run should equal three times your height in thousands of feet. Exact figures are given in QRH chapter 4.
The effects of engine and wing anti-ice on descent profile can be marked, as the idle N1 / EPR is increased, thus giving a shallower descent profile. If already in the descent, and anti-ice is used, it is usual to see an increase in speed in DES mode. If speed increases to the upper bracket, speedbrake can be used. If in OPEN DES mode a higher selected speed is advisable. Alternately, in OPEN DES mode, half speedbrake will counteract the effects of anti-ice if required. Conditions requiring the use of anti-ice are listed in FCOM 3.04.30 (Supplementary Techniques - Ice and Rain Protection).
It is vital to know the operating mode of the thrust system, particularly with regard to CFIT. Weather radar use in the descent is covered in FCOM 3.03.17 (SOPs - Descent).

06 - COMPLETION STANDARDS

- Uses the correct method to initiate descent.
- Monitors descent according to expected navigation.
- Maintains heading +/-5° and speed +/-10 kt.
- Adjusts descent rate using appropriate methods bearing in mind aircraft limitations and passenger comfort.
- Complies with all ATC clearances and minimum safe altitudes.

07 - COMMON ERRORS

- ND not used effectively to monitor descent progress.
- Inappropriate methods used to adjust descent rate (Power used against speedbrake).
- VMO/MMO exceedance due to high cost index descent speed range.
- Inaccurate descent routing, thereby invalidating descent predictions.
- Approach phase activation when high on profile

STANDARD APPROACH

01 - TRAINING OBJECTIVE

- To perform an ILS approach safely and accurately in accordance with standard procedures.

02 - SCHEDULE

Briefing duration : 15 minutes

03 - EQUIPMENT

- FMGS Freeplay Trainer

DOC references :
- QRH 3.06 (Normal procedures)
- FCOM 1.22.30 (Flight guidance)
- FCOM 3.03.18 (SOP's)
- FCOM 4.02.30 (Flight guidance principles)
- FCOM 4.05.70 (ILS approach)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Correct FMGS approach preparation.
- Approach phase activation.
- Aircraft configuration planning.
- Landing gear extension before CONF 2, if deceleration is slow.
- Procedure at Decision Altitude.

B. SECONDARY

- Starting of the deceleration sequence according to glide-slope capture altitude (above or below 2000 ft AGL).

STANDARD APPROACH (CONT'D)

05 - TRAINEES' ACTIONS

Correct FMGS preparation prior to descent will ease the workload during the approach phase. Should a runway change or expeditious routing be anticipated then programming the secondary flight plan accordingly will allow changes to be made quickly and easily. It is recommended that the active FPLN be programmed with the anticipated arrival routing and runway (radar pattern or a particular procedure) and the secondary FPLN be programmed with an alternative (full procedural pattern or an alternative runway). Program the FMGS with the routing you expect.
Both LS pb's should be pressed prior to the intermediate approach phase and all navigation aids should be identified, and displayed as necessary. The use of the ND in NAV modes and relevant range scales, with the ILS displayed on the PFD, will aid situational awareness. As always the FMGS position should be checked against raw data.

Two useful guides in descent are 250 kt at 9000 ft AAL, 30 NM from touch down and 250 kt at 3000 ft AAL, 15 NM from touchdown. From 250 kt in level flight deceleration to S speed with extension of CONF 1 will take approximately 5 NM. The energy circle is an useful indication of distance required to touchdown.

Activation of the approach phase will allow the use of managed speed during the approach. Automatic activation will occur at the deceleration point. If an early deceleration is required then approach phase can be activated on the PERF page. When flying the intermediate approach in selected speed, don't forget to check that the approach has been activated before resuming managed speed, otherwise target speed will be descent speed. At very light weights the use of managed speed may produce speeds slower than desirable in a radar or procedural pattern in which case the use of selected speed is recommended.

When cleared for the ILS the APPR pushbutton should be pressed and G/S and LOC modes will be armed. Engagement of LOC* and LOC modes should always be monitored carefully by the crew and that the inbound course is correct.
After glide slope capture, set missed approach altitude, and check that a blue go-around procedure is displayed on the ND. If there is no go-around procedure displayed, or an incorrect procedure displayed, the FPLN may be incorrectly sequenced or the go-around will have to be flown using selected modes. A check of the TO waypoint will indicate that the FPLN is correctly sequenced.

The normal approach is a decelerated approach with glideslope interception occurring at S speed and flight continuing to 2000 ft AAL (minimum) at this speed, at which point the aircraft will be configured for landing in accordance with SOP's [FCOM 3.03.18 (SOPs - ILS Approach)]. In certain circumstances (e. g. tail wind, steep glide slope, or high weights) the aircraft may accelerate to faster than S speed in which case the landing gear should be lowered before selection of CONF 2. Speed brake can be used in certain circumstances (inhibited in CONF 3 and FULL - A321) but be careful of VLS and high sink rates.

STANDARD APPROACH (END)

05 - TRAINEES' ACTIONS (END)

During flap extension it is important that PNF monitors aircraft IAS and VFE for the flap setting called for. If flaps are selected above VFE NEXT, the control surfaces will move but the aircraft will give an overspeed warning.

Should the glideslope be intercepted in level flight below 2000 ft AAL (1500 ft minimum) then CONF 2 should be selected at one dot below the glideslope and thereafter standard approach procedures followed.

PNF should monitor closely the aircraft flight path during the final approach phase and be ready to call out V/S greater than 1000 fpm, airspeed deviation of +10 kt or -5 kt, or LOC/GS deviation of more than 1 dot.

The final approach phase is one in which pilot incapacitation is both more likely and more critical, therefore PNF should closely monitor the performance of PF and be ready to take control if necessary.
The aircraft should be stabilized in the approach configuration by 1000 ft AAL (500 ft AAL in VMC) or a go around should be carried out.

When the autopilot is disconnected avoid the temptation to make inputs on the sidestick. The aircraft will be stabilized and tracking towards the runway. Avoid the tendency to turn towards the runway in a crosswind or to "duck under" the glideslope.

06 - COMPLETION STANDARDS

- Initiates deceleration at appropriate moment.
- Configures aircraft in accordance with standard procedures.
- Maintains aircraft within one dot deflection on localiser and glideslope.
- Maintains airplane speed within +10 kt/-5 kt of VAPP.
- Makes correct decision at Decision Altitude to land or go around and executes decision correctly.
- Ensures visual segment flown smoothly and landing made within touch-down zone.
- Ensures task sharing requirements and good crew communications.

07 - COMMON ERRORS

- Misuse of flight plan.
- Approach phase not activated or speed not managed.
- Go around altitude not set.
- Centerline and/or glide slope not maintained during visual segment
- Confusion between memo display and landing memo.
- Landing configuration not stabilized by 1000 ft AGL.
- Calling for flap at VFE NEXT.

GLIDE SLOPE INTERCEPTION FROM ABOVE

01 - TRAINING OBJECTIVE

- To intercept the ILS glide slope from above.
- To correctly manage aircraft speed and configuration.

02 - SCHEDULE

Briefing duration : 15 minutes

03 - EQUIPMENT

- FMGS Freeplay Trainer

DOC references :
- FCOM 1.22.30 (Flight Guidance)
- FCOM 3.03.18 (SOPs)
- FCOM 4.05.70 (Approach procedures)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- How to achieve desired descent rate (Speed / Drag).
- Importance of PF intentions being clearly understood by PNF.

B. SECONDARY

- Envelope protection.

GLIDE SLOPE INTERCEPTION FROM ABOVE (END)

05 - TRAINEES' ACTIONS

To intercept the glideslope from above the following method should be used :

FCU altitude.....set above aircraft altitude (to prevent undesired ALT*)
V/S.....set 1500 fpm down
APP pb.....depress
(LOC arms and engages, G/S is armed)
When G/S engages .....set go around altitude

It is vital to use V/S rather than OPEN DES in order that the ATHR is in SPEED mode not IDLE mode.

Maximum descent path is obtained with CONF FULL, gear down at VMAX. Nevertheless, the rate of descent should be carefully monitored to avoid exceedance of speed limits and with respect to CFIT precautions.

Like a standard approach, the aircraft must be stabilized by 1000 ft AGL, which means it is necessary to be established on the glide path by the FAF or outer marker.

06 - COMPLETION STANDARDS

- Recognizes degree of vertical deviation and determines appropriate method to achieve interception.
- Achieves glide slope capture by FAF and ensures stabilization in landing configuration by 1000 ft AAL.

07 - COMMON ERRORS

- Lack of situational awareness.
- Using OPEN DES.
- Alt set below current altitude.
- APPR mode not armed
- Use of managed speed when selected speed is more appropriate.
- Exceedance of speed limitations (Vmax).
- Go around altitude not selected.
- Go around not immediately initiated if not stabilized at 1000 ft AAL.

RAW DATA APPROACH

01 - TRAINING OBJECTIVE

- To smoothly and accurately carry out a manually flown ILS approach without FD.
- To apply correct task sharing procedures for manual flight.

02 - SCHEDULE

Briefing duration : 15 minutes

03 - EQUIPMENT

DOC references :
- QRH 3.06 (Task sharing)
- FCOM 1.22.30 (A/THR)
- FCOM 3.03.18 (SOP's)
- FCOM 3.03.23 (Go Around)
- FCOM 3.04.31 (Use of FPV)
- Briefing Note - Use of FPV

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Pitch attitude and power settings.
- Significance of specific indications on the PFD (FPV, Speed trend, selected track index, ILS deviation scales...).
- Early preparation for the approach and anticipation of LOC interception.
- Small, smooth corrections in pitch and bank to maintain FPV in desired position.

B. SECONDARY

- FDs must be selected off to view blue track index on PFD.
- LS pb must be selected early to display deviation scales in order to allow interception of LOC.

RAW DATA APPROACH (END)

05 - TRAINEES' ACTIONS

A. INITIAL APPROACH

- Select FPV as flying reference

B. INTERMEDIATE APPROACH

- Select TRK to ILS course in order to display the blue track index on the PFD horizon line
- Decelerate so as to reach FAF CONF FULL - VAPP
- For interception of the LOC use the ND information (DIR TO INTCPT RADIAL, XTK...)
- When established on LOC, fly the FPV to the blue TRK index on the horizon

C. FINAL APPROACH

- When 1/2 dot below GS, initiate the interception of the GS by flying smoothly the FPV down to the GS flight path angle (-3%)
- Monitor the raw data :
  - if LOC index starts to deviate, fly the FPV in the direction of the LOC index relative to the blue TRK index on the horizon
  - once on LOC, fly the FPV back to the blue TRK index on the horizon
  - if GS index starts to deviate, fly the FPV 1° up (down) to recover. Once reestablished, fly the FPV back to the GS flight path target.
- Only CAT 1 approaches can be flown with such a technique.
- If ATHR is not used for the approach, the speed trend arrow is an excellent aid in maintaining the correct approach speed

D. GO AROUND

If go aorund is required, push thrust levers to TOGA and proceed as usual (FCOM 3.03.23 [SOPs - Go around]). The FPD will come up automatically. The FD mode will be automatically set and conversed into HDG - V/S mode (cross bars) in case of go around.

06 - COMPLETION STANDARDS

- Aircraft configuration correctly controlled.
- Maintain airplane speed within +10 kt/-5 kt of VAPP.
- Remain within half scale deflection on localiser and glideslope.
- Ensure strict application of task sharing procedures and callouts.
- Make correct decision at Decision Alt to land or go-around and execute decision correctly.

07 - COMMON ERRORS

- Overcontrolling in pitch and roll.
- Use of FPV as "primary" reference for pitch corrections.
- Failure to follow instrument flying techniques common to all aircraft.

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01 - TRAINING OBJECTIVE

- To safely perform all types of non precision approaches using managed and/or selected guidance as determined by system availability and/or environmental circumstances.

02 - SCHEDULE

Briefing duration : 30 minutes

03 - EQUIPMENT

- FMGS Freeplay Trainer

DOC references :
- QRH 3.07, 3.08 (Normal procedures).
- FCOM 1.22.30 (Flight guidance).
- FCOM 3.03.19 (SOP's).
- FCOM 4.02.30 (FMGS principles).
- FCOM 4.05.70 (Approach procedures).
- Briefing Note - Use of FPV

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Criteria for determining type of guidance to be used.
- Correct FMGS approach preparation.
- Full approach briefing including intended guidance modes.
- Meaning and significance of all relevant PFD and ND symbols.
- Use of LOC and APPR modes.
- Aircraft configuration planning.
- Technique / monitoring of descent initiation and trajectory.
- Procedures at MDA.

B. SECONDARY

- Knowledge of trajectory symbols on ND.
- Relationship of FPD/FPV and wind correction.

05 - TRAINEES' ACTIONS

When an approach other than ILS is expected, it is important that a navigational accuracy check is carried out. Consider also whether to use a managed or selected approach.

Managed approach is only available if it is in the FMGS database and NAV ACCY check is positive. A positive NAV ACCY check can be confirmed even if LOW accuracy is indicated on the PROG page [FCOM 3.03 (SOPs - Non Precision Approach)]. Otherwise an approach in selected mode (TRK/FPA) is necessary.

A fully managed approach is recommended, with the objective of being fully stabilized, at VAPP and in landing configuration at the final approach fix. By following FCOM 3 chapter 03 (SOPs - Non Precision Approach) techniques, a safe approach to MDA can be flown.

A non precision approach will typically take longer to set up than an ILS approach, so allow sufficient time for preparation, briefing, and positioning the aircraft to start the approach. The FMGS must then be programmed correctly for the type of approach to be flown.

Brief accordingly, with specific reference to task sharing procedures and the importance of crosschecking, especially the intended guidance modes (TRK/FPA, HDG/V/S or fully managed). Ensure the correct navigational aids are tuned to facilitate the approach, including course settings if applicable.

A. MANAGED APPROACH

Follow the guidelines outlined below for a managed non precision approach :

a. Prior to Approach :

- Insertion of correct approach in MCDU
- Set VAPP as a constraint at FAF
- Check all constraints in FPLN match approach plates
- Navigation accuracy check
- Selection and identification of radio aids for approach
- Approach briefing and cross check of minima

b. Intermediate Approach :

- Check deceleration occurs at decel pseudo waypoint or activate approach phase 10 NM prior to FAF
- Select FPD
- Ensure raw data is correctly displayed
- Verify accuracy is HIGH on PROG page or NAV ACCY positive
- When cleared for approach, press APP pb to arm FINAL and APP NAV
- Complete approach checks when cleared to APP

05 - TRAINEES' ACTIONS (CONT'D)

A. MANAGED APPROACH (END)

c. Final Approach :

- Ensure landing configuration achieved prior to FAF
- Monitor FINAL APP engagement
- Start CHRONO at FAF to check FAF to MAP time
- Crosscheck altitudes and distances with those published on approach plate if applicable
- Monitor raw data and FMA, calling mode changes
- Set go around altitude

d. At MDA :

- If visual, disconnect autopilot and continue visually (FDs OFF) or perform a go around if insufficient visual references

NOTE : *At the earlier of MDA -50 ft or MAP the autopilot will disconnect if in FINAL APP mode. Airbus does not recommend levelling off at MDA.*

The knowledge of symbols and guidance information must be sound, and is detailed in FCOM 1.22.30 (Auto Flight - Flight Guidance). The FMGS guidance principles are contained in FCOM 4.02.30 (FMGS Principles - Flight Guidance Principles).
Raw data must be used as a cross check throughout the approach.
If managed guidance does not correspond with raw data then use of selected guidance to follow raw data is mandatory.

B. SELECTED APPROACH

Follow the guidelines outlined below for a selected non precision approach :

a. Prior to Approach :

- Keep A/THR engaged
- Select TRK/FPA as the autopilot guidance mode
- Use managed speed

b. Intermediate Approach :

- Crosscheck FPD approach track with approach plates
- Ensure raw data is correctly displayed
- Complete approach checks

c. Final approach :

- Select FPA 0.3 NM (recommanded 0.3 NM depending on circumstances) prior to reaching the published descent point (allowing time for the aircraft to react).
- Start time at FAF
- Ensure landing configuration achieved prior to FAF
- Monitor raw data and FMA, calling mode changes
- Set go around altitude

05 - TRAINEES' ACTIONS (END)

B. SELECTED APPROACH (END) :

d. At MDA :

- If visual, disconnect autopilot and continue visually or perform a go around if insufficient visual references

This selected non precision approach procedure is necessary when the non ILS approach is not in the database or the NAV ACCURACY check is negative (see FCOM 3.03.20 [SOPs - Non Precision Approach])
Raw data must be used for cross check throughout the approach.

When planning for a circling approach, the landing runway should be inserted in the SEC FPLN. Once downwind, having completed the instrument approach, activate the SEC FPLN enabling use of managed speed with its associated MINI GS function. Additionally, the landing runway will be shown on the PFD to assist positioning onto final approach. Once the SEC FPLN is activated the go around procedure for the instrument approach just carried out will be removed. Therefore, if visual reference is lost during the circling approach, the go around will have to be flown using selected guidance and following the missed approach of the instrument approach.
The landing is achieved by autopilot disconnect and visual positioning. Remember the effect of wind on your ground track as you "go visual". Be aware that the possibility of a go around and the procedures to be followed should have been mentioned in the approach brief. The go-around should be autopilot controlled. The approach and go around patterns are contained in FCOM 4.05.70 (FMGS Procedures - Approach).

06 - COMPLETION STANDARDS

- Makes correct choice of managed and/or selected guidance.
- Ensures standard task sharing procedures applied.
- Ensures aircraft configured in accordance with the procedure corresponding to the type of approach flown.
- Ensures approach flown within 5° of the required track.
- Maintains speed within +10 kt/-5 kt of target.
- At MDA, makes correct decision to continue, land or go around and executes decision correctly.
- Flies visual segment smoothly and lands within touchdown zone.
- Performs correct go around procedure if necessary.
- Conforms with task sharing requirements and ensures good crew communication.

07 - COMMON ERRORS

- Raw data information not monitored closely throughout approach.
- Confusion between managed and selected.
- NAV accuracy not confirmed or checked.
- TO waypoint validity not checked on ND
- Misuse of flight plan.
- Navigation aids not :
  - forced and course not inserted.
  - checked for approach
- VAPP not stabilized at FAF.
- Incomplete briefing.
- TRACK / FPA selected late.
- Aircraft descent preparation late.
- Poor radial tracking in selected mode.
- o around altitude not set.
- Going below of MDA.

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01 - TRAINING OBJECTIVE

- To safely perform a visual traffic pattern, approach and landing.
- To perform a "side-step" maneuver during an approach.

02 - SCHEDULE

Briefing duration : 10 minutes

03 - EQUIPMENT

DOC references :
- FCOM 3.03.20 (Visual approach)
- FCOM 4.05.70 (Visual approach)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Visual pattern description.
- Altitude/distance to run/configuration "clues".
- Importance of maintaining visual contact with runway and other traffic.
- Use of all available aids in conjunction with FPV to maintain slope angle and centerline.
- Use of FPV and A/THR.
- Side-step manoeuvre.
- Minimum stabilization requirements.

B. SECONDARY

- Use of FPV to maintain altitude and track downwind.
- Effects of crosswind on base leg.

05 - TRAINEES' ACTIONS

When arriving in the downwind position, be aware of the height/distance to run and configure accordingly. The energy circle when available is of use in determining distance required to land (provided landing runway is selected).

On commencement of the visual approach, disconnect auto pilot, select FDs to "off", select FPV and check A/THR active. Activate approach to recover the use of managed speed. The FPV is very useful for maintaining altitude and positioning on downwind leg.

In case of cross wind, such as base leg is flown in headwind, expect thrust and IAS target to increase if speed is managed and A/THR active.

Ensure an even workload, so that PF can keep eyes out of cockpit, maintaining visual contact with runway and any traffic.

The full pattern is found in FCOM 3.03.20 (SOPs - Visual Approach).

Aim to be in landing configuration, stabilized on correct approach path (hands on THR levers), at VAPP by 500 ft AGL, at the latest. If not stabilized, a go-around must be considered.

If a late side-step is required, smooth application of controls will remove the tendency to over-bank and destabilize the approach. Do not "duck under " in the late stages of approach.

06 - COMPLETION STANDARDS

- Ensures aircraft is positioned and configured appropriately with regard distance to run and pattern constraints.
- Performs smooth "side-step" manoeuvre.
- Maintains airplane speed within +10 kt / -5 kt of VAPP.
- Ensures that airplane is in landing configuration at VAPP, with engines at approach power, at or above 500 ft AAL or performs a go around.
- Ensures correct task sharing and good crew communications throughout.

07 - COMMON ERRORS

- Insufficient planning for altitude/distance to run.
- Late disconnection of autopilot
- FDs not selected off (at appropriate moment).
- One FD left on.
- Overbanking or 'fly through' during side-step.
- High sink rate, shallow approach angle or "ducking under" on late final approach.
- Approach not stabilized at or above 500 ft AAL and late decision to go around.
- Hands on THR levers

01 - TRAINING OBJECTIVE

- To conduct precision approaches in accordance with the specific procedures.
- To take the correct actions in case of failure.

02 - SCHEDULE

Briefing duration : 30 minutes

03 - EQUIPMENT

- FMGS Freeplay Trainer

DOC references :
- QRH 5.04 (Ops Data)
- FCOM 3.01.22 (Limitations)
- FCOM 3.03.22 (Landing geometry : visual segment and ground clearance)
- FCOM 4.05.70 (Procedures)
- Appropriate approach charts
- Getting to grips with CAT II / CAT III operations

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Specific approach briefing for CAT II / III approaches.
- Equipment required and action in case of failure.
  (Table of equipment required for CAT II / CAT III
- Appropriate task sharing.
- Decision making process.
- Landing procedures.
- Maximum wind conditions for CAT II / CAT III

B. SECONDARY

- Stabilized approach objective.
- Aircraft, crew and airport requirements.
- Decision Height, Alert Height

05 - TRAINEES' ACTIONS

A. GENERAL INFORMATION

a. Crew qualification :

As per state regulation.

b. Aircraft qualification and status :

Check airplane technical log, ECAM status page, crew monitored equipment against the required equipment table in QRH chapter 5. When APP pb is pressed to arm the approach mode the FMA will annunciate the airplane landing capability i.e. CAT 2, CAT 3 SINGLE or CAT 3 DUAL. The STATUS page will indicate any loss of autoland capability in the inoperative systems column e.g. CAT 3 DUAL.

c. Airport qualification :

Check NOTAM's, navaids and ground equipment availability. ATC clearance for CAT 2/3 operations and statement of low visibility procedures in effect, implies that airport conditions are fulfilled.

Autoland has not been demonstrated :

- for CAT 1 ILS
- for glideslope outside -2.5° and -3.15°
- for airport altitude higher than 2500 ft
- above MAX landing weight

Airport MET report : for destination airport, check RVR (TDZ and MID as per state regulation) against approach charts. Also check wind and pressure altitude limits.
For alternate airport check weather above CAT 1 minimum. Check minimum diversion fuel.

B. USE OF APPROACH CHARTS

Specific CAT 2/3.
Aircraft category = C
Check minima on Airline En Route Manual if necessary.

05 - TRAINEES' ACTIONS (CONT'D)

C. APPROACH BRIEFING

The approach briefing should include the normal items as for any IFR arrival and in addition the following subjects should be covered prior to the first approach.

- Crew/FMGS/airplane/airport capabilities (standby horizon, config 3 or Full, below MAX landing weight)
- Check that and approach is permitted (DH - RVRs - Wind)
- Failure cases and procedures - above and below 1000 ft AAL
- Check alternate minima for failure cases
- Navigation equipment set-up (check ILS course)
- Standby horizon flag monitoring
- Task sharing in approach phase
- Seat position, cockpit lights
- Use of autobrake
- Use of landing lights not recommended
- Callouts for parameter exceedance e.g. "Speed"
- Consider fuel remaining with regard to holding, missed approach and diversion to alternate

D. TASK SHARING

Be aware of specific division of workload in low visibility operations. CPT's duties are supervision and decision making. F/O monitors Auto Flight System (AFS), FMA, standard calls and is "go-around minded".

E. FAILURE AND ASSOCIATED ACTIONS

These are specific to the category of operation. In general, there are three possible responses to system failure :

- GO AROUND - reassess the situation after the go-around
- REVERT to higher minima
- CONTINUE to original minima

a. Above 1 000 ft - Downgrading Conditions :

- ECAM actions completed
- Decision to downgrade completed
- In the event of ATHR fail when using AP, try engaging the other AP and the associated ATHR channel.

b. Below 1 000 ft :

A go around must be performed in case of :
- downgrading of capability (clic, clic, clic)
- any Amber or Red caution (warning)
- any flag

NOTE : *Hands are to be kept on thrust levers below 1 000 ft*
Be aware of the possibility of a manual go around using the stand by horizon (check ATT warning case)

05 - TRAINEES' ACTIONS (END)

E. FAILURE AND ASSOCIATED ACTIONS (END)

c. Alert Height (200 ft) :

- With fail operational capability an automatic landing can be made in the event of a failure below alert height. This is Cat 3 Dual.
- With fail passive capability, a failure below DH will leave aircraft in trim, with no significant deviation of flight path or attitude. A landing is then completed manually - the pilot must assume control. This is Cat 3 Single.

d. After Touch Down :

- For antiskid and nosewheel failures, disconnect autopilot after touchdown and perform manual roll-out.
- If auto roll out is not satisfactory, disconnect AP immediately.

06 - COMPLETION STANDARDS

- Demonstrates correct application of standard procedures.
- Takes safe, correct action in case of failure during the approach.
- Makes the correct decision to land or go around.
- Applies proper technique during landing and roll out.
- Ensures strict application of specific task-sharing requirements and ensures good crew communication.

07 - COMMON ERRORS

- Specific task sharing not briefed.
- Lights not adjusted
- Action in case of failure not briefed.
- Incorrect decision in case of failure.
- Stand by horizon flag not monitored.
- Not considering use of autobrake.
- ILS course not checked at "LAND" green.
- Autopilot not disengaged at end of roll out.

01 - TRAINING OBJECTIVE

- To land the aircraft in a safe manner.
- To decelerate the aircraft after landing using appropriate combination of reverse thrust and manual or auto wheel brakes.

02 - SCHEDULE

Briefing duration : 10 minutes

03 - EQUIPMENT

DOC references :
- FCOM 1.32.30 (Brakes and anti-skid)
- FCOM 1.70.70 (Thrust reverser system)
- FCOM 3.01.40 (Limitations)
- FCOM 3.03.22 (SOPs)
- FCOM 3.04.27 (Supplementary techniques)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Awareness of landing limitations
- Flare at correct height.
- Crosswind landing technique.
- Awareness of possible tailstrike.
- Selection of idle thrust and standard use of reverse thrust.
- Normal use of autobrake system and related indications.
- Manual braking and directional control techniques.
- Brake and reverser limitations.
- Actions in case of abnormal braking behavior.
- Conditions for spoiler deployment.
- Derotation technique

B. SECONDARY

- Flight controls flare mode.
- Possible pitch up with spoiler deployment.
- Brake and anti-skid indications on ECAM WHEEL page.
- Recommendations for use of autobrakes.

05 - TRAINEES' ACTIONS

As a basic rule for all approaches, not later than 1 000 ft AGL, the PF should have one hand on the THRUST LEVERS and the other one on the side stick. This should apply regardless of AP - ATHR selection.
During the final visual segment of the approach it is very important not to over control with the sidestick. The aircraft will maintain pitch and roll attitudes resisting any atmospheric disturbance until 50 ft when landing modebecomes active (FCOM 3.04.27 [Supplementary Techniques - Flight Controls]). Landing mode is only a pitch mode and roll control is the same as normal law until the wheels are on the ground.
At approximately 20 ft the aircraft should be progressively flared and the thrust levers selected to idle. Due to the engagement of landing mode in pitch it is necessary to make a progressive pull on the sidestick in order to increase the pitch angle in the flare. The 'Retard' call at 20 (manual landing) / 10 (autoland) ft is a reminder to retard the thrust levers to idle if they have not already been retarded.

Tail strike occurs (A320) at 13.5° or 11.5° (landing gear compressed), so pitch attitude should be monitored in the flare (see FCOM bulletin 22). (FCOM 3.03.22 for pitch and roll limits.)

Derotation should be commenced as soon as the mainw heels have touched. The aircraft has a tendency to nose down naturally as the aft stick applied for the flare is relaxed towards neutral. A comfortable nose wheel touchdown will be achieved if the stick is maintained just aft of neutral during derotation.
For crosswind landing techniques read the briefing given in FCOM 3.03.22 (SOPs - Landing).
At touch down the ground spoilers will deploy automatically which may give a slight pitch up.
Automatic ground spoiler deployment will occur with both main landing gear compressed or with one MLG on the ground and reverse thrust selected (FCOM 1.27.10 [Flight Controls - Ground Spoiler Control]). Ground spoiler deployment will enable autobrake operation (if selected). The green DECEL light on the AUTO/BRK panel enable the crew to monitor whether the selected rate of deceleration is achieved.

To disconnect autobrake, pressure needs to be applied to one brake pedal only. However the normal method of disarming the autobrake is by even pressure on both brake pedals. The auto brake may also be disconnected by action on the respective AUTO/BRK pb (not recommended as both pilots should be heads up during the landing roll) or by pushing down the speedbrake control lever. Autobrake should be disconnected before 20 kt is reached.

Manual brakes may be used as an alternative to auto brakes. The A320 is fitted with carbon brakes and their wear is a function of the number of applications, not the amount of pressure applied. Further, brake wear is greatly increased when brakes are cold. The tires are equipped with fusible plugs which protect against tire burst in the event of overheat.

05 - TRAINEES' ACTIONS (END)

Max reverse (or idle reverse depending on airport regulations or airline policy) should be selected immediately after main gear touchdown. Reduce reverse thrust to idle at 70 kt. Idle reverse may remain selected until the airplane is at taxi speed. PNF should monitor spoiler deployment (ECAM WHEEL page), operation of reverse thrust (E/WD) and the operation of autobrake (green decel light on AUTO/BRK panel) and notify PF of any non normal indications

LIFT IMPROVEMENT PACKAGE (LIP)

The A321-200 (and some later A321-100) is fitted with aerodynamic improvements to the wing leading edge (LIP) which improve the maximum Lift Coefficient in CONF FULL. This leads to a reduction of 3 to 4 knots of VLS CONF FULL, lower possible approach speeds and a reduction in landing distance required. However, for normal landings and Autolands with the lower approach speeds there would be a reduced margin relative to landing tailstrike . Therefore the use of the reduced approach speeds is restricted to short runway operations.

The CONF FULL VAPP displayed in the MCDU may be modified,depending on pin program to VLS + 9 + wind from the present logic of VLS + 5 + wind. The objective is to keep, for normal landings, the current VAPP despite the lower VLS (LIP). There is no change in the current philosophy concerning the use and modifications of VAPP on the MCDU for all manual landings and Autolands.

For landing on short runways the MCDU VAPP must be overwritten by the crew to select a lower approach speed (limited to VLS).

When using reduced approach speeds, crews should be aware of the reduced margins relative to a landing tailstrike. Autoland is not allowed with the reduced approach speed.

In failure cases where an approach speed increment is specified (in the QRH), an extra 5 kt should be added in order to keep the same approach speed values for A321-100 and -200.

06 - COMPLETION STANDARDS

- Awareness of landing limitations.
- Use of correct landing technique and execution of standard landing.
- Employs correct technique for use of reverse thrust and manual braking or properly monitors autobrake deceleration.
- Avoids significant deviation from runway centerline.

07 - COMMON ERRORS

- Overcontrolling in pitch or roll.
- Flaring too high.
- Failure to flare or flaring too late.
- Not selecting idle thrust for landing.
- Delayed selection of reverse thrust.
- Failure to monitor ECAM WHEEL page and/or AUTO/BRK panel during deceleration.
- Maximum reverse thrust maintained below 70 kt or reverse stowed before taxi speed.
- Differential braking used during roll out.

01 - TRAINING OBJECTIVE

- To perform a safe go around in accordance with standard procedures.

02 - SCHEDULE

Briefing duration : 15 minutes

03 - EQUIPMENT

- FMGS Freeplay Trainer

DOC references :
- QRH 3.09 (Normal procedures)
- FCOM 1.22.30 (Flight guidance)
- FCOM 3.03.23 (SOP's)
- FCOM 4.03.20 (MCDU Page description)
- FCOM 4.05.80 (FMGS procedures)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Situational awareness.
- Correct announcement / crew actions.
- Pitch control.
- Navigation.

B. SECONDARY

- Engine out.
- Reject landing.
- Go around without FD.

05 - TRAINEES' ACTIONS

The go-around mode is engaged by setting the thrust levers to the TOGA detent, provided at least CONF 1 is selected. Monitor FMA annunciations for correct operation. Speed target is the memorized approach speed or the speed at engagement of go around.

If going around from a visual approach (FDs off), set thrust levers to TOGA, and the FDs will automatically engage in HDG - V/S mode.

Lateral navigation will stay in GA TRK mode until the heading selector knob is pulled or pushed to engage HDG or NAV mode. The go-around can be flown with two autopilots engaged, but when another lateral or vertical mode is selected, one autopilot drops out. Speed target will be green dot when GA ACCEL ALT is reached, as the design assumes another approach will be flown, following the go-around.

The previously flown approach will be automatically strung back in the F-PLN at the end of the missed approach procedure. The approach must be activated if another approach is planned. If proceeding to an alternate, switching out of FMGS GO AROUND phase to CLIMB phase is achieved by selecting ALTN or inserting NEW DEST and CRZ FL. Either of these actions will switch the FMGS flight phase to CLIMB (FCOM 4.02.20 [FMGS Principles - Flight Phases]).

Be very careful when going-around with FPV selected as it is easy to over-rotate, and put the pitch reference symbol, not the FPV, at 15° (auto engagement of FDs not available).

In the event of low altitude capture and engine failure whilst in ALT* mode, monitor the speed carefully as there is no low speed protection in ALT * mode.

06 - COMPLETION STANDARDS

- Initiates go-around at +50 ft/-0 ft of decision altitude/height.
- Initiates go-around at +100 ft/-0 ft of minimum descent altitude/height.
- Immediate application of TOGA and positive rotation to required pitch angle.
- Follows SRS and maintains target speed +/- 10 kt (minimum VREF).
- Follows published missed approach procedure or maintains ATC heading +/- 5°.
- Ensures application of task sharing requirements and good crew communications.

07 - COMMON ERRORS

- Incomplete or missed callouts.
- Rotation too slow and/or delayed.
- Pitch / speed / thrust control.
- Flap retraction completed before acceleration altitude.
- Wrong or no selection of lateral mode.
- When FPD/FPV selected confusion between pitch angle and FPV.

01 - TRAINING OBJECTIVE

- To be familiar with and apply special requirements for dispatch with gear down.
- To be able to compute Take-off and Go around performance data.
- To calculate a valid fuel plan.

02 - SCHEDULE

Briefing duration : 15 minutes

03 - EQUIPMENT

DOC references :
- FCOM 2.04.25 (Special operations)
- FCOM 3.05.35 (Go around)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Knowledge of limitations (speed, icing).
- Take-off performance computation.
- Recommended speeds (climb, cruise, descent : refer to FCOM 2 .04 [Special Operations])
- Go around.

B. SECONDARY

- Disregard FMGS fuel predictions.

05 - TRAINEES' ACTIONS

Revenue flight is permitted with the landing gear in the down position and the gear doors closed, subject to certain limitations contained in FCOM 2.04.25 (Special Operations - Flight With Gear Down). The MEL must also be consulted before planning a flight with gear down.

Be aware that failures which would normally degrade flight controls to ALTN law, now degrade to DIRECT law.

Note special procedures for emergency electrical generation in all generators failed case.

Performance is severely degraded and special attention must be paid to weight and fuel consumption calculations. Should the gear fail to retract after take off, FCOM 2.04.25 (Special Operations - Flight with Gear Down) will be of use in deciding whether flight can continue to destination or another aiport enroute. This is one of the few occasions when FCOM Vol 2 is used in flight.

Consider the effect of terrain on the planned departure route and the go-around due to poor climb performance.

Examine the planned route carefully as drift down level off is very much lower than with gear retracted. Terrain clearance is a concern.

06 - COMPLETION STANDARDS

- Applies special operating procedures.
- Determines correct Take-off and Go around performance.
- Accurate fuel plan.

07 - COMMON ERRORS

- Lack of awareness of severe performance limitations.

01 - TRAINING OBJECTIVE

- To take required action in the event of any GPWS warning.

02 - SCHEDULE

Briefing duration : 10 minutes

03 - EQUIPMENT

DOC references :
- QRH chapter 1(GPWS warning)
- FCOM 1.34.70 (GPWS)
- FCOM 3.02.34 (GPWS warning)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Immediate reaction (except as stated in QRH).
- GPWS modifies profile at certain airports.
- Configuration requirements below VLS.
- Description of GPWS modes.

B. SECONDARY

- Awareness of the active flight control law and how it will affect the escape maneuver.
- Reaction adapted to type of warning (Emergency pull up or go around).
- Inhibition or cancelling possibilities (configuration selection pb's on overhead panel).

05 - TRAINEES' ACTIONS

The Airbus fly-by-wire family is equipped with flight envelope protection which provides effective response to GPWS recovery manoeuvres. If a warning is received, **IMMEDIATE** action must be taken unless operating in daylight VMC and the cause of the warning can be positively identified.

Full back stick is recommended. Care must be taken when operating on one engine, with flaps extended and at light weight as in this configuration directional control may be difficult.
The drill must be carried out positively, with clear announcement of intent, positive control action and the control input retained until clear of danger.
In certain situations, nuisance warnings may be inhibited by action on the GPWS panel and may be required by ECAM. When landing CONF 3 prompt is pressed on the MCDU PERF page to avoid nuisance warnings.

Remember to retract speedbrakes, if in use, to permit maximum climb performance. Speedbrakes will retract automatically if speed is reduced below V ALPHA PROT.

06 - COMPLETION STANDARDS

- Reacts immediately to warning.
- Applies correct emergency pull-up procedure.

07 - COMMON ERRORS

- Delayed reactions due to hesitation.
- Mistrust of warnings.
- Stick not maintained in full back position during emergency pull up.
- Configuration modified with speed below VLS.
- Decision not clearly announced.

01 - TRAINING OBJECTIVE

- To identify the circumstances requiring a FMGS position update.
- To correctly update the FMGS position.

02 - SCHEDULE

Briefing duration : 10 minutes

03 - EQUIPMENT

- FMGS Freeplay Trainer

DOC references :

- FCOM 4.02.20 (Flight management principles)
- FCOM 4.03.20 (Progress page)
- FCOM 4.04.30 (Update at)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Situation requiring position correction.
- Procedure for updating position.

B. SECONDARY

- Understanding of position computation.
- Understanding of radio position updating.

05 - TRAINEES' ACTIONS

This procedure is a very rough way of correcting gross errors in the FMGS computed position and should only be used when major position error is apparent or when a CHK IRS/FM POSITION message occurs along with an obvious position error. It should not apply to aircraft equiped with GPS.

When such a position error occurs it is important that the aircraft is navigated using raw data until an update can be done. The position error may have occurred due to either the FMGS incorrectly identifying a VOR (new VOR frequency or position change NOTAM but not yet included in FMGS database) or corruption of a VOR signal (e.g. in war zones). Careful checking of NOTAMS will allow the crew to deselect a suspect VOR (FCOM 4.03.20 [Pilot interface - Page Description]). Pilots must also be aware of the possibility of aircraft equipment failure.

To update the FMGS position follow the procedure given in FCOM 4.04.30 (How to use).

06 - COMPLETION STANDARDS

- Makes correct decision to update position.
- Performs an accurate update of FMGS position.

07 - COMMON ERRORS

- Updating confirmed without check or using NAV display instead of raw data indications.
- Unintentional updating.
- Unnecessary updating.

01 - TRAINING OBJECTIVE

- To be able to use the GPS for navigation and non precision approaches.
- To understand the limits on the use of the GPS.

02 - SCHEDULE

Briefing duration : 15 minutes

03 - EQUIPMENT

- FMGS Freeplay Trainer

DOC references :
- FCOM 1.34.15 (GPS)
- FCOM 3.01.22 (Limitations)
- FCOM 3.02.34 (Abnormal Procedures)
- FCOM 4.02.20 (Flight Management Principles)
- FCOM 4.03.20 (MCDU Page Description)
- FCOM 4.05.70 (Approach)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- GPS PRIMARY, an operational concept
- FMGS position calculation
- MCDU pages associated with GPS
- GPS overlay approach

B. SECONDARY

- GPS deselection
- Check of NOTAMs for satellite availability, prior to flight

05 - TRAINEES' ACTIONS

The GPS is a satellite based radio navigation aid. GPS PRIMARY is an Airbus term defining an operational concept. It means that adequate GPS accuracy and integrity are provided and that GPS is available as the basis for the FM position. The GPS fitted to the Airbus family of aircraft monitor the integrity of the position information provided, and give indications of when this position information cannot be relied upon.

The position calculated by the twin GPS receivers is added to the IRS calculated position producing a GPIRS position. This is then fed to the FMGCs and a FM position is produced. At take off, even with GPS, the FM position is updated to runway threshold (+ T/O SHIFT if applicable). The FMGCs will use the GPIRS position as the FM position so long as GPS PRIMARY is indicated on the MCDU PROG page.

Reasonableness tests on the GPIRS and IRS positions are carried out and any unreasonable position is disregarded for the purpose of FM position calculation. The table below summarizes how FM position is derived with and without GPS PRIMARY

.

	FM POSITION	
	Without GPS	**With GPS**
- On ground before take-off	Mix IRS position	GPIRS
- At take-off	Runway threshold (+ T/O shift)	
- Flight	MIX IRS & Radio Position (tending towards Radio Position)	
-Flight without GPS or Radio Position update	MIX IRS position + Last memorized FM position, gradually tending towards IRS position	

FCOM section 1.22.20 FCOM 4.02.20 (FMGS Principles - Navigation) provides a full description of FMGS position computation.

During flight preparation, GPS PRIMARY will be indicated on the MCDU PROG page and the ND. This message should be cleared using the CLR pb. This is a positive confirmation to the crew that GPS is accurate.

The GPS workings are transparent to the crew and will only require attention in the case of a fault or a downgrading of the position information e.g. GPS PRIMARY LOST or GPS 1 (2) FAULT. If the GPS status changes, a message will be displayed on the MCDU and ND [GPS PRIMARY (white) or GPS PRIMARY LOST (amber on ND)].
The amber GPS PRIMARY LOST cannot be cleared from the ND and is to remind the pilots that GPS is not available. Navigation accuracy up-or downgrade will be shown in the same way as already used for non GPS navigation.

05 - TRAINEES' ACTIONS (CONT'D)

The following is a list of MCDU pages associated with the use of GPS and a brief description of their use :

MCDU PAGE	FUNCTION
SELECTED NAVAIDS	Allows deselection or selection of GPS
GPS MONITOR	Display of GPS positions and other GPS derived information.
IRS 1 (2) (3)	GPIRS Position for each IRS
PROG	When GPS PRIMARY is shown, indicates that GPIRS is used for FM position calculation. Navigation accuracy is shown.
PREDICTIVE GPS*	Displays information about the predicted availability of GPS at destination ETA or at a particular waypoint.
ARRIVAL	Allows selection of GPS approach.

* PREDICTIVE GPS page not relevant when Litton GPS fitted.

Full descriptions of the above pages can be found in FCOM 4.03.20 (Pilot Interface - MCDU Page Description).

The full GPS standard will permit predictions to be made regarding the feasibility of a GPS approach at destination. The calculation involved relies on the number of, and the position of, the satellites at ETA. The "time window" is pilot modifiable.

The current status of GPS permits approaches to Cat 1 limits at best. Individual certification authorities are discussing GPS accuracy, reliability and so forth. Thus, the minima and acceptance of GPS in each country must be checked before using GPS as a prime means of navigation in the approach phase.

05 - TRAINEES' ACTIONS (END)

There are two types of GPS approach :

A. GPS OVERLAY APPROACH

The aircraft performs a managed approach along the trajectory of a published non precision approach using GPS position information in GPS PRIMARY navigation mode. Before beginning the approach a check of GPS PRIMARY and HIGH accuracy must be made which replaces the navigation accuracy check. Additionally, before the FAF check GPS PRIMARY and HIGH accuracy with a RNP of 0.3 NM or less. Raw data must be displayed and monitored at all times. FCOM 4.05.70 (FMGS Procedures) details the procedures to be used. If raw data indicates that the aircraft is not on the required flight path the pilot must use HDG/V/S or TRK /FPA to correct the flight path.

B. GPS STAND ALONE APPROACH

The aircraft is guided along the trajectory of an approach the waypoints of which are not referenced to any ground base navigation aid. As yet, only a few GPS stand alone approaches are published and they require an operational approval.

If GPS PRIMARY is lost during a non precision approach, a GPS PRIMARY LOST message in amber will be displayed accompanied by a triple click. If this occurs or there is a navigation accuracy downgrade, the approach may only be continued in managed navigation as long as raw data continue to indicate satisfactory guidance.

06 - COMPLETION STANDARDS

- Good awareness of how GPS aids navigation.
- Accuracy check carried out before FAF during GPS approach.

07 - COMMON ERRORS

- No check of NOTAMs relevant to satellites prior to flight.
- On GPS overlay approach, raw data is not displayed and/or monitored.
- Lack of knowledge of correct procedure in failure cases.

COLD/HOT WEATHER AND HIGH ALTITUDE RUNWAY OPERATION

01 - TRAINING OBJECTIVE

- To operate the aircraft according to recommended procedures in adverse weather.

02 - SCHEDULE

Briefing duration : 20 minutes

03 - EQUIPMENT

DOC references :
- FCOM 1.30 (Ice and rain protection)
- FCOM 1.34.60 (Weather radar)
- FCOM 1.36 (Pneumatic system)
- FCOM 2.04.10 (Contaminated runway)
- FCOM 3.01.70 (Limitations)
- FCOM 3.04.30 (Ice and rain protection)
- FCOM 3.04.34 (Weather radar)
- FCOM 3.04.91 (Adverse Weather)
- Briefing notes on adverse weather operations

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Aircraft preparation in adverse weather
- Correct procedure for de-icing
- Operations in icing conditions
- Performance considerations in "hot and high" conditions

B. SECONDARY

- Recognition of conditions requiring the use of anti icing
- Use of weather radar

COLD/HOT WEATHER AND HIGH ALTITUDE RUNWAY OPERATION (CONT'D)

05 - TRAINEES' ACTIONS

The A320 is certificated for operations in the temperature range of -40°C up to +50°C (at sea level). The environmental envelope is shown in FCOM 3.01.20 (Operating Limitations). The APU envelope is similar.

A. COLD WEATHER

The A320 is certified for flight in icing conditions. Icing conditions may be expected when OAT (on ground) is below +10°C and there is visible moisture in the air (such as clouds, fog with low visibility, rain, snow, sleet, ice crystals) or standing water, slush, ice or snow is present on the taxiways or runway. Furthermore, preparation and ground operation of the aircraft following a cold soak may require procedures which are additional to the normal operating procedures. FCOM 3.04.91 (Supplementary Techniques - Cold Weather).

The normal preliminary cockpit inspection should be carried out. If the weather radar is unserviceable the MMEL / MEL may contain restrictions on the flight. Thereafter, a full exterior inspection should be done including the extra items listed in FCOM 3.04 (Adverse Weather).

Probe/window heat may be used. When selected ON, the system provides a low level of heating to clear cockpit transparencies and ensures adequate probe heating. The level of heating changes automatically to high, once airborne. The TAT probe is not heated on the ground.

At temperatures below -15°C, the ECAM and EFIS DUs may not be available until cabin conditioning has warmed the avionics compartment and cockpit). Also, at this temperature, IRS alignment takes up to 15 minutes.

When conducting the external inspection, take care to inspect all critical surfaces to ensure that they are clear of snow, frost and ice. Also ensure that all inlets, drains, probes etc are clear of contaminant. If they are not, the airplane must be de iced. (A thin film, maximum of 3 mm, of frost is acceptable on the underside of the wing tank area.)

There are two main types of de icing fluid : Type I and Type II. They are both based on a mixture of glycol and water. The more modern Type II fluids have greater holdover times and flow off the aircraft better than the Type I fluids, thereby negating any performance penalties. The holdover time is the estimated time anti-icing fluid will prevent the formation of frost or ice and the accumulation of snow on the protected surfaces of the airplane, under average weather conditions mentioned in the guideline table.

Guidelines for holdover times and mixture application are listed in FCOM 3.04 - Adverse Weather.

COLD/HOT WEATHER AND HIGH ALTITUDE RUNWAY OPERATION (CONT'D)

05 - TRAINEES' ACTIONS (CONT'D)

A. COLD WEATHER (CONT'D)

Note that any airplane which has been anti-iced can not receive a further coating of anti-ice fluid on top of the existing film. In continuing precipitation, the original anti-icing coating will be diluted at the end of the holdover time and refreezing could begin. In this case the airplane must be de-iced and then anti-iced using either a one step or a two step process FCOM 3.04 (Adverse weather).
Before commencement of spraying, a procedure must be carried out which minimizes the ingress of de-icing fluid into the cabin. This procedure is listed in FCOM 3.04. (Adverse weather).

It is recommended to wait for 60 seconds after the completion of spraying before selecting APU bleed ON. If engines were running during the spraying operation, they should be run up to 60% N1 (1.09 EPR) for 10-15 seconds to eliminate any residual fluids. Note that a visual inspection (by maintentance personnel or flight crew according to airline policy), of the sprayed areas is essential before completing the technical log.
The minimum fuel temperature is -43°C, for JET A1, and slightly higher for other commonly available fuels. If the fuel is colder than this, it may be possible to add warm fuel to raise its temperature. The minimum oil temperature or pressure must be checked in FCOM 3.01.70.

When taxiing in slush, delay flap extension until reaching the holding point ready for departure. Do not use reverse thrust, even at idle (except in emergency) as it may cause recirculation of snow off snow covered areas, which can result in engine flame out or roll back. When engine anti-icing is in use, ground idle thrust is increased and greater care must be taken on slippery surfaces.

When the engines have been cold soaked and to avoid thermal shock, they should be operated at or near idle for a minimum of 5 minutes before take-off power is applied. (Time spent taxiing may be included as part of this). Before take-off, the engines should be run at 50 % N1 for 10 seconds to shed any ice that may have accumulated.
If moderate or severe turbulence is expected after take-off, place the engine start selector to IGN. The use of weather radar for departure is outlined in FCOM 3.03.10 (SOPs - Taxi).

The engines are supplied with hot air from the pneumatic system to provide anti-icing and de-icing. If the electrical supply fails, the valve remains open. External lights shine on wing leading edge and engine intake enabling visual inspection of any ice build up. Wing anti icing is provided and in the event of electrical power supply failure, the valves close.

Use the criteria of visible moisture and temperature as the primary means for assessing when to use the engine anti icing system. Do not wait for ice to build up.

COLD/HOT WEATHER AND HIGH ALTITUDE RUNWAY OPERATION (CONT'D)

05 - TRAINEES' ACTIONS (END)

A. COLD WEATHER (END)

The use of engine anti-ice has a marked effect on the descent profile. The FMGS calculates that anti ice will be used for one third of the descent and adjusts the descent point accordingly. However, if the anti ice usage is prolonged, an increase in descent speed or a speedbrake selection may be required to remain on profile.

Landing distances for contaminated runways are given in FCOM 2.03.10. Special notice should be taken of the runway condition. A slippery runway is the most common reason for overrun at landing. As far as possible, avoid landing on a contaminated runway with any significant failure. Company regulations may prohibit landing on runways with particular braking actions.
Do not retract flaps after landing until after engine shutdown, and they have been visually inspected to be clear of ice, slush or other obstructions.

If the airplane is to be left in conditions likely to produce a cold soak, follow the procedure for securing the aircraft in FCOM 3.04 (Adverse Weather). Even in quite mild conditions, it is advisable to drain the water system to prevent freezing and possibility of split pipes. This procedure is given in FCOM 3.04 (Adverse Weather).

B. HOT WEATHER & HIGH ALTITUDE RUNWAY OPERATIONS

Maximum fuel temperature is +54°C, for most fuels (+49°C for JP4 and JET B). There are additional altitude restrictions if the fuel (JP4 or JET B) is still warm when reaching cruising altitude (FCOM 3.01[Limitations]). The maximum brake temperature for take off is 150°C, and if the brakes are above this, the take-off should be delayed. Both fuel temperature and brake temperature are monitored by ECAM and the crew informed when temperatures approach or exceed a limit. The minimum flight crew oxygen requirement increases with increasing temperature (FCOM 3.01 [Limitations]).
If the aircraft has been parked for a prolonged period (in excess of six hours) in hot weather and at high weight, "square wheel effect" may be noticed when taxiing.

The avionics ventilation system has limitations on its use, when ground operations in high temperatures are envisaged. These can be quite penalizing in very hot weather as shown in FCOM 3.01.40 (Operating Limitations - Systems).
It is prohibited to use conditioned air from packs and LP ground units simultaneously.
Performance will be noticeably worse in hot and high conditions, and care must be taken when calculating MTOW, any thrust reduction and V1, VR & V2 speeds.

The SOPs and ABN & EMER procedures remain applicable for high altitude airfields. At high altitude airports towards the upper limit of the environmental envelope, great care must be taken when calculating performance.

COLD/HOT WEATHER AND HIGH ALTITUDE RUNWAY OPERATION (END)

06 - COMPLETION STANDARDS

- Demonstrates a clear knowledge of procedures and documentation associated with adverse weather operations.

07 - COMMON ERRORS

- Lack of knowledge of documentation and its location
- Poor knowledge of relevant procedures

FLIGHT IN SEVERE TURBULENCE

01 - TRAINING OBJECTIVE

- To be aware of circumstances likely to give rise to severe turbulence.
- To take the correct actions if severe turbulence is encountered.

02 - SCHEDULE

Briefing duration : 10 minutes

03 - EQUIPMENT

DOC references :
- QRH 5.01 (Ops data)<O>
- FCOM 01.34.60 (Weather radar)
- FCOM 03.04.91 (Flight in turbulence)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Turbulence penetration speed/mach, actions and handling consequences.

B. SECONDARY

- Air mass characteristics leading to possible severe turbulence.
- Use of documentation : temperature and wind gradient on computer flight plan.

05 - TRAINEES' ACTIONS

The best advice is to avoid areas of severe turbulence either by use of the weather radar (for thunderstorms etc), at the pre-flight planning stage (clear air turbulence forecast in met briefing) or by a change of flight level if turbulence is reported by preceding aircraft.

Turbulence speeds are 250 kt below 20,000 ft and 275 kt or 0.76 Mach (whichever is slower) above 20,000 ft.

Follow FCOM 3.04.34 (Supplementary Techniques - Navigation) for use of the weather radar and FCOM 3.04.91 (Supplementary Techniques - Adverse Weather) for procedures should severe turbulence be encountered. Also refer to QRH 5.01 for speed and thrust settings recommended for turbulence.

Cruise levels at close to maximum level should not be used when turbulence is anticipated, as there will be a much smaller margin between VMAX and VLS leading to the increased risk of overspeed warnings or activation of low speed protections.

FLIGHT IN SEVERE TURBULENCE (END)

06 - COMPLETION STANDARDS

- Takes appropriate measures to avoid areas of known severe turbulence (altitude and/or navigation adjustments).
- Takes correct actions in the event of severe turbulence penetration.

07 - COMMON ERRORS

- Late decision to apply turbulence procedures.
- Partial application only of possible actions to reduce the effects of turbulence.

WINDSHEAR - TAKE-OFF / APPROACH

01 - TRAINING OBJECTIVE

- To recognize windshear and recover using techniques and guidance unique to Airbus fly-by-wire aircraft.

02 - SCHEDULE

Briefing duration : 15 minutes

03 - EQUIPMENT

DOC references :
- FCOM 1.22.30 (Flight Guidance)
- FCOM 1.22.40 (Windshear detection)
- FCOM 1.34.60 (Windshear prediction function)
- FCOM 3.02.22 (Windshear)
- FCOM 3.04.91 (Operation in windshear/ downburst conditions)
- FCOM Bulletin N°5 (Operation in windshear / downburst conditions)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Groundspeed mini computations.
- Recovery actions when windshear/microburst is identified or warning is triggered.
- PFD indications (pitch and V/S).
- FD commands and stick handling implications.
- Crew coordination and callouts.
- Configuration requirements.

B. SECONDARY

- Weather conditions and indications of possible windshear/microburst.
- Monitoring PFD and ND (Speed trend, Ground speed, Wind).
- Knowledge of flight control laws.

WINDSHEAR - TAKE-OFF / APPROACH (END)

05 - TRAINEES' ACTIONS

The best defence against a windshear encounter is to avoid it in the first place. Use your knowledge and experience combined with weather reports to assess the possibility of windshear and plan accordingly. On most of the aircraft, the weather radar has a predictive windshear capability (PWS). If it is possible, delay take-off or landing, or plan a course of action to avoid the worst of the weather. The use of the groundspeed mini function will give added protection in strong winds.

The protection envelope is from lift-off to 1300 ft on take-off, and 1300 ft down to 50 ft for landing. In both cases, at least CONF 1 must be selected. If windshear is suspected for landing, use CONF 3 and VAPP should be increased to VLS +15 kt.

Aural and visual warnings are generated when the airplane's predicted energy level falls below a predicted minimum energy threshold. This is expressed as an angle of attack.

Know the indications and the correct response.

Apply full power and do not change configuration and follow SRS orders closely until well clear of the windshear. When following SRS orders, be positive but smooth with your actions on the sidestick. Monitor V/S and pitch as together are good indicators of the airplane's energy. If FDs are not available, pitch attitude up to 17.5° nose up may be used.

Full back stick is always available. This might trigger alpha floor.

PWS :

At take-off and landing, below 1500 ft AGL, warnings and cautions associated with aural warning can be triggered if potential windshear is predicted. For specific alert ranges, levels, and operating conditions, check FCTM (1.34.60).

06 - COMPLETION STANDARDS

- Is aware of conditions in which windshear can be expected.
- Recognizes windshear condition and immediately takes the required actions.

07 - COMMON ERRORS

- Early symptoms disregarded.
- Incorrect and/or late GO/NO GO decision.
- Maximum thrust not used.
- SRS bars not followed.
- Configuration changed whilst still in windshear conditions.

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FLIGHT PREPARATION - FUEL CALCULATION

01 - TRAINING OBJECTIVE

- To make correct calculation of fuel requirements.
- To be aware of specific company requirements regarding fuel minima.

02 - SCHEDULE

Briefing duration : 10 minutes

03 - EQUIPMENT

DOC references :
- FCOM 2.05.10 to 60 (Flight planning)
- FCOM 3.03.02 (Flight preparation)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Weather briefing.
- Notams : destination and alternate.
- Aircraft status.
- Loading.
- Fuel calculation.
- Flight planning.

B. SECONDARY

- Flight level effect (cruise level).
- Weather effects : wind, anti-ice.
- Minimum fuel requirements.
- Extra weight effects.
- En route alternates (weather, notams).
- Fuel tankering.

FLIGHT PREPARATION - FUEL CALCULATION (END)

05 - TRAINEES' ACTIONS

One of the most important aspects of flight planning is the calculation of fuel requirements. If no computer produced fuel plan is available, calculations can be made using the information contained in FCOM 2.05.10 to 60 (Flight planning).

Other factors to be taken into consideration are :

- Weather conditions at destination and alternate (more fuel required due to holding / delays ?), and en-route requiring weather avoidance and anti-ice
- Notams affecting navigation equipment for the flight
- Aircraft status and if the MMEL / MEL indicates increased fuel consumption in particular cases
- Expected passenger/cargo load and distribution
- Whether the optimum flight level will be available (a level 4000 ft below optimum will increase fuel burn by 5%, and a level 8000 ft below optimum increases fuel burn by more than 10%)
- Fuel tanking requirements and its effect on fuel burn and optimum flight levels

During preflight preparation a comparison should be made between the paper flight plan and the FMGS calculated burn off. In order that the predictions are valid, the following items must be inserted :

- Initial cruise altitude in the INIT A page
- Forecast winds and temperatures along the route in F-PLN B page
- Expected steps in F-PLN A page
- Block fuel in INIT B page

If the predictions show that there will be insufficient fuel at destination, a modification to cruising flight levels may help, or more fuel may have to be loaded.

Some other items of note are national/airline minimum fuel policy and "island reserve " policy for remote destinations

06 - COMPLETION STANDARDS

- Makes valid fuel requirements calculation and ensures correct quantity loaded before engine start.

07 - COMMON ERRORS

- Weak knowledge of national and company regulations for fuel minima and alternate airports.

APPROACH SPEEDS

01 - TRAINING OBJECTIVE

- To determine the correct approach speed for normal and abnormal landing configurations
- To understand the mini ground speed function.

02 - SCHEDULE

Briefing duration : 20 minutes

03 - EQUIPMENT

DOC references :
- QRH 2.20 to 2.24
- QRH 4.01
- FCOM 1.22.30 (Flight Guidance)
- FCOM 3.04.10 (Operating speeds definition)
- FCOM 4 chapter 03 (MCDU Page Description)
- FCOM 4 chapter 04 (VAPP determination)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Minimum ground speed function
- Normal approach speed
- Approach speed for autoland
- Approach speed in failure cases

B. SECONDARY

- Landing distance increments in case of failures

APPROACH SPEEDS (CONT'D)

05 - TRAINEES' ACTIONS

A. NORMAL CONFIGURATION

The VAPP displayed on the MCDU PERF APPR page is calculated using the following formula :

VAPP = the greater of { VLS + 5 kt
{ or
{ VLS + 1/3 of the headwind component

NOTES :
- *VAPP is limited to VLS + 15 kt*
- *Headwind component is computed from the wind inserted in the PERF APPR page*
- *VLS is the VLS of the landing configuration (3 or FULL) selected on the PERF APPR page.*

However the pilot may overwrite the VAPP according to the following formula :

VAPP = the greater of { VLS
{ or
{ VLS + 5 kt *
{ or
{ VLS + wind correction

NOTES :
- *The 5 kt* correction is an airworthiness requirement for autoland with A/THR, or approaches with A/THR active or ice accretion.*
- *Wind correction is 1/3 of headwind component of reported tower wind, limited to 15 kt. Use the reported steady wind not the gust.*
- *If downburst is expected add a maximum of 15 kt to the MCDU displayed VLS.*
- *When there is a gusty crosswind greater than 20 kt, add 5 kt to VAPP (VAPP may now be up to VLS + 15 kt)*

When CONF 3 is used for landing the CONF 3 prompt on the PERF APPR page should be pressed.

The VLS on the PERF APPR page will change to VLS CONF 3. VAPP should then be determined in the normal manner and managed speed used for the approach.

APPROACH SPEEDS (CONT'D)

05 - TRAINEES' ACTIONS (CONT'D)

B. GROUND SPEED MINI FUNCTION

This function will compute a VAPP target on approach in order to maintain a minimum aircraft energy level. The minimum energy level is an FMGS computed minimum ground speed (GS mini). This GS mini is not displayed to the crew but is used by the FMGS to calculate the VAPP target on approach with managed speed. The relationship between VAPP, GS mini and approach VAPP target is shown below.

VAPP = calculated in the manner described above and displayed or overwritten on MCDU PERF APPR page.

GS mini = VAPP - Tower headwind component

The headwind is counted as a positive value with a minimum value of 10 kt. For example if the headwind is less than 10 kt or there is a tailwind GS mini = VAPP -10 kt. The headwind component calculation uses the FMGS landing runway.

VAPP target= Maximum of VAPP
or GS mini + Current Headwind Component

Current Headwind is counted positively and tailwind negatively.
The following extreme example should demonstrate how this function affects target speed :

- Approach to Runway 15R
- Tower wind in PERF APPR page : 150°/45 kt
- VLS = 130 kt

From the first two formulae above we get the following speeds :

VAPP = 140 kt (130 kt + maximum of 5 kt or 1/3 of 30 kt)
GS mini = 110 kt (140 kt - 30 kt)

Altitude	Current wind	GS mini	VAPP	IAS target
1500 ft	150°/60 kt	110 kt	140 kt	170 kt
1000 ft	330°/10 kt	110 kt	140 kt	140 kt
500 ft	150°/50 kt	110 kt	140 kt	160 kt
Runway	150°/30 kt	110 kt	140 kt	140 kt

APPROACH SPEEDS (CONT'D)

05 - TRAINEES' ACTIONS (END)

C. GROUND SPEED MINI FUNCTION (END)

The effect of this GS mini function as far as the pilot is concerned is that the VAPP target (with managed speed) will vary, sometimes considerably, on approach depending on the actual wind. It is recommended that all normal approaches be flown using managed speed to take advantage of this function. When there are large variations in VAPP target the use of A/THR will allow accurate speed control. In certain circumstances the VAPP target may be greater than the CONF FULL limiting IAS of 177 kt, in which case it will be necessary to use selected speed so that CONF FULL can be used.

D. ABNORMAL CONFIGURATION

When carrying out an approach in any abnormal slats/flaps configuration it is recommended that selected speed is used. The approach should be flown using the configuration shown on ECAM and with the PERF APPR page CONF FULL prompt pushed.

VLS, if visible, will always be accurate as the value is derived from the actual flap and slat position not the Flap lever position.

There are two cases to consider :

- **VLS is displayed on the PFD** - in this case VAPP is the indicated VLS unless a VLS increment is required by ECAM. In this case VAPP is VLS + increment. Use selected speed.
- **VLS is not displayed on the PFD** - in this case VAPP is calculated by adding an approach speed increment from QRH VREF CONF FULL, and applying any wind correction. The formula used in QRH chapter 2 should be used. Use selected speed.

After failure the landing configuration and a VLS increment is given on the ECAM (e.g. Flap failed at 1, the ECAM is able to determine an exact VLS increment). In this case manually insert this VAPP in the PERF APPR page. When on final and in the landing configuration SELECT this speed.

NOTES :

- *VREF is VREF FULL from MCDU PERF page or QRH*
- *CONF CORRECTION is determined from QRH chapter 2*
- *WIND CORRECTION is 1/3 headwind component*
- *If CONF CORRECTION is 20 kt or greater do not apply WIND CORRECTION*
- *If CONF CO*RRECTION is less than 20 kt then CONF CORRECTION + WIND CORRECTION should be limited to 20 kt.

See QRH chapter 2 (Abnormal Procedures) for how to determine approach speed when there are multiple failures. Remember, use selected speed in abnormal or emergency configurations.
Landing distance increments are necessary because of increased approach speeds, braking malfunctions or unserviceability of some ground spoilers. The increments to be used and how to apply them are detailed in QRH chapter 2.

APPROACH SPEEDS (END)

06 - COMPLETION STANDARDS

- Correctly calculates approach speed
- Understands logic of Mini ground speed function
- Correctly applies landing distance increments when required.

07 - COMMON ERRORS

- Confusion over wind correction
- Not using selected speed when appropriate

CONTAMINATED RUNWAYS

01 - TRAINING OBJECTIVE

- To be aware of circumstances defined as "special operations".
- To locate and use the appropriate documentation.
- To be able to compute Take-off and/or Landing parameters.

02 - SCHEDULE

Briefing duration : 15 minutes

03 - EQUIPMENT

DOC references :
- QRH 4.03 (Ops data)
- FCOM 2.03.10 (Landing Performance)
- FCOM 2.03.20 (Use of autobrake)
- FCOM 2.04.10 (Fluid contaminated runway)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Aircraft operational requirement.
- Runway contaminant definitions.
- Use of charts.
- Specific limitations (Crosswind...)
- Special operations for Taxi and Take-off.
- Landing operations.

B. SECONDARY

- Wet runways.

05 - TRAINEES' ACTIONS

The information required for operations from contaminated runways is contained in FCOM 2.04.10 (Special Operations - Fluid Contaminated Runway), including definitions of terms used in the fluid contaminated runway performance. When operating from a damp runway there is no performance penalty. The safest policy, if possible, is to delay departure until the runway has been cleared to an acceptable standard. Do not take off on an icy runway. (FCOM 2.04.10 [Special Operations - Definitions])

CONTAMINATED RUNWAYS (CONT'D)

05 - TRAINEES' ACTIONS (END)

When contaminated runway operations are anticipated, it will be necessary to take extra time in flight planning, and to bear in mind that runway conditions can change rapidly, thereby necessitating a recalculation of take-off data.

It is vital that the correct chart is used for the calculation of the take-off data. All retardation devices (antiskid, spoilers and reverse thrust) must be fully serviceable when operating from contaminated runways. There are additional crosswind limits to be considered (FCOM 2.04.10 [Special Operations - Fluid Contaminated Runway]).

When a runway is contaminated it may also be necessary to use de-icing fluids and apply procedures for winter operations (see briefing note on cold weather operations).

Note that a FLEX power take-off is not permissible from a contaminated runway. A DERATE power take off is however allowed from contaminated runways. Airbus recommends that maximum power is used for take off from a contaminated runway

If APU bleed is to be used e.g. packs off take-off, wing anti-ice must not be used.

When taxiing, avoid high thrust settings and taxi at a low speed. The anti skid does not operate at low speeds, so allow sufficient room for turning and stopping. Do not select flap until at the holding point and ready for departure.

Carrying out an RTO, even at low speeds, on a contaminated runway may cause directional control difficulties. Ensure that the take off briefing is modified to take account of runway conditions. Directional control during the take off roll should be maintained with rudder. Do not attempt to get the nosewheel airborne before VR to avoid spray as this would increase aerodynamic drag. Complete the take off in the normal manner.

Landing performance and recommendations are contained in FCOM 2.03.10 (Landing Performance - Landing) and should be studied if the destination airfield runway is forecast to be contaminated or icy.

Landing on contaminated runways without anti skid should be avoided. A positive touchdown is recommended, without a prolonged flare. Do not hold the nose off the ground and select maximum reverse thrust as soon as possible. If necessary, max reverse can be maintained until the airplane is fully stopped. Be aware that visibility may be impaired by blowing snow if reverse thrust is kept to a low speed.

On completion of the landing roll, do not retract flaps. Taxi in and shut down as normal, and after a visual inspection of the flaps/slats, they may be selected up. This is to reduce the possibility of damage to the flaps occurring due to any contaminant accretion. Special procedures for securing the aircraft are discussed in the cold weather briefing note.

CONTAMINATED RUNWAYS (END)

06 - COMPLETION STANDARDS

- Correct application of Special Operations requirements.
- Ensures crew crosscheck of calculated data.

07 - COMMON ERRORS

- Use of inappropriate charts.
- Lack of parameters cross-check.
- Take-off data not updated in case of unexpected change in runway status.

CLIMB AND DESCENT

01 - TRAINING OBJECTIVE

- To be aware of aircraft climb performance (CFIT)
- To be aware of aircraft descent performance
- To make full use of FMGS capabilities (constraints...)

02 - SCHEDULE

Briefing duration : 10 minutes

03 - EQUIPMENT

- FMGS Freeplay Trainer

DOC references :
- QRH Chapter 4
- FCOM 3.05.10 / 30

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Aircraft climb gradient according to weight.
- Verification of top of descent point.
- Control of aircraft descent profile.
- Use of PROG Page.
- Use of PERF Page.
- Approach planning.

B. SECONDARY

- Use of FMGS constraints for approach planning.
- Knowledge of descent/deceleration performance.

CLIMB AND DESCENT (CONT'D)

05 - TRAINEES' ACTIONS

A. CLIMB

In the managed climb, the aircraft climbs with thrust levers set at the climb gate, producing climb thrust, maintaining a speed/Mach number computed dependant on the cost index. The higher the cost index, the higher the speed. Speed control is via elevator and will give varying rates of climb to maintain a set speed.
A similar situation is true in OPEN CLB.
Selected speed may be used to increase/decrease climb rate, with thrust remaining at climb power.

Be careful when leaving an altitude and selecting climb, that you allow the aircraft to begin climbing with climb thrust before selecting a lower speed than target, or the aircraft may reduce thrust initially to follow speed rather than beginning the climb. At all times, the aircraft will try to maintain speed, thus if a lower speed is selected too quickly, thrust will be reduced to achieve this. EXPEDITE is useful here, though take care not to remain in EXPEDITE mode too long, as the target speed is green dot, and accelerating from green dot to cruise speed at altitude takes a long time.

If a set rate of climb is required, V/S mode may be used. Be very careful to watch the speed if high rates of climb are selected. Thrust will vary to maintain the speed and V/S. However, if V/S is too great, speed will begin to decay, and care must be taken not to end up in a slow speed, low energy situation, despite having full climb thrust.
If a low V/S is specified, thrust will vary to maintain both climb rate and the chosen speed.

On the ND, the top of climb point is displayed and can be monitored to comply with ATC or other requirements. This point will be the level off point of the current selected altitude. The FMGS however, will always give the top of climb point of the altitude specified in the F-PLAN (shown on PROG page). Also useful is the PERF page, which will give predictions to the selected altitude.

B. DESCENT

The descent may be in OPEN DES mode, managed DES mode or V/S.

In DES mode, the aircraft will calculate an ideal profile and will try to fly it. Its progress can be monitored on the PROG and PERF pages. Speed varies to match the required descent path.
In OPEN DES, the thrust is at idle and a set speed is flown. Again, progress can be monitored on both PROG and PERF pages.

In steep descent, the thrust is idle and the managed speed target is just short of Vmo/Mmo. Very high rates of descent can be achieved and careful monitoring is vital.
Mentally checking that the aircraft will arrive at its descent window is useful so that the approach is not rushed, nor fuel burned needlessly.

CLIMB AND DESCENT (END)

06 - COMPLETION STANDARDS

- Has sound knowledge of aircraft performance.
- Demonstrates understanding of FMGS capabilities and limitations.

07 - COMMON ERRORS

- No cross check of descent profile.
- No anticipation of possible navigation changes (DIR TO, HDG...)

PREFLIGHT PLANNING FOR ONE ENGINE OUT

01 - TRAINING OBJECTIVE

- To correctly use appropriate FCOM information.
- To choose the appropriate strategy.

02 - SCHEDULE

Briefing duration : 10 minutes

03 - EQUIPMENT

DOC references :
- QRH 4.04 - 07
- FCOM 3.06 (Single engine operations)
- FCOM 4.04.30 (Engine out in cruise phase)
- FCOM 4.05.50 (Engine failure in cruise)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Gross ceiling.
- Standard strategy in cruise.
- Obstacle strategy in cruise.
- ETOPS/Fixed speed strategy in cruise.
- Descent.
- Holding.

B. SECONDARY

- Effects of bleeds.
- Effects of temperature.

PREFLIGHT PLANNING FOR ONE ENGINE OUT (END°

05 - TRAINEES' ACTIONS

This supplementary information will deal with the pre-flight planning and in flight performance determination following an engine failure. Procedures for dealing with an engine failure in the cruise and landing on one engine are dealt with in the abnormal operation briefing chapter of this manual.

At the pre-flight planning stage, should the flight be over mountainous terrain, then it is important to consider the calculation of a point of no return (PNR) and aircraft net flight path. This is detailed in FCOM 2.04.35 (Special Operations - Flight Over Mountainous Area) and the aircraft flight manual.

Performance for the three strategies of standard strategy (no obstacles), obstacle strategy and Fixed Speed strategy is detailed in FCOM 3.06 (Single Engine Operations). In flight gross ceiling at drift down speed and at long range cruise speed can be determined from QRH 4.04. Also gross flight path at drift down speed, fuel consumption at long range cruise speed and quick check of fuel and time to landing are available in QRH 4.05 to 4.07. These tables are very useful but require a little bit of studying in order to fully appreciate the information contained in them.

06 - COMPLETION STANDARDS

- Demonstrates good knowledge of documentation.
- Makes valid use of information.

07 - COMMON ERRORS

- Not disconnecting ATHR following engine failure in the cruise.
- Misreading QRH tables.
- Lack of proper planning

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01 - TRAINING OBJECTIVE

- To handle the aircraft using basic skills without FD and A/THR.

02 - SCHEDULE

Briefing duration : 15 minutes

03 - EQUIPMENT

DOC references :
- FCOM 1.22.30 (Auto Flight)
- FCOM 1.27 (Flight Controls)
- FCOM 3.02.80 (Flight with unreliable speed indication)
- FCOM 3.04.27 (Flight controls)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Flight path stability
- Pitch attitude / Power setting characteristics

B. SECONDARY

- Pitch attitude / Power settings for all flight phases.

05 - TRAINEES' ACTIONS

This briefing will provide an overview of the flight control laws on the A320 family of aircraft and the protections provided to the pilot. It will not provide a full technical description of the flight control system which is available in FCOM 1.27 (Flight Controls) and excellent guide to the flight control laws is provided in FCOM 3.04.27 (Supplementary Techniques - Flight Controls).

The aircraft can be flown in normal law, alternate law (with and without reduced protections), direct law and mechanical back up.

A. NORMAL LAW

There are three modes of normal law ; ground mode, flight mode and flare mode.

a. Ground Mode

- Direct control of elevator, spoilers, ailerons and rudder. This is progressively blended out when airborne so that flight mode becomes effective.

b. Flight Mode

- Side-stick movement in the pitch axis commands a change in "g". Zero displacement is a positive command for 1g flight. 1g flight means no change in flight path. So once the correct flight path has been established, in the short term it will be maintained, despite any changes to thrust or speed. Hence there is no need to trim.
- Side-stick movement in the roll axis commands a given rate of roll. Zero displacement is a positive command for zero roll rate flight. Once the required bank angle has been established, release the side-stick to neutral and it will be maintained.
- Resist the temptation to "overcontrol" the aircraft. Make a small input then gently release to neutral and leave the stick alone unless a further adjustment is required. All turns may require some side-stick and power adjustments.

c. Flare Mode

- A change in pitch control below 50 ft only, requiring a gentle pull on the sidestick during the flare in order to maintain a progressive flare.

d. Protections :

Full flight envelope protection is provided in normal law using the following individual protections.

- Load factor limitation
- Attitude protection (Pitch and Bank)
- High angle of attack protection (between VPROT and VMAX the sidestick demands angle of attack up to MAX and the aircraft does not stall)
- High speed protection

05 - TRAINEES' ACTIONS (CONT'D)

B. ALTERNATE LAW

Depending on the particular failure that causes the degrading of the flight control laws, ECAM will indicate whether Alternate Law with or without protections is active. The indications will be ALTN LAW or ALTN LAW : PROT LOST. The main differences between these two laws and normal law are detailed below.

a. Alternate Law :

In alternate law pitch control is similar to normal law with some changes in the protections available. Autotrim is still available.
Roll control is the same as direct law with the sidestick demanding aileron deflection rather than roll rate.

Protections :

Load factor limitation	same as normal law
Pitch attitude protection	not provided
High angle of attack protection	changed to low speed stability (PFD display also changes, VSW is shown and stall warning is provided)
High speed protection	changed to alternate high speed stability

In some failure cases alternate law without protection is available. All protections except load factor limitation are lost.

05 - TRAINEES' ACTIONS (CONT'D)

C. DIRECT LAW

ECAM will indicate to the crew when direct law is the active flight control law and USE MAN PITCH TRIM will be displayed on the PFD as a reminder.
In direct law, the sidestick is coupled directly to the controls, without any stabilization feedback. In effect, it becomes like a conventional aircraft. Manual pitch trim must be used. No protections are available.

D. NORMAL HANDLING

The aircraft can be flown like a conventional aircraft using pitch attitudes and power settings. The following table gives an idea of the attitudes and thrust settings to use in some phases of flight. Bear in mind that these are average values and will vary at different aircraft weights.

	N1	PITCH
T/O Initial	CL	13
Accel	CL	
Climb	CL	
Cruise	80%	2
Descent	Idle	-2
Downwind	57%	6
Final	52%	2

E. MECHANICAL BACK-UP

In the unlikely event of certain multiple failures, pitch trim and rudder can be used to control the aircraft by mechanically controlling the associated hydraulic motors. If it is necessary to use the pitch trim wheel to control the aircraft in pitch, MAN PITCH TRIM ONLY will be displayed in red on the PFD. There is no turn coordination and no protections are operative.

F. ALPHA FLOOR

Alpha floor is an autothrust mode, however it is also a part of the flight envelope protection. At high angles of attack TOGA thrust is commanded by the autothrust system. Alpha floor is available from lift off until 100 ft RA on approach. It provides protection against stall and windshear and has priority over all other protections. (FCOM 1.27.20 and 1.22.40). Alpha floor is only available in normal law. It is inhibited is some cases (FCOM 1 chapter 27).

G. LOW ENERGY WARNING

In normal law, a warning is included to alert the pilot to a low energy situation. It is not a protection, and occurs before floor operates (FCOM 1.22.40 [Auto Flight - Flight Augmentation]. This warning is only available below 2000 ft radio altitude and in CONF 2, 3 or FULL.

05 - TRAINEES' ACTIONS (END)

H. ALPHA LOCK

This protection prevents the retraction of flap from CONF 1 to zero, if speed is too low or AOA is too high (FCOM 1.27.50 [Flight Controls - Flaps and Slats]).

I. AUTOMATIC RETRACTION SYSTEM

When accelerating through 210 kt with CONF 1 + F selected, the flaps will automatically retract, well before VFE of 215 kt. Flaps will not automatically re-extend if speed drops below 210 kt (FCOM 1chapter 27).

06 - COMPLETION STANDARDS

- Safe, accurate and confident handling.
- In normal and alternate laws, maintains heading +/-5°, height +/-100 ft and speed +/-10 kt.
- In direct law maintains heading +/-10°, height +/-200 ft and speed within +/-15 kt.

07 - COMMON ERRORS

- Basic scan too slow.
- Excessive control inputs (including thrust).

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01 - TRAINING OBJECTIVE

- To understand the various guidance modes and flight director reversions

02 - SCHEDULE

Briefing duration : 10 minutes

03 - EQUIPMENT

- FMGS Freeplay Trainer

DOC references :
- FCOM 1.22.30 (Flight Guidance)
- FCOM 4.02.30 (Flight Guidance Principles)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- FMA annunciations
- Crew coordination
- Reasons for reversion modes

B. SECONDARY

- Flight guidance principles

05 - TRAINEES' ACTIONS

A. REVERSION DUE TO FCU ALTITUDE CHANGE

This reversion is caused when there is pilot action on the ALT selector knob while the aircraft is climbing or descending. It applies equally whether the aircraft is being hand flown or if the autopilot is engaged.

VERTICAL MODE ENGAGED	FCU ALTITUDE SELECTION CHANGE	VERTICAL MODE SWITCHES TO
CLB, OP CLB, EXP CLB	Below current altitude	V/S on current V/S
DES, OP DES, EXP DES	Above current altitude	V/S on current V/S
ALT* active	Any change	V/S on current V/S

B. REVERSION DUE TO LOSS OF NAV MODE

This reversion is caused by loss of NAV mode, for example selecting a HDG, or when entering a discontinuity. Again, this applies whether the aircraft is being hand flown or through the autopilot.

CONDITIONS	EVENT	CONSEQUENCE
CLB engaged	Loss of the lateral managed mode : NAV	OP CLB engages
DES engaged	Loss of the lateral managed mode : NAV	V/S engages

C. REVERSION WHEN FD ORDERS ARE NOT FOLLOWED

These reversions occur when the aircraft is in manual flight and the pilot fails to follow the FD bars.

CONDITIONS	EVENT	CONSEQUENCE
FD engaged AP Off A/THR active (IDLE thrust) DES, OP DES or EXP DES engaged	IAS = VLS - 2 kt IAS = VLS - 17 kt (if speedbrakes extended)	Automatic engagement of SPD mode on A/THR, and consequently of V/S (FPA) mode on FD to regain the target speed, or VLS, whichever is the greater.
FD engaged AP Off A/THR active (CL thrust) CLB, OP CLB or EXP CLB engaged	IAS = VMAX + 4 kt where VMAX = VFE or VLE or VMO/MMO	Automatic engagement of SPD mode on A/THR, and consequently of V/S (FPA) mode on FD to regain the target speed, or VMAX, whichever is lower.

05 - TRAINEES' ACTIONS (END)

D. REVERSION DUE TO EXCESSIVE V/S

When an excessive V/S has been selected, the aircraft cannot achieve the V/S demanded. The airplane is trying to maintain a V/S and a speed, but the priority is to maintain the V/S. When this is not possible, speed will decrease (climbing) or increase (descending) up to a maximum. After this point, a mode reversion will occur to protect the airplane from entering a potentially hazardous situation. The table below explains the consequences of selecting excessive V/S and the reversions. They apply equally with autopilot engaged or not.

CONDITIONS	REVERSION OCCURS WHEN	CONSEQUENCE
Excessive V/S - FPA > 0 selected	IAS = VLS + 5 kt	Open mode engages in order to regain the target speed.
Excessive V/S - FPA < 0 selected and clean configuration	IAS = VMAX - 5 kt where Vmax = VMO/MMO	OP CLB engages when the FCU selected altitude is higher than the current airplane altitude.
Excessive V/S - FPA < 0 selected and configuration other than clean	IAS = Vmax + 4 kt where Vmax = VFE or VLE	OP DES engages when the FCU selected altitude is lower than the current airplane altitude.

The reversions with autopilot engaged can be demonstrated using the FMGS Freeplay Trainer.

Reversions are recognised by monitoring the FMA.

NOTE : *For aircraft with Global Speed Protection (GSP) reversions, refer to FCOM 1.22.30*

06 - COMPLETION STANDARDS

- Demonstrates a thorough knowledge and understanding of flight guidance and the various mode reversions.

07 - COMMON ERRORS

- Lack of appreciation of flight guidance reversions
- Incorrect procedure following reversions

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01 - TRAINING OBJECTIVE

- To understand the philosophy of the FPV and FPD.
- To correctly interpret the information given by the FPV.
- Uses FPV to achieve desired flight path.

02 - SCHEDULE

Briefing duration : 15 minutes

03 - EQUIPMENT

- FMGS Freeplay Trainer

DOC references :
- FCOM 1.22.10 (FCU)
- FCOM 1.22.30 (FPD)
- FCOM 1.31.40 (PFD)
- FCOM 3.04.31 (Use of FPV)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Use of HDG/VS - TRK-FPA pushbutton and associated FCU indications, FMA modes and PFD/ND changes.
- Differences in trajectory between HDG and TRK, VS and FPA.
- Information provided by FPV (lateral and vertical).
- How to follow FPD demands in manual flight.

B. SECONDARY

- Caution regarding use of FPV during go around.
- Use of FPV and selected TRK index to maintain a radial or an approach course in raw data.

05 - TRAINEES' ACTIONS

When selecting HDG/ VS - TRK/FPA push-button, note the changes on FCU, FMA modes and ND/PFD displays.

FPD is commanding a trajectory. If followed it will give a required trajectory that is stabilized by reference to the ground. FPV is an indicator of performance, and is not in itself a director or a command.

However it is very useful in a non-precision approach. HDG/VS on the other hand is referenced to the air mass.

The FPV shows the present lateral track and present flight path angle relative to the aircraft. It is dynamic and indicates where we will be if all else remains the same. If any changes are introduced, the FPV will show the result of these changes. There is a slight lag in response.

Great care must be taken to remember which mode is in operation, especially in differentiating between VS (i.e. feet per minute) and FPA (an angle relative to the ground). This is determined by monitoring the FMA.

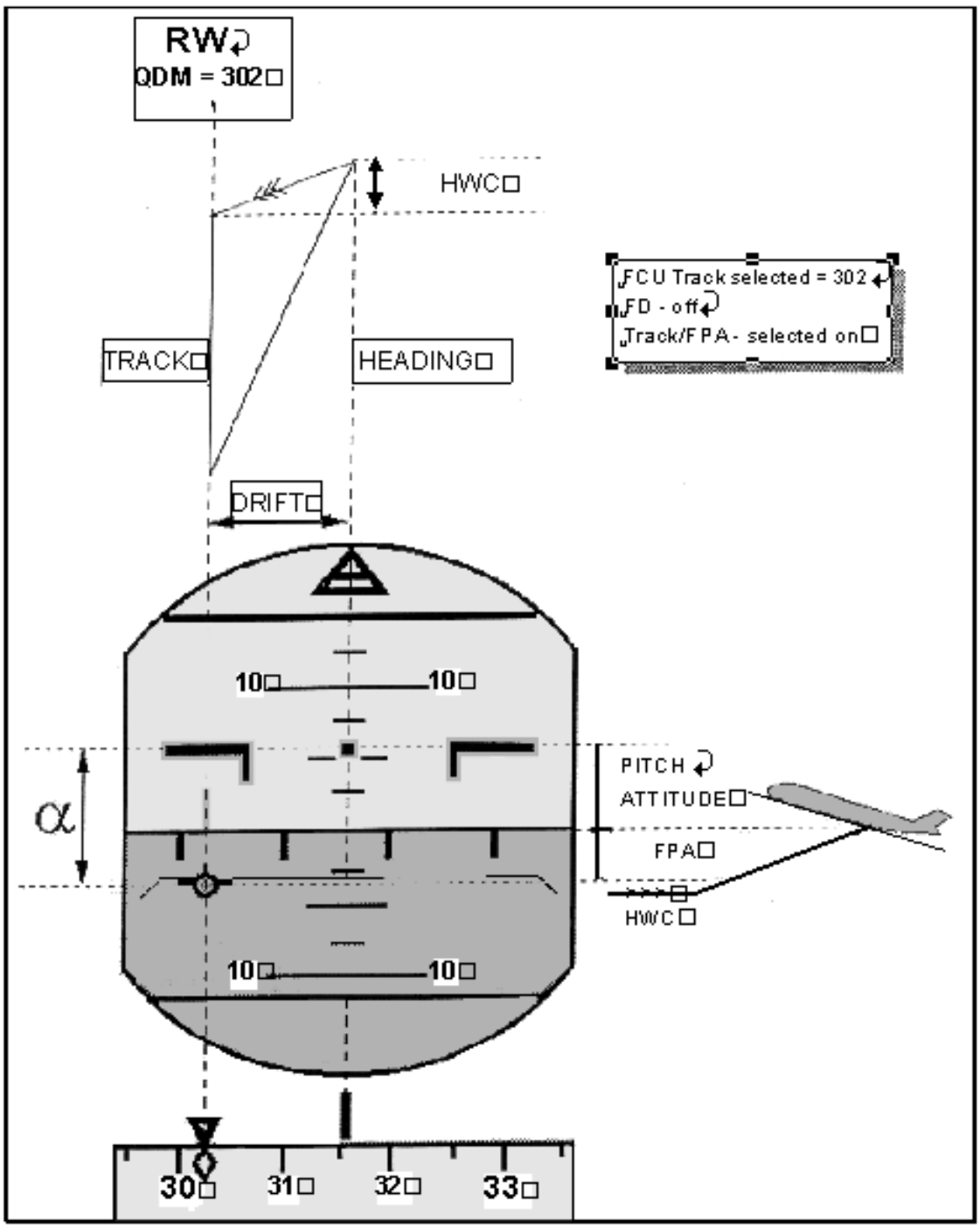
When flying a go-around, remember to use the aircraft attitude as the primary reference. It should be noted that when using FPV, the aircraft attitude symbol is dimmed. The use of the FPV is not recommended for high dynamic manoeuvres such as take-off and go-around.

The FPV, managed speed target on approach and the speed trend are efficient indications to the crew of wind variation and windshear.
The accuracy of the FPV is directly linked to the accuracy of the IRS speeds. For example, an error of 5 kt in ground speed may cause an error of up to 2.5° in track on the approach. Therefore, during even short turnarounds, it is recommended to realign the IRS when ground speed reaches 5 kt.

Wings level, change of FD mode gives current TRK on current HDG.

05 - TRAINEES' ACTIONS (END)

This diagram illustrates the relationships between : heading and track - pitch attitude and FPA.



06 - COMPLETION STANDARDS

- Makes correct selection of FPV, with FPD as appropriate, and uses the information provided to achieve the desired flight path.

07 - COMMON ERRORS

- Information provided by FPV not understood (e.g. relationship between heading and track).
- Confusion between FPV and pitch angle required (e.g. during go around).

CHAPTER 03

- ABNORMAL OPERATION BRIEFINGS -

1.03.01 - MMEL AND MEL USE (Refer to FCTM Vol 1 : “MMEL” chapter

1.03.10 - OPERATING TECHNIQUES

- REJECTED TAKE-OFF
- ENGINE FAILURE OR FIRE AFTER V1

1.03.22 - DOUBLE FMGEC FAILURE

1.03.24 - ELEC EMER CONFIG

1.03.27 - FLIGHT CONTROLS

- ABNORMAL FLAPS/SLATS CONFIGURATION
- RECONFIGURATION LAWS - RECOVERY FROM APPROACH TO STALL

1.03.29 - DUAL HYDRAULIC FAILURE

1.03.31 - ECAM

- PHILOSOPHY AND NORMAL USE
- USE IN CASE OF FAILURES

1.03.34 - NAVIGATION

- IRS/ADR FAILURES
- DUAL RADIO ALTIMETER FAILURE

1.03.70 - POWER PLANT

- ENGINE FAILURE IN CRUISE
- ENGINE RELIGHT IN FLIGHT
- ALL ENGINE FLAME OUT
- THRUST LEVER DISAGREE / FAULT
- ENGINE ABNORMAL STARTS
- ENGINE TAILPIPE FIRE

1.03.80 - EMERGENCY DESCENT

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REJECTED TAKE-OFF

01 - TRAINING OBJECTIVE

- To recognize circumstances requiring an RTO.
- To take correct actions in the event of RTO.

02 - SCHEDULE

Briefing duration : 15 minutes + 45 minutes for video

03 - EQUIPMENT

DOC references :
- FCOM 3.02.10 (RTO Procedure)
- Video available

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Failure identification (crew communication).
- Decision and call out (STOP, GO and V1).
- Deceleration actions and control.
- Task sharing.
- ECAM actions (if appropriate).
- Notify ATC.

B. SECONDARY

- Review of non inhibited warnings.
- Complementary actions and check-list.
- Specific engine fire on ground check list.
- Decision with tire problems or windshear.

REJECTED TAKE-OFF (END)

05 - TRAINEES' ACTIONS

The action of rejecting a take-off can be hazardous, and the time available to make the correct decision is limited. To assist with this, the ECAM inhibits warnings which are not of paramount importance between 80 kt and, 1500 ft or 2 minutes after lift off, whichever occurs first. Therefore, any warning received in this period should be carefully considered. To assist decision making, the take-off is divided into low and high speed regimes. 100 kt is chosen as the dividing line. There is no significance to 100 kt, merely that it divides the take-off into low and high speed.

- Below 100 kt, it is possible to reject for any reason.
- Above 100 kt, and approaching V1, be "go-minded" unless major failures or ECAM warnings occur.
- Once above V1, the take-off must be continued as it may be impossible to stop the aircraft on the runway remaining.

Remember to bring the airplane to a complete stop, not slowed, **stopped**. Set the Parking Brake. When the airplane is stopped identify/confirm failure. It's mandatory to use the QRH (ENG FIRE ON GROUND) after the 2nd engine shutdown as ECAM will be lost (APU not normally running). When evacuation is considered, use the ON GROUND EMER/EVAC checklist. There is sometimes confusion between the use of the ON GROUND EMER/ EVACUATION checklist and the ENG FIRE ON GROUND ECAM procedure. The ENG FIRE ON GROUND ECAM procedure includes the possibility of emergency evacuation.
Use ATC, fire service and cabin staff to gain as much information as possible to assist in making a decision on whether to evacuate or not. Remember that the simplest way to confirm an engine fire, on the ground, is to open the cockpit window and look out.
If no evacuation is necessary, clear the runway if safe to do so.

06 - COMPLETION STANDARDS

- Makes appropriate decision before V1.
- Carries out correct actions to ensure a safe stop on runway centerline.

07 - COMMON ERRORS

- Disarming of autobrake due to instinctive manual braking.
- ATC and/or Cabin crew not informed.
- Reversers remain engaged after aircraft stop.
- Omitting to select parking brake on.
- Non respect of task-sharing during emergency procedure.
- Confusion over use of ON GROUND EMER/EVACUATION.
- Inability to use mechanical seat controls.

ENGINE FAILURE OR FIRE AFTER V1

01 - TRAINING OBJECTIVE

- To recognize engine failure and/or fire warning.
- Take correct actions to maintain a safe trajectory.
- To perform correct engine fail or fire after V1procedure.

02 - SCHEDULE

Briefing duration : 20 minutes

03 - EQUIPMENT

DOC references :

- QRH chapter 2 (Engine stall - Overweight landing)
- FCOM 1.27.20 (Sideslip target)
- FCOM 3.02.10 (Operating techniques)
- FCOM 3.02.26 (Engine fire)
- FCOM 3.02.70 (Engine fail)
- FCOM 4.04.30 (EOSID) if applicable
- FCOM 4.05.30 (Engine Out Procedure)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points :

A. MAIN

- GO/STOP decision making.
- Aircraft control on the ground and at rotation.
- Roll control, sideslip target and "Fly by wire" characteristics.
- Pitch attitude and speed control.
- Specific task sharing procedures.
- Confirmation of non-reversible or guarded items with ECAM actions.
- Engine-out profile and managed speed logic.

B. SECONDARY

- A/P engagement / Rudder trim.
- EOSID activation.
- Availability and use of TOGA.
- FD roll limit below green dot speed.
- EO CLR prompt

ENGINE FAILURE OR FIRE AFTER V1 (CONT'D)

05 - TRAINEES' ACTIONS

A. ENGINE FAILURE

After detecting an engine failure, PNF is to call "engine failure", without identifying which engine has failed.

TOGA power is available, but should only be applied when required by PF. This is because the increase in power may cause directional control difficulties when at light weights and low speeds (in particular above 130 kt, after inhibition of NW steering).

PF should maintain runway centerline with rudder, visually or with assistance of the PFD yaw bar (if available). At VR, rotate smoothly to 12°5 nose up and centralize blue β target (see below for explanatory note) with rudder. Adjust pitch attitude and monitor speed trend arrow (minimum speed V2) until SRS has stabilized. The change over from yellow side slip index to blue β target may not occur instantaneously. Use rudder trim to neutralize rudder pedal pressure. When a positive climb has been achieved, call for retraction of the gear. Use autopilot if it is available.

PNF should closely monitor the aircraft's flight path, cancel warnings and identify the failure when appropriate. Note when a positive climb has been established and announce accordingly. Retract gear on command.

Once well clear of the ground, minimum 400 ft, the ECAM actions may be started.
It is not necessary to rush into doing the ECAM drills and 400 ft is the MINIMUM altitude at which commencement of ECAM drills should be considered. The priority is to ensure that the aircraft is climbing, stabilized and is flying in a safe direction. Do not get too distracted with ECAM. Furthermore, ECAM may be interrupted when necessary to allow both pilots to monitor level-off, configuration changes etc.

It is important to determine whether the engine has suffered a flameout or has structural damage. The action of putting the start switch to ignition confirms the relight attempt being made by the FADEC. If a flameout has occurred, then a relight (QRH chapter 2) may be considered at a later stage when aircraft has been cleaned up and a safe flight path established. The "After Take off" checklist being carried out after the engine relight attempt (at status page if unsuccessful or at normal operation if successful).

There must be no movement of thrust lever, master switch or fire pb without positive confirmation from both pilots.

ENGINE FAILURE OR FIRE AFTER V1 (CONT'D)

05 - TRAINEES' ACTIONS (CONT'D)

B. ENGINE FIRE

Should an engine fire develop, follow the general series of actions previously described. However, the ECAM drill should be commenced as soon as is practicable (though not below 400 ft). Be aware that the engine may still be developing a significant amount of thrust until the engine master switch is placed to off. Consider the use of autopilot to reduce workload. The ECAM will count down the seconds to initial agent discharge and the time period between discharges.

Do not attempt to restart an engine which has been shut down due to fire.

The ECAM notes that a landing should be carried out as soon as possible. Bear in mind the prevailing weather conditions, but an engine fire which will not extinguish is a very serious matter.

Following engine shutdown, consider all affected systems and their impact on the approach and landing.

C. ECAM PROCEDURES

ECAM procedures should be started not below 400 ft. At this height, only immediate actions to secure an engine should be carried out as shown below. ECAM actions may be interrupted at any stage for the PNF to assist PF (e.g flap retraction). Do not allow ECAM actions to interfere with monitoring of the flight path.

Whenever stopped, ECAM procedures should be recommenced as soon as possible. Complete ECAM until STATUS page appears then carry out the after take-off C/L before reading STATUS.

D. FMGS PROCEDURES

The two FMGS procedures which are worthy of note are the use of the EO SID prompt and the EO CLR prompt. The in depth explanation of both these functions is contained in FCOM 4.04.30 (How to Use - Other Functions).
The use of EOSID routing is dependent on there being a EOSID defined in the database for that particular runway. If an engine failure occurs before the point at which the EOSID differs from the planned SID (DP : Diversion point)<O> then the EOSID will appear as a TMPY F-PLAN. To follow the EOSID all the crew has to do is to insert this as the active F-PLAN. Therefore the first leg of the active F/PLN should be a common leg in database.

If the engine failure occurs beyond the point at which the two SIDs differ there will be no TMPY F-PLAN created although the EOSID will be shown in yellow on the ND. To follow an EOSID in this case the crew can perform a DIR TO one of the EOSID waypoints and then modify the F-PLAN or, more simply follow the EOSID, which is displayed as a yellow line on the ND, using HDG mode.

ENGINE FAILURE OR FIRE AFTER V1 (CONT'D)

05 - TRAINEES' ACTIONS (CONT'D)

D. FMGS PROCEDURES (END)

When an engine failure is detected the bank angle commanded by the FD is limited to 15° when speed is below or at maneuvering speed of current configuration (F, S, O). The EO CLR prompt on the active PERF page would remove this bank angle limit if depressed.

But the EO CLR prompt should be pressed ONLY in the event of a successful relight on a failed engine or in the event of wrong detection or FADEC fault. Holding may be performed in managed NAV, if speed is selected and is just greater then Green Dot speed. This will ensure the aircraft stays within the protected holding area. Appropriate action should be taken, if any speed - and / or bank variation occur.

E. ONE ENGINE OUT APPROACH AND LANDING

If an engine failure/fire has occurred on take off, the overweight landing checklist may be required (QRH chapter 2).
Autoland (CAT 3 SINGLE) is available on one engine (as shown on ECAM).
Maximum use should be made of the autopilot to reduce crew workload.
In manual flight an engine out landing is essentially conventional. Good trimming is beneficial, keeping the slip indication centered. Consider the use of manual thrust when the autopilot is off, as it is easier to anticipate rudder and trim inputs as thrust requirements vary.
The approach should be carried out in CONFIG FULL unless a further failure, and therefore ECAM requires a CONF 3 approach. Do not select gear down too early, the power requirement for level flight at high altitude airports and/or high weight will be large. Rudder trim may be reset to zero on short finals, to make the landing run easier, to center the nosewheel steering and to recover full rudder travel both sides but should be reset prior to land.

F. ONE ENGINE OUT GO-AROUND

The go-around is essentially the same as on 2 engines, the pitch target is now 12°5. Apply rudder to compensate for the increase in thrust and keep the β target centered. FMA will indicate GA TRK, think about aircraft navigation with respect to terrain. Flap retraction and acceleration will take place in level flight at EO acceleration altitude (when ALT pb or "push to level off" has been pressed). As this is a go-around, target speed is the memorized approach speed or the speed at engagement of go-around, becoming green dot at acceleration altitude.

ENGINE FAILURE OR FIRE AFTER V1 (END)

05 - TRAINEES' ACTIONS (END)

G. β TARGET

The side slip indicator (yellow) gives the same indications as traditional slip ball. The β target (blue) replaces the side slip indicator on the PFD when there is engine power asymmetry and CONF 1, 2 or 3 is set [see FCOM 1.27.20 (Flight Controls - Normal law)]. When the β target is centered, total drag is minimized even though there is a small amount of side slip.
The calculation of β target is a trade off between drag produced by deflection of control surfaces, and airframe drag produced by a slight side slip. Centering the β target produces less total drag than centering a traditional ball as rudder deflection, aileron deflection, spoiler deployment and aircraft body angle are all taken into incount.

06 - COMPLETION STANDARDS

- Makes correct decision to continue the take-off.
- Ensures minimum deviation from runway centerline.
- Establishes correct pitch attitude at rotation with wings level and β target centered.
- Accurately follows flight director and ensures correct FCU selections.
- Maintains speed, V2 +5 kt/-0 kt during second segment.
- Adheres to engine-out vertical profile maintaining acceleration altitude +200 ft/-0 ft.
- Follows EOSID, emergency turn procedure, ATC instructions or required heading +/- 10.
- Respects task sharing.

07 - COMMON ERRORS

- Over rotation to high pitch attitude.
- β Target not fully centered.
- ECAM non-reversible actions carried out without proper crew confirmation.
- SID, EOSID or ATC instructions not accurately followed.
- Poor maintenance and monitoring of required track.
- Lack of task sharing discipline during manual flight (FCU actions).
- Not trimming the rudder.
- Not rotating to correct pitch attitude on go-around.

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01 - TRAINING OBJECTIVE

- To recognize, and correctly deal with, a double FMGC failure.

02 - SCHEDULE

Briefing duration : 20 minutes

03 - EQUIPMENT

DOC references :
- QRH chapter 2
- FCOM 1.22 (Auto Flight)
- FCOM 3.02.22 (Auto Flight)
- FCOM 4.02 (Operational Principles)
- FCOM 4.05 (FMGS Procedures)
- FCOM 4.06 (Abnormal Procedures)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points :

A. MAIN

- Two functions of FMGCs (FM and FG)
- Loss of single functions (ATHR, AP, FDs, predictions, FMGS position)
- STDBY navigation function provided by RMPs.

B. SECONDARY

- Loss of FMGS speed calculation
- Loss of AUTO LANDING ELEV

05 - TRAINEES' ACTIONS

Each FMGC has two main parts ; Flight Management and Flight Guidance functions. It also computes performance parameters and guides the aircraft along a pre-planned route.
The relevant functions of the parts of the FMGC are as follow :

A. FLIGHT MANAGEMENT

- Navigation and radio management
- Flight Planning and management
- Performance optimization and predictions

B. FLIGHT GUIDANCE CONTROLS

- FD
- AP
- A/THR

C. FLIGHT ENVELOPE

- VAPP computation
- GW and CG monitoring and display

When there is a complete failure of both FMGCs the following will be the main items lost and are detailed on ECAM :

- AP 1 + 2
- FD 1 + 2
- A/THR
- VAPP and GS mini
- Auto Landing elevation

The FPV will be available. To regain the blue track index it is necessary to switch off the FDs. Tuning of navaids will have to be done through the RMP.
In this situation an FMGC reset attempt may be made. Refer to QRH chapter 2 and to FCOM 4.04 (Abnormal Operations)

06 - COMPLETION STANDARDS

- Correct completion of required drills.
- Demonstrates effective use of STDBY navigation (PMP)

07 - COMMON ERRORS

- Incorrect FMGS reset procedures
- Not using FPV or deselecting FDs.

01 - TRAINING OBJECTIVE

- To ensure continued safe flight following loss of all engine generators.
- To carry out ECAM procedure strictly respecting task sharing requirements.
- To perform a safe approach and landing using raw data information and degraded flight control laws.

02 - SCHEDULE

Briefing duration : 20 minutes

03 - EQUIPMENT

DOC references :

- QRH chapter 1 (Systems remaining)
- QRH chapter 2 (Fuel gravity feeding)
- FCOM 03.02.24 (Elec emerg CONF)
- Briefing note - ILS raw data approach
- Briefing note - Use of FPV

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- EFIS, ECAM, AUTO FLIGHT and FMGS availability following failure.
- ECAM procedure (one ECAM DU lost) and status page APPR PROC considerations (RAT, direct law ...).
- Navigation aid tuning by RMP.
- QRH use for approach and landing data.
- Specific procedure for go around (EMER GEN recovery).
- Task sharing and communications.

B. SECONDARY

- Communications (ATC, cabin,...).
- Raw data approach (reminder).
- Direct law approach and landing (reminder).
- Fuel gravity feeding considerations.
- Cockpit lighting.
- Non-use of APU generator.

05 - TRAINEES' ACTIONS

When all engine driven generators have been lost, the workload is immediately greatly increased. It is important that task-sharing procedures are understood and adhered to. Remember one of the golden rules ; fly the aircraft.
Autopilot is not available and CM1 must take control as only the following equipment is available :

- CM1 PFD (FPV but no FD)
- CM1 ND (on ETOPs aircraft until gear down)
-
- Upper ECAM
- CM1 MCDU and FMGC 1
- FCU

The FPV will have to be selected in order to be displayed on the CM1 PFD. However it is important to deselect the FDs so that the blue track index is indicated on the PFD, assisting heading/track keeping.
Once a safe flight path is established and the aircraft under control, the focus can shift to the next priority - navigation.
Although the ECAM advises a landing as soon as possible, it would be unwise to attempt an approach at a poorly equipped airfield in marginal weather. Prolonged flight in this configuration is not recommended.
Communication can be of great help here, ATC may be able to give radar headings to the nearest suitable airfield, once informed of your problem. This is a serious emergency and ATC should be notified using appropriate phraseology (MAYDAY) so that greater separation between you and other traffic can be arranged.
It is important to identify the failure that has occurred - it is possible for pilots to confuse emergency electrical configuration with an all engine failure. Therefore, read the title of the ECAM failure. The ECAM drill may then be started. It is a lengthy and complicated procedure, as only one display is available. Consider carefully the feasibility of starting the APU. If a simultaneous engine generator failure has occurred, the probability of coupling will be low.
Any APU start will drain batteries, reducing flight time available on batteries only
Take care to respect minimum speed (140 kt), as any lower could lead to RAT stall. All probe heating is lost, except CAPT Pitot and AOA, so if a discrepancy occurs between airspeed indications on CM1 PFD and on STBY, disregard STBY indication.
Allow sufficient time to plan and discuss the approach and landing. Navaid tuning including ILS must be through RMP 1 as navaid autotune through FMGS will be lost at gear extension.
When the gear is extended, the aircraft reverts to DIRECT law. It would be wise to review the implications of DIRECT law control and procedures before beginning the approach. Further, at gear lowering, the RAT stalls and electrical power supply is battery only, limited to approximately 25 minutes. Do not lower the gear earlier than necessary in order to conserve battery life. In the event of a go-around, a drill is available to extend this time (QRH 2.02 - FLT ON BAT ONLY), and should be mentioned in the approach briefing.
Delay lowering the gear until after CONFIG 3 has been set and the aircraft will be in a trimmed state when DIRECT law becomes active.
Few retardation devices are fully serviceable, so a short runway will cause problems.

06 - COMPLETION STANDARDS

- Maintains flight path in accordance with ATC clearance.
- Performs ECAM actions accurately and without undue delay.
- Makes sound decision to continue or divert according to circumstances.
- Performs safe, accurate approach and landing, taking into account degraded systems and flight control laws, within half scale deflection of localiser and glideslope.<O>
- Adheres strictly to task sharing requirements at all times and ensures good crew and ATC communications.

07 - COMMON ERRORS

- Confusion with all engine fail.
- Lack of task sharing discipline during ECAM procedure.
- FD not selected OFF to regain blue track index).
- Early extension of landing gear.
-

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ABNORMAL FLAPS/SLATS CONFIGURATION

01 - TRAINING OBJECTIVE

- To perform the correct procedure to configure the aircraft for approach and landing.
- To carry out actions required by ECAM/QRH procedures.
- To handle the aircraft smoothly during approach and landing complying with published procedure for configurations and speeds.
- To respect task sharing requirements throughout.

02 - SCHEDULE

Briefing duration : 20 minutes

03 - EQUIPMENT

DOC references :

- QRH chapter 2 (Landing with abnormal Slats/Flaps)
- QRH chapter 2 (Approach Speeds and Landing distance)
- FCOM 1.27.50 (Flaps and Slats)
- FCOM 3.02.10 (Operating techniques)
- FCOM 3.02.27 (Slats and/or Flaps fault/locked)
- FCOM 3.03.22 (Ground Clearance Diagram)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Task sharing and crew coordination.
- Use selected speed.
- ECAM procedure and STS page "APPR. PROC".
- Approach speed and landing distance calculations.
- Speed control for no flaps/no slats approach.
- Approach briefing and abnormal configuration procedure use.

B. SECONDARY

- A/THR management.
- Pitch angle (tail-strike) at landing if no flaps.
- Use of autobrake according to landing distance available.
- Go around procedure and briefing.
- CONF FULL selected on MCDU PERF page for VAPP calculation.

ABNORMAL FLAPS/SLATS CONFIGURATION (CONT'D)

05 - TRAINEES' ACTIONS

Should this problem arise when in the intermediate approach phase, a delay in starting the approach should be considered.
The landing distance factors are available in QRH 2.2x, along with approach speed increments. Approach speed will be VLS as indicated on the PFD. The approach speed increments in QRH 2.2x should only be used when VLS is not displayed. Speed increments are based on VREF CONF FULL in all cases. When calculating VAPP, see QRH 2.22 for information on the use of wind correction in failure cases.
Use selected speed and the use of auto thrust is recommended for most cases.

There are two cases to consider:

- flaps/slats locked with the wing tip brake on when selecting a different flap setting - do not recycle flap lever.
- flaps/slats fail to move with movement of the flap lever - recycle the flap lever.

If the fault cannot be cleared apply QRH 2.05 or 2.06 as appropriate.

QRH 2.05 (Landing with slats or flaps jammed) needs a little amplification as the line "-SPEED SEL .....VFE -5 kt" can be misinterpreted.
An example will illustrate the procedure.

- When CONF 1 is selected slats lock (WTB on) between 0 and 1.
- Take control of the aircraft speed - use selected speed for the rest of the approach. Managed speed will aim for S speed which is the wrong speed at this stage, and may be below VLS. At this stage select an appropriate speed depending on aircraft position and intentions.
- Follow ECAM drill and then when ready for CONF 2 select VFE NEXT -5 kt as shown on the PFD. It is preferable to reduce speed and change configuration in non maneuvering flight.
- Do not go below VLS - at high gross weights VLS may be greater than VFE NEXT in which case decelerate to VLS, select the flap lever one step down and progressively select slower speeds as the surfaces extend.
- Repeat until landing configuration is reached.

No flaps no slats landing is a fairly simple procedure, however more distance is required for manoeuvering. The flap handle should be placed into CONF 1 position as required by ECAM in order to engage the go-around modes in the event a go-around has to be performed. During approach the aircraft pitch attitude will be almost normal. Therefore with correct aircraft handling a tail strike is less of a concern. Nevertheless long and high flare should be avoided. Consider high-speed touchdown. Use of medium auto brake is recommended.
Consider fuel available and the quantity that may be required if a diversion is necessary with flaps and/or slats jammed.The autopilot may be available but monitor its operation closely as it is only authorized for use in normal configuration. However, do not use the autopilot below 500 ft AGL.

ABNORMAL FLAPS/SLATS CONFIGURATION (END)

06 - COMPLETION STANDARDS

- Correctly responds to failure ensuring a safe flight path and speed.
- Performs ECAM actions and QRH procedures in a methodical manner.
- Makes correct adjustments to VAPP and selects appropriate configuration.
- Makes smooth and accurate approach and lands within the touchdown zone at the correct speed (+10 / -0 kt).

07 - COMMON ERRORS

- Rushing procedure.
- Starting approach before completing all procedures.
- Selected speed not used immediately at failure recognition.
- Wrong VAPP selection on MCDU.
- Rough handling.
- Use of managed speed on final approach
- Incorrect go around procedure.

RECONFIGURATION LAWS - RECOVERY FROM APPROACH TO STALL

01 - TRAINING OBJECTIVE

- To recognize the indications of an impending stall.
- To take immediate and appropriate actions to recover to controlled flight.

02 - SCHEDULE

Briefing duration : 20 minutes

03 - EQUIPMENT

DOC references :
- FCOM 1.27.30 (Abnormal control laws)
- FCOM 3.04.27 (Supplementary Techniques - Flight controls)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Stall possible only in Alternate and Direct laws ("Fly-by-wire" aircraft).
- Speed scale symbols change (VSW) and aural warning.
- Recovery technique according to altitude and configuration.

B. SECONDARY

- Control of pitch
- Risk of secondary stall

RECONFIGURATION LAWS - RECOVERY FROM APPROACH TO STALL (CONT'D)

05 - TRAINEES' ACTIONS

The conventional stall is only possible in alternate and direct control laws, because of the protections provided in normal law. Alternate or direct law will be indicated by ECAM and the changes on the PFD ; bank angle and pitch limitation replaced by amber X, low speed indications change from alpha prot. to VSW. VSW is load factor dependant and will increase with increase in pitch up rate or bank angle.

Also, an aural warning is produced on entering the stall regime. This aural warning is produced by the AOA sensors, not the FACs. It is possible to experience "false warnings" if pitch control is rough during the recovery from the stall. VSW indications are always correct as these are generated by the FACs.

INDICATION .....STALL, STALL, STALL"
THRUST LEVERS.....TOGA

At the same time :

PITCH ATTITUDE.....REDUCE
BANK ANGLE.....ROLL WINGS LEVEL
SPD BRAKES.....CHECK RETRACTED

If a danger of ground contact exists, reduce pitch attitude no more than necessary to allow airspeed to increase.
After initial recovery, maintain speed close to VSW until it is safe to accelerate.

If below 20,000 ft, and in clean configuration, select CONF 1.
Out of stall and above VLS when there is no threat of ground contact :

LANDING GEAR.....UP

Recover to normal speed and retract flaps as required.
In case of engine inoperative, use power and rudder with care.
Be prepared for a strong pitch up due to power application and the need for large manual pitch trim changes in DIRECT law.
Care must be exercised not to re-enter the stall regime and set off another warning. With prompt action, very little height is lost.

RECONFIGURATION LAWS - RECOVERY FROM APPROACH TO STALL (END)

06 - COMPLETION STANDARDS

- Takes immediate action at first indication of impending stall.
- Employs correct recovery technique and ensures minimum altitude loss.

07 - COMMON ERRORS

- Recovery not initiated immediately.
- Insufficient pitch control at desired attitude.
- Stall re-entry due to uncontrolled high pitch attitude.
- Use of manual trim below VLS.
- Clean up before acceleration above VLS.

01 - TRAINING OBJECTIVE

- To manually control the aircraft in abnormal flight control laws.
- To carry out ECAM and QRH procedures respecting task sharing requirements.
- To safely perform approach and landing in abnormal configuration.

02 - SCHEDULE

Briefing duration : 25 minutes

03 - EQUIPMENT

DOC references :

- QRH 2.05 & 2.06 (Landing with slats or flaps jammed)
- QRH 2.20 & 2.25 (Approach Speeds and landing distances)
- QRH 2.13 (Landing gear gravity extension)
- QRH 4 (In Flight Performance)
- FCOM 1.27 (Flight Controls)
- FCOM 1.29 (Hydraulic)
- FCOM 3.02.29 (Procedure)
- Briefing note - Abnormal Flaps/Slats configuration

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Control of flight path and navigation.
- Importance of good crew communication and co-ordination as autopilot is inoperative.
- Coordination with ATC.
- Correct prioritization of tasks.
- Use of selected speed.
- Accurate following of FD and smooth control inputs.

B. SECONDARY

- Flight control system architecture (QRH 5.03).
- QRH landing distance.
- CONF FULL selected on MCDU PERF page for VAPP calculation with MCDU.

05 - TRAINEES' ACTIONS

When a dual hydraulic failure is recognized, the autopilot will not be available. It is vital to control the aircraft and ensure a safe flight path. Task sharing is important, as procedures are lengthy, approach briefing necessarily comprehensive and good crew co-ordination is vital.

The golden rule of fly, navigate and communicate applies.

As there are usually many tasks to fulfil, establish clear priorities. Bear in mind that if sufficient fuel remains, taking time to plan and brief properly is time well spent. Remember that flight controls will be in ALTERNATE law for G + B or G + Y until gear lowering when reversion to DIRECT law occurs.

In an HYD G + Y failure, there is no hydraulic power available to move the stabilizer. In effect, it is frozen. With the gear retracted alternate law is active and autotrim is available. This is achieved by displacement of the elevators which can be moved over the full range. When the gear is lowered direct law becomes active and the elevators have only a reduced range of movement with a direct stick to elevator relationship. The center of this reduced range of movement is the trimmed elevator position prior to lowering the gear. If the gear is lowered before the aircraft is at CONFIG 3 and VAPP, this limited range of elevator deflection may not be sufficient to control the aircraft in pitch, once CONFIG 3 and VAPP are reached. It is vital therefore, that the aircraft is in a trimmed state, with CONFIG 3 set, at VAPP before gear is lowered. Ignore the "USE MAN PITCH TRIM " message, as stabilizer pitch trimming is not available. Use a long runway as few retardation devices are available (spoiler 3 and accumulator brake pressure only).

With HYD G + Y or G + B failure, autobrakes are inoperative, but are not listed in ECAM inoperative systems list. With either of these failures flaps or slats will respectively be lost.

When HYD G + B failed, extend landing gear at 200 kt to improve controllability on single elevator.

In the case of a dual hydraulic failure, ECAM will give information on the STATUS page concerning inoperative systems. Approach speed and landing distance increments will also be shown on ECAM. However the figure given on ECAM for multiplying landing distance is calculated on flap handle position and may be incorrect until the final CONF selection has been made. The landing distance factors are available in QRH 2.25, along with speed increments. Speed increments are based on VREF CONF FULL in all cases. When calculating VAPP, see QRH 2.24 for information on the use of wind correction in failure cases. Do not rush these calculations.

06 - COMPLETION STANDARDS

- Maintains a safe flight path.
- Ensures strict application of task sharing requirements.
- Ensures correct application of ECAM, QRH and FMGS procedures.
- Handles the aircraft smoothly without major deviations from required trajectory (+/- 200 ft ; +/- 10 º ; +/- 10 kt).
- Makes correct determination of VAPP and landing distance.
- Performs accurate approach within standard limits for instrument approach.
- Lands within the landing zone and uses correct braking technique.
- Abnormal configuration approach procedure.
- Specific approach and go around briefing.
- Ensures any special requirements are communicated to ATC and cabin crew.

07 - COMMON ERRORS

- No emergency declared to ATC.
- Incorrect use of selected speed.
- Incorrect prioritization of tasks.
- Incomplete approach and go around briefing for abnormal configuration.
- FD not followed precisely due to over controlling.
- Confusion between VAPP/VREF/VLS for corrected speed.
- Approach initiated before completion of all necessary tasks.
- Not using QRH or ECAM for gravity gear extension.

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PHILOSOPHY AND NORMAL USE

01 - TRAINING OBJECTIVE

- To fully understand the philosophy and normal use of the ECAM.
- To understand ECAM use for abnormal and emergency operations.

02 - SCHEDULE

Briefing duration : 15 minutes

03 - EQUIPMENT

DOC references :
- FCOM 1.31.10 to 1.31.30 (ECAM Description)
- FCOM 3.02.01(ABN and EMER PROCEDURES)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Warning levels and associated master lights.
- ECAM control panel.
- Switching.
- ECAM display philosophy.
- MEMO display.

B. SECONDARY

- Use of RCL and EMER CANC.
- Flight phases and associated displays.

PHILOSOPHY AND NORMAL USE (CONT'D)

05 - TRAINEES' ACTIONS

The Electronic Centralised Aircraft Monitoring (ECAM) system monitors and displays all information concerning aircraft systems and system failures. It is a system which, through text and graphic displays, enables the crew to do most things from ensuring passenger comfort by monitoring cabin temperature to dealing with multiple system failures without the need for paper checklists.

Essentially the ECAM provides the following :

- System indications - temperatures, pressures etc.
- System monitoring - display of system failure, level 1 to 3 or advisory.
- Memo - displays use of systems by the crew e.g. anti-ice and also take off and landing memo.
- Crew actions - in case of failures the E/WD indicates crew action necessary to deal with the failure, replacing the traditional QRH.
- Status - the status page provides the crew with an operational summary of the aircraft systems at any stage of the flight. If STS is displayed on E/WD, when CONF 1 is selected or when QNH (QFE) is set, the STATUS page is automatically displayed.

Display of system failures and take off / landing memo is flight phase sensitive. Take off and landing memo are only displayed at the appropriate time. Before announcing "no blue", ensure that the take-off or landing memo is displayed by reference to the memo title i.e. **T.O or LDG**.

Some warnings and cautions are suppressed at critical phases of flight, however failures critical a particular phase of flight will always be displayed. Note that these flight phases are different from the flight phases used by the FMGS. On the SD some pages are phase-selected i.e. the WHEEL page is automatically displayed after engine start. The cruise page is not selectable, but is continuously displayed from 1500 ft after take-off to landing gear extension unless a warning/caution is displayed, or a system page has been manually selected.(FCOM 1.31.20 [Indicating/ Recording Systems - Indications on SD])

There are three levels of warning/cautionb - Levels 3, 2 and 1 with level 3 being the highest (FCOM 1.31.10 [Indicating/Recording Systems - ECAM Description]) :

- Level 3 is associated with a master warning and is displayed in red on the E/WD.
- Level 2 is associated with a master caution and is displayed in amber on the E/WD.
- Level 1 is displayed in amber on the E/WD, however there is no master caution associated with Level 1.

PHILOSOPHY AND NORMAL USE (END)

05 - TRAINEES' ACTIONS (END)

In addition to the three levels of warning/caution, ECAM also differentiates between Independent Failures, Primary Failures and Secondary Failures as follows :

A. INDEPENDENT FAILURES

A failure that does not affect other systems. The system title is underlined on the E/WD.

B. PRIMARY FAILURE

A failure that affects other systems and causes secondary failures. The failure title is boxed on the E/WD.

C. SECONDARY FAILURE

A failure that is caused by a primary failure and not unserviceability of that particular system. Secondary failures are in amber preceded by an asterisk on the bottom right hand side of the E/WD.

In the event of multiple failures there is a hierarchy which determines which failures are displayed on the E/WD i.e. level 3 takes priority over level 2. Furthermore there is a hierarchy within each of the three levels to ensure that the most important failures are displayed to the pilots first. Details of how failures are dealt with are given in the following briefing note.

All screens are identical, providing the option of multiple redundancy, and simple switching. The various options to allow switching of screens in the event of screen failure are detailed in FCOM 1.31.05 (Indicating/Recording Systems - EIS General). ECAM failure modes are also dealt with in the following briefing note.

The ECAM control panel is described in FCOM 1.31.30 (Indicating/Recording Systems - ECAM Controls), however the operational use of the RCL and EMER CANC pb's requires a little explanation. The EMER CANC pb may be used by the crew to cancel any cautions or warnings that are spurious or intermittent, and are effectively nuisance warnings. The RCL pb is used to either recover cancelled cautions suppressed by the EMER CANC pb or to review cautions or warnings which have been cleared using the CLR pb.

06 - COMPLETION STANDARDS

- Knowledge and correct use of the ECAM system.

07 - COMMON ERRORS

- No deselection of manually selected system page.
- Landing "no blue" call made before landing memo displayed.
- Memo display not included in normal instrument scan.

USE IN CASE OF FAILURES

01 - TRAINING OBJECTIVE

- To use ECAM procedures effectively and correctly.

02 - SCHEDULE

Briefing duration : 15 minutes

03 - EQUIPMENT

DOC references :
- QRH 0.00 (Task sharing)
- FCOM 1.24.10 & 20 (Electrical)
- FCOM 1.31.10 to 1.31.30 (ECAM Description)
- FCOM 3.02.01 (Procedure)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Task sharing.
- Identification of the failure.
- Co-ordinated ECAM actions and application of procedures.

B. SECONDARY

- Advisory information.
- Flight phase inhibition.
- Priority of warnings.
- Abnormal ECAM configurations.
- OEBs application.

05 - TRAINEES' ACTIONS

When the ECAM displays a warning or caution it is of primary importance that task sharing is respected and secondly, to remember not to rush. The first priority, as always, is to ensure a safe flight path. Task sharing is important but ensure that monitoring and cross checking procedures are maintained.

USE IN CASE OF FAILURES (CONT'D)

05 - TRAINEES' ACTIONS (CONT'D)

FCOM 3.02.01(Abnormal and Emergency Procedures - Introduction) details procedures for the use of ECAM in the event of a failure, however the key points are :

- PF - fly, navigate and communicate-- in that order (golden rule).
- PNF - deal with the failure on command of PF
- Both pilots to identify failure and confirm by reference to SD, E/WD.
- PNF to request clear, PF to confirm before CLR is pressed.

In addition remember the following points :

- In the case of multiple failures complete all required actions (blue) associated with the first red or amber title. Request clearance to press CLR and then deal with next failure. The second drill is then carried out until its red/amber title can be cleared, before starting on the third etc. Don't leave the red or amber title on the E/WD when all actions associated with that failure have been completed. Clear each one as it is dealt with. When all necessary actions are complete there will be no amber or red displayed on the lower part of the E/WD.
- Read the ECAM carefully, as it is possible to misread drills particularly the countdown for fire bottle discharge.
- Although the A320 overhead panel is uncluttered, misidentification of switches or pb's is possible. When action on overhead panel pb's or switches is required by ECAM, identification of the correct panel is aided by reference to the white writing etched on the side of each system panel.
- When carrying out system pb selection, verify on SD that the required action has occurred e.g. switching off an hydraulic pump changes the indications on the SD.
- Cross check by both pilots before movement of any controls like THR lever, engine master switch, fire switch or IRs, any guarded p/b to prevent the crew from carrying out inadvertent irreversible actions.
- When reviewing secondary failures (FCOM 1.31.25 [Indicating/Recording Systems - ECAM Sequence]) follow the same discipline of request and confirmation before action on CLRpb.
- Certain procedures may be modified by OEB. When applicable, it has to be checked before reading and analyzing status. The status page is then reviewed by both pilots. A green overflow arrow indicates further pages of status messages. Status page can be recalled at any time and is very useful as an aid for descent and approach planning. Don't be in too much of a hurry to clear it.
- Following certain failures, or after multiple failures, the STATUS page may contain an excess of information. In order to extract the information essential for landing the aircraft safely use of the following guide :

  CONFIG - flap/slat setting, approach speed increment, landing distance factor and control law for landing.
  GEAR - when to lower gear and whether normal or gravity lowering
  BRAKES - normal, alternate or alternate without anti-skid (1000 psi max brake pressure, accumulator provides pressure).
  REVERSE - availability.
  (**NOTE :** *If a reverser is inoperative on status page, do not select that reverser on LDG ; as the reverser will not deploy but reverse idle is selected. This is higher than modulated idle and will produce increased forward thrust.*)

USE IN CASE OF FAILURES (CONT'D)

05 - TRAINEES' ACTIONS (END)

When dealing with failures in mono ECAM display the same principles discussed above are valid but disciplined use of the ECAM control panel is even more important.

- There is no automatic display of SD associated with the failure - confirmation of the failure will require the relevant system page pb being pressed and held. This is also true when reviewing secondary failures.
- STATUS page is only displayed when STS pb is pressed and held. In order to view page two or three of status messages the STS pb must be released for less than 2 seconds and then pressed and held again.

Dealing with failures when in mono ECAM display requires discipline and practice.
This is displayed on the ND by selection on the EFIS control panel. Remember that, except in EMER ELEC CONF it may be possible to transfer the SD to the PNF's ND.

ECAM advisory mode (FCOM 1.31.20 [Indicating/Recording Systems - Indications on SD]) requires the crew to monitor a parameter and does not necessarily require action. FCOM 3.02.80 (Abnormal and Emergency Procedures - Miscellaneous) contains recommended actions in the event of certain advisory conditions.

OEBs (FCOM Vol 3) are issued by Airbus and contain information which may have implications for crew actions in the event of system failures. The most important OEBs are reproduced in the QRH. Depending on the software status of the particular aircraft, there may be an OEB reminder function within the ECAM system. This OEB reminder function will replace the actions required by ECAM, associated with a system failure, with a message directing the crew to consult a relevant OEB.

If time permits consider consulting FCOM Vol 3 after ECAM actions have been completed. It may contain additional notes or information not displayed on ECAM (electrical failure). However do not prolong the flight for the sole purpose of consulting this volume.

USE IN CASE OF FAILURES (END)

06 - COMPLETION STANDARDS

- Applies correct crew co-ordination and task sharing at all times.
- Performs ECAM procedure correctly, accurately without undue delay.

07 - COMMON ERRORS

- PF distracted from primary duties.
- Clear action without cross-check.
- Non application of STATUS approach procedure.
- STATUS page(s) reviewed at the wrong time.
- During mono ECAM procedure, SD pages and STS page not reviewed.
- Green overflow arrow ignored.

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IRS/ADR FAILURES

01 - TRAINING OBJECTIVE

- To recognize and successfully deal with multiple IRS or ADR failures

02 - SCHEDULE

Briefing duration : 10 minutes

03 - EQUIPMENT

DOC References :
- QRH chapter 2 (Dual ADR failure)
- FCOM 1.34.10 (ADIRS)
- FCOM 3.02.34 (Navigation)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Use of IRS in ATT mode
- Flight control laws
- Use of standby instruments
- Separate ADR and IRS parts of ADIRS

B. SECONDARY

NIL

IRS/ADR FAILURES (END)

05 - TRAINEES' ACTIONS

Each ADIRS has two parts (ADR and IRS) which may fail independently of each other. Additionally the IRS part may fail totally or may be available in ATT mode.
Single ADR or IRS failures are simply dealt with and only require action on the switching panel as indicated by ECAM.

Flight controls will be in alternate law without protections and at landing gear extension will revert to direct law. With any of the three dual IRS failures attitude information will be lost on one PFD.
It is essential that both pilots cross-check attitude and air data with the standby instruments

Dual IRS or ADR failures will cause the loss of A/P and A/THR.

A triple IRS or ADR failure is very unlikely. Triple failures will not be displayed on ECAM. Only two double failures will be displayed (i.e. ADR 1 + 2 FAULT and ADR 2 + 3 FAULT). Following ECAM actions would give conflicting instructions. Follow the procedure for
ADR 1 + 2 + 3 failure contained in QRH chapter 2). This is one of the few cases where the crew will not follow ECAM.

There is no procedure for IRS 1 + 2 + 3 failure but the ECAM status page will give approach procedure and inoperative systems. In this unlikely eventuality, standby instruments are the only attitude, altitude, speed and heading reference.

06 - COMPLETION STANDARDS

- Carries out required ECAM drills in accordance with SOPs.
- Recognizes triple ADR failure and uses QRH for drill.
- When flying on standby instruments achieves a reasonable level of accuracy

07 - COMMON ERRORS

- Fails to recognize triple ADR or IRS failure
- Poor flying accuracy when using standby instruments

DUAL RADIO ALTIMETER FAILURE

01 - TRAINING OBJECTIVE

- To be aware of approach and landing capabilities.
- To understand effects on auto-pilot, FD, approach mode and flight controls.
- To carry out instrument or visual approach and landing in direct law.

02 - SCHEDULE

Briefing duration : 10 minutes

03 - EQUIPMENT

DOC references :
- FCOM 1.34.40 (Radio altimeter)
- FCOM 1.22.30 (Auto flight)
- FCOM 3.02.27 (Direct law procedure)
- FCOM 3.02.34 (RA 1 + 2 fault procedure)
- Briefing Note - ILS raw data approach

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Effects of failure/gear position on auto-pilot, FD, approach mode and flight controls.
- Approach and landing in direct law.
- Raw data approach (reminder).<O>
-
- Loss of CAT 2 / CAT 3 capabilities<O>
- Loss of AUTO CALL OUT and LDG MEMO<O>

B. SECONDARY

- Flight controls logic.
- Use of TRK/FPA<O>

DUAL RADIO ALTIMETER FAILURE (END)

05 - TRAINEES' ACTIONS

GPWS will be inoperative, therefore apply extra caution with regard to terrain clearance.

It should be noted that APP mode push button is inhibited and the flight director will not be able to capture and track the glideslope (FCOM 1.22.30 [Auto Flight - Flight Guidance]). However be careful of following flight director commands close to the ground as it will command excessive roll rates. Interception of the localiser may be done using LOC and the approach can be flown in LOC mode down to 400 ft.

The approach and landing are only to Cat 1 limits, bearing in mind that the aircraft will revert to DIRECT law when the gear is lowered. As with most cases reverting to DIRECT law, it is advisable to set CONFIG 3 before lowering the gear so that the aircraft is in trim when DIRECT law becomes operative.

The ECAM procedure comes up with gear down. The crew have time to read and to properly apply.

06 - COMPLETION STANDARDS

- Determines correct approach and landing configuration.
- Makes smooth, accurate approach and landing within limits as per ILS raw data approach.

07 - COMMON ERRORS

- Over-controlling in direct law.
- Use of LOC Mode in short final (below 400 ft)

ENGINE FAILURE IN CRUISE

01 - TRAINING OBJECTIVE

- To recognize engine failure or fire warnings and take correct actions to maintain a safe trajectory.
- To perform correct procedure dependent on circumstances.

02 - SCHEDULE

Briefing duration : 10 minutes

03 - EQUIPMENT

DOC references :
- QRH 4.04 - 4.07 (Operational data)
- FCOM 1.22.10 (Thrust lever function)
- FCOM 2.chapter 04 (Special Operations)
- FCOM 3.06.10 (Single engine operation)
- FCOM 4.04.30 (Single engine procedures)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Strategy and diversion decision making.
- Aircraft control and trajectory established.
- Pitch attitude and speed control.
- Specific task sharing procedures.
- ECAM actions - Relight envelope consideration.
- Subsequent approach planning.

B. SECONDARY

- A/P engagement mode / A/THR disconnection.
- ETOPS / Mountainous area considerations.

ENGINE FAILURE IN CRUISE (CONT'D)

05 - TRAINEES' ACTIONS

If an engine should fail in cruise, there are three strategies available for dealing with this occurrence. These are the standard, the fixed speed and obstacle strategy. Unless a specific procedure has been established before dispatch (such as ETOPS or mountainous areas) the recommended procedure is the standard strategy.

A. STANDARD STRATEGY (FCOM 4.04.30)

Before descent, start ECAM actions, set MCT on the remaining engine and disconnect A/THR. Set a lower altitude in the altitude window and pull for OPEN DES. The descent should be performed at .78/300 kt so select required speed on FCU and pull. When in the descent establish, from the PROG page or the QRH, cruise flight level for level off. Inform ATC and set in the FCU altitude window.
As the thrust is fixed at MCT, the speed is controlled by elevator. On reaching the new altitude, set speed according to the QRH, and select A/THR on. Continue flight to destination or as appropriate.

B. FIXED SPEED (FCOM 4.04.30)

The constraint in ETOPS operation is time to the nearest diversion. Thus, the speed target is now .78/320 kt or .80/340 kt (the figure established before dispatch). Further, the altitude selected should be 15 000 ft or other established before dispatch. Once levelling off, cruise at 340 kt (or other established figure) or the thrust limited speed. ETOPS is taught as a separate course as required by your airline.

C. OBSTACLE STRATEGY (FCOM 4.04.30)

To maintain the highest possible level due to terrain, the drift down procedure must be adopted. This requires MCT on the remaining engine and A/THR off, but speed target is now green dot.
The procedure is similar to the standard strategy, but as the speed target is green dot, rate and angle of descent will be lower. The MCDU PROG page will display the EO MAX ALT. Carefully consider the airplane's position at the end of the drift down, as obstacles may still present a problem. If clear of obstacles, return to normal LRC speed, set on FCU and engage A/THR.

ENGINE FAILURE IN CRUISE (END)

05 - TRAINEES' ACTIONS (END)

D. OVERVIEW

The FMGS PROG page will show the EO MAX REC altitude. In the QRH there are tables containing details of engine out ceiling, time to descend, distance taken and fuel used. There is also a graph to calculate gross ceiling. Tables are available for long range cruise performance, an in-flight check of fuel consumed and time to destination. The decision on which technique is appropriate should be taken during the aircraft deceleration following the failure.

Once established in the descent, the relevant table can be entered, and the information assimilated.
If V/S becomes less than 500 fpm during any of the descent profiles, select V/S mode and maintain a minimum of 500 fpm. This is likely to happen as level off altitude is approached (not applicable to obstacle strategy).
The ECAM actions and placing the thrust lever to MCT should not be hurried, as it is important to complete the drill correctly, not in the shortest possible time. Generally, there is sufficient time to check all actions before rushing into them. However at high flight levels close to limiting weights, if an engine fails speed will decay very quickly requiring prompt crew response.
In congested airspace, be aware that a low rate of descent may be unacceptable to ATC, and be prepared to adjust accordingly.
One engine out operations will typically use 15% more fuel than with both engines, which may become a factor if a long diversion is contemplated.

06 - COMPLETION STANDARDS

- Makes correct decision on which strategy to use.
- Ensures safe terrain clearance.
- Respects task sharing and ECAM procedures requirements.
- Establishes correct parameters from QRH.
- Follows flight director accurately and ensures correct FCU selections.
- Maintains good situational awareness.
- Establishes effective communication with ATC and crew members.

07 - COMMON ERRORS

A/THR not disconnected.
Incorrect strategy.
OPEN DES not selected.
Distraction from primary tasks.
Rushed actions.

ENGINE RELIGHT IN FLIGHT

01 - TRAINING OBJECTIVE

To make a valid decision to attempt relight in flight.
To perform correct engine relight procedure.

02 - SCHEDULE

Briefing duration : 10 minutes

03 - EQUIPMENT

DOC references :
- QRH chapter 2 (Engine relight in flight checklist)
- FCOM 1.70 (Ignition and starting)
- FCOM 3.01.40 (Limitations)
- FCOM 3.02.70 (Engine relight in flight procedure)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Factors influencing decision to attempt relight.
- Engine relight in flight procedure (windmilling and starter assisted).
- Relight envelope and limitations (loss of protections).
- Task sharing and actions requiring crew confirmation.

B. SECONDARY

- Systems to restore or engine shut down procedure.

05 - TRAINEES' ACTIONS

Before attempting a relight in flight, gather all relevant information to decide whether a relight should be attempted. Consider engine damage, icing or volcanic ash encounter and their effects on a successful relight. Check for satisfactory indications of N1, N2 and oil quantity. Further, is there an appropriate time to relight, when workload is low ?
Refer to QRH chapter 2 for ENG RELIGHT (in flight) drill. Auto start is recommended as FADEC will determine whether an assisted start or a windmilling start is appropriate. The crew must be ready to take appropriate action in case of abnormal start as no start protections are provided in flight. The stopwatch should be used to monitor light up after fuel flow increase. Ensure cross checking of vital controls before moving them : thrust lever, master switch etc.

ENGINE RELIGHT IN FLIGHT (END)

06 - COMPLETION STANDARDS

- Uses all available information to make a sound decision to attempt an engine relight in flight.
- Applies correct engine relight procedure and respects all related limitations.
- Ensures correct task sharing and good crew communications.

07 - COMMON ERRORS

- Relight attempt made without checking engine parameters.
- Actions requiring crew confirmation not cross checked during relight (e.g. Eng Master "on" or "off").
- No timing for light-up or engine draining.
- Procedure initiated at inappropriate time in relation to workload and without checklist.

ALL ENGINE FLAME OUT

01 - TRAINING OBJECTIVE

- To establish a safe flight path.
- To recognize the indications of a dual engine failure.
- To carry out correct procedure.

02 - SCHEDULE

Briefing duration : 20 minutes

03 - EQUIPMENT

DOC references :
- QRH 1.01 to 1.04 (Systems remaining)
- QRH chapter 2 (Engine relight in flight)
- FCOM 1.70 (Ignition and starting)
- FCOM 3.02.70 (Engine Dual Failure)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Monitoring of flight path and parameters.
- Choice of optimum speed.
- ECAM actions (APU use, relight parameters...).
- Situational awareness.
- Relight monitoring and system recovery.

B. SECONDARY

- Aircraft status : systems, F/CTL law..
- Minimum RAT speed.
- Communications (ATC, transponder, cabin).
- Related consequences (Pressurization, forced landing, ditching...).

ALL ENGINE FLAME OUT (CONT'D)

05 - TRAINEES' ACTIONS

Following a dual engine failure the flight deck indications change drastically as generators drop off line, the RAT is deployed and ECAM prioritizes checklists.

Control of the aircraft must be taken immediately by CM1, and a safe flight path established. It is important at this stage to correctly identify the failure as it can be easily confused with all engine generators fault. ECAM will prioritize checklists so to avoid confusion read ECAM carefully to correctly identify the failure. It is vital to establish good crew communication and to apply efficient task-sharing.

Establish communications with ATC, stating nature of emergency and intentions. Consider use of transponder emergency code. VHF2 (VHF3) and ATC2 are not supplied so VHF 1 is the only means of communicating the emergency to air traffic control. This can be easily seen by looking at the ATC and VHF 2 windows, which will be blank.

The ECAM actions can be commenced, with attention to optimum relight speed. If there is no relight within 30 sec ECAM will order the engine master switches to be placed off for 30 sec and then on again. This is to permit ventilation of the combustion chamber. Start the APU. Once the APU is available for attempting engine start and below FL 200 optimum speed is green dot.

Maximum gliding range is achieved at green dot speed although this will not be displayed on the PFD if the APU generator is not available. Think ahead and plan the approach. Depending on the airplane's position, a forced landing or a ditching may be required if the relight is unsuccessful. Find the relevant QRH page and review the procedure.
Note that at gear lowering, flare law becomes active and the stabilizer is frozen. Disregard the PFD message to "USE MAN PITCH TRIM" as it is not available.

The list of affected systems is long and flight controls will be much degraded. If the relight attempts are successful, consider the options of immediate landing versus continuing the flight. If the engines failed simultaneously, was there a common cause ?
At all times, maintain correct speed and situational awareness.

06 - COMPLETION STANDARDS

- Establishes immediately a safe flight path.
- Makes correct analysis and carries out procedure.
- Ensures strict application of task-sharing and good crew communications.
- Makes appropriate decision according to outcome of relight attempt.

ALL ENGINE FLAME OUT (END)

07 - COMMON ERRORS

- Incorrect speed choice and lack of monitoring.
- Confusion with ELEC EMER CONFIG.
- Lack of situational awareness.
- APU started too late.
- Engine relight not monitored (stopwatch/parameters).
- Lack of communication.

THRUST LEVER DISAGREE / FAULT

01 - TRAINING OBJECTIVE

- To understand the consequences and differences related to thrust lever malfunctions.
- To ensure continued safe flight and landing by applying correct procedures.

02 - SCHEDULE

Briefing duration : 10 minutes

03 - EQUIPMENT

DOC references :
- FCOM 1.70.(Thrust control)
- FCOM 3.02.70 (Abnormal procedure)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Differences between "Disagree" and "Fault" and related thrust control consequences.
- Importance of PF not being distracted by failure.

B. SECONDARY

- Caution relating to thrust lever Fault during take-off (on ground, between V1 and VR : warning inhibited)

05 - TRAINEES' ACTIONS

A. DISAGREE

This failure occurs when the two validated thrust lever angle signals are not in agreement.
Should the failure occur on take-off, TOGA or FLEX thrust is maintained until thrust reduction, after which maximum available thrust is MCT.
If the failure occurs when the thrust lever is between idle and MCT, FADEC will automatically select the larger thrust lever angle, limited to MCT. On the ground, thrust is limited to idle.
In flight, keep the A/THR engaged (or engage A/THR if not in use) to allow it to manage thrust between idle and the larger thrust lever angle position.
The FADEC will automatically set the thrust of the affected engine to idle when CONF 1 is selected. .
Note that reverse thrust is available for landing.

THRUST LEVER DISAGREE / FAULT (END)

05 - TRAINEES' ACTIONS (END)

B. FAULT

If this fault develops, it indicates that a non-valid signal has been received from engine 1 or 2 thrust lever angle.

The fault on the ground freezes thrust to idle, and furthermore commands the reversers to stow.

In flight, keep the A/THR engaged (or engage A/THR if not in use) to allow it to manage thrust between idle and the larger thrust lever angle position. A/THR should be engaged before slat retraction.
The FADEC will automatically set the thrust of the affected engine to idle when CONF 1 is selected.

Note that reverse thrust is NOT available for landing.

06 - COMPLETION STANDARDS

- Maintains safe trajectory in all flight phases.
- Ensures application of ECAM procedures, including specific approach requirements.
- Respects task sharing procedures and ensures good crew communications.

07 - COMMON ERRORS

Different reason for "Disagree" and "Fault" not clearly understood.
Specific procedure not applied for approach.

ENGINE ABNORMAL STARTS

01 - TRAINING OBJECTIVE

- To carry out the correct ECAM or QRH actions in the event of an abnormal start (auto or manual).
- To know engine start limitations and restrictions.

02 - SCHEDULE

Briefing duration : 15 minutes

03 - EQUIPMENT

DOC references :
- QRH 2.19 (Start valve manual operations)
- QRH Chapter 2 (Tailpipe fire)
- FCOM 1.70.80 (Ignition and Starting)
- FCOM 3.01.40 (Limitations)
- FCOM 3.02.70 (Power Plant)
- Briefing Notes - Engine start auto/manual

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Autostart fault ECAM procedures.
- Engine starter limitations.
- Lack of automatic protections during manual start.
- Manual operation of start valve.
- Tailpipe fire.

B. SECONDARY

- Timing during manual start

ENGINE ABNORMAL STARTS (END)

05 - TRAINEES' ACTIONS

It is important to have a thorough knowledge of limitations and procedures, particularly when performing a manual start.

In general, the autostart function will protect the engine, but in manual start it is the crews responsibility to take any appropriate action.

For the CFM engine, if a stall condition occurs and N2 is above idle, the warning is not displayed. Consequently, the crew must take action to shut the engine down.

Following shut down for any reason, maintenance action may be required, or a dry crank before another start attempt.

06 - COMPLETION STANDARDS

- Applies correct ECAM or QRH procedure according to fault condition.
- Knows starter limitations.

07 - COMMON ERRORS

- Instinctive Engine Master switch cut off.
- ECAM procedure not followed precisely.
- No, or incorrect, timing during manual start.
- Starter limitations not known.

ENGINE TAILPIPE FIRE

01 - TRAINING OBJECTIVE

- To recognize and deal correctly with an engine tailpipe fire.
- To be aware of possible engine damage due to external fire agents.
- To correctly respect task-sharing and establish effective communication.

02 - SCHEDULE

Briefing duration : 5 minutes

03 - EQUIPMENT

DOC references :
- QRH chapter 2 (Eng Tailpipe Fire)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Engine tailpipe fire indications.
- QRH use.
- Task sharing and communications.

B. SECONDARY

- Communications (cabin, ground crew).

05 - TRAINEES' ACTIONS

The most likely sources of information concerning an engine tailpipe fire are the ground crew or cabin staff when starting engines. The procedure for dealing with a tailpipe fire is contained in QRH chapter 2. It is important to establish which engine is on fire and react accordingly. Establishing good communications between the cockpit and ground crew or cabin staff to establish which engine is on fire, and consider opening the cockpit window to confirm. The engine must be cranked which enables the engine to be ventilated to remove fuel vapors after the unsuccessful start attempt.

If the burning has not stopped, consider the use of external fire extinguishers (Note that they can cause severe corrosive damage and should only be considered after the procedure has been completed.)

ENGINE TAILPIPE FIRE (END)

06 - COMPLETION STANDARDS

- Demonstrates knowledge of correct procedure and considerations.
- Adheres strictly to task sharing requirements at all times and ensures good crew and ATC communications.
- Calls for checklist.

07 - COMMON ERRORS

- Does not know where to find the appropriate procedure.
- Poor communication leading to confusion.

01 - TRAINING OBJECTIVE

- To recognize the circumstances requiring initiation of an emergency descent.
- To carry out the correct actions to achieve a safe descent at the maximum appropriate rate.
- To respect minimum safe altitude.

02 - SCHEDULE

Briefing duration : 20 minutes

03 - EQUIPMENT

DOC references :

- QRH chapter 1 (Emergency descent)
- FCOM 3.02.80 (Procedure)
- FCOM 3.05.30 (In flight performance)

04 - INSTRUCTOR'S ACTIONS

Briefing of the following key points.

A. MAIN

- Oxygen mask and crew communication before any other actions.
- Do not rush the procedure.
- Actions on FCU should be checked on FMA to ensure correct engagement of the desired mode.
- Where structural damage is suspected maintain current IAS.
- Use of half or full speedbrake dependent on FL and MACH number.
- Be careful of speedbrake auto retraction.
- ECAM/check-list actions.
- Control and monitoring of descent and level-off.

05 - TRAINEES' ACTIONS

The procedures for an emergency descent are detailed on ECAM, in the QRH and in FCOM 3.02.80 (ABN and EMER procedures - EMER DESCENT).

The use of autopilot and autothrust is recommended for all emergency descents. The modes used will depend on whether structural damage is assumed or a high speed descent is required. The following are the two ways in which to use the autopilot and autothrust depending on which type of descent is required. As per standard ECAM procedures PF flies the aircraft and PNF carries out ECAM drill. However before initiating descent the crew must don oxygen masks and establish crew communications.

HOW TO ESTABLISH DESCENT :

a. 1st loop :

- Turn altitude selector knob to MEA or FL 100 and pull
- Turn heading selector knob and pull
- Pull SPD selector knob
- Check FMA reads IDLE | OP DES | HDG |
- Select speedbrake (see note below)

b. 2nd loop :

- Check target altitude and HDG according to clearance

If STRUCTURAL DAMAGE assumed (LOW SPEED DESCENT) :

- Push speed/mach pb (target speed for descent is current IAS)

If NO DAMAGE suspected (HIG SPEED DESCENT) :

- Increase speed to MMO/VMO

NOTE :
Speedbrakes should not be extended beyond the 1/2 position while speed is lower than .75 Mach and aircraft is above FL310. This is because alpha prot with ext speedbrakes is higher at high level, which could lead to auto-retraction of the speedbrake.
At high flight levels, the speedbrake should be extended slowly while monitoring VLS, so that angle of attack protection does not become active thereby causing speedbrake retraction.
Use caution when using speedbrake if structural damage exists.

06 - COMPLETION STANDARDS

- Dons oxygen mask within 5 seconds and crew communications established immediately.
- Initiates descent without delay using correct technique, according to circumstances.
- Monitors flight path throughout descent.
- Monitors aircraft systems during descent.
- Establishes ATC communications.
- Employs correct level-off technique at selected altitude.
- Remember to reset the boom set microphone after unwearing the oxygen mask.

07 - COMMON ERRORS

- Rushed initiation of descent leading to incorrect speed selection.
- Headset not used.
- Recommended sequence of FCU actions not respected.
- Initial altitude selection not below current altitude.
- ALT knob pulled and turned at the same time.
- FMA not checked and announced after each FCU selection.
- Incorrect speed brake selection sequence.
- Lack of speed control during descent in manual flight.
- Lack of ATC communication/transponder code.
- Levelling off at high speed.
- Incorrect level-off technique.

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CHAPTER 04

- PERFORMANCE -

1.04.01 - GENERAL

1.04.02 - REGULATORY TAKE-OFF WEIGHT (RTOW in KG)

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• BORDEAUX (LFBD) ..... Page 1-A

• PARIS CHARLES DE GAULLE (LFPG) ..... Page 2-A

• FRANKFURT (EDDF) ..... Page 3-A

• LONDON HEATHROW (EGLL) ..... Page 4-A

• LYON (LFLL) ..... Page 5-A

• MARSEILLE (LFML) ..... Page 6-A

• PARIS ORLY (LFPO) ..... Page 7-A

• TOULOUSE (LFBO) ..... Page 8-A

A320-232 :

• BORDEAUX (LFBD) ..... Page I-A

• PARIS CHARLES DE GAULLE (LFPG) ..... Page II-A

• FRANKFURT (EDDF) ..... Page III-A

• LONDON HEATHROW (EGLL) ..... Page IV-A

• LYON (LFLL) ..... Page V-A

• MARSEILLE (LFML) ..... Page VI-A

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• TOULOUSE (LFBO) ..... Page VIII-A

1.04.03 - REGULATORY TAKE-OFF WEIGHT (RTOW in LB)

A320-214 :

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A320-232 :

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• LYON (LFLL) ..... Page V-A
• MARSEILLE (LFML) ..... Page VI-A
• PARIS ORLY (LFPO) ..... Page VII-A
• TOULOUSE (LFBO) ..... Page VIII-A

On the following pages are printed the RTOWs to be used during the sessions : when the RTOWs do not exist in this chapter, please refer to FCOM Volume 2 and use the quick reference tables to compute the take-off performance.

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BORDEAUX (LFBD) - RWY 23 - CONF 1 + F

CONF1+F	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. = 3100.0(M) A.S.D.A. = 3100.0(M) T.O.D.A. = 3500.0(M) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 70/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 1 4-4 145 152 152	.0 24 4-4 145 152 152	.3 44 4-4 146 153 153	.4 47 4-4 151 153 153	.5 49 2-4 156 156 156	50 49
76.0	.0 12 4-4 142 151 151	.0 35 4-4 143 151 151	.1 47 4-4 148 152 152	.5 49 2-4 152 152 152	.3 51 4-4 158 158 158	51 50
74.0	.0 34 4-4 138 149 149	1.3 43 4-4 142 150 151	.3 51 4-4 151 151 151	.1 53 4-4 155 155 155	.8 53 4-4 156 157 157	53 53
72.0	1.2 43 4-4 137 148 148	.4 51 4-4 146 148 148	.5 54 4-4 153 153 153	.7 55 4-4 156 156 156	.0 57 4-4 156 156 156	54 54
70.0	.4 51 4-4 141 145 145	.4 55 4-4 148 148 148	.4 57 4-4 152 152 152	.5 58 4-4 154 154 154	.5 59 4-4 155 155 155	54 54
68.0	.3 56 4-4 144 144 144	.4 58 4-4 149 149 149	.3 60 4-4 151 151 151	.4 61 4-4 152 152 152	.4 62 4-4 153 153 153	54 54
66.0	.5 59 4-4 145 145 145	.4 61 4-4 147 147 147	.2 63 4-4 149 149 149	.3 64 4-4 150 150 150	.3 65 4-4 151 151 151	54 54
64.0	.5 62 4-4 144 144 144	.4 64 4-4 145 145 145	.2 66 4-4 147 147 147	.3 67 4-4 149 149 149	1.0 67 4-4 150 150 150	54 54
62.0	.5 65 4-4 142 142 142	.4 67 4-4 144 144 144	1.6 67 4-4 147 147 147	.0 67 133 137 137	.0 67 131 137 137	54 54
60.0	1.3 67 4-4 141 141 141	.0 67 4-4 130 135 135	.0 67 127 135 135	.0 67 125 135 135	.0 67 125 135 135	54 54
58.0	.0 67 126 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	54 54
56.0	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	54 54
54.0	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128	54 54
52.0	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	54 54
50.0	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	54 54
45.0	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	54 54
40.0	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2245.(FT) QNH ALT. : 2396.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. = 3100.0(M) A.S.D.A. = 3100.0(M) T.O.D.A. = 3500.0(M) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
-2.0	77310 4-4 145 152 153	79333 4-4 150 154 155	81245 4-4 154 157 157	82414 2-4 158 159 159	83437 2-4 161 163 163
13.0	75914 4-4 142 151 151	78013 4-4 147 153 153	80043 4-4 151 155 155	81284 4-4 154 157 157	82373 2-4 157 160 160
28.0	74562 4-4 140 149 150	76665 4-4 144 152 152	78737 4-4 149 154 154	80104 4-4 152 156 156	81312 4-4 154 157 157
43.7	73168 4-4 137 148 148	75265 4-4 142 150 150	77381 4-4 146 153 153	78747 4-4 149 154 154	80072 4-4 152 156 156
45.0	72650 4-4 138 147 148	74758 4-4 142 150 150	76856 4-4 147 152 152	78244 4-4 150 154 154	79526 4-4 153 155 155
47.0	71861 4-4 139 147 147	73983 4-4 143 149 149	76087 4-4 148 152 152	77406 4-4 151 153 153	78561 2-4 154 155 155
48.0	71479 4-4 139 146 147	73599 4-4 144 149 149	75685 4-4 149 151 151	76953 4-4 152 153 153	78044 2-4 155 156 156
49.0	71094 4-4 140 146 146	73213 4-4 144 148 148	75243 4-4 149 151 151	76488 2-4 152 152 152	77513 2-4 156 156 156
51.0	70364 4-4 141 145 145	72412 4-4 146 148 148	74290 4-4 151 151 151	75363 4-4 154 154 154	76332 4-4 158 158 158
52.0	69996 4-4 141 145 145	71979 4-4 146 147 147	73741 4-4 151 151 151	74760 4-4 155 155 155	75656 4-4 158 158 158
54.0	69177 4-4 143 144 144	71008 4-4 148 148 148	72546 4-4 153 153 153	73422 4-4 156 156 156	73986 2-8 155 155 155
55.0	68739 4-4 143 144 144	70430 4-4 148 148 148	71873 4-4 154 154 154	72707 4-4 156 156 156	73395 2-8 155 155 155
56.0	68259 4-4 144 144 144	69818 4-4 149 149 149	71135 4-4 153 153 153	71962 4-4 155 155 155	72747 4-4 157 157 157
58.0	67139 4-4 146 146 146	68424 4-4 149 149 149	69695 4-4 152 152 152	70500 4-4 154 154 154	71271 4-4 156 156 156
59.0	66477 4-4 145 145 145	67727 4-4 148 148 148	68987 4-4 151 151 151	69783 4-4 153 153 153	70546 4-4 155 155 155
61.0	65142 4-4 144 144 144	66360 4-4 147 147 147	67602 4-4 150 150 150	68372 4-4 152 152 152	69118 4-4 154 154 154
62.0	64482 4-4 144 144 144	65689 4-4 146 146 146	66913 4-4 149 149 149	67675 4-4 151 151 151	68415 4-4 153 153 153
63.0	63828 4-4 143 143 143	65024 4-4 146 146 146	66230 4-4 149 149 149	66985 4-4 151 151 151	67718 4-4 153 153 153
65.0	62541 4-4 142 142 142	63716 4-4 145 145 145	64884 4-4 148 148 148	65621 4-4 150 150 150	66338 4-4 151 151 151
66.0	61906 4-4 142 142 142	63072 4-4 145 145 145	64219 4-4 147 147 147	64947 4-4 149 149 149	65654 4-4 150 150 150
67.0	61277 4-4 141 141 141	62424 4-4 144 144 144	63556 4-4 147 147 147	64278 4-4 149 149 149	64972 4-4 150 150 150

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2245.(FT) QNH ALT. : 2396.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

BORDEAUX (LFBD) - RWY 23 - CONF 2

CONF 2	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. = 3100.0(M) A.S.D.A. = 3100.0(M) T.O.D.A. = 3500.0(M) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.0 11 4-4 142 144 146	.0 37 4-4 141 144 146	.2 46 4-4 146 146 148	.3 48 4-4 151 151 153	.6 49 4-4 154 154 157
76.0	.1 24 4-4 139 143 146	.6 43 4-4 140 144 146	.1 48 4-4 147 147 149	.6 49 4-4 152 152 154	.1 51 4-4 154 154 156
74.0	.5 43 4-4 135 142 144	.4 48 4-4 143 143 144	.3 51 4-4 150 150 152	.5 52 4-4 152 152 154	.6 53 4-4 153 153 155
72.0	.0 49 4-4 138 140 142	.1 52 4-4 145 145 147	.2 54 4-4 149 149 151	.3 55 4-4 150 150 152	.3 56 4-4 151 151 153
70.0	.5 52 4-4 140 140 142	.1 55 4-4 146 146 148	.7 56 4-4 148 148 150	.0 58 4-4 148 148 150	.1 59 4-4 150 150 151
68.0	.7 55 4-4 143 143 145	.6 57 4-4 144 144 146	.5 59 4-4 146 146 148	.6 60 4-4 147 147 148	.6 61 4-4 148 148 150
66.0	.6 58 4-4 141 141 143	.5 60 4-4 142 142 144	.3 62 4-4 144 144 146	.4 63 4-4 145 145 147	.5 64 4-4 147 147 148
64.0	.5 61 4-4 139 139 140	.4 63 4-4 141 141 142	.3 65 4-4 142 142 144	.3 66 4-4 144 144 145	.4 67 4-4 145 145 146
62.0	.5 64 4-4 137 137 139	.4 66 4-4 139 139 140	.9 67 4-4 142 142 143	1.7 67 4-4 144 144 145	.0 67 2 128 134 135
60.0	.6 67 4-4 136 136 137	1.8 67 4-4 139 139 140	.0 67 121 128 129	.0 67 121 128 129	.0 67 121 128 129
58.0	.0 67 120 125 127	.0 67 120 125 127	.0 67 120 125 127	.0 67 120 125 127	.0 67 120 125 127
56.0	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125
54.0	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123
52.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121
50.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121
45.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121
40.0	.0 67 116 118 122	.0 67 116 118 122	.0 67 116 118 122	.0 67 116 118 122	.0 67 116 118 122

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2233.(FT) QNH ALT. : 2384.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. = 3100.0(M) A.S.D.A. = 3100.0(M) T.O.D.A. = 3500.0(M) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-2.0	78005 4-4 144 145 147	79880 4-4 149 149 152	81607 4-4 154 154 156	82726 4-4 157 157 160	83747 4-4 161 161 164
13.0	76876 4-4 141 144 146	78815 4-4 146 146 148	80596 4-4 150 150 152	81743 2-4 154 154 156	82801 2-4 157 158 160
28.0	75756 4-4 138 143 145	77713 4-4 143 145 147	79545 2-4 147 147 149	80730 2-4 150 151 153	81818 2-4 154 155 157
43.7	74459 4-4 135 142 144	76548 4-4 140 144 146	78441 4-4 144 146 148	79692 2-4 147 149 150	80801 2-4 151 152 154
45.0	73897 4-4 136 141 143	75919 4-4 141 143 145	77792 4-4 145 145 147	78996 2-4 148 149 151	80093 2-4 152 153 155
47.0	72990 4-4 137 140 143	74943 4-4 142 143 144	76705 4-4 146 146 148	77876 4-4 150 150 152	78958 4-4 154 154 156
48.0	72502 4-4 138 140 142	74440 4-4 143 143 144	76137 4-4 147 147 149	77271 4-4 151 151 153	78286 4-4 155 155 157
49.0	72020 4-4 138 140 142	73876 4-4 143 143 145	75545 4-4 148 148 150	76623 4-4 152 152 154	77550 4-4 154 154 157
51.0	71004 4-4 140 140 142	72718 4-4 145 145 147	74285 4-4 150 150 152	75197 4-4 152 152 154	76085 4-4 154 154 156
52.0	70454 4-4 140 140 142	72113 4-4 145 145 147	73579 4-4 150 150 152	74473 4-4 152 152 154	75350 4-4 153 153 156
54.0	69322 4-4 142 142 144	70787 4-4 146 146 148	72154 4-4 149 149 151	73033 4-4 151 151 153	73861 4-4 153 153 155
55.0	68708 4-4 143 143 145	70079 4-4 146 146 148	71429 4-4 149 149 151	72289 4-4 150 150 152	73107 4-4 152 152 154
56.0	67995 4-4 142 142 144	69332 4-4 145 145 147	70669 4-4 148 148 150	71523 4-4 150 150 152	72334 4-4 151 151 153
58.0	66564 4-4 141 141 143	67872 4-4 144 144 145	69185 4-4 147 147 148	70020 4-4 148 148 150	70815 4-4 150 150 152
59.0	65864 4-4 140 140 142	67158 4-4 143 143 145	68456 4-4 146 146 148	69282 4-4 147 147 149	70069 4-4 150 150 151
61.0	64496 4-4 139 139 140	65759 4-4 142 142 143	67031 4-4 145 145 146	67830 4-4 146 146 148	68601 4-4 148 148 150
62.0	63828 4-4 138 138 140	65072 4-4 141 141 143	66332 4-4 144 144 146	67116 4-4 146 146 147	67879 4-4 148 148 149
63.0	63167 4-4 138 138 139	64394 4-4 141 141 142	65639 4-4 144 144 145	66409 4-4 145 145 147	67165 4-4 147 147 149
65.0	61874 4-4 137 137 138	63062 4-4 140 140 141	64267 4-4 142 142 144	65018 4-4 144 144 146	65756 4-4 146 146 147
66.0	61236 4-4 137 137 138	62408 4-4 139 139 140	63589 4-4 142 142 143	64332 4-4 144 144 145	65060 4-4 145 145 147
67.0	60602 4-4 136 136 137	61760 4-4 139 139 140	62918 4-4 142 142 143	63653 4-4 144 144 145	64368 4-4 145 145 146

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2233.(FT) QNH ALT. : 2384.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

BORDEAUX (LFBD) - RWY 23 - CONF 3

CONF 3	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. = 3100.0(M) A.S.D.A. = 3100.0(M) T.O.D.A. = 3500.0(M) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES WIND (KT) MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA **DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 18 4-4 141 142 144	.1 43 4-4 141 142 144	.1 47 4-4 149 149 150	.4 48 4-4 154 154 154	.6 49 4-4 155 155 156	50 49
76.0	.1 31 4-4 138 140 142	.4 45 4-4 141 141 143	.4 48 4-4 149 149 151	.7 49 4-4 153 153 154	.1 51 4-4 154 154 155	51 50
74.0	1.2 43 4-4 135 137 140	.2 49 4-4 145 145 146	.3 51 4-4 150 150 151	.5 52 4-4 152 152 153	.6 53 4-4 153 153 153	53
72.0	.4 49 4-4 139 139 141	.2 52 4-4 147 147 148	.2 54 4-4 150 150 151	.3 55 4-4 150 150 151	.3 56 2-4 151 151 151	54 54
70.0	.1 53 4-4 142 142 144	.1 55 4-4 146 146 147	.7 56 4-4 148 148 149	.7 57 4-4 148 148 149	.0 59 2-4 148 148 149	54 54
68.0	.1 56 4-4 142 142 144	.6 57 4-4 144 144 145	.4 59 4-4 146 146 147	.5 60 4-4 146 146 147	.5 61 2-4 147 147 148	54 54
66.0	.6 58 4-4 140 140 142	.5 60 4-4 142 142 143	.3 62 4-4 143 143 145	.4 63 4-4 143 143 145	.4 64 2-4 145 145 146	54 54
64.0	.5 61 4-4 138 138 140	.4 63 4-4 140 140 142	.2 65 4-4 141 141 142	.3 66 4-4 142 142 143	.3 67 2-4 144 144 145	54 54
62.0	.5 64 4-4 137 137 139	.4 66 4-4 139 139 140	.9 67 4-4 139 139 141	1.6 67 4-4 141 141 143	.0 67 2 127 133 134	54 54
60.0	.6 67 4-4 136 136 137	1.7 67 4-4 138 138 140	.0 67 2 119 125 127	.0 67 2 119 125 127	.0 67 2 119 125 127	54 54
58.0	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	54 54
56.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
54.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
52.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
50.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
45.0	.0 67 116 117 121	.0 67 116 117 121	.0 67 116 117 121	.0 67 116 117 121	.0 67 116 117 121	54 54
40.0						54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2189.(FT) QNH ALT. : 2340.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. = 3100.0(M) A.S.D.A. = 3100.0(M) T.O.D.A. = 3500.0(M) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

O A T DC	-10	-5	0	10	20
-2.0	78471 4-4 146 146 148	80257 4-4 152 152 153	81938 4-4 158 158 159	82778 4-4 161 161 161	83666 2-4 162 162 162
13.0	77390 4-4 142 143 145	79284 4-4 148 148 149	80999 4-4 154 154 154	82052 4-4 158 158 158	82985 4-4 161 161 162
28.0	76279 4-4 139 140 142	78218 4-4 144 144 146	80027 4-4 150 150 151	81165 4-4 154 154 154	82200 2-4 157 157 158
43.7	75127 4-4 135 137 140	77089 4-4 140 142 143	78960 2-4 146 146 147	80136 2-4 150 150 151	81204 2-4 154 154 155
45.0	74473 4-4 136 137 140	76431 4-4 141 141 143	78249 4-4 147 147 148	79407 4-4 151 151 152	80460 2-4 155 155 155
47.0	73471 4-4 137 138 140	75353 4-4 143 143 145	77060 4-4 149 149 150	78122 4-4 153 153 154	79039 4-4 156 156 157
48.0	72973 4-4 138 138 141	74789 4-4 144 144 145	76433 4-4 149 149 151	77411 4-4 154 154 154	78297 4-4 156 156 156
49.0	72431 4-4 139 139 141	74198 4-4 145 145 146	75765 4-4 150 150 151	76677 4-4 153 153 154	77556 4-4 155 155 156
51.0	71327 4-4 140 140 143	72933 4-4 146 146 148	74327 4-4 150 150 151	75213 4-4 153 153 154	76071 4-4 154 154 155
52.0	70735 4-4 141 141 143	72247 4-4 147 147 148	73606 4-4 150 150 151	74483 4-4 152 152 153	75326 4-4 153 153 154
54.0	69512 4-4 143 143 145	70838 4-4 146 146 147	72169 4-4 150 150 151	73019 4-4 151 151 152	73835 2-4 152 152 153
55.0	68814 4-4 143 143 145	70117 4-4 146 146 147	71435 4-4 149 149 150	72271 4-4 150 150 151	73070 2-4 152 152 152
56.0	68075 4-4 142 142 144	69366 4-4 145 145 146	70673 4-4 148 148 149	71501 4-4 149 149 150	72291 2-4 151 151 151
58.0	66632 4-4 140 140 142	67896 4-4 143 143 145	69177 4-4 146 146 148	69989 4-4 147 147 148	70763 2-4 149 149 150
59.0	65925 4-4 140 140 142	67176 4-4 142 142 144	68444 4-4 146 146 147	69246 4-4 147 147 148	70011 2-4 148 148 149
61.0	64547 4-4 138 138 140	65765 4-4 141 141 143	67004 4-4 144 144 145	67785 4-4 145 145 146	68534 2-4 147 147 148
62.0	63869 4-4 138 138 140	65073 4-4 141 141 142	66297 4-4 143 143 145	67066 4-4 144 144 145	67804 2-4 146 146 147
63.0	63200 4-4 137 137 139	64389 4-4 140 140 142	65596 4-4 142 142 144	66354 4-4 143 143 145	67089 2-4 146 146 147
65.0	61881 4-4 136 136 138	63045 4-4 139 139 141	64215 4-4 141 141 142	64949 4-4 142 142 144	65662 2-4 145 145 146
66.0	61233 4-4 136 136 138	62384 4-4 139 139 140	63533 4-4 140 140 142	64255 4-4 142 142 143	64962 4-4 144 144 145
67.0	60592 4-4 136 136 137	61729 4-4 138 138 140	62856 4-4 139 139 141	63569 4-4 141 141 143	64264 2-4 144 144 145

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2189.(FT) QNH ALT. : 2340.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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PARIS CHARLES DE GAULLE (LFPG) - RWY 08L - CONF 1 + F

CONF1+F	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. = 4215.1(M) A.S.D.A. = 4215.1(M) T.O.D.A. = 4275.1(M) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 13-JUL-01 QNH=1013.25 (MB) GRAD1= 90/GRAD2= 100 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	WIND (KT) WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY TGA

WEIGHT 1000KG	-10	-5	0	10	20	2	3
77.0	.1 48 2-6 130 153 153	.7 49 2-8 136 158 158	.7 49 2-8 139 158 158	.7 49 2-8 142 158 158	.7 49 2-8 144 158 158	49	49
76.0	.3 50 2-6 132 155 155	.8 50 2-8 136 157 157	.8 50 2-8 140 157 157	.8 50 2-8 142 157 157	.8 50 2-8 144 157 157	50	50
74.0	.3 53 2-8 133 155 155	.3 53 2-8 137 155 155	.3 53 2-8 140 155 155	.3 53 2-8 143 155 155	.3 53 2-8 143 155 155	52	52
72.0	.2 57 2-6 137 156 156	.5 58 2-6 144 160 160	.5 59 2-2 150 164 164	.5 59 2-2 152 164 164	.5 59 2-2 153 164 164	54	54
70.0	.4 60 2-6 140 156 156	.0 62 2-6 148 160 160	.1 62 2-2 150 161 161	.1 62 2-2 151 161 161	.1 62 2-2 150 161 161	54	54
68.0	.6 63 2-6 142 156 156	.5 64 2-2 148 159 159	.5 64 2-2 150 159 159	.5 64 2-2 149 159 159	.5 64 2-2 148 159 159	54	54
66.0	.1 67 2-2 145 157 157	.1 67 2-2 147 157 157	.1 67 2-2 147 157 157	.1 67 2-2 145 157 157	.1 67 2-2 145 157 157	54	54
64.0	.0 67 2 135 146 146	.0 67 2 135 146 146	.0 67 2 135 146 146	.0 67 2 135 146 146	.0 67 2 135 146 146	54	54
62.0	.0 67 127 137 137	.0 67 127 137 137	.0 67 127 137 137	.0 67 127 137 137	.0 67 127 137 137	54	54
60.0	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	54	54
58.0	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	54	54
56.0	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	54	54
54.0	.0 67 121 127 128	.0 67 121 127 128	.0 67 121 127 128	.0 67 121 127 128	.0 67 121 127 128	54	54
52.0	.0 67 120 124 126	.0 67 120 124 126	.0 67 120 124 126	.0 67 120 124 126	.0 67 120 124 126	54	54
50.0	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	54	54
45.0	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	54	54
40.0	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	54	54

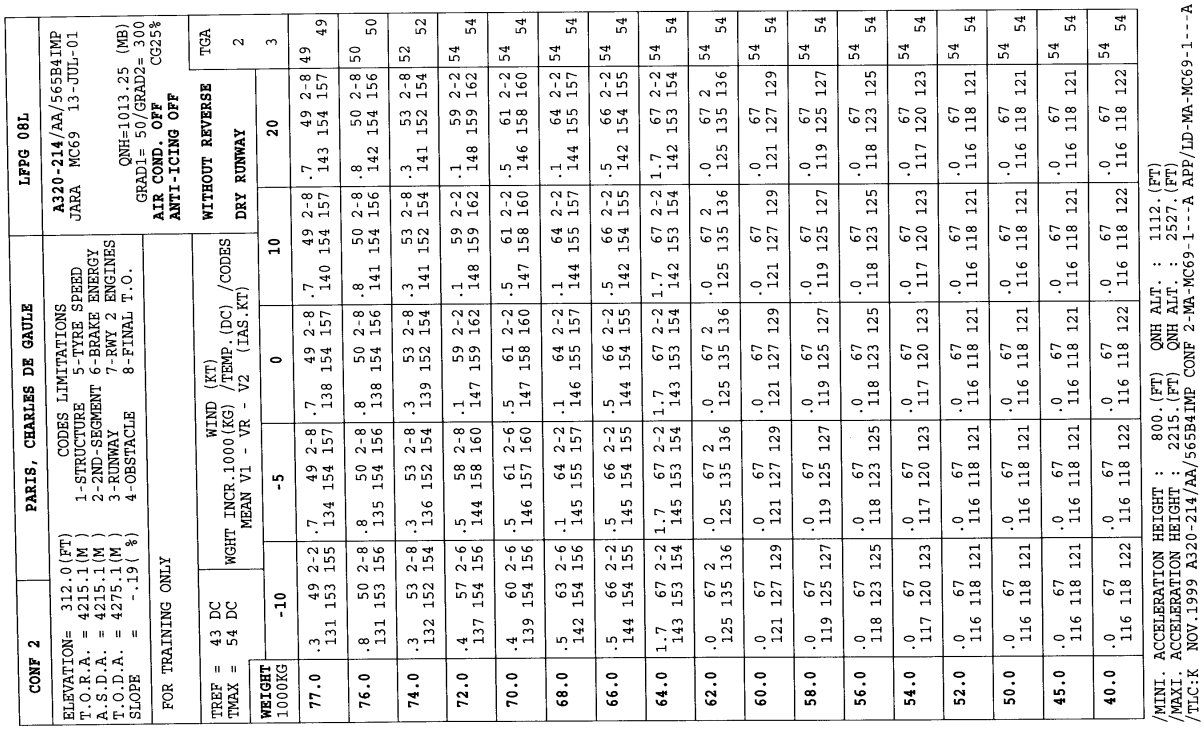
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2226.(FT) QNH ALT. : 2538.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. = 4215.1(M) A.S.D.A. = 4215.1(M) T.O.D.A. = 4275.1(M) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 13-JUL-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	82551 2-6 136 160 160	84183 2-6 141 166 166	85451 2-6 146 171 171	86134 2-6 150 174 174	86741 2-6 154 177 177
13.0	81246 6-6 133 157 157	82979 2-2 138 162 162	84444 2-6 143 168 168	85134 2-6 147 171 171	85796 2-6 150 174 174
28.0	79399 2-2 131 155 155	81863 2-2 135 159 159	83461 2-2 140 165 165	84175 2-6 144 168 168	84821 2-6 147 170 170
43.4	77564 6-6 130 153 153	80617 6-6 133 156 156	82361 2-8 137 162 162	82361 2-8 139 162 162	82361 2-8 142 162 162
45.0	77500 6-6 130 153 153	80109 2-2 134 157 157	81002 2-8 138 160 160	81002 2-8 140 160 160	81002 2-8 142 160 160
46.0	77461 2-2 130 153 153	79696 2-6 134 158 158	80164 2-8 138 160 160	80164 2-8 141 160 160	80164 2-8 143 160 160
48.0	77140 2-6 130 153 153	78488 2-8 135 158 158	78488 2-8 139 158 158	78488 2-8 141 158 158	78488 2-8 144 158 158
49.0	76730 2-2 131 154 154	77650 2-8 135 158 158	77650 2-8 139 158 158	77650 2-8 141 158 158	77650 2-8 144 158 158
50.0	76283 2-6 132 155 155	76812 2-8 135 157 157	76812 2-8 139 157 157	76812 2-8 142 157 157	76812 2-8 144 157 157
52.0	75136 2-8 133 155 155	75136 2-8 136 155 155	75136 2-8 140 155 155	75136 2-8 142 155 155	75136 2-8 143 155 155
53.0	74297 2-8 132 155 155	74297 2-8 136 155 155	74297 2-8 140 155 155	74297 2-8 142 155 155	74297 2-8 143 155 155
55.0	73137 2-8 134 155 155	73137 2-8 138 155 155	73137 2-8 141 155 155	73137 2-8 143 155 155	73137 2-8 143 155 155
56.0	72764 2-6 136 156 156	73136 2-8 140 158 158	73136 2-8 142 158 158	73136 2-8 145 158 158	73136 2-8 146 158 158
57.0	72158 2-6 137 156 156	73108 2-6 144 160 160	73135 2-8 145 161 161	73135 2-8 146 161 161	73135 2-8 148 161 161
59.0	70962 2-6 139 156 156	71873 2-6 145 160 160	72505 2-2 150 164 164	72505 2-2 151 164 164	72505 2-2 152 164 164
60.0	70357 2-6 140 156 156	71258 2-6 146 160 160	71709 2-2 150 163 163	71709 2-2 151 163 163	71709 2-2 152 163 163
62.0	69167 2-6 141 156 156	70016 2-6 148 160 160	70117 2-2 150 161 161	70117 2-2 151 161 161	70117 2-2 150 161 161
63.0	68576 2-6 142 156 156	69321 2-2 148 160 160	69321 2-2 150 160 160	69321 2-2 150 160 160	69321 2-2 148 160 160
65.0	67384 2-6 144 156 156	67727 2-2 148 158 158	67727 2-2 149 158 158	67727 2-2 148 158 158	67727 2-2 146 158 158
66.0	66783 2-6 145 157 157	66931 2-2 147 157 157	66931 2-2 148 157 157	66931 2-2 146 157 157	66931 2-2 145 157 157
67.0	66135 2-2 145 157 157	66135 2-2 147 157 157	66135 2-2 147 157 157	66135 2-2 145 157 157	66135 2-2 145 157 157

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2226.(FT) QNH ALT. : 2538.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

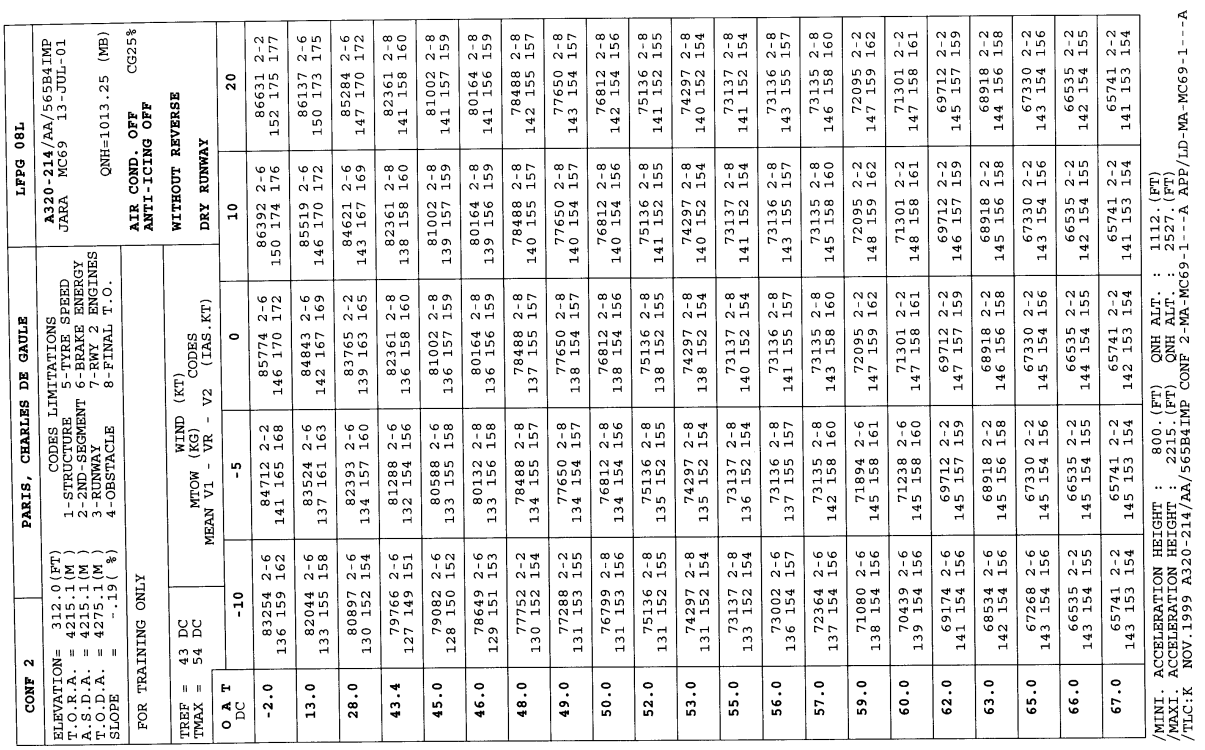
PARIS CHARLES DE GAULLE (LFPG) - RWY 08L - CONF 2



CONF 2	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. = 4215.1(M) A.S.D.A. = 4215.1(M) T.O.D.A. = 4275.1(M) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 13-JUL-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.3 49 2-2 131 153 155	.7 49 2-8 134 154 157	.7 49 2-8 138 154 157	.7 49 2-8 140 154 157	.7 49 2-8 143 154 157	49 49
76.0	.8 50 2-8 131 153 156	.8 50 2-8 135 154 156	.8 50 2-8 138 154 156	.8 50 2-8 141 154 156	.8 50 2-8 142 154 156	50 50
74.0	.3 53 2-8 132 152 154	.3 53 2-8 136 152 154	.3 53 2-8 139 152 154	.3 53 2-8 141 152 154	.3 53 2-8 141 152 154	52 52
72.0	.4 57 2-6 137 154 156	.5 58 2-8 144 158 160	.1 59 2-2 147 159 162	.1 59 2-2 148 159 162	.1 59 2-2 148 159 162	54 54
70.0	.4 60 2-6 139 154 156	.5 61 2-6 146 157 160	.5 61 2-2 147 158 160	.5 61 2-2 147 158 160	.5 61 2-2 146 158 160	54 54
68.0	.5 63 2-6 142 154 156	.1 64 2-2 145 155 157	.1 64 2-2 146 155 157	.1 64 2-2 144 155 157	.1 64 2-2 144 155 157	54 54
66.0	.5 66 2-2 144 154 155	.5 66 2-2 145 154 155	.5 66 2-2 144 154 155	.5 66 2-2 142 154 155	.5 66 2-2 142 154 155	54 54
64.0	1.7 67 2-2 143 153 154	1.7 67 2-2 145 153 154	1.7 67 2-2 143 153 154	1.7 67 2-2 142 153 154	1.7 67 2-2 142 153 154	54 54
62.0	.0 67 2 125 135 136	.0 67 2 125 135 136	.0 67 2 125 135 136	.0 67 2 125 135 136	.0 67 2 125 135 136	54 54
60.0	.0 67 121 127 129	.0 67 121 127 129	.0 67 121 127 129	.0 67 121 127 129	.0 67 121 127 129	54 54
58.0	.0 67 119 125 127	.0 67 119 125 127	.0 67 119 125 127	.0 67 119 125 127	.0 67 119 125 127	54 54
56.0	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	54 54
54.0	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	54 54
52.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54 54
50.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54 54
45.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54 54
40.0	.0 67 116 118 122	.0 67 116 118 122	.0 67 116 118 122	.0 67 116 118 122	.0 67 116 118 122	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2215.(FT) QNH ALT. : 2527.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF 2	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. = 4215.1(M) A.S.D.A. = 4215.1(M) T.O.D.A. = 4275.1(M) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 13-JUL-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	83254 2-6 136 159 162	84712 2-2 141 165 168	85774 2-6 146 170 172	86392 2-6 150 174 176	86631 2-2 152 175 177
13.0	82044 2-6 133 155 158	83524 2-6 137 161 163	84843 2-6 142 167 169	85519 2-6 146 170 172	86137 2-6 150 173 175
28.0	80897 2-6 130 152 154	82393 2-6 134 157 160	83765 2-2 139 163 165	84621 2-6 143 167 169	85284 2-6 147 170 172
43.4	79766 2-6 127 149 151	81288 2-6 132 154 156	82361 2-8 136 158 160	82361 2-8 138 158 160	82361 2-8 141 158 160
45.0	79082 2-6 128 150 152	80588 2-6 133 155 158	81002 2-8 136 157 159	81002 2-8 139 157 159	81002 2-8 141 157 159
46.0	78649 2-6 129 151 153	80132 2-8 133 156 158	80164 2-8 136 156 159	80164 2-8 139 156 159	80164 2-8 141 156 159
48.0	77752 2-2 130 152 154	78488 2-8 134 155 157	78488 2-8 137 155 157	78488 2-8 140 155 157	78488 2-8 142 155 157
49.0	77288 2-2 131 153 155	77650 2-8 134 154 157	77650 2-8 138 154 157	77650 2-8 140 154 157	77650 2-8 143 154 157
50.0	76799 2-8 131 153 156	76812 2-8 134 154 156	76812 2-8 138 154 156	76812 2-8 140 154 156	76812 2-8 142 154 156
52.0	75136 2-8 131 152 155	75136 2-8 135 152 155	75136 2-8 138 152 155	75136 2-8 141 152 155	75136 2-8 141 152 155
53.0	74297 2-8 131 152 154	74297 2-8 135 152 154	74297 2-8 138 152 154	74297 2-8 140 152 154	74297 2-8 140 152 154
55.0	73137 2-8 133 152 154	73137 2-8 136 152 154	73137 2-8 140 152 154	73137 2-8 141 152 154	73137 2-8 141 152 154
56.0	73002 2-6 136 154 157	73136 2-8 137 155 157	73136 2-8 141 155 157	73136 2-8 143 155 157	73136 2-8 143 155 157
57.0	72364 2-6 137 154 156	73135 2-8 142 158 160	73135 2-8 143 158 160	73135 2-8 145 158 160	73135 2-8 146 158 160
59.0	71080 2-6 138 154 156	71894 2-6 145 158 161	72095 2-2 147 159 162	72095 2-2 148 159 162	72095 2-2 147 159 162
60.0	70439 2-6 139 154 156	71238 2-6 145 158 160	71301 2-2 147 158 161	71301 2-2 148 158 161	71301 2-2 147 158 161
62.0	69174 2-6 141 154 156	69712 2-2 145 157 159	69712 2-2 147 157 159	69712 2-2 146 157 159	69712 2-2 145 157 159
63.0	68534 2-6 142 154 156	68918 2-2 145 156 158	68918 2-2 146 156 158	68918 2-2 145 156 158	68918 2-2 144 156 158
65.0	67268 2-6 143 154 156	67330 2-2 145 154 156	67330 2-2 145 154 156	67330 2-2 143 154 156	67330 2-2 143 154 156
66.0	66535 2-2 143 154 155	66535 2-2 145 154 155	66535 2-2 144 154 155	66535 2-2 142 154 155	66535 2-2 142 154 155
67.0	65741 2-2 143 153 154	65741 2-2 145 153 154	65741 2-2 142 153 154	65741 2-2 141 153 154	65741 2-2 141 153 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2215.(FT) QNH ALT. : 2527.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 08L - CONF 3

CONF 3 — **PARIS, CHARLES DE GAULE** — **LFPG 08L**

ELEVATION= 312.0(FT)
T.O.R.A. = 4215.1(M)
A.S.D.A. = 4215.1(M)
T.O.D.A. = 4275.1(M)
SLOPE = -.19(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 13-JUL-01

QNH=1013.25 (MB)
GRAD1= 60/GRAD2= 300
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE TGA
DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.5 49 2-6 131 155 155	.7 49 2-8 135 155 156	.7 49 2-8 139 155 156	.7 49 2-8 142 155 156	.7 49 2-8 143 155 156	49 49
76.0	.8 50 2-8 131 155 155	.8 50 2-8 135 155 155	.8 50 2-8 139 155 155	.8 50 2-8 142 155 155	.8 50 2-8 143 155 155	50 50
74.0	.3 53 2-8 132 153 153	.3 53 2-8 136 153 153	.3 53 2-8 140 153 153	.3 53 2-8 141 153 153	.3 53 2-8 141 153 153	52 52
72.0	.3 57 2-6 138 156 156	.4 58 2-6 146 160 161	.5 58 8-8 149 162 162	.5 58 8-8 150 162 162	.5 58 8-8 150 162 162	54 54
70.0	.3 60 2-6 140 155 156	.3 61 2-6 148 160 160	.3 61 2-2 151 160 161	.3 61 2-2 151 160 161	.3 61 2-2 149 160 161	54 54
68.0	.4 63 2-6 143 155 156	.7 63 2-2 149 159 159	.7 63 2-2 150 159 159	.7 63 2-2 148 159 159	.7 63 2-2 147 159 159	54 54
66.0	.4 66 2-2 146 156 156	.4 66 2-2 149 156 156	.4 66 2-2 147 156 156	.4 66 2-2 145 156 156	.4 66 2-2 144 156 156	54 54
64.0	1.6 67 2-2 146 155 155	1.6 67 2-2 148 155 155	1.6 67 2-2 145 155 155	1.6 67 2-2 144 155 155	1.6 67 2-2 143 155 155	54 54
62.0	.0 67 2 124 134 136	.0 67 2 124 134 136	.0 67 2 124 134 136	.0 67 2 124 134 136	.0 67 2 124 134 136	54 54
60.0	.0 67 2 120 126 127	.0 67 2 120 126 127	.0 67 2 120 126 127	.0 67 2 120 126 127	.0 67 2 120 126 127	54 54
58.0	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	54 54
56.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
54.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
52.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	54 54
50.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	54 54
45.0	.0 67 115 117 121	.0 67 115 117 121	.0 67 115 117 121	.0 67 115 117 121	.0 67 115 117 121	54 54
40.0						54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2202.(FT) QNH ALT. : 2514.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3 — **PARIS, CHARLES DE GAULE** — **LFPG 08L**

ELEVATION= 312.0(FT)
T.O.R.A. = 4215.1(M)
A.S.D.A. = 4215.1(M)
T.O.D.A. = 4275.1(M)
SLOPE = -.19(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 13-JUL-01

QNH=1013.25 (MB)
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

MTOW (KG) WIND (KT) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE
DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	83612 2-2 137 162 163	84750 2-6 143 168 168	85602 2-6 149 173 173	86120 2-6 154 176 176	86456 2-2 157 178 178
13.0	82513 2-6 134 158 159	83935 2-6 139 165 165	84827 2-6 145 169 169	85398 2-6 150 173 173	85895 2-6 155 176 176
28.0	81370 2-6 130 154 155	82940 2-2 136 161 161	84026 2-6 141 166 166	84634 2-6 146 169 169	85175 2-6 150 173 173
43.4	80188 2-2 127 151 151	81827 2-2 133 157 158	82361 2-8 136 159 160	82361 2-8 139 159 160	82361 2-8 142 159 160
45.0	79466 2-6 128 152 153	81002 2-8 133 158 159	81002 2-8 137 158 159	81002 2-8 140 158 159	81002 2-8 142 158 159
46.0	79018 2-2 129 152 153	80164 2-8 134 158 158	80164 2-8 138 158 158	80164 2-8 140 158 158	80164 2-8 143 158 158
48.0	78067 2-6 130 154 155	78488 2-8 134 156 157	78488 2-8 138 156 157	78488 2-8 141 156 157	78488 2-8 144 156 157
49.0	77525 2-6 131 155 155	77650 2-8 134 155 156	77650 2-8 138 155 156	77650 2-8 141 155 156	77650 2-8 143 155 156
50.0	76812 2-8 131 155 155	76812 2-8 135 155 155	76812 2-8 139 155 155	76812 2-8 142 155 155	76812 2-8 143 155 155
52.0	75136 2-8 132 153 154	75136 2-8 136 153 154	75136 2-8 140 153 154	75136 2-8 141 153 154	75136 2-8 141 153 154
53.0	74297 2-8 132 153 153	74297 2-8 136 153 153	74297 2-8 140 153 153	74297 2-8 141 153 153	74297 2-8 141 153 153
55.0	73137 2-8 133 153 154	73137 2-8 137 153 154	73137 2-8 141 153 154	73137 2-8 141 153 154	73137 2-8 141 153 154
56.0	72938 2-6 137 156 156	73136 2-8 140 157 158	73136 2-8 143 157 158	73136 2-8 145 157 158	73136 2-8 145 157 158
57.0	72280 2-6 138 156 156	73028 2-6 145 160 161	73135 8-8 147 161 162	73135 8-8 148 161 162	73135 8-8 148 161 162
59.0	70954 2-6 139 155 156	71676 2-6 147 160 161	71915 2-2 150 162 162	71915 2-2 151 162 162	71915 2-2 150 162 162
60.0	70311 2-6 140 155 156	70997 2-6 148 160 161	71122 2-2 150 161 161	71122 2-2 151 161 161	71122 2-2 149 161 161
62.0	69005 2-6 142 155 156	69537 2-2 148 159 160	69537 2-2 150 159 160	69537 2-2 149 159 160	69537 2-2 147 159 160
63.0	68358 2-6 143 155 156	68744 2-2 148 159 159	68744 2-2 150 159 159	68744 2-2 148 159 159	68744 2-2 147 159 159
65.0	67051 2-6 145 156 156	67159 2-2 148 157 157	67159 2-2 148 157 157	67159 2-2 146 157 157	67159 2-2 144 157 157
66.0	66366 2-2 146 156 156	66366 2-2 148 156 156	66366 2-2 146 156 156	66366 2-2 145 156 156	66366 2-2 144 156 156
67.0	65573 2-2 146 155 155	65573 2-2 147 155 155	65573 2-2 145 155 155	65573 2-2 143 155 155	65573 2-2 143 155 155

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2202.(FT) QNH ALT. : 2514.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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PARIS CHARLES DE GAULLE (LFPG) - RWY 26R - CONF 1 + F

CONF1+F — **PARIS, CHARLES DE GAULE** — **LFPG 26R**

ELEVATION= 312.0(FT)
T.O.R.A. = 4215.1(M)
A.S.D.A. = 4275.1(M)
T.O.D.A. = 4275.1(M)
SLOPE = .19(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 13-JUL-01

QNH=1013.25 (MB)
GRAD1= 60/GRAD2= 300
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

WITHOUT REVERSE

TREF = 43 DC
TMAX = 54 DC

WGHT INCR.1000(KG) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

DRY RUNWAY

WEIGHT 1000KG	-10	-5	0	10	20	TGA
						2
						3
77.0	.0 44 4-4 132 152 152	.1 48 2-4 139 154 154	.7 49 2-8 144 158 158	.7 49 2-8 145 158 158	.7 49 2-8 145 158 158	49
76.0	.1 46 4-4 133 152 152	.0 50 2-4 141 154 154	.8 50 2-8 144 157 157	.8 50 2-8 145 157 157	.8 50 2-8 145 157 157	50
74.0	.4 50 4-4 135 150 150	.3 53 8-4 143 155 155	.3 53 2-8 144 155 155	.3 53 2-8 144 155 155	.3 53 2-8 143 155 155	52
72.0	.4 54 2-4 138 150 150	.6 56 2-4 145 155 155	.5 58 2-4 153 160 160	.5 59 2-4 158 164 164	.5 59 2-2 159 164 164	54
70.0	.2 58 2-4 141 150 150	.2 60 2-4 149 156 156	.0 62 2-4 157 161 161	.1 62 2-2 158 161 161	.1 62 2-2 157 161 161	54
68.0	.0 62 2-4 144 151 151	.5 63 2-4 151 156 156	.5 64 2-2 156 159 159	.5 64 2-2 156 159 159	.5 64 2-2 154 159 159	54
66.0	.4 65 2-4 147 151 151	.1 67 2-2 155 157 157	.1 67 2-2 154 157 157	.1 67 2-2 152 157 157	.1 67 2-2 151 157 157	54
64.0	1.2 67 2-4 148 152 152	.0 67 2 138 146 146	.0 67 2 135 146 146	.0 67 2 135 146 146	.0 67 2 135 146 146	54
62.0	.0 67 127 137 137	.0 67 127 137 137	.0 67 127 137 137	.0 67 127 137 137	.0 67 127 137 137	54
60.0	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	54
58.0	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	54
56.0	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	54
54.0	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128	54
52.0	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	54
50.0	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	54
45.0	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	54
40.0	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2238.(FT) QNH ALT. : 2550.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F — **PARIS, CHARLES DE GAULE** — **LFPG 26R**

ELEVATION= 312.0(FT)
T.O.R.A. = 4215.1(M)
A.S.D.A. = 4275.1(M)
T.O.D.A. = 4275.1(M)
SLOPE = .19(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 13-JUL-01

QNH=1013.25 (MB)
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

WITHOUT REVERSE

TREF = 43 DC
TMAX = 54 DC

MTOW (KG) /CODES
MEAN V1 - VR - V2 (IAS.KT)

DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	81371 4-4 139 157 157	82870 2-4 144 161 161	84173 2-4 150 166 166	84959 2-4 153 169 169	85705 2-4 157 173 173
13.0	80021 4-4 136 155 155	81797 2-4 141 158 158	83155 2-4 146 163 163	83968 2-4 150 166 166	84733 2-4 153 169 169
28.0	78628 4-4 134 154 154	80578 4-4 138 156 156	82139 2-4 143 160 160	82995 2-4 147 163 163	83784 2-4 150 166 166
43.4	77327 4-4 131 153 153	79239 4-4 136 155 155	81093 2-4 141 157 157	81984 2-4 144 161 161	82361 2-8 145 162 162
45.0	76542 4-4 132 152 152	78530 4-4 137 154 154	80196 2-4 142 158 158	81002 2-8 145 161 161	81002 2-8 145 161 161
46.0	76120 4-4 133 152 152	78096 4-4 138 154 154	79638 2-4 143 158 158	80164 2-8 145 160 160	80164 2-8 146 160 160
48.0	75278 4-4 134 151 151	77133 2-4 139 154 154	78488 8-4 145 158 158	78488 2-8 145 158 158	78488 2-8 145 158 158
49.0	74856 4-4 135 151 151	76575 2-4 140 154 154	77650 2-8 144 158 158	77650 2-8 145 158 158	77650 2-8 145 158 158
50.0	74431 4-4 135 150 150	76035 2-4 141 154 154	76812 2-8 144 157 157	76812 2-8 145 157 157	76812 2-8 145 157 157
52.0	73518 2-4 137 150 150	74898 2-4 142 155 155	75136 2-8 144 156 156	75136 2-8 144 156 156	75136 2-8 144 156 156
53.0	72979 2-4 137 150 150	74297 8-4 143 155 155	74297 2-8 144 155 155	74297 2-8 144 155 155	74297 2-8 143 155 155
55.0	71861 2-4 139 150 150	73137 2-8 145 155 155	73137 2-8 145 155 155	73137 2-8 145 155 155	73137 2-8 143 155 155
56.0	71307 2-4 140 150 150	72573 2-4 145 155 155	73136 2-8 149 158 158	73136 2-8 150 158 158	73136 2-8 148 158 158
57.0	70749 2-4 140 150 150	71988 2-4 146 155 155	73072 2-4 152 160 160	73135 2-8 153 161 161	73135 2-8 154 161 161
59.0	69649 2-4 142 150 150	70825 2-4 148 156 156	71873 2-4 154 160 160	72479 2-4 158 164 164	72505 2-2 159 164 164
60.0	69091 2-4 143 151 151	70248 2-4 149 156 156	71258 2-4 155 161 161	71709 2-2 158 163 163	71709 2-2 159 163 163
62.0	68002 2-4 144 151 151	69093 2-4 150 156 156	70047 2-4 157 161 161	70117 2-2 158 161 161	70117 2-2 156 161 161
63.0	67458 2-4 145 151 151	68509 2-4 151 156 156	69321 2-2 157 160 160	69321 2-2 156 160 160	69321 2-2 155 160 160
65.0	66352 2-4 147 151 151	67348 2-4 153 156 156	67727 2-2 156 159 159	67727 2-2 155 159 159	67727 2-2 153 159 159
66.0	65798 2-4 148 152 152	66755 2-4 154 157 157	66931 2-2 155 158 158	66931 2-2 153 158 158	66931 2-2 152 158 158
67.0	65236 2-4 148 152 152	66135 2-2 154 157 157	66135 2-2 154 157 157	66135 2-2 152 157 157	66135 2-2 151 157 157

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2238.(FT) QNH ALT. : 2550.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 26R - CONF 2

CONF 2	PARIS, CHARLES DE GAULE	LFPG 26R
ELEVATION= 312.0(FT) T.O.R.A. = 4215.1(M) A.S.D.A. = 4275.1(M) T.O.D.A. = 4275.1(M) SLOPE = .19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 13-JUL-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.3 46 2-4 132 146 148	.5 48 2-4 138 152 154	.7 49 2-8 142 154 157	.7 49 2-8 143 154 157	.7 49 2-8 143 154 157	49 49
76.0	.1 48 2-4 133 147 148	.3 50 2-4 140 152 154	.8 50 2-8 142 154 156	.8 50 2-8 143 154 156	.8 50 2-8 143 154 156	50 50
74.0	.4 51 2-4 135 147 149	.3 53 2-8 142 152 154	.3 53 2-8 142 152 154	.3 53 2-8 141 152 154	.3 53 2-8 141 152 154	52 52
72.0	.0 55 2-4 138 148 150	.6 56 2-4 145 153 155	.4 58 2-4 152 157 160	.1 59 2-2 156 160 162	.1 59 2-2 156 160 162	54 54
70.0	.2 58 2-4 141 148 149	.2 60 2-4 148 153 154	.4 61 2-4 154 157 159	.5 61 2-2 155 158 160	.5 61 2-2 154 158 160	54 54
68.0	.5 61 2-4 143 148 149	.3 63 2-4 150 153 155	.1 64 2-2 154 155 157	.1 64 2-2 152 155 157	.1 64 2-2 151 155 157	54 54
66.0	.2 65 2-4 146 148 150	.5 66 2-4 153 153 155	.5 66 2-2 152 154 155	.5 66 2-2 150 154 155	.5 66 2-2 149 154 155	54 54
64.0	1.0 67 2-4 148 149 150	1.7 67 2-2 153 153 154	1.7 67 2-2 151 153 154	1.7 67 2-2 149 153 154	1.7 67 2-2 148 153 154	54 54
62.0	.0 67 2 126 135 136	.0 67 2 125 135 136	.0 67 2 125 135 136	.0 67 2 125 135 136	.0 67 2 125 135 136	54 54
60.0	.0 67 121 128 129	.0 67 121 128 129	.0 67 121 128 129	.0 67 121 128 129	.0 67 121 128 129	54 54
58.0	.0 67 120 125 127	.0 67 120 125 127	.0 67 120 125 127	.0 67 120 125 127	.0 67 120 125 127	54 54
56.0	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	54 54
54.0	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	54 54
52.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
50.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54 54
45.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54 54
40.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54 54

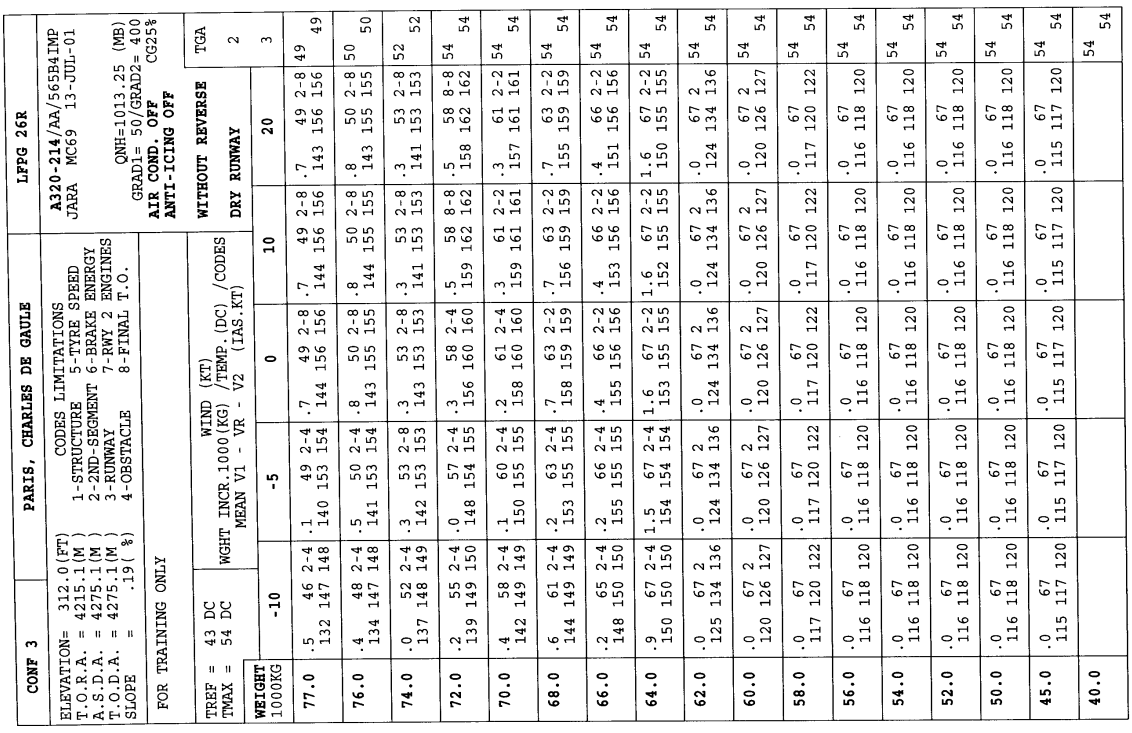
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2235.(FT) QNH ALT. : 2547.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2	PARIS, CHARLES DE GAULE	LFPG 26R
ELEVATION= 312.0(FT) T.O.R.A. = 4215.1(M) A.S.D.A. = 4275.1(M) T.O.D.A. = 4275.1(M) SLOPE = .19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 13-JUL-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	81839 2-4 139 154 157	83187 2-4 144 159 162	84398 2-4 149 164 166	85170 2-4 153 167 170	85901 2-4 157 171 173
13.0	80820 2-4 136 151 153	82194 2-4 141 156 158	83455 2-4 146 161 163	84256 2-4 149 164 166	85019 2-4 153 168 170
28.0	79794 2-4 132 149 151	81205 2-4 137 153 155	82502 2-4 142 158 160	83365 2-4 146 161 163	84151 2-4 150 165 167
43.4	78740 4-4 130 146 148	80206 2-4 134 151 153	81520 2-4 139 155 157	82361 2-8 142 158 160	82361 2-8 143 158 160
45.0	77846 2-4 131 146 148	79281 2-4 136 151 153	80577 2-4 141 155 158	81002 2-8 143 157 159	81002 2-8 143 157 159
46.0	77283 2-4 132 146 148	78697 2-4 137 151 153	79975 2-4 142 156 158	80164 2-8 143 156 159	80164 2-8 143 156 159
48.0	76135 2-4 133 147 148	77520 2-4 138 152 154	78488 2-8 142 155 157	78488 2-8 143 155 157	78488 2-8 143 155 157
49.0	75559 2-4 134 147 149	76920 2-4 139 152 154	77650 2-8 142 154 157	77650 2-8 142 154 157	77650 2-8 143 154 157
50.0	74987 2-4 135 147 149	76322 2-4 140 152 154	76812 2-8 142 154 156	76812 2-8 142 154 156	76812 2-8 142 154 156
52.0	73826 2-4 136 148 149	75110 2-4 142 152 154	75136 2-8 142 153 155	75136 2-8 142 153 155	75136 2-8 141 153 155
53.0	73232 2-4 137 148 150	74297 2-8 142 152 154	74297 2-8 142 152 154	74297 2-8 142 152 154	74297 2-8 141 152 154
55.0	72034 2-4 138 148 150	73137 8-4 144 152 154	73137 2-8 144 152 154	73137 2-8 142 152 154	73137 2-8 141 152 154
56.0	71435 2-4 139 148 150	72612 2-4 145 153 155	73136 2-8 148 155 157	73136 2-8 148 155 157	73136 2-8 146 155 157
57.0	70833 2-4 140 148 149	71999 2-4 146 153 155	73006 2-4 151 157 160	73135 2-8 153 158 160	73135 2-8 152 158 160
59.0	69660 2-4 141 148 149	70768 2-4 147 153 154	71725 2-4 153 157 160	72095 2-2 156 160 162	72095 2-2 156 160 162
60.0	69083 2-4 142 148 149	70163 2-4 148 153 154	71087 2-4 154 157 160	71301 2-2 156 159 161	71301 2-2 155 159 161
62.0	67916 2-4 144 148 149	68943 2-4 149 153 155	69712 2-2 155 157 159	69712 2-2 154 157 159	69712 2-2 152 157 159
63.0	67325 2-4 144 148 149	68322 2-4 150 153 155	68918 2-2 154 156 158	68918 2-2 153 156 158	68918 2-2 151 156 158
65.0	66157 2-4 146 148 150	67086 2-4 152 153 155	67330 2-2 153 155 156	67330 2-2 151 155 156	67330 2-2 150 155 156
66.0	65577 2-4 147 149 150	66473 2-4 153 153 155	66535 2-2 152 154 155	66535 2-2 150 154 155	66535 2-2 149 154 155
67.0	64981 2-4 148 149 150	65741 2-2 152 153 154	65741 2-2 150 153 154	65741 2-2 149 153 154	65741 2-2 147 153 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2235.(FT) QNH ALT. : 2547.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 26R - CONF 3



CONF 3 | PARIS, CHARLES DE GAULE | LFPG 26R

ELEVATION= 312.0(FT) | CODES LIMITATIONS | A320-214/AA/565B4IMP
T.O.R.A. = 4215.1(M) | 1-STRUCTURE 5-TYRE SPEED | JARA MC69 13-JUL-01
A.S.D.A. = 4275.1(M) | 2-2ND-SEGMENT 6-BRAKE ENERGY
T.O.D.A. = 4275.1(M) | 3-RUNWAY 7-RWY 2 ENGINES
SLOPE = .19(%) | 4-OBSTACLE 8-FINAL T.O.

QNH=1013.25 (MB)
GRAD1= 50/GRAD2= 400
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

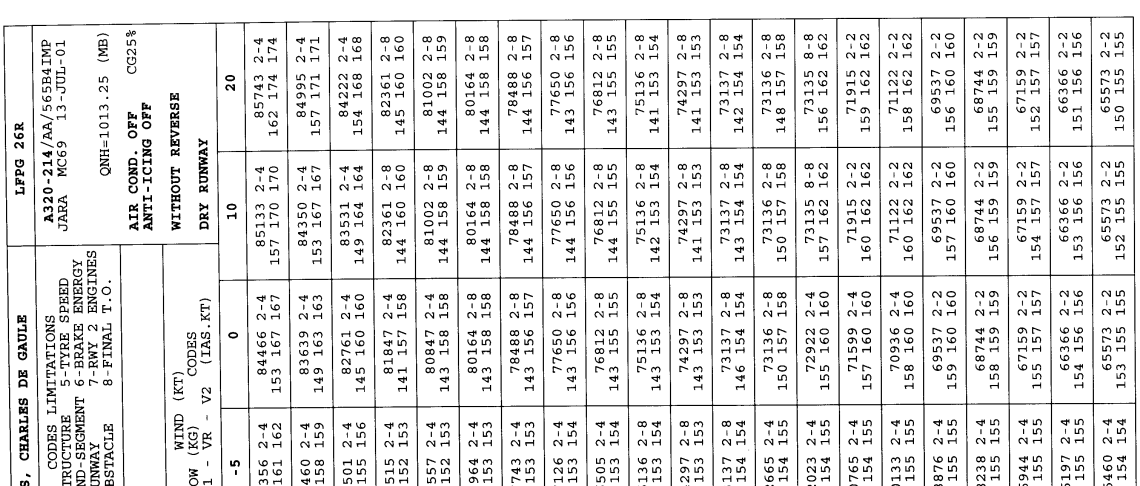
TREF = 43 DC
TMAX = 54 DC

WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE
DRY RUNWAY

WEIGHT 1000KG	-10	-5	0	10	20	TGA 2	TGA 3
77.0	.5 46 2-4 132 147 148	.1 49 2-4 140 153 154	.7 49 2-8 144 156 156	.7 49 2-8 144 156 156	.7 49 2-8 143 156 156	49	49
76.0	.4 48 2-4 134 147 148	.5 50 2-4 141 153 154	.8 50 2-8 143 155 155	.8 50 2-8 144 155 155	.8 50 2-8 143 155 155	50	50
74.0	.0 52 2-4 137 148 149	.3 53 2-8 142 153 153	.3 53 2-8 143 153 153	.3 53 2-8 141 153 153	.3 53 2-8 141 153 153	52	52
72.0	.2 55 2-4 139 149 150	.0 57 2-4 148 154 155	.3 58 2-4 156 160 160	.5 58 8-8 159 162 162	.5 58 8-8 158 162 162	54	54
70.0	.4 58 2-4 142 149 149	.1 60 2-4 150 155 155	.2 61 2-4 158 160 160	.3 61 2-2 159 161 161	.3 61 2-2 157 161 161	54	54
68.0	.6 61 2-4 144 149 149	.2 63 2-4 153 155 155	.7 63 2-2 158 159 159	.7 63 2-2 156 159 159	.7 63 2-2 155 159 159	54	54
66.0	.2 65 2-4 148 150 150	.2 66 2-4 155 155 155	.4 66 2-2 155 156 156	.4 66 2-2 153 156 156	.4 66 2-2 151 156 156	54	54
64.0	.9 67 2-4 150 150 150	1.5 67 2-4 154 154 154	1.6 67 2-2 153 155 155	1.6 67 2-2 152 155 155	1.6 67 2-2 150 155 155	54	54
62.0	.0 67 2 125 134 136	.0 67 2 124 134 136	.0 67 2 124 134 136	.0 67 2 124 134 136	.0 67 2 124 134 136	54	54
60.0	.0 67 2 120 126 127	.0 67 2 120 126 127	.0 67 2 120 126 127	.0 67 2 120 126 127	.0 67 2 120 126 127	54	54
58.0	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	54	54
56.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54	54
54.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54	54
52.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54	54
50.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54	54
45.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	54	54
40.0						54	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2217.(FT) QNH ALT. : 2529.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF 3 | PARIS, CHARLES DE GAULE | LFPG 26R

ELEVATION= 312.0(FT) | CODES LIMITATIONS | A320-214/AA/565B4IMP
T.O.R.A. = 4215.1(M) | 1-STRUCTURE 5-TYRE SPEED | JARA MC69 13-JUL-01
A.S.D.A. = 4275.1(M) | 2-2ND-SEGMENT 6-BRAKE ENERGY
T.O.D.A. = 4275.1(M) | 3-RUNWAY 7-RWY 2 ENGINES
SLOPE = .19(%) | 4-OBSTACLE 8-FINAL T.O.

QNH=1013.25 (MB)
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

MTOW (KG) CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE
DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	82079 2-4 140 156 156	83356 2-4 147 161 162	84466 2-4 153 167 167	85133 2-4 157 170 170	85743 2-4 162 174 174
13.0	81105 2-4 137 153 153	82460 2-4 143 158 159	83639 2-4 149 163 163	84350 2-4 153 167 167	84995 2-4 157 171 171
28.0	80099 2-4 133 150 150	81501 2-4 139 155 156	82761 2-4 145 160 160	83531 2-4 149 164 164	84222 2-4 154 168 168
43.4	79053 2-4 130 147 148	80515 2-4 136 152 153	81847 2-4 141 157 158	82361 2-8 144 160 160	82361 2-8 145 160 160
45.0	78122 2-4 131 147 148	79557 2-4 137 152 153	80847 2-4 143 158 158	81002 2-8 144 158 159	81002 2-8 144 158 159
46.0	77543 2-4 132 147 148	78964 2-4 138 153 153	80164 2-8 143 158 158	80164 2-8 144 158 158	80164 2-8 144 158 158
48.0	76382 2-4 134 147 148	77743 2-4 139 153 153	78488 2-8 143 156 157	78488 2-8 144 156 157	78488 2-8 144 156 157
49.0	75798 2-4 134 148 149	77126 2-4 140 153 154	77650 2-8 143 156 156	77650 2-8 144 156 156	77650 2-8 143 156 156
50.0	75214 2-4 135 148 149	76505 2-4 141 153 154	76812 2-8 143 155 155	76812 2-8 144 155 155	76812 2-8 143 155 155
52.0	74017 2-4 137 148 149	75136 2-8 142 153 154	75136 2-8 143 153 154	75136 2-8 142 153 154	75136 2-8 141 153 154
53.0	73407 2-4 137 149 149	74297 2-8 142 153 153	74297 2-8 143 153 153	74297 2-8 141 153 153	74297 2-8 141 153 153
55.0	72188 2-4 139 149 150	73137 2-8 145 154 154	73137 2-8 146 154 154	73137 2-8 143 154 154	73137 2-8 142 154 154
56.0	71566 2-4 140 149 150	72665 2-4 147 154 155	73136 2-8 150 157 158	73136 2-8 150 157 158	73136 2-8 148 157 158
57.0	70963 2-4 141 149 149	72023 2-4 148 154 155	72922 2-4 155 160 160	73135 8-8 157 162 162	73135 8-8 156 162 162
59.0	69751 2-4 143 149 149	70765 2-4 149 154 155	71599 2-4 157 160 160	71915 2-2 160 162 162	71915 2-2 159 162 162
60.0	69156 2-4 143 149 149	70133 2-4 150 155 155	70936 2-4 158 160 160	71122 2-2 160 162 162	71122 2-2 158 162 162
62.0	67966 2-4 145 149 149	68876 2-4 152 155 155	69537 2-2 159 160 160	69537 2-2 157 160 160	69537 2-2 156 160 160
63.0	67376 2-4 146 149 150	68238 2-4 153 155 155	68744 2-2 158 159 159	68744 2-2 156 159 159	68744 2-2 155 159 159
65.0	66170 2-4 148 150 150	66944 2-4 155 155 155	67159 2-2 155 157 157	67159 2-2 154 157 157	67159 2-2 152 157 157
66.0	65578 2-4 150 150 150	66197 2-4 155 155 155	66366 2-2 154 156 156	66366 2-2 153 156 156	66366 2-2 151 156 156
67.0	64922 2-4 150 150 150	65460 2-4 154 154 154	65573 2-2 153 155 155	65573 2-2 152 155 155	65573 2-2 150 155 155

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2217.(FT) QNH ALT. : 2529.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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PARIS CHARLES DE GAULLE (LFPG) - RWY 27 - CONF 1 + F

CONF1+F | **PARIS CHARLES DE GAULLE** | **LFPG 27**

ELEVATION= 388.0(FT)
T.O.R.A. = 3600.0(M)
A.S.D.A. = 3660.0(M)
T.O.D.A. = 3775.0(M)
SLOPE = -.14(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 08-JUN-01

QNH=1013.25 (MB)
GRAD1= 70/GRAD2= 300
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE
DRY RUNWAY

WEIGHT 1000KG	-10	-5	0	10	20	TGA
						2
						3
77.0	.0 27 4-4 135 152 152	.1 44 4-4 138 152 152	.2 48 2-4 145 154 154	.4 49 2-8 149 157 157	.4 49 2-8 150 157 157	49
76.0	.1 38 4-4 133 151 151	.3 46 4-4 139 152 152	.2 50 2-4 147 155 155	.6 50 2-8 149 157 157	.6 50 2-8 150 157 157	50
74.0	1.6 43 4-4 132 150 151	.2 51 4-4 142 150 150	.0 53 2-8 148 154 154	.0 53 2-8 149 154 154	.0 53 2-8 147 154 154	52
72.0	.3 51 4-4 137 148 148	.1 55 2-4 145 151 151	.2 57 2-4 152 157 157	.3 58 2-4 157 160 160	.3 59 2-4 162 163 163	54
70.0	.2 56 2-4 140 146 146	.4 58 2-4 147 152 152	.4 60 2-4 155 157 157	.5 61 2-4 160 161 161	.7 61 2-2 161 162 162	54
68.0	.1 60 2-4 143 147 147	.3 62 2-4 150 152 152	.1 64 2-4 158 158 158	.3 64 2-2 159 159 159	.3 64 2-2 158 159 159	54
66.0	.1 64 2-4 146 148 148	.6 65 2-4 153 153 153	.7 66 2-4 157 157 157	.7 66 2-2 156 157 157	.7 66 2-2 155 157 157	54
64.0	.5 67 2-4 148 149 149	1.3 67 2-4 153 153 153	1.9 67 2-4 156 156 156	1.9 67 2-2 155 156 156	1.9 67 2-2 154 156 156	54
62.0	.0 67 2 133 137 137	.0 67 2 130 137 137	.0 67 2 127 137 137	.0 67 2 127 137 137	.0 67 2 127 137 137	54
60.0	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	54
58.0	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	54
56.0	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	54
54.0	.0 67 121 127 128	.0 67 121 127 128	.0 67 121 127 128	.0 67 121 127 128	.0 67 121 127 128	54
52.0	.0 67 120 124 126	.0 67 120 124 126	.0 67 120 124 126	.0 67 120 124 126	.0 67 120 124 126	54
50.0	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	54
45.0	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	54
40.0	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2218.(FT) QNH ALT. : 2606.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F | **PARIS CHARLES DE GAULLE** | **LFPG 27**

ELEVATION= 388.0(FT)
T.O.R.A. = 3600.0(M)
A.S.D.A. = 3660.0(M)
T.O.D.A. = 3775.0(M)
SLOPE = -.14(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 08-JUN-01

QNH=1013.25 (MB)
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

MTOW (KG) WIND (KT) CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE
DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	79559 4-4 140 155 155	81590 2-4 145 157 157	82976 2-4 150 162 162	83829 2-4 154 165 165	84618 2-4 157 168 168
13.0	78241 4-4 137 153 153	80144 4-4 142 155 155	81905 2-4 147 159 159	82789 2-4 150 162 162	83615 2-4 154 165 165
28.0	76927 4-4 135 152 152	78762 4-4 140 154 154	80734 4-4 144 156 156	81766 2-4 147 159 159	82622 2-4 151 162 162
43.2	75593 4-4 132 150 151	77478 4-4 137 153 153	79336 4-4 142 155 155	80672 4-4 145 156 156	81616 2-4 148 159 159
45.0	74828 4-4 133 150 150	76692 4-4 138 152 152	78658 4-4 143 154 154	79781 2-4 146 157 157	80627 2-4 150 160 160
46.0	74400 4-4 134 149 150	76259 4-4 139 152 152	78280 4-4 144 154 154	79231 2-4 147 157 157	79909 2-8 150 159 159
47.0	73967 4-4 135 149 149	75817 4-4 140 151 151	77785 2-4 144 154 154	78691 2-4 148 157 157	79072 8-4 152 159 159
49.0	73099 4-4 136 148 148	75085 4-4 141 151 151	76712 2-4 146 155 155	77398 2-8 149 157 157	77398 2-8 150 157 157
50.0	72677 4-4 136 148 148	74717 4-4 141 150 150	76157 2-4 147 155 155	76561 2-8 149 157 157	76561 2-8 150 157 157
52.0	71905 4-4 138 147 147	73715 2-4 143 151 151	74886 2-8 148 155 155	74886 2-8 148 155 155	74886 2-8 148 155 155
53.0	71553 4-4 138 147 147	73173 2-4 143 151 151	74048 2-8 148 154 154	74048 2-8 148 154 154	74048 2-8 147 154 154
55.0	70725 2-4 139 146 146	72080 2-4 145 151 151	73015 2-8 149 155 155	73015 2-8 150 155 155	73015 2-8 149 155 155
56.0	70211 2-4 140 146 146	71535 2-4 146 151 151	72725 2-4 152 157 157	73014 2-8 154 158 158	73014 2-8 153 158 158
57.0	69693 2-4 141 146 146	70973 2-4 146 151 151	72154 2-4 152 157 157	72866 2-4 156 160 160	73013 2-8 158 161 161
59.0	68649 2-4 142 147 147	69895 2-4 148 152 152	71014 2-4 154 157 157	71677 2-4 158 160 160	72301 2-4 162 163 163
60.0	68130 2-4 143 147 147	69356 2-4 149 152 152	70426 2-4 155 157 157	71091 2-4 159 160 160	71512 2-2 162 163 163
62.0	67111 2-4 144 147 147	68262 2-4 150 152 152	69289 2-4 156 157 157	69901 2-4 161 161 161	69919 2-2 160 161 161
63.0	66582 2-4 145 147 147	67714 2-4 151 153 153	68697 2-4 157 158 158	69123 2-2 159 160 160	69123 2-2 158 160 160
64.0	66066 2-4 146 148 148	67163 2-4 152 153 153	68072 2-4 158 158 158	68324 2-2 158 159 159	68324 2-2 157 159 159
66.0	65024 2-4 148 148 148	65996 2-4 153 153 153	66659 2-4 157 157 157	66732 2-2 156 157 157	66732 2-2 155 157 157
67.0	64509 2-4 148 149 149	65310 2-4 153 153 153	65936 2-4 156 156 156	65936 2-2 155 156 156	65936 2-2 154 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2218.(FT) QNH ALT. : 2606.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 27 - CONF 2

CONF 2	PARIS CHARLES DE GAULLE	LFPG 27
ELEVATION= 388.0(FT) T.O.R.A. = 3600.0(M) A.S.D.A. = 3660.0(M) T.O.D.A. = 3775.0(M) SLOPE = -.14(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 70/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.1 42 4-4 131 144 146	.4 46 2-4 137 147 149	.0 49 2-4 145 152 155	.4 49 2-8 147 154 156	.4 49 2-8 49 148 154 156 49
76.0	1.0 43 4-4 131 144 146	.3 48 2-4 139 148 150	.4 50 2-4 146 153 155	.6 50 2-8 147 153 156	.6 50 2-8 50 147 153 156 50
74.0	.3 49 2-4 134 143 145	.0 52 2-4 142 149 151	.0 53 2-8 146 151 153	.0 53 2-8 146 151 153	.0 53 2-8 52 144 151 153 52
72.0	.1 53 2-4 137 144 146	.2 55 2-4 144 149 151	.1 57 2-4 151 154 156	.2 58 2-4 156 157 160	.5 58 2-8 54 158 159 161 54
70.0	.4 56 2-4 139 144 146	.5 58 2-4 146 149 151	.3 60 2-4 154 154 156	.1 61 2-4 156 156 158	.3 61 2-2 54 157 157 160 54
68.0	.2 60 2-4 142 144 146	.1 62 2-4 149 149 151	.2 63 2-4 153 153 155	.6 63 2-4 155 155 157	.7 63 2-2 54 155 156 158 54
66.0	.5 63 2-4 144 145 146	.0 65 2-4 148 148 150	.0 66 2-4 151 151 153	.3 66 2-2 153 153 155	.3 66 2-2 54 152 153 155 54
64.0	.6 66 2-4 144 144 145	.6 67 2-4 147 147 149	1.3 67 2-4 151 151 152	1.5 67 2-2 152 153 154	1.5 67 2-2 54 151 153 154 54
62.0	1.9 67 2-4 144 144 145	.0 67 2 129 135 137	.0 67 2 125 135 137	.0 67 2 125 135 137	.0 67 2 54 125 135 137 54
60.0	.0 67 121 128 129	.0 67 121 128 129	.0 67 121 128 129	.0 67 121 128 129	.0 67 54 121 128 129 54
58.0	.0 67 119 125 127	.0 67 119 125 127	.0 67 119 125 127	.0 67 119 125 127	.0 67 54 119 125 127 54
56.0	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 54 118 123 125 54
54.0	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 54 117 120 123 54
52.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 54 116 118 121 54
50.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 54 116 118 121 54
45.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 54 116 118 121 54
40.0	.0 67 116 118 122	.0 67 116 118 122	.0 67 116 118 122	.0 67 116 118 122	.0 67 54 116 118 122 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2179.(FT) QNH ALT. : 2567.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2	PARIS CHARLES DE GAULLE	LFPG 27
ELEVATION= 388.0(FT) T.O.R.A. = 3600.0(M) A.S.D.A. = 3660.0(M) T.O.D.A. = 3775.0(M) SLOPE = -.14(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-2.0	80644 2-4 139 150 153	82047 2-4 145 155 157	83326 2-4 150 159 162	84167 2-4 154 163 166	84944 2-4 157 166 169
13.0	79590 2-4 136 147 150	81006 2-4 141 152 154	82327 2-4 146 156 159	83210 2-4 150 160 162	84026 2-4 154 163 166
28.0	78336 4-4 133 145 148	79986 2-4 138 149 151	81332 2-4 143 154 156	82245 2-4 147 157 159	83092 2-4 150 160 163
43.2	76941 4-4 131 144 146	78966 2-4 135 147 149	80330 2-4 140 151 153	81274 2-4 144 154 157	82171 2-4 147 157 160
45.0	76212 4-4 132 144 146	77980 2-4 137 147 149	79327 2-4 142 151 154	80252 2-4 145 155 157	80745 2-8 148 157 159
46.0	75795 4-4 132 143 145	77421 2-4 137 147 149	78773 2-4 142 152 154	79677 2-4 146 155 157	79909 2-8 148 156 158
47.0	75375 4-4 133 143 145	76865 2-4 138 147 149	78186 2-4 143 152 154	79072 8-4 147 155 158	79072 2-8 148 155 158
49.0	74338 2-4 134 143 145	75729 2-4 140 148 150	77022 2-4 145 152 155	77398 2-8 147 154 156	77398 2-8 147 154 156
50.0	73786 2-4 135 143 145	75176 2-4 140 148 150	76439 2-4 146 153 155	76561 2-8 147 153 156	76561 2-8 146 153 156
52.0	72673 2-4 136 144 146	74009 2-4 142 149 151	74886 2-8 146 152 154	74886 2-8 146 152 154	74886 2-8 145 152 154
53.0	72109 2-4 137 144 146	73420 2-4 143 149 151	74048 2-8 146 151 153	74048 2-8 145 151 153	74048 2-8 143 151 153
55.0	70971 2-4 139 144 146	72231 2-4 144 149 151	73015 2-8 148 152 155	73015 2-8 148 152 155	73015 2-8 146 152 155
56.0	70411 2-4 139 144 146	71643 2-4 145 149 151	72755 2-4 150 154 156	73014 2-8 152 155 157	73014 2-8 151 155 157
57.0	69840 2-4 140 144 146	71067 2-4 146 149 151	72144 2-4 151 154 156	72847 2-4 155 157 160	73013 2-8 156 158 161
59.0	68717 2-4 141 144 146	69896 2-4 147 149 151	70927 2-4 153 154 156	71581 2-4 157 157 160	71902 2-2 158 159 162
60.0	68169 2-4 142 144 146	69313 2-4 148 149 151	70326 2-4 154 154 156	70859 2-4 157 157 159	71107 2-2 157 158 161
62.0	67058 2-4 144 145 146	68143 2-4 149 149 151	68932 2-4 153 153 155	69349 2-4 156 156 158	69518 2-2 156 157 159
63.0	66512 2-4 144 145 146	67475 2-4 149 149 151	68193 2-4 153 153 155	68602 2-4 155 155 157	68723 2-2 155 156 158
64.0	65933 2-4 145 145 146	66748 2-4 149 149 150	67454 2-4 152 152 154	67868 2-4 155 155 157	67928 2-2 154 155 157
66.0	64555 2-4 144 144 145	65328 2-4 148 148 149	66007 2-4 151 151 153	66339 2-2 153 153 155	66339 2-2 152 153 155
67.0	63868 2-4 144 144 145	64623 2-4 147 147 149	65280 2-4 151 151 152	65544 2-2 152 153 154	65544 2-2 151 153 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2179.(FT) QNH ALT. : 2567.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 27 - CONF 3

CONF 3	PARIS CHARLES DE GAULLE	LFPG 27
ELEVATION= 388.0(FT) T.O.R.A. = 3600.0(M) A.S.D.A. = 3660.0(M) T.O.D.A. = 3775.0(M) SLOPE = -.14(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

WEIGHT 1000KG	-10	-5	0	10	20	TGA
						2
						3
77.0	.4 44 2-4 131 143 144	.2 47 2-4 139 148 149	.3 49 2-4 147 154 155	.4 49 2-8 149 155 156	.4 49 2-8 148 155 156	49
76.0	.3 46 2-4 132 143 145	.0 49 2-4 141 149 150	.6 50 2-8 147 154 155	.6 50 2-8 148 154 155	.6 50 2-8 147 154 155	50
74.0	.1 50 2-4 135 144 145	.2 52 2-4 143 150 151	.0 53 2-8 147 152 153	.0 53 2-8 146 152 153	.0 53 2-8 144 152 153	52
72.0	.4 53 2-4 138 144 146	.4 55 2-4 146 150 151	.2 57 2-4 154 156 157	.0 58 2-4 159 159 160	.3 58 2-8 161 161 162	54
70.0	.0 57 2-4 141 145 146	.6 58 2-4 148 151 151	.2 60 2-4 155 155 156	.5 60 2-4 158 158 158	.1 61 2-4 160 160 160	54
68.0	.3 60 2-4 143 145 146	.0 62 2-4 150 150 151	.7 62 2-4 154 154 154	.3 63 2-4 156 156 156	.6 63 2-2 158 158 158	54
66.0	.5 63 2-4 145 145 146	.6 64 2-4 149 149 149	.4 65 2-4 152 152 153	.0 66 2-4 154 154 154	.2 66 2-2 155 156 156	54
64.0	.4 66 2-4 144 144 145	.4 67 2-4 147 147 148	1.0 67 2-4 151 151 151	1.3 67 2-4 154 154 154	1.4 67 2-2 154 155 155	54
62.0	1.7 67 2-4 143 143 144	.0 67 2 128 134 136	.0 67 2 124 134 136	.0 67 2 124 134 136	.0 67 2 124 134 136	54
60.0	.0 67 2 120 126 128	.0 67 2 120 126 128	.0 67 2 120 126 128	.0 67 2 120 126 128	.0 67 2 120 126 128	54
58.0	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	54
56.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54
54.0	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	54
52.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	54
50.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	54
45.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	54
40.0						54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2141.(FT) QNH ALT. : 2529.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3	PARIS CHARLES DE GAULLE	LFPG 27
ELEVATION= 388.0(FT) T.O.R.A. = 3600.0(M) A.S.D.A. = 3660.0(M) T.O.D.A. = 3775.0(M) SLOPE = -.14(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	80982 2-4 141 152 153	82328 2-4 147 157 158	83537 2-4 153 162 163	84286 2-4 157 166 166	84944 2-4 162 169 169
13.0	79944 2-4 137 148 150	81372 2-4 143 154 155	82633 2-4 149 159 159	83424 2-4 153 163 163	84141 2-4 158 166 166
28.0	78880 2-4 134 145 147	80356 2-4 139 151 152	81690 2-4 145 156 156	82534 2-4 150 159 160	83312 2-4 154 163 163
43.2	77804 2-4 131 142 144	79332 2-4 136 148 149	80718 2-4 142 153 153	81615 2-4 146 156 157	82231 2-8 149 159 159
45.0	76844 2-4 132 143 144	78324 2-4 137 148 149	79696 2-4 143 153 154	80547 2-4 148 157 157	80745 2-8 149 158 158
46.0	76290 2-4 132 143 145	77762 2-4 138 148 149	79095 2-4 144 154 154	79909 2-4 148 157 158	79909 2-8 149 157 158
47.0	75742 2-4 133 143 145	77170 2-4 139 148 149	78506 2-4 145 154 154	79072 2-4 148 156 157	79072 2-8 149 156 157
49.0	74619 2-4 135 143 145	76025 2-4 141 149 150	77276 2-4 147 154 155	77398 2-4 148 155 156	77398 2-8 148 155 156
50.0	74070 2-4 135 144 145	75422 2-4 141 149 150	76561 2-8 147 154 155	76561 2-8 148 154 155	76561 2-8 147 154 155
52.0	72938 2-4 137 144 146	74229 2-4 143 150 151	74886 2-8 147 153 154	74886 2-8 147 153 154	74886 2-8 145 153 154
53.0	72359 2-4 138 144 146	73619 2-4 144 150 151	74048 2-8 147 152 153	74048 2-8 146 152 153	74048 2-8 144 152 153
55.0	71193 2-4 139 145 146	72399 2-4 146 150 151	73015 2-8 150 154 154	73015 2-8 149 154 154	73015 2-8 147 154 154
56.0	70619 2-4 140 145 146	71789 2-4 147 150 151	72815 2-4 153 156 157	73014 2-8 155 157 158	73014 2-8 153 157 158
57.0	70047 2-4 141 145 146	71191 2-4 147 150 151	72187 2-4 154 156 157	72758 2-4 159 160 160	73013 2-8 161 162 162
59.0	68911 2-4 143 145 146	69989 2-4 149 151 151	70928 2-4 156 156 157	71301 2-4 159 159 159	71632 2-4 161 161 161
60.0	68341 2-4 143 145 146	69392 2-4 150 151 151	70163 2-4 155 155 156	70533 2-4 158 158 158	70858 2-4 161 161 161
62.0	67215 2-4 145 145 147	68015 2-4 150 150 151	68652 2-4 154 154 154	69011 2-4 157 157 157	69326 2-4 159 159 159
63.0	66544 2-4 145 145 146	67286 2-4 149 149 150	67905 2-4 153 153 154	68256 2-4 156 156 156	68550 2-2 158 158 158
64.0	65839 2-4 145 145 146	66552 2-4 149 149 149	67158 2-4 153 153 153	67507 2-4 155 155 156	67757 2-2 157 157 157
66.0	64429 2-4 144 144 145	65122 2-4 148 148 148	65699 2-4 152 152 152	66019 2-4 154 154 154	66171 2-2 155 156 156
67.0	63731 2-4 143 143 144	64405 2-4 147 147 148	64969 2-4 151 151 151	65278 2-4 154 154 154	65378 2-2 154 155 155

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2141.(FT) QNH ALT. : 2529.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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FRANKFURT (EDDF) - RWY 18 - CONF 1 + F

CONF1+F	FRANKFURT	EDDF 18
ELEVATION= 325.0(FT) T.O.R.A. = 3970.0(M) A.S.D.A. = 3970.0(M) T.O.D.A. = 3970.0(M) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
DEPARTURE ONLY RWY NOT AVAILABLE FOR LANDING	WIND (KT) WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA
TREF = 43 DC TMAX = 54 DC		**DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.0 39 4-4 132 152 152	.1 46 4-4 138 153 153	.1 49 2-4 146 156 156	.6 49 2-8 147 158 158	.6 49 2-8 49 147 158 158 49
76.0	.7 43 4-4 131 152 152	.0 48 4-4 140 152 152	.6 50 2-4 146 156 156	.8 50 2-8 147 157 157	.8 50 2-8 50 147 157 157 50
74.0	.3 48 4-4 135 150 150	.4 51 4-4 142 151 151	.3 53 2-8 147 155 155	.3 53 2-8 144 155 155	.3 53 2-8 52 144 155 155 52
72.0	.2 52 4-4 137 148 148	.3 55 2-4 145 152 152	.5 57 2-4 152 158 158	.1 59 2-4 158 162 162	.5 59 2-2 54 161 164 164 54
70.0	.1 56 4-4 140 147 147	.1 59 2-4 148 152 152	.2 61 2-4 155 158 158	.1 62 2-2 160 161 161	.1 62 2-2 54 158 161 161 54
68.0	.1 60 2-4 143 146 146	.4 62 2-4 150 153 153	.3 64 2-4 158 159 159	.5 64 2-2 158 159 159	.5 64 2-2 54 156 159 159 54
66.0	.0 64 2-4 146 147 147	.2 66 2-4 154 154 154	.1 67 2-2 156 157 157	.1 67 2-2 154 157 157	.1 67 2-2 54 153 157 157 54
64.0	.4 67 4-4 149 149 149	1.5 67 2-4 153 153 153	.0 67 2 139 146 146	.0 67 2 137 146 146	.0 67 2 54 135 146 146 54
62.0	.0 67 133 137 137	.0 67 129 137 137	.0 67 127 137 137	.0 67 127 137 137	.0 67 54 127 137 137 54
60.0	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	.0 67 54 125 135 135 54
58.0	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 54 124 132 133 54
56.0	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 54 123 130 131 54
54.0	.0 67 121 127 128	.0 67 121 127 128	.0 67 121 127 128	.0 67 121 127 128	.0 67 54 121 127 128 54
52.0	.0 67 120 124 126	.0 67 120 124 126	.0 67 120 124 126	.0 67 120 124 126	.0 67 54 120 124 126 54
50.0	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 54 119 122 124 54
45.0	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 54 118 120 123 54
40.0	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 54 118 120 123 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1125.(FT)
/MAXI. ACCELERATION HEIGHT : 2237.(FT) QNH ALT. : 2562.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	FRANKFURT	EDDF 18
ELEVATION= 325.0(FT) T.O.R.A. = 3970.0(M) A.S.D.A. = 3970.0(M) T.O.D.A. = 3970.0(M) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-06-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
DEPARTURE ONLY RWY NOT AVAILABLE FOR LANDING	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	**WITHOUT REVERSE**
TREF = 43 DC TMAX = 54 DC		**DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-2.0	80008 4-4 140 156 156	81736 4-4 145 159 159	83369 2-4 150 163 163	84331 2-4 153 167 167	85206 2-4 157 170 170
13.0	78905 4-4 137 154 154	80636 4-4 142 156 156	82317 2-4 147 160 160	83325 2-4 150 164 164	84231 2-4 153 167 167
28.0	77805 4-4 134 153 153	79557 4-4 139 155 155	81253 2-4 144 157 157	82309 2-4 147 161 161	83257 2-4 150 164 164
43.3	76698 4-4 131 152 152	78454 4-4 136 154 154	80184 4-4 141 156 156	81277 2-4 144 158 158	82263 2-4 147 161 161
45.0	75833 4-4 132 151 151	77593 4-4 138 153 153	79311 4-4 142 155 155	80379 2-4 146 158 158	80958 2-8 147 160 160
46.0	75307 4-4 133 150 150	77066 4-4 138 153 153	78770 2-4 143 155 155	79811 2-4 147 159 159	80120 2-8 147 160 160
48.0	74268 4-4 135 150 150	76016 4-4 140 152 152	77690 2-4 145 156 156	78445 2-8 147 158 158	78445 2-8 147 158 158
49.0	73753 4-4 135 149 149	75488 4-4 141 151 151	77138 2-4 146 156 156	77607 2-8 147 158 158	77607 2-8 147 158 158
50.0	73241 4-4 136 149 149	74959 4-4 141 151 151	76574 2-4 146 156 156	76769 2-8 147 157 157	76769 2-8 147 157 157
52.0	72203 4-4 137 148 148	73896 4-4 143 151 151	75093 2-8 147 155 155	75093 2-8 147 155 155	75093 2-8 145 155 155
53.0	71681 4-4 138 148 148	73359 2-4 143 151 151	74254 2-8 147 155 155	74254 2-8 147 155 155	74254 2-8 144 155 155
55.0	70629 4-4 140 147 147	72259 2-4 145 152 152	73116 2-8 148 155 155	73116 2-8 148 155 155	73116 2-8 145 155 155
56.0	70105 4-4 140 147 147	71712 2-4 146 152 152	73088 2-4 151 158 158	73115 2-8 152 158 158	73115 2-8 151 158 158
57.0	69587 4-4 141 147 147	71160 2-4 146 152 152	72501 2-4 152 158 158	73114 2-8 155 161 161	73114 2-8 156 161 161
59.0	68572 2-4 142 146 146	70067 2-4 148 152 152	71343 2-4 154 158 158	72074 2-4 158 162 162	72472 2-2 160 164 164
60.0	68063 2-4 143 146 146	69525 2-4 149 152 152	70752 2-4 155 158 158	71465 2-4 159 162 162	71675 2-2 160 163 163
62.0	67063 2-4 145 147 147	68427 2-4 150 153 153	69593 2-4 156 158 158	70083 2-2 159 161 161	70083 2-2 158 161 161
63.0	66553 2-4 145 147 147	67889 2-4 151 153 153	69006 2-4 157 159 159	69287 2-2 158 160 160	69287 2-2 157 160 160
65.0	65540 2-4 147 147 147	66777 2-4 153 153 153	67693 2-2 158 158 158	67693 2-2 156 158 158	67693 2-2 155 158 158
66.0	65014 4-4 148 148 148	66223 2-4 154 154 154	66897 2-2 157 158 158	66897 2-2 155 158 158	66897 2-2 154 158 158
67.0	64434 4-4 149 149 149	65524 2-4 153 153 153	66101 2-2 156 157 157	66101 2-2 154 157 157	66101 2-2 153 157 157

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1125.(FT)
/MAXI. ACCELERATION HEIGHT : 2237.(FT) QNH ALT. : 2562.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

FRANKFURT (EDDF) - RWY 18 - CONF 2

CONF 2	FRANKFURT	EDDF 18
ELEVATION= 325.0(FT) T.O.R.A. = 3970.0(M) A.S.D.A. = 3970.0(M) T.O.D.A. = 3970.0(M) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 AIR COND. OFF CG25% ANTI-ICING OFF
DEPARTURE ONLY RWY NOT AVAILABLE FOR LANDING	WIND (KT) WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC		DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 44 4-4 131 145 147	.1 47 4-4 138 148 150	.5 49 2-4 144 154 156	.6 49 2-8 145 154 157	.6 49 2-8 145 154 157	49
76.0	.5 45 4-4 132 145 147	.5 48 2-4 139 148 150	.8 50 2-8 145 154 156	.8 50 2-8 145 154 156	.8 50 2-8 144 154 156	50
74.0	.2 49 4-4 135 145 147	.2 52 2-4 142 149 151	.3 53 2-8 145 152 154	.3 53 2-8 144 152 154	.3 53 2-8 141 152 154	52
72.0	.6 52 4-4 137 144 146	.4 55 2-4 144 150 151	.5 57 2-4 151 155 157	.5 58 2-8 156 158 161	.1 59 2-2 157 159 162	54
70.0	.3 56 4-4 140 144 145	.1 59 2-4 147 149 151	.0 61 2-4 154 155 157	.5 61 2-2 157 158 160	.5 61 2-2 155 158 160	54
68.0	.1 60 2-4 143 144 145	.3 62 2-4 149 150 152	.7 63 2-4 155 155 157	.1 64 2-2 154 155 157	.1 64 2-2 152 155 157	54
66.0	.5 63 4-4 145 145 146	.3 65 4-4 149 149 150	.5 66 2-4 154 154 155	.5 66 2-2 152 154 155	.5 66 2-2 150 154 155	54
64.0	.5 66 4-4 147 147 148	.8 67 2-4 148 148 149	1.7 67 2-2 153 153 154	1.7 67 2-2 151 153 154	1.7 67 2-2 149 153 154	54
62.0	1.8 67 4-4 146 146 147	.0 67 2 127 135 136	.0 67 2 125 135 136	.0 67 2 125 135 136	.0 67 2 125 135 136	54
60.0	.0 67 121 128 129	.0 67 121 128 129	.0 67 121 128 129	.0 67 121 128 129	.0 67 121 128 129	54
58.0	.0 67 120 125 127	.0 67 120 125 127	.0 67 120 125 127	.0 67 120 125 127	.0 67 120 125 127	54
56.0	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	54
54.0	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	54
52.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54
50.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54
45.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54
40.0	.0 67 116 118 122	.0 67 116 118 122	.0 67 116 118 122	.0 67 116 118 122	.0 67 116 118 122	54

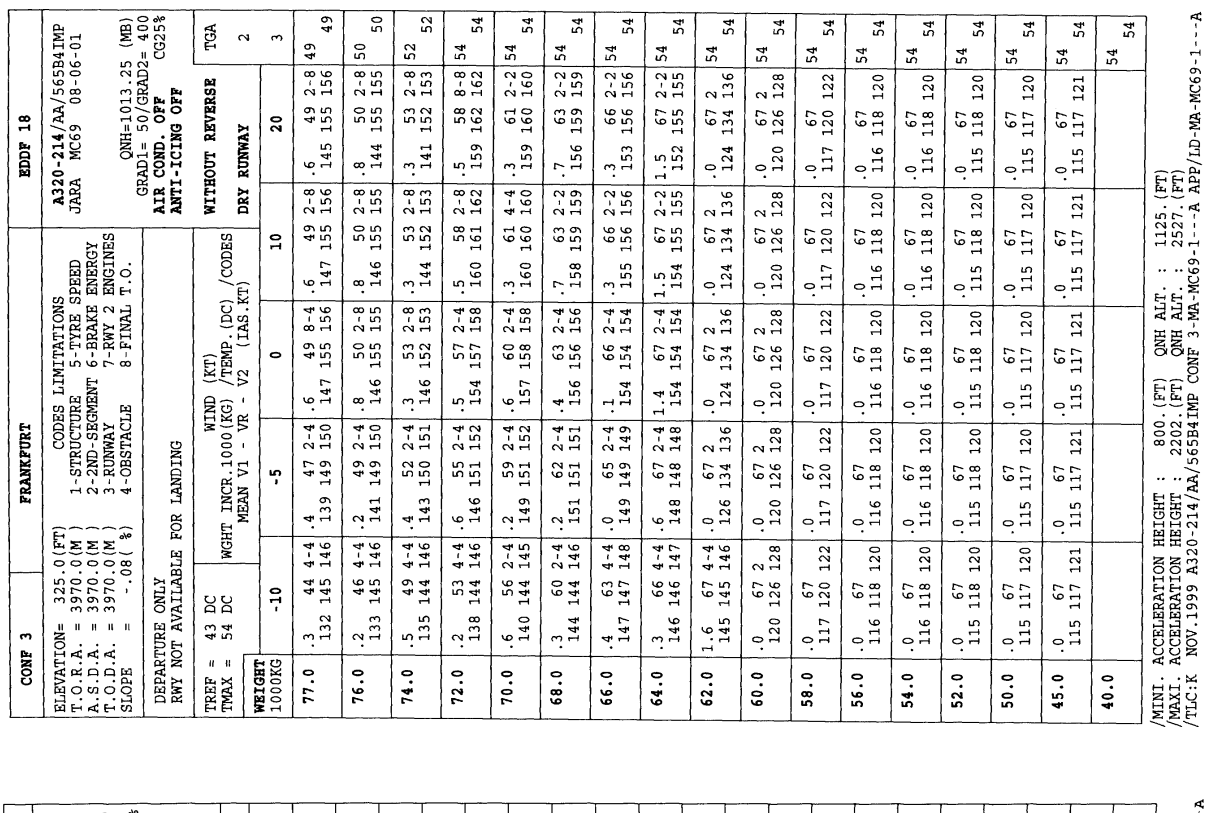
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1125.(FT)
/MAXI. ACCELERATION HEIGHT : 2229.(FT) QNH ALT. : 2554.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2	FRANKFURT	EDDF 18
ELEVATION= 325.0(FT) T.O.R.A. = 3970.0(M) A.S.D.A. = 3970.0(M) T.O.D.A. = 3970.0(M) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-06-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
DEPARTURE ONLY RWY NOT AVAILABLE FOR LANDING	WTOW (KG) MEAN V1 - VR - V2 CODES (IAS.KT)	WITHOUT REVERSE DRY RUNWAY
TREF = 43 DC TMAX = 54 DC		

OAT DC	-10	-5	0	10	20
-2.0	80462 4-4 140 151 154	82179 2-4 145 155 158	83709 2-4 150 161 164	84644 2-4 153 165 167	85506 2-4 157 169 171
13.0	79430 4-4 137 149 152	81140 4-4 141 153 155	82725 2-4 146 158 160	83710 2-4 149 162 164	84585 2-4 153 166 168
28.0	78400 4-4 134 147 150	80123 4-4 138 150 153	81727 2-4 143 155 157	82765 2-4 146 159 161	83704 2-4 150 163 165
43.3	77383 4-4 131 145 147	79101 4-4 135 148 150	80732 2-4 140 152 154	81809 2-4 143 156 158	82339 2-8 145 158 160
45.0	76460 4-4 132 145 147	78180 4-4 137 149 151	79795 2-4 141 153 155	80850 2-4 145 156 159	80958 2-8 145 157 159
46.0	75901 4-4 133 145 147	77620 4-4 137 148 150	79217 2-4 142 153 155	80120 8-4 146 156 159	80120 2-8 145 156 159
48.0	74785 4-4 134 145 147	76492 2-4 139 148 150	78052 2-4 144 153 156	78445 2-8 145 155 157	78445 2-8 145 155 157
49.0	74230 4-4 135 145 147	75924 2-4 140 148 150	77461 2-4 144 154 156	77607 2-8 145 154 157	77607 2-8 144 154 157
50.0	73673 4-4 135 144 146	75355 2-4 140 148 150	76769 2-8 145 154 156	76769 2-8 145 154 156	76769 2-8 144 154 156
52.0	72554 4-4 137 144 146	74201 2-4 142 149 151	75093 2-8 145 152 155	75093 2-8 144 152 155	75093 2-8 141 152 155
53.0	71995 4-4 138 144 146	73619 2-4 143 149 151	74254 2-8 145 152 154	74254 2-8 144 152 154	74254 2-8 141 152 154
55.0	70872 4-4 139 144 146	72430 2-4 144 150 151	73116 2-8 147 152 154	73116 2-8 145 152 154	73116 2-8 142 152 154
56.0	70313 4-4 140 144 145	71844 2-4 145 149 151	73114 2-4 150 155 157	73115 2-8 150 155 157	73115 2-8 148 155 157
57.0	69757 2-4 140 144 145	71262 2-4 146 149 151	72502 2-4 151 155 157	73114 2-8 154 158 160	73114 2-8 154 158 160
59.0	68660 2-4 142 144 145	70085 2-4 147 149 151	71260 2-4 153 155 157	71969 2-4 157 159 161	72062 2-2 157 159 162
60.0	68120 2-4 143 144 145	69503 2-4 148 150 151	70646 2-4 153 155 157	71268 2-2 157 158 161	71268 2-2 156 158 161
62.0	67034 2-4 144 144 146	68331 2-4 149 150 152	69410 2-4 155 155 157	69679 2-2 156 157 159	69679 2-2 154 157 159
63.0	66467 4-4 145 145 146	67716 2-4 150 150 152	68698 2-4 155 155 157	68885 2-2 155 156 158	68885 2-2 153 156 158
65.0	65192 4-4 146 146 148	66273 4-4 149 149 150	67220 2-4 154 154 156	67296 2-2 153 154 156	67296 2-2 151 154 156
66.0	64511 4-4 147 147 148	65557 2-4 148 148 150	66488 2-4 154 154 155	66502 2-2 152 154 155	66502 2-2 150 154 155
67.0	63819 4-4 146 146 147	64847 2-4 148 148 149	65707 2-2 152 153 154	65707 2-2 151 153 154	65707 2-2 149 153 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1125.(FT)
/MAXI. ACCELERATION HEIGHT : 2229.(FT) QNH ALT. : 2554.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

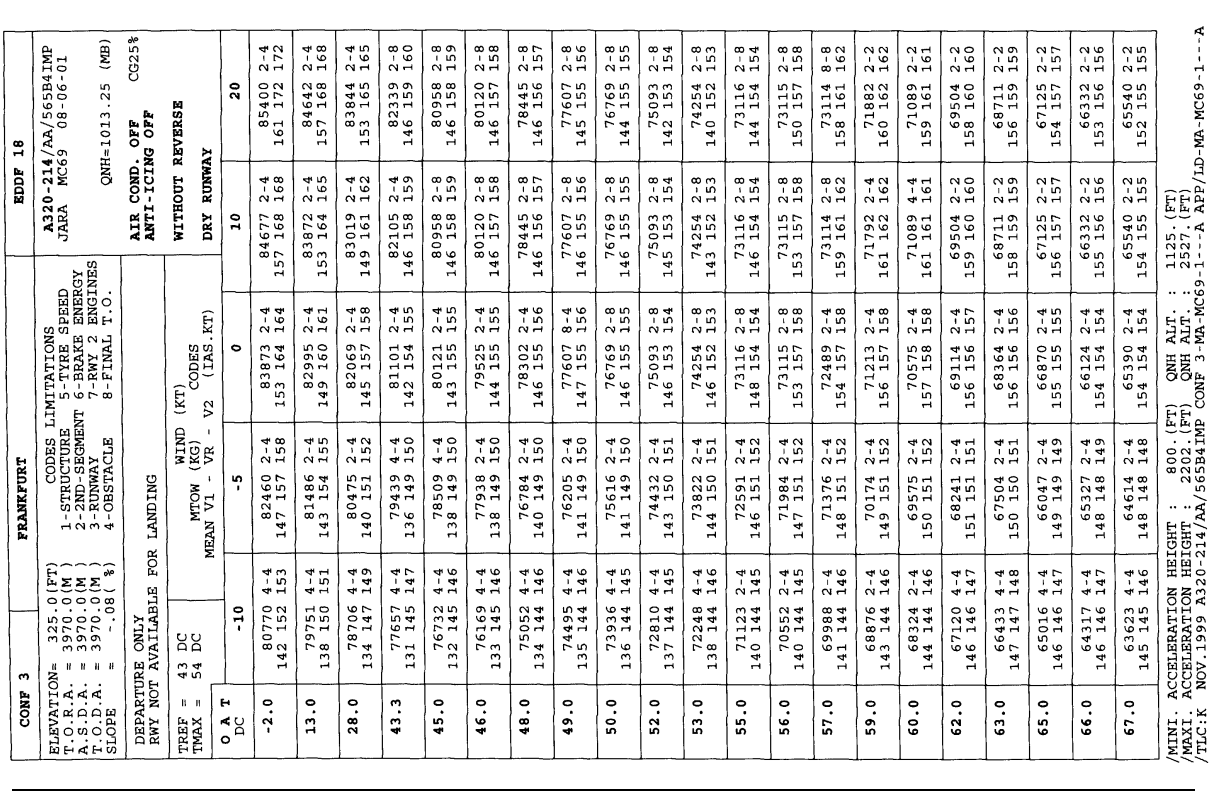
FRANKFURT (EDDF) - RWY 18 - CONF 3



CONF 3	FRANKFURT	EDDF 18
ELEVATION= 325.0(FT) T.O.R.A. = 3970.0(M) A.S.D.A. = 3970.0(M) T.O.D.A. = 3970.0(M) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 AIR COND. OFF CG25% ANTI-ICING OFF
DEPARTURE ONLY RWY NOT AVAILABLE FOR LANDING	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC		DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.3 44 4-4 132 145 146	.4 47 2-4 139 149 150	.6 49 8-4 147 155 156	.6 49 2-8 147 155 156	.6 49 2-8 49 145 155 156 49
76.0	.2 46 4-4 133 145 146	.2 49 2-4 141 149 150	.8 50 2-8 146 155 155	.8 50 2-8 146 155 155	.8 50 2-8 50 144 155 155 50
74.0	.5 49 4-4 135 144 146	.4 52 2-4 143 150 151	.3 53 2-8 146 152 153	.3 53 2-8 144 152 153	.3 53 2-8 52 141 152 153 52
72.0	.2 53 4-4 138 144 146	.6 55 2-4 146 151 152	.5 57 2-4 154 157 158	.5 58 2-8 160 161 162	.5 58 8-8 54 159 162 162 54
70.0	.6 56 2-4 140 144 145	.2 59 2-4 149 151 152	.6 60 2-4 157 158 158	.3 61 4-4 160 160 160	.3 61 2-2 54 159 160 160 54
68.0	.3 60 2-4 144 144 146	.2 62 2-4 151 151 151	.4 63 2-4 156 156 156	.7 63 2-2 158 159 159	.7 63 2-2 54 156 159 159 54
66.0	.4 63 4-4 147 147 148	.0 65 2-4 149 149 149	.1 66 2-4 154 154 154	.3 66 2-2 155 156 156	.3 66 2-2 54 153 156 156 54
64.0	.3 66 4-4 146 146 147	.6 67 2-4 148 148 148	1.4 67 2-4 154 154 154	1.5 67 2-2 154 155 155	1.5 67 2-2 54 152 155 155 54
62.0	1.6 67 4-4 145 145 146	.0 67 2 126 134 136	.0 67 2 124 134 136	.0 67 2 124 134 136	.0 67 2 54 124 134 136 54
60.0	.0 67 2 120 126 128	.0 67 2 120 126 128	.0 67 2 120 126 128	.0 67 2 120 126 128	.0 67 2 54 120 126 128 54
58.0	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 54 117 120 122 54
56.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 54 116 118 120 54
54.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 54 116 118 120 54
52.0	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 54 115 118 120 54
50.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 54 115 117 120 54
45.0	.0 67 115 117 121	.0 67 115 117 121	.0 67 115 117 121	.0 67 115 117 121	.0 67 54 115 117 121 54
40.0					54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1125.(FT)
/MAXI. ACCELERATION HEIGHT : 2202.(FT) QNH ALT. : 2527.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF 3	FRANKFURT	EDDF 18
ELEVATION= 325.0(FT) T.O.R.A. = 3970.0(M) A.S.D.A. = 3970.0(M) T.O.D.A. = 3970.0(M) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-06-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
DEPARTURE ONLY RWY NOT AVAILABLE FOR LANDING	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC		DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	80770 4-4 142 152 153	82460 2-4 147 157 158	83873 2-4 153 164 164	84677 2-4 157 168 168	85400 2-4 161 172 172
13.0	79751 4-4 138 150 151	81486 2-4 143 154 155	82995 2-4 149 160 161	83872 2-4 153 164 165	84642 2-4 157 168 168
28.0	78706 4-4 134 147 149	80475 2-4 140 151 152	82069 2-4 145 157 158	83019 2-4 149 161 162	83844 2-4 153 165 165
43.3	77657 4-4 131 145 147	79439 4-4 136 149 150	81101 2-4 142 154 155	82105 2-4 146 158 159	82339 2-8 146 159 160
45.0	76732 4-4 132 145 146	78509 4-4 138 149 150	80121 2-4 143 155 155	80958 2-8 146 158 159	80958 2-8 146 158 159
46.0	76169 4-4 133 145 146	77938 2-4 138 149 150	79525 2-4 144 155 155	80120 2-8 146 157 158	80120 2-8 146 157 158
48.0	75052 4-4 134 144 146	76784 2-4 140 149 150	78302 2-4 146 155 156	78445 2-8 146 156 157	78445 2-8 146 156 157
49.0	74495 4-4 135 144 146	76205 2-4 141 149 150	77607 8-4 147 155 156	77607 2-8 146 155 156	77607 2-8 145 155 156
50.0	73936 4-4 136 144 145	75616 2-4 141 149 150	76769 2-8 146 155 155	76769 2-8 146 155 155	76769 2-8 144 155 155
52.0	72810 4-4 137 144 145	74432 2-4 143 150 151	75093 2-8 146 153 154	75093 2-8 145 153 154	75093 2-8 142 153 154
53.0	72248 4-4 138 144 146	73822 2-4 144 150 151	74254 2-8 146 152 153	74254 2-8 143 152 153	74254 2-8 140 152 153
55.0	71123 2-4 140 144 145	72591 2-4 146 151 152	73116 2-8 148 154 154	73116 2-8 146 154 154	73116 2-8 144 154 154
56.0	70552 2-4 140 144 145	71984 2-4 147 151 152	73115 2-8 153 157 158	73115 2-8 153 157 158	73115 2-8 150 157 158
57.0	69988 2-4 141 144 146	71376 2-4 148 151 152	72489 2-4 154 157 158	73114 2-8 159 161 162	73114 8-8 158 161 162
59.0	68876 2-4 143 144 146	70174 2-4 149 151 152	71213 2-4 156 157 158	71792 2-4 161 162 162	71882 2-2 160 162 162
60.0	68324 2-4 144 144 146	69575 2-4 150 151 152	70575 2-4 157 158 158	71089 4-4 161 161 161	71089 2-2 159 161 161
62.0	67120 4-4 146 146 147	68241 2-4 151 151 151	69114 2-4 156 156 157	69504 2-2 159 160 160	69504 2-2 158 160 160
63.0	66433 4-4 147 147 148	67504 2-4 150 150 151	68364 2-4 156 156 156	68711 2-2 158 159 159	68711 2-2 156 159 159
65.0	65016 4-4 146 146 147	66047 2-4 149 149 149	66870 2-4 155 155 155	67125 2-2 156 157 157	67125 2-2 154 157 157
66.0	64317 4-4 146 146 147	65327 2-4 148 148 149	66124 2-4 154 154 154	66332 2-2 155 156 156	66332 2-2 153 156 156
67.0	63623 4-4 145 145 146	64614 2-4 148 148 148	65390 2-4 154 154 154	65540 2-2 154 155 155	65540 2-2 152 155 155

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1125.(FT)
/MAXI. ACCELERATION HEIGHT : 2202.(FT) QNH ALT. : 2527.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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LONDON HEATHROW (EGLL) - RWY 27L - CONF 1 + F

CONF1+F	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT)	CODES LIMITATIONS	A320-214/AA/565B4IMP
T.O.R.A. = 3658.0(M)	1-STRUCTURE 5-TYRE SPEED	JARA MC69 08-JUN-01
A.S.D.A. = 3658.0(M)	2-2ND-SEGMENT 6-BRAKE ENERGY	
T.O.D.A. = 3658.0(M)	3-RUNWAY 7-RWY 2 ENGINES	QNH=1013.25 (MB)
SLOPE = -.02(%)	4-OBSTACLE 8-FINAL T.O.	GRAD1= 60/GRAD2= 300
FOR TRAINING ONLY		AIR COND. OFF CG25%
		ANTI-ICING OFF

TREF = 44 DC
TMAX = 55 DC

MTOW (KG) WIND (KT)
MEAN V1 - VR - V2 CODES (IAS.KT)

WITHOUT REVERSE

O A T DC	-10	-5	0	10	20
-1.0	79396 4-4 142 154 155	81432 4-4 146 157 157	83004 2-4 151 161 161	83909 2-4 155 164 164	84725 2-4 158 168 168
14.0	77966 4-4 139 153 153	80019 4-4 143 155 155	81920 2-4 148 158 158	82858 2-4 151 161 161	83717 2-4 155 164 164
29.0	76595 4-4 136 151 152	78593 4-4 141 154 154	80645 4-4 145 156 156	81804 2-4 148 158 158	82690 2-4 152 161 161
43.8	75363 4-4 134 150 151	77262 4-4 139 152 152	79318 4-4 143 155 155	80648 4-4 146 156 156	81702 2-4 149 159 159
45.0	74840 4-4 134 150 150	76790 4-4 139 152 152	78864 4-4 144 154 154	80168 2-4 147 156 156	81086 2-4 150 159 159
47.0	73940 4-4 136 149 149	76000 4-4 140 151 151	78069 4-4 145 154 154	79099 2-4 148 157 157	79977 2-4 152 160 160
48.0	73539 4-4 136 149 149	75622 4-4 141 151 151	77622 2-4 146 154 154	78566 2-4 149 157 157	79274 2-8 152 160 160
49.0	73147 4-4 137 148 148	75240 4-4 142 151 151	77099 2-4 146 154 154	78017 2-4 150 157 157	78434 2-8 152 159 159
51.0	72383 4-4 138 148 148	74467 4-4 143 150 150	76012 2-4 148 155 155	76752 2-8 151 157 157	76752 2-8 152 157 157
52.0	72016 4-4 138 147 147	74050 2-4 143 150 150	75463 2-4 149 155 155	75911 2-8 151 157 157	75911 2-8 151 157 157
54.0	71277 4-4 139 147 147	72992 2-4 145 151 151	74228 2-8 150 155 155	74228 2-8 151 155 155	74228 2-8 149 155 155
55.0	70885 4-4 140 146 146	72448 2-4 145 151 151	73514 2-8 150 155 155	73514 2-8 150 155 155	73514 2-8 149 155 155
57.0	69979 2-4 141 146 146	71382 2-4 147 151 151	72639 2-4 153 156 156	73385 2-4 157 159 159	73513 2-8 157 160 160
58.0	69478 2-4 142 146 146	70855 2-4 148 151 151	72076 2-4 154 156 156	72802 2-4 158 160 160	73466 2-4 161 163 163
59.0	68986 2-4 143 146 146	70316 2-4 148 151 151	71518 2-4 154 156 156	72220 2-4 158 160 160	72876 2-4 162 163 163
61.0	67976 2-4 144 146 146	69255 2-4 150 152 152	70384 2-4 156 157 157	71063 2-4 160 160 160	71524 2-4 163 163 163
62.0	67481 2-4 145 146 146	68719 2-4 151 152 152	69810 2-4 157 157 157	70361 2-4 160 160 160	70728 2-2 161 162 162
64.0	66463 2-4 146 147 147	67632 2-4 152 152 152	68449 2-4 156 156 156	68922 2-4 159 159 159	69135 2-2 159 160 160
65.0	65954 2-4 147 147 147	66951 2-4 152 152 152	67738 2-4 156 156 156	68207 2-4 158 158 158	68340 2-2 158 159 159
66.0	65328 2-4 147 147 147	66260 2-4 151 151 151	67029 2-4 155 155 155	67492 2-4 158 158 158	67545 2-2 157 158 158
68.0	64006 2-4 146 146 146	64884 2-4 151 151 151	65631 2-4 155 155 155	65954 2-2 156 156 156	65954 2-2 155 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2216.(FT) QNH ALT. : 2293.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT)	CODES LIMITATIONS	A320-214/AA/565B4IMP
T.O.R.A. = 3658.0(M)	1-STRUCTURE 5-TYRE SPEED	JARA MC69 08-JUN-01
A.S.D.A. = 3658.0(M)	2-2ND-SEGMENT 6-BRAKE ENERGY	
T.O.D.A. = 3658.0(M)	3-RUNWAY 7-RWY 2 ENGINES	QNH=1013.25 (MB)
SLOPE = -.02(%)	4-OBSTACLE 8-FINAL T.O.	GRAD1= 60/GRAD2= 300
FOR TRAINING ONLY		AIR COND. OFF CG25%
		ANTI-ICING OFF

TREF = 44 DC
TMAX = 55 DC

WGHT INCR.1000(KG) WIND (KT)
MEAN V1 - VR - V2 /TEMP.(DC) /CODES (IAS.KT)

WITHOUT REVERSE

WEIGHT 1000KG	-10	-5	0	10	20	TGA
				DRY RUNWAY		2
						3
77.0	.1 24 4-4 137 152 152	.2 44 4-4 139 152 152	.1 49 2-4 146 154 154	.4 50 2-4 151 157 157	.6 50 2-8 152 158 158	50 50
76.0	.0 36 4-4 135 151 151	.0 47 4-4 140 151 151	.0 51 2-4 148 155 155	.8 51 2-8 151 157 157	.8 51 2-8 152 157 157	51 51
74.0	1.3 44 4-4 134 150 150	.1 52 2-4 143 150 150	.2 54 2-8 150 155 155	.2 54 2-8 151 155 155	.2 54 2-8 149 155 155	53 53
72.0	.0 52 4-4 138 147 147	.4 55 2-4 145 151 151	.1 58 2-4 154 156 156	.2 59 2-4 158 160 160	.2 60 2-4 163 163 163	55 55
70.0	.4 56 4-4 141 146 146	.3 59 2-4 148 151 151	.4 61 2-4 156 157 157	.4 62 2-4 160 160 160	.7 62 2-2 162 162 162	55 55
68.0	.5 60 2-4 143 146 146	.2 63 2-4 151 152 152	.4 64 2-4 156 156 156	.2 65 2-4 158 158 158	.3 65 2-2 158 159 159	55 55
66.0	.5 64 2-4 146 147 147	.3 66 2-4 151 151 151	.3 67 2-4 155 155 155	.7 67 2-4 157 157 157	.7 67 2-2 156 157 157	55 55
64.0	.0 68 2-4 146 146 146	.9 68 2-4 151 151 151	1.6 68 2-4 155 155 155	2.0 68 2-2 156 156 156	2.0 68 2-2 155 156 156	55 55
62.0	.0 68 2 134 138 138	.0 68 2 132 138 138	.0 68 2 129 138 138	.0 68 2 127 138 138	.0 68 2 127 138 138	55 55
60.0	.0 68 127 135 135	.0 68 125 135 135	.0 68 125 135 135	.0 68 125 135 135	.0 68 125 135 135	55 55
58.0	.0 68 124 132 133	.0 68 124 132 133	.0 68 124 132 133	.0 68 124 132 133	.0 68 124 132 133	55 55
56.0	.0 68 123 130 131	.0 68 123 130 131	.0 68 123 130 131	.0 68 123 130 131	.0 68 123 130 131	55 55
54.0	.0 68 122 127 128	.0 68 122 127 128	.0 68 122 127 128	.0 68 122 127 128	.0 68 122 127 128	55 55
52.0	.0 68 120 125 126	.0 68 120 125 126	.0 68 120 125 126	.0 68 120 125 126	.0 68 120 125 126	55 55
50.0	.0 68 119 122 124	.0 68 119 122 124	.0 68 119 122 124	.0 68 119 122 124	.0 68 119 122 124	55 55
45.0	.0 68 118 120 123	.0 68 118 120 123	.0 68 118 120 123	.0 68 118 120 123	.0 68 118 120 123	55 55
40.0	.0 68 118 120 123	.0 68 118 120 123	.0 68 118 120 123	.0 68 118 120 123	.0 68 118 120 123	55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2216.(FT) QNH ALT. : 2293.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

LONDON HEATHROW (EGLL) - RWY 27L - CONF 2

CONF 2 | **LONDON HEATHROW** | **EGLL 27L**

ELEVATION= 77.0(FT) — CODES LIMITATIONS — **A320-214**/AA/565B4IMP
T.O.R.A. = 3658.0(M) — 1-STRUCTURE 5-TYRE SPEED — JARA MC69 08-JUN-01
A.S.D.A. = 3658.0(M) — 2-2ND-SEGMENT 6-BRAKE ENERGY
T.O.D.A. = 3658.0(M) — 3-RUNWAY 7-RWY 2 ENGINES
SLOPE = -.02(%) — 4-OBSTACLE 8-FINAL T.O. — QNH=1013.25 (MB)
GRAD1= 60/GRAD2= 300
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 44 DC
TMAX = 55 DC

WGHT INCR.1000(KG) /TEMP.(DC) /CODES — WIND (KT) MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE — TGA
DRY RUNWAY — 2

WEIGHT 1000KG	-10	-5	0	10	20	3
77.0	.0 41 4-4 133 144 146	.1 47 2-4 139 146 148	.4 49 2-4 145 152 154	.5 50 2-4 149 155 157	.6 50 2-8 150 155 157	50 50
76.0	.7 44 4-4 132 144 146	.1 49 2-4 140 147 149	.3 51 2-4 147 152 154	.8 51 2-8 150 154 157	.8 51 2-8 149 154 157	51 51
74.0	.5 49 4-4 135 142 144	.4 52 2-4 142 148 150	.2 54 2-8 148 152 154	.2 54 2-8 148 152 154	.2 54 2-8 147 152 154	53 53
72.0	.4 53 2-4 138 143 145	.1 56 2-4 145 149 150	.0 58 2-4 152 153 156	.1 59 2-4 156 156 159	.5 59 2-4 159 159 161	55 55
70.0	.2 57 2-4 141 143 145	.3 59 2-4 148 149 150	.0 61 2-4 153 153 155	.5 61 2-4 155 155 157	.2 62 2-4 157 157 159	55 55
68.0	.5 60 2-4 143 144 145	.4 62 2-4 148 148 150	.6 63 2-4 152 152 153	.3 64 2-4 154 154 155	.7 64 2-4 156 156 158	55 55
66.0	.7 63 2-4 143 143 145	.3 65 2-4 147 147 148	.4 66 2-4 150 150 152	.1 67 2-4 152 152 154	.3 67 2-2 153 153 155	55 55
64.0	.6 66 2-4 142 142 143	.2 68 2-4 145 145 146	1.0 68 2-4 149 149 151	1.4 68 2-4 152 152 153	1.6 68 2-2 152 153 154	55 55
62.0	1.3 68 2-4 141 141 142	.0 68 2 130 135 137	.0 68 2 127 135 137	.0 68 2 125 135 137	.0 68 2 125 135 137	55 55
60.0	.0 68 121 128 129	.0 68 121 128 129	.0 68 121 128 129	.0 68 121 128 129	.0 68 121 128 129	55 55
58.0	.0 68 120 125 127	.0 68 120 125 127	.0 68 120 125 127	.0 68 120 125 127	.0 68 120 125 127	55 55
56.0	.0 68 118 123 125	.0 68 118 123 125	.0 68 118 123 125	.0 68 118 123 125	.0 68 118 123 125	55 55
54.0	.0 68 117 120 123	.0 68 117 120 123	.0 68 117 120 123	.0 68 117 120 123	.0 68 117 120 123	55 55
52.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
50.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
45.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
40.0						55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2182.(FT) QNH ALT. : 2259.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2 | **LONDON HEATHROW** | **EGLL 27L**

ELEVATION= 77.0(FT) — CODES LIMITATIONS — **A320-214**/AA/565B4IMP
T.O.R.A. = 3658.0(M) — 1-STRUCTURE 5-TYRE SPEED — JARA MC69 08-JUN-01
A.S.D.A. = 3658.0(M) — 2-2ND-SEGMENT 6-BRAKE ENERGY
T.O.D.A. = 3658.0(M) — 3-RUNWAY 7-RWY 2 ENGINES
SLOPE = -.02(%) — 4-OBSTACLE 8-FINAL T.O. — QNH=1013.25 (MB)
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 44 DC
TMAX = 55 DC

MTOW (KG) MEAN V1 - VR - V2 — WIND (KT) CODES (IAS.KT)

WITHOUT REVERSE
DRY RUNWAY

O A T DC	-10	-5	0	10	20
-1.0	80471 2-4 141 149 151	81966 2-4 146 154 156	83331 2-4 151 159 161	84223 2-4 154 162 165	85038 2-4 158 166 168
14.0	79369 4-4 137 146 149	80926 2-4 142 151 153	82305 2-4 147 156 158	83242 2-4 151 159 162	84088 2-4 154 163 165
29.0	78052 4-4 135 145 147	79890 2-4 139 148 150	81311 2-4 144 153 155	82269 2-4 148 156 159	83157 2-4 151 159 162
43.8	76753 4-4 132 144 146	78821 4-4 136 146 148	80327 2-4 141 150 152	81306 2-4 145 154 156	82235 2-4 148 157 159
45.0	76256 4-4 133 144 146	78257 2-4 137 146 148	79689 2-4 142 151 153	80667 2-4 146 154 156	81568 2-4 149 157 160
47.0	75394 4-4 134 143 145	77148 2-4 139 146 148	78564 2-4 144 151 153	79517 2-4 147 155 157	80115 2-8 150 157 159
48.0	74951 4-4 134 143 144	76600 2-4 139 147 149	77991 2-4 144 151 154	78935 2-4 148 155 157	79274 2-8 150 156 159
49.0	74511 4-4 135 142 144	76052 2-4 140 147 149	77414 2-4 145 152 154	78330 2-4 149 155 158	78434 2-8 150 155 158
51.0	73460 2-4 136 142 144	74932 2-4 142 147 149	76260 2-4 147 152 154	76752 2-8 149 154 157	76752 2-8 149 154 157
52.0	72919 2-4 137 143 144	74364 2-4 142 148 150	75659 2-4 148 153 155	75911 2-8 149 154 156	75911 2-8 148 154 156
54.0	71817 2-4 139 143 145	73206 2-4 144 148 150	74228 2-8 148 152 154	74228 2-8 148 152 154	74228 2-8 146 152 154
55.0	71272 2-4 139 143 145	72631 2-4 145 149 150	73514 2-8 148 152 154	73514 2-8 148 152 154	73514 2-8 146 152 154
57.0	70160 2-4 141 143 145	71480 2-4 146 148 150	72643 2-4 152 153 156	73389 2-4 156 157 159	73513 2-8 156 157 160
58.0	69609 2-4 141 143 145	70897 2-4 147 149 150	72046 2-4 152 153 156	72767 2-4 157 157 159	73283 2-4 160 160 162
59.0	69060 2-4 142 144 145	70338 2-4 148 149 150	71446 2-4 153 153 156	72053 2-4 156 156 159	72515 2-4 159 159 161
61.0	67991 2-4 143 144 145	69135 2-4 149 149 150	70029 2-4 153 153 155	70538 2-4 155 155 157	70990 2-4 158 158 160
62.0	67372 2-4 144 144 145	68409 2-4 148 148 150	69302 2-4 152 152 154	69802 2-4 155 155 157	70232 2-4 157 157 159
64.0	65979 2-4 143 143 144	66984 2-4 147 147 148	67837 2-4 151 151 153	68321 2-4 154 154 155	68727 2-4 156 156 158
65.0	65296 2-4 142 142 143	66281 2-4 147 147 148	67103 2-4 150 150 152	67576 2-4 153 153 155	67934 2-2 155 155 157
66.0	64618 2-4 142 142 143	65583 2-4 146 146 147	66393 2-4 150 150 152	66854 2-4 153 153 154	67141 2-2 153 154 156
68.0	63287 2-4 141 141 142	64190 2-4 145 145 146	64968 2-4 149 149 151	65404 2-4 152 152 153	65555 2-2 152 153 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2182.(FT) QNH ALT. : 2259.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

LONDON HEATHROW (EGLL) - RWY 27L - CONF 3

CONF 3	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. = 3658.0(M) A.S.D.A. = 3658.0(M) T.O.D.A. = 3658.0(M) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214/AA/565B4IMP** JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 44 DC TMAX = 55 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 45 2-4 133 141 143	.5 47 2-4 140 147 149	.1 50 2-4 148 154 155	.6 50 2-8 151 156 157	.6 50 2-8 151 156 157	50 50
76.0	.5 46 2-4 133 142 144	.4 49 2-4 141 148 149	.5 51 2-4 149 154 155	.8 51 2-8 151 155 156	.8 51 2-8 150 155 156	51 51
74.0	.3 50 2-4 136 142 144	.0 53 2-4 145 149 150	.2 54 2-8 150 153 154	.2 54 2-8 149 153 154	.2 54 2-8 147 153 154	53 53
72.0	.1 54 2-4 139 144 145	.2 56 2-4 147 150 151	.1 58 2-4 156 156 156	.6 58 2-4 158 158 159	.2 59 2-4 160 160 161	55 55
70.0	.4 57 2-4 141 144 145	.5 59 2-4 150 150 151	.6 60 2-4 154 154 154	.3 61 2-4 156 156 156	.6 61 2-4 159 159 159	55 55
68.0	.1 61 2-4 144 144 145	.3 62 2-4 148 148 149	.3 63 2-4 152 152 152	.0 64 2-4 154 154 155	.4 64 2-4 157 157 157	55 55
66.0	.7 63 2-4 143 143 144	.1 65 2-4 146 146 147	.2 66 2-4 150 150 151	.5 66 2-4 153 153 153	.1 67 2-4 155 155 155	55 55
64.0	.6 66 2-4 141 141 143	.0 68 2-4 145 145 146	.7 68 2-4 149 149 150	1.1 68 2-4 152 152 152	1.4 68 2-2 155 155 155	55 55
62.0	1.2 68 2-4 140 140 142	.0 68 2-4 129 135 136	.0 68 2-4 126 135 136	.0 68 2-4 124 135 136	.0 68 2-4 124 135 136	55 55
60.0	.0 68 2-4 120 126 128	.0 68 2-4 120 126 128	.0 68 2-4 120 126 128	.0 68 2-4 120 126 128	.0 68 2-4 120 126 128	55 55
58.0	.0 68 117 120 122	.0 68 117 120 122	.0 68 117 120 122	.0 68 117 120 122	.0 68 117 120 122	55 55
56.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
54.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
52.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
50.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
45.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
40.0						55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2139.(FT) QNH ALT. : 2216.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. = 3658.0(M) A.S.D.A. = 3658.0(M) T.O.D.A. = 3658.0(M) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214/AA/565B4IMP** JARA MC69 08-JUN-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 44 DC TMAX = 55 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
-1.0	80840 2-4 142 150 152	82299 2-4 148 156 157	83586 2-4 154 161 162	84360 2-4 158 165 165	85067 2-4 163 169 169
14.0	79797 2-4 138 147 149	81303 2-4 144 153 154	82674 2-4 150 158 159	83503 2-4 154 162 162	84263 2-4 159 166 166
29.0	78709 2-4 135 144 146	80282 2-4 141 150 151	81704 2-4 146 155 156	82593 2-4 151 159 159	83406 2-4 155 162 163
43.8	77649 2-4 132 141 143	79268 2-4 137 147 148	80738 2-4 143 152 153	81674 2-4 147 156 156	82525 2-4 151 160 160
45.0	77041 2-4 133 141 143	78622 2-4 138 147 148	80079 2-4 144 152 153	81000 2-4 148 156 157	81795 2-8 152 160 160
47.0	75950 2-4 134 142 144	77518 2-4 140 147 149	78922 2-4 146 153 154	79786 2-4 150 157 157	80115 2-8 152 158 159
48.0	75413 2-4 135 142 144	76941 2-4 140 148 149	78325 2-4 147 153 154	79187 2-4 151 157 158	79274 2-8 152 158 158
49.0	74877 2-4 135 142 144	76368 2-4 141 148 149	77720 2-4 147 154 154	78434 2-8 151 157 157	78434 2-8 152 157 157
51.0	73778 2-4 137 143 144	75215 2-4 143 148 150	76514 2-4 149 154 155	76752 2-8 151 155 156	76752 2-8 150 155 156
52.0	73226 2-4 138 143 145	74639 2-4 144 149 150	75888 2-4 150 154 155	75911 2-8 151 155 155	75911 2-8 149 155 155
54.0	72099 2-4 139 144 145	73447 2-4 145 149 150	74228 2-8 150 153 154	74228 2-8 149 153 154	74228 2-8 147 153 154
55.0	71542 2-4 140 144 145	72838 2-4 146 150 151	73514 2-8 150 153 154	73514 2-8 149 153 154	73514 2-8 147 153 154
57.0	70411 2-4 141 144 145	71653 2-4 148 150 151	72729 2-4 155 156 156	73329 2-4 159 159 160	73513 2-8 160 161 161
58.0	69855 2-4 142 144 145	71065 2-4 149 150 151	72090 2-4 156 156 156	72556 2-4 158 158 159	72955 2-4 161 161 161
59.0	69312 2-4 143 144 145	70475 2-4 150 150 151	71328 2-4 155 155 155	71785 2-4 158 158 158	72184 2-4 160 160 161
61.0	68081 2-4 144 144 145	69046 2-4 149 149 149	69814 2-4 153 153 154	70263 2-4 156 156 156	70642 2-4 159 159 159
62.0	67367 2-4 143 143 145	68304 2-4 148 148 149	69079 2-4 153 153 153	69501 2-4 156 156 156	69880 2-4 158 158 158
64.0	65961 2-4 142 142 144	66857 2-4 147 147 148	67607 2-4 151 151 152	68009 2-4 154 154 155	68371 2-4 157 157 157
65.0	65275 2-4 142 142 143	66145 2-4 146 146 147	66869 2-4 151 151 151	67280 2-4 154 154 154	67623 2-4 156 156 156
66.0	64588 2-4 141 141 143	65432 2-4 146 146 147	66153 2-4 150 150 151	66541 2-4 153 153 153	66884 2-4 156 156 156
68.0	63231 2-4 140 140 142	64034 2-4 145 145 146	64707 2-4 149 149 150	65085 2-4 152 152 152	65385 2-2 154 155 155

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2139.(FT) QNH ALT. : 2216.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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LONDON HEATHROW (EGLL) - RWY 27R - CONF 1 + F

CONF1+F — **LONDON HEATHROW** — **EGLL 27R**

ELEVATION= 77.0(FT)
T.O.R.A. = 3902.0(M)
A.S.D.A. = 3902.0(M)
T.O.D.A. = 3902.0(M)
SLOPE = .02(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 08-JUN-01

QNH=1013.25 (MB)
GRAD1= 60/GRAD2= 300
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 44 DC
TMAX = 55 DC

WGHT INCR.1000(KG) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE — TGA 2

WEIGHT 1000KG	-10	-5	0	10	20	DRY RUNWAY 3
77.0	.1 22 4-4 138 152 152	.1 44 4-4 139 152 152	.2 48 4-4 146 153 153	.2 50 2-4 151 157 157	.6 50 2-8 153 158 158	50 50
76.0	.1 34 4-4 136 151 151	.2 46 4-4 140 152 152	.2 50 2-4 148 153 153	.7 51 2-4 152 157 157	.8 51 2-8 153 157 157	51 51
74.0	1.1 44 4-4 134 150 150	.4 50 4-4 143 150 150	.0 54 2-4 151 154 154	.2 54 2-8 152 155 155	.2 54 2-8 150 155 155	53 53
72.0	.1 51 4-4 138 147 147	.5 54 2-4 146 149 149	.4 57 2-4 153 155 155	.0 59 2-4 159 159 159	.7 59 2-4 162 162 162	55 55
70.0	.2 55 4-4 141 146 146	.4 58 2-4 148 149 149	.6 60 2-4 155 155 155	.7 61 2-4 158 158 158	.5 62 2-4 161 161 161	55 55
68.0	.4 59 4-4 144 144 144	.2 62 4-4 152 152 152	.6 63 2-4 154 154 154	.5 64 2-4 157 157 157	.3 65 2-2 159 159 159	55 55
66.0	.2 63 4-4 147 147 147	.1 65 4-4 151 151 151	.5 66 2-4 152 152 152	.4 67 2-4 155 155 155	.7 67 2-2 157 157 157	55 55
64.0	.3 66 4-4 147 147 147	.1 68 4-4 149 149 149	1.1 68 2-4 152 152 152	1.7 68 2-4 155 155 155	2.0 68 2-2 156 156 156	55 55
62.0	1.0 68 4-4 147 147 147	.0 68 2 134 138 138	.0 68 2 131 138 138	.0 68 2 128 138 138	.0 68 2 127 138 138	55 55
60.0	.0 68 129 135 135	.0 68 125 135 135	.0 68 125 135 135	.0 68 125 135 135	.0 68 125 135 135	55 55
58.0	.0 68 124 132 133	.0 68 124 132 133	.0 68 124 132 133	.0 68 124 132 133	.0 68 124 132 133	55 55
56.0	.0 68 123 130 131	.0 68 123 130 131	.0 68 123 130 131	.0 68 123 130 131	.0 68 123 130 131	55 55
54.0	.0 68 122 127 128	.0 68 122 127 128	.0 68 122 127 128	.0 68 122 127 128	.0 68 122 127 128	55 55
52.0	.0 68 120 125 126	.0 68 120 125 126	.0 68 120 125 126	.0 68 120 125 126	.0 68 120 125 126	55 55
50.0	.0 68 119 122 124	.0 68 119 122 124	.0 68 119 122 124	.0 68 119 122 124	.0 68 119 122 124	55 55
45.0	.0 68 118 120 123	.0 68 118 120 123	.0 68 118 120 123	.0 68 118 120 123	.0 68 118 120 123	55 55
40.0	.0 68 118 120 123	.0 68 118 120 123	.0 68 118 120 123	.0 68 118 120 123	.0 68 118 120 123	55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2221.(FT) QNH ALT. : 2298.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F — **LONDON HEATHROW** — **EGLL 27R**

ELEVATION= 77.0(FT)
T.O.R.A. = 3902.0(M)
A.S.D.A. = 3902.0(M)
T.O.D.A. = 3902.0(M)
SLOPE = .02(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 08-JUN-01

QNH=1013.25 (MB)
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 44 DC
TMAX = 55 DC

MTOW (KG) WIND (KT) CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE

OAT DC	-10	-5	0	10	20	DRY RUNWAY
-1.0	78986 4-4 142 154 154	80875 4-4 147 156 156	82619 2-4 152 160 160	83632 2-4 155 163 163	84541 2-4 159 167 167	
14.0	77775 4-4 139 153 153	79665 4-4 144 155 155	81506 4-4 149 157 157	82574 2-4 152 160 160	83529 2-4 155 164 164	
29.0	76477 4-4 137 151 152	78438 4-4 141 154 154	80329 4-4 146 156 156	81511 2-4 149 157 157	82503 2-4 152 161 161	
43.8	75215 4-4 134 150 150	77208 4-4 139 152 152	79169 4-4 143 155 155	80396 4-4 146 156 156	81500 2-4 149 158 158	
45.0	74702 4-4 135 150 150	76694 4-4 140 152 152	78633 4-4 144 154 154	79849 4-4 147 156 156	80890 2-4 150 158 158	
47.0	73842 4-4 136 149 149	75799 4-4 141 151 151	77695 4-4 146 153 153	78829 2-4 149 156 156	79801 2-4 152 159 159	
48.0	73415 4-4 137 148 149	75343 4-4 141 151 151	77223 4-4 146 153 153	78305 2-4 150 156 156	79248 2-4 153 159 159	
49.0	72975 4-4 137 148 148	74883 4-4 142 150 150	76732 2-4 147 153 153	77754 2-4 150 156 156	78434 2-8 153 159 159	
51.0	72060 4-4 138 147 147	73959 4-4 143 149 149	75680 2-4 149 153 153	76656 2-4 152 157 157	76752 2-8 153 157 157	
52.0	71610 4-4 139 147 147	73488 4-4 144 149 149	75136 2-4 149 154 154	75911 2-8 152 157 157	75911 2-8 152 157 157	
54.0	70708 4-4 140 146 146	72505 2-4 146 149 149	74037 2-4 151 154 154	74228 2-8 152 155 155	74228 2-8 150 155 155	
55.0	70248 4-4 141 146 146	71986 2-4 146 149 149	73459 2-4 152 155 155	73514 2-8 152 155 155	73514 2-8 150 155 155	
57.0	69299 4-4 142 145 145	70958 2-4 148 149 149	72365 2-4 153 155 155	73206 2-4 157 159 159	73513 2-8 158 160 160	
58.0	68841 4-4 143 144 144	70436 2-4 148 149 149	71821 2-4 154 155 155	72631 2-4 158 159 159	73355 2-4 162 162 162	
59.0	68378 4-4 144 144 144	69923 2-4 149 150 150	71263 2-4 155 155 155	72047 2-4 159 159 159	72739 2-4 162 162 162	
61.0	67356 4-4 145 145 145	68801 4-4 151 151 151	69990 4-4 155 155 155	70666 2-4 158 158 158	71256 2-4 161 161 161	
62.0	66815 4-4 146 146 146	68153 4-4 152 152 152	69280 2-4 155 155 155	69947 2-4 158 158 158	70527 2-4 161 161 161	
64.0	65633 4-4 148 148 148	66778 4-4 151 151 151	67868 2-4 153 153 153	68514 2-4 157 157 157	69083 2-4 160 160 160	
65.0	64970 4-4 148 148 148	66098 4-4 151 151 151	67175 2-4 153 153 153	67800 2-4 156 156 156	68340 2-2 159 159 159	
66.0	64307 4-4 147 147 147	65423 4-4 150 150 150	66480 2-4 152 152 152	67092 2-4 156 156 156	67545 2-2 158 158 158	
68.0	62992 4-4 147 147 147	64080 4-4 149 149 149	65105 2-4 152 152 152	65688 2-4 155 155 155	65954 2-2 155 156 156	

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2221.(FT) QNH ALT. : 2298.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

LONDON HEATHROW (EGLL) - RWY 27R - CONF 2

CONF 2	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. = 3902.0(M) A.S.D.A. = 3902.0(M) T.O.D.A. = 3902.0(M) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 55 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	TGA
77.0	.1 34 4-4 135 144 146	.1 46 4-4 139 145 147	.1 49 2-4 146 151 153	.4 50 2-4 150 154 157	.6 50 2-8 151 155 157	50 50
76.0	.2 44 4-4 133 143 146	.0 48 2-4 140 145 147	.5 50 2-4 147 151 153	.8 51 2-8 151 154 157	.8 51 2-8 150 154 157	51 51
74.0	.2 48 4-4 135 142 144	.4 51 2-4 143 146 148	.2 54 2-4 150 152 154	.2 54 2-8 150 152 154	.2 54 2-8 148 152 154	53 53
72.0	.2 52 2-4 138 140 142	.2 55 2-4 145 147 149	.4 57 2-4 152 152 154	.4 58 2-4 155 155 157	.2 59 2-4 157 157 160	55 55
70.0	.0 56 2-4 141 141 143	.4 58 4-4 148 148 149	.2 60 4-4 151 151 152	.1 61 2-4 153 153 155	.7 61 2-4 156 156 158	55 55
68.0	.3 59 4-4 143 143 145	.3 61 4-4 147 147 149	.7 62 2-4 149 149 151	.6 63 2-4 152 152 154	.5 64 2-4 154 154 156	55 55
66.0	.3 62 4-4 144 144 146	.1 64 4-4 146 146 147	.6 65 2-4 148 148 149	.5 66 2-4 150 150 152	.3 67 2-4 153 153 155	55 55
64.0	.3 65 4-4 142 142 144	.1 67 4-4 144 144 145	.4 68 2-4 147 147 148	1.0 68 2-4 150 150 151	1.6 68 2-4 153 153 154	55 55
62.0	.3 68 4-4 141 141 142	1.4 68 4-4 144 144 145	.0 68 2 129 135 137	.0 68 2 127 135 137	.0 68 2 125 135 137	55 55
60.0	.0 68 124 128 129	.0 68 121 128 129	.0 68 121 128 129	.0 68 121 128 129	.0 68 121 128 129	55 55
58.0	.0 68 120 125 127	.0 68 120 125 127	.0 68 120 125 127	.0 68 120 125 127	.0 68 120 125 127	55 55
56.0	.0 68 118 123 125	.0 68 118 123 125	.0 68 118 123 125	.0 68 118 123 125	.0 68 118 123 125	55 55
54.0	.0 68 117 120 123	.0 68 117 120 123	.0 68 117 120 123	.0 68 117 120 123	.0 68 117 120 123	55 55
52.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
50.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
45.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
40.0	.0 68 116 118 122	.0 68 116 118 122	.0 68 116 118 122	.0 68 116 118 122	.0 68 116 118 122	55 55

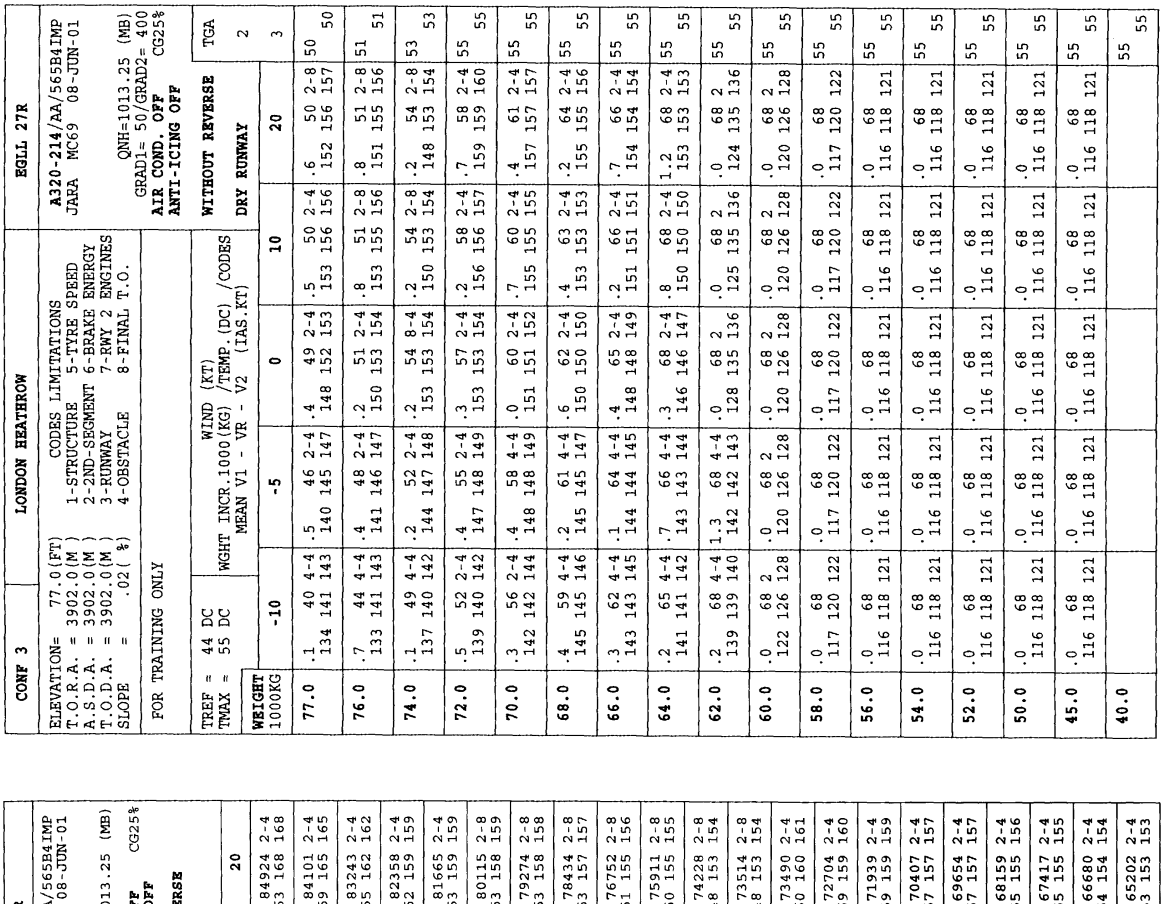
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2169.(FT) QNH ALT. : 2246.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. = 3902.0(M) A.S.D.A. = 3902.0(M) T.O.D.A. = 3902.0(M) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 55 DC	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-1.0	79623 4-4 142 147 149	81393 2-4 147 152 154	82963 2-4 151 157 160	83962 2-4 155 161 164	84854 2-4 159 165 168
14.0	78539 4-4 138 145 148	80334 2-4 143 149 151	81935 2-4 148 154 157	82979 2-4 151 158 161	83928 2-4 155 162 164
29.0	77433 4-4 135 145 147	79284 4-4 140 146 149	80912 2-4 145 152 154	81992 2-4 148 155 158	82977 2-4 152 159 161
43.8	76325 4-4 133 144 146	78225 4-4 137 146 148	79922 2-4 142 149 151	81028 2-4 145 153 155	82051 2-4 149 156 159
45.0	75752 4-4 134 143 145	77634 4-4 138 145 147	79294 2-4 143 149 152	80385 2-4 146 153 155	81394 2-4 150 157 159
47.0	74745 4-4 135 142 144	76582 2-4 140 145 147	78190 2-4 144 150 152	79251 2-4 148 154 156	80115 2-8 151 157 159
48.0	74238 4-4 135 142 144	76040 2-4 140 145 147	77629 2-4 145 150 152	78682 2-4 149 154 156	79274 2-8 151 156 159
49.0	73724 4-4 136 141 143	75498 2-4 141 145 147	77066 2-4 146 151 153	78088 2-4 150 154 157	78434 2-8 151 155 158
51.0	72686 4-4 137 141 142	74403 2-4 143 146 148	75926 2-4 147 151 153	76752 2-8 150 154 157	76752 2-8 150 154 157
52.0	72160 2-4 138 140 142	73846 2-4 143 146 148	75339 2-4 148 151 154	75911 8-4 153 154 156	75911 2-8 149 154 156
54.0	71098 2-4 140 141 142	72735 2-4 145 147 148	74154 2-4 150 152 154	74228 2-8 149 152 154	74228 2-8 147 152 154
55.0	70565 2-4 140 141 143	72160 2-4 145 147 149	73514 2-8 150 152 154	73514 2-8 149 152 154	73514 2-8 147 152 154
57.0	69483 4-4 142 142 143	71051 2-4 147 147 149	72383 2-4 152 152 154	73163 2-4 156 156 158	73513 2-8 157 158 160
58.0	68927 4-4 142 142 144	70415 4-4 148 148 149	71674 4-4 152 152 154	72390 2-4 155 155 157	73013 2-4 158 158 161
59.0	68323 4-4 143 143 145	69717 4-4 148 148 150	70922 4-4 151 151 153	71627 2-4 154 154 157	72237 2-4 157 157 160
61.0	67045 4-4 145 145 147	68261 4-4 147 147 149	69441 2-4 150 150 152	70123 2-4 153 153 155	70715 2-4 156 156 158
62.0	66347 4-4 144 144 146	67545 4-4 146 146 148	68708 2-4 149 149 151	69381 2-4 152 152 154	69960 2-4 156 156 158
64.0	64969 4-4 143 143 144	66137 4-4 146 146 147	67263 2-4 148 148 150	67915 2-4 151 151 153	68470 2-4 154 154 156
65.0	64290 4-4 142 142 144	65444 4-4 145 145 147	66551 2-4 148 148 149	67184 2-4 151 151 153	67737 2-4 154 154 156
66.0	63617 4-4 142 142 143	64757 4-4 145 145 146	65844 2-4 147 147 149	66469 2-4 150 150 152	67002 2-4 153 153 155
68.0	62287 4-4 141 141 142	63401 4-4 144 144 145	64448 2-4 147 147 148	65042 2-4 150 150 151	65555 2-4 153 153 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2169.(FT) QNH ALT. : 2246.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

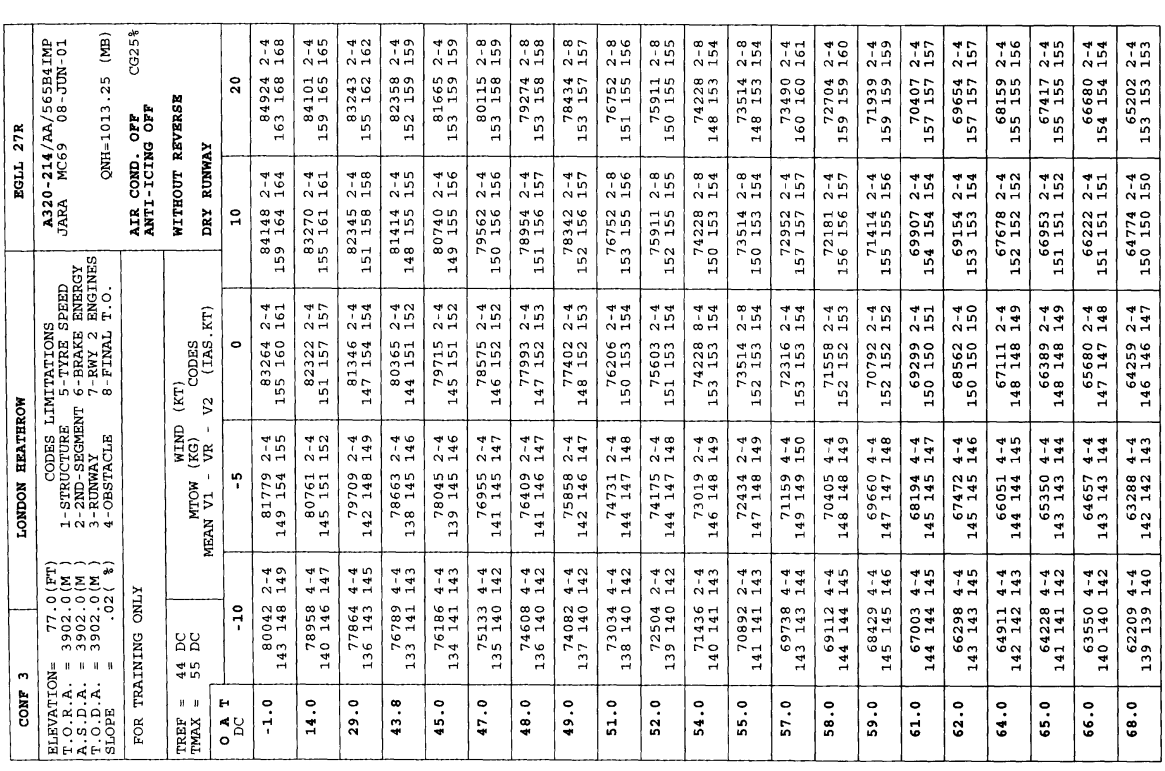
LONDON HEATHROW (EGLL) - RWY 27R - CONF 3



CONF 3	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. = 3902.0(M) A.S.D.A. = 3902.0(M) T.O.D.A. = 3902.0(M) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY	WGHT INCR 1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA
TREF = 44 DC TMAX = 55 DC		DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.1 40 4-4 134 141 143	.5 46 2-4 140 145 147	.4 49 2-4 148 152 153	.5 50 2-4 153 156 156	.6 50 2-8 50 152 156 157 50
76.0	.7 44 4-4 133 141 143	.4 48 2-4 141 146 147	.2 51 2-4 150 153 154	.8 51 2-8 153 155 156	.8 51 2-8 51 151 155 156 51
74.0	.1 49 4-4 137 140 142	.2 52 2-4 144 147 148	.2 54 8-4 153 153 154	.2 54 2-8 150 153 154	.2 54 2-8 53 148 153 154 53
72.0	.5 52 2-4 139 140 142	.4 55 2-4 147 148 149	.3 57 2-4 153 153 154	.2 58 2-4 156 156 157	.7 58 2-4 55 159 159 160 55
70.0	.3 56 2-4 142 142 144	.4 58 4-4 148 148 149	.0 60 2-4 151 151 152	.7 60 2-4 155 155 155	.4 61 2-4 55 157 157 157 55
68.0	.4 59 4-4 145 145 146	.2 61 4-4 145 145 147	.6 62 2-4 150 150 150	.4 63 2-4 153 153 153	.2 64 2-4 55 155 155 156 55
66.0	.3 62 4-4 143 143 145	.1 64 4-4 144 144 145	.4 65 2-4 148 148 149	.2 66 2-4 151 151 151	.7 66 2-4 55 154 154 154 55
64.0	.2 65 4-4 141 141 142	.7 66 4-4 143 143 144	.3 68 2-4 146 146 147	.8 68 2-4 150 150 150	1.2 68 2-4 55 153 153 153 55
62.0	.2 68 4-4 139 139 140	1.3 68 4-4 142 142 143	.0 68 2 128 135 136	.0 68 2 125 135 136	.0 68 2 55 124 135 136 55
60.0	.0 68 2 122 126 128	.0 68 2 120 126 128	.0 68 2 120 126 128	.0 68 2 120 126 128	.0 68 2 55 120 126 128 55
58.0	.0 68 117 120 122	.0 68 117 120 122	.0 68 117 120 122	.0 68 117 120 122	.0 68 55 117 120 122 55
56.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 55 116 118 121 55
54.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 55 116 118 121 55
52.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 55 116 118 121 55
50.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 55 116 118 121 55
45.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 55 116 118 121 55
40.0					55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2145.(FT) QNH ALT. : 2222.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A



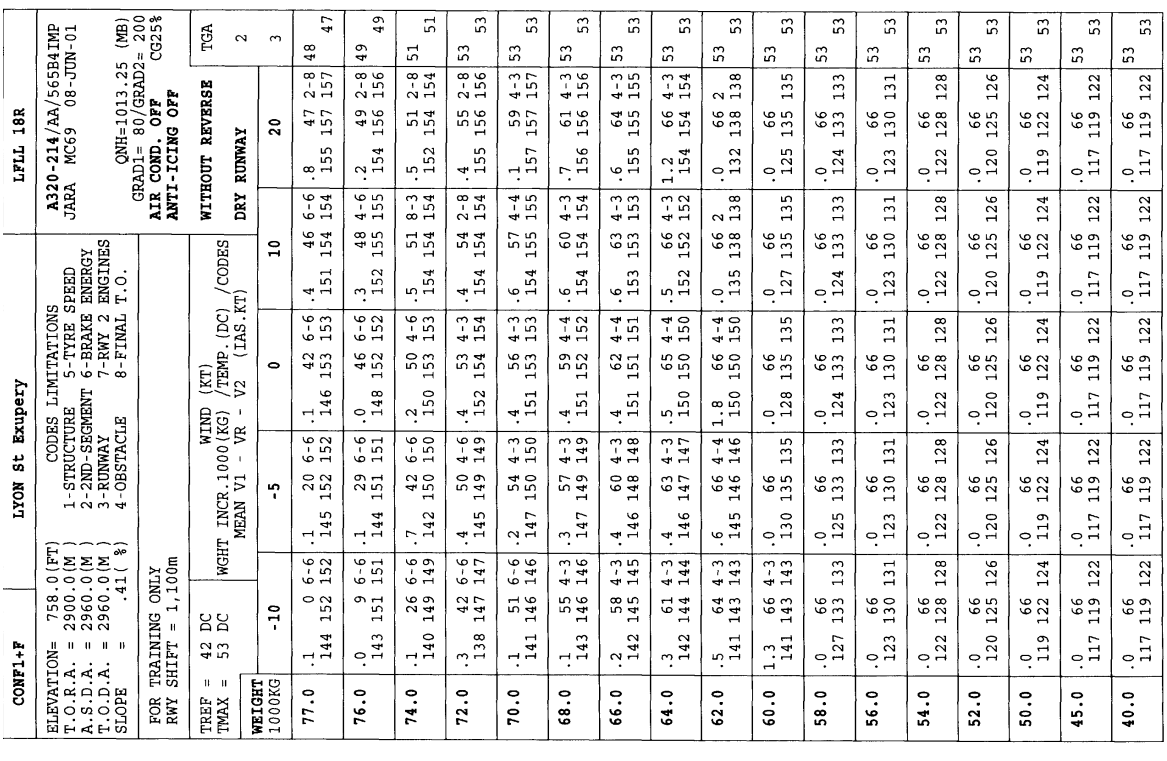
CONF 3	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. = 3902.0(M) A.S.D.A. = 3902.0(M) T.O.D.A. = 3902.0(M) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE
TREF = 44 DC TMAX = 55 DC		DRY RUNWAY

OAT DC	-10	-5	0	10	20
-1.0	80042 2-4 143 148 149	81779 2-4 149 154 155	83264 2-4 155 160 161	84148 2-4 159 164 164	84924 2-4 163 168 168
14.0	78958 4-4 140 146 147	80761 2-4 145 151 152	82322 2-4 151 157 157	83270 2-4 155 161 161	84101 2-4 159 165 165
29.0	77864 4-4 136 143 145	79709 2-4 142 148 149	81346 2-4 147 154 154	82345 2-4 151 158 158	83243 2-4 155 162 162
43.8	76789 4-4 133 141 143	78663 2-4 138 145 146	80365 2-4 144 151 152	81414 2-4 148 155 155	82358 2-4 152 159 159
45.0	76186 4-4 134 141 143	78045 2-4 139 145 146	79715 2-4 145 151 152	80740 2-4 149 155 156	81665 2-4 153 159 159
47.0	75133 4-4 135 140 142	76955 2-4 141 145 147	78575 2-4 146 152 152	79562 2-4 150 156 156	80115 2-8 153 158 159
48.0	74608 4-4 136 140 142	76409 2-4 141 146 147	77993 2-4 147 152 153	78954 2-4 151 156 157	79274 2-8 153 158 158
49.0	74082 4-4 137 140 142	75858 2-4 142 146 147	77402 2-4 148 152 153	78342 2-4 152 156 157	78434 2-8 153 157 157
51.0	73034 4-4 138 140 142	74731 2-4 144 147 148	76206 2-4 150 153 154	76752 2-8 153 155 156	76752 2-8 151 155 156
52.0	72504 2-4 139 140 142	74175 2-4 144 147 148	75603 2-4 151 153 154	75911 2-8 152 155 155	75911 2-8 150 155 155
54.0	71436 2-4 140 141 143	73019 2-4 146 148 149	74228 8-4 153 153 154	74228 2-8 150 153 154	74228 2-8 148 153 154
55.0	70892 2-4 141 141 143	72434 2-4 147 148 149	73514 2-8 152 153 154	73514 2-8 150 153 154	73514 2-8 148 153 154
57.0	69738 4-4 143 143 144	71159 4-4 149 149 150	72316 2-4 153 153 154	72952 2-4 157 157 157	73490 2-4 160 160 161
58.0	69112 4-4 144 144 145	70405 4-4 148 148 149	71558 2-4 152 152 153	72181 2-4 156 156 157	72704 2-4 159 159 160
59.0	68429 4-4 145 145 146	69660 4-4 147 147 148	70792 2-4 152 152 152	71414 2-4 155 155 156	71939 2-4 159 159 159
61.0	67003 4-4 144 144 145	68194 4-4 145 145 147	69299 2-4 150 150 151	69907 2-4 154 154 154	70407 2-4 157 157 157
62.0	66298 4-4 143 143 145	67472 4-4 145 145 146	68562 2-4 150 150 150	69154 2-4 153 153 154	69654 2-4 157 157 157
64.0	64911 4-4 142 142 143	66051 4-4 144 144 145	67111 2-4 148 148 149	67678 2-4 152 152 152	68159 2-4 155 155 156
65.0	64228 4-4 141 141 142	65350 4-4 143 143 144	66389 2-4 148 148 149	66953 2-4 151 151 152	67417 2-4 155 155 155
66.0	63550 4-4 140 140 142	64657 4-4 143 143 144	65680 2-4 147 147 148	66222 2-4 151 151 151	66680 2-4 154 154 154
68.0	62209 4-4 139 139 140	63288 4-4 142 142 143	64259 2-4 146 146 147	64774 2-4 150 150 150	65202 2-4 153 153 153

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2145.(FT) QNH ALT. : 2222.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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LYON (LFLL) - RWY 18R - CONF 1 + F



CONF1+F	LYON St Exupery	LFLL 18R
ELEVATION= 758.0(FT) T.O.R.A. = 2900.0(M) A.S.D.A. = 2960.0(M) T.O.D.A. = 2960.0(M) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 80/GRAD2= 200 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY RWY SHIFT = 1,100m		
TREF = 42 DC TMAX = 53 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA 2 DRY RUNWAY 3

O A T DC	-10	-5	0	10	20
-3.0	77423 6-6 144 153 153	79491 4-6 149 156 156	81242 4-6 154 160 160	82371 4-6 157 162 162	83414 2-6 160 165 165
12.0	75655 6-6 142 151 151	78007 6-6 146 153 153	80161 4-6 151 156 156	81316 4-6 154 159 159	82343 2-6 157 162 162
27.0	73951 6-6 140 149 149	76307 6-6 144 152 152	78655 6-6 148 154 154	80188 6-6 151 156 156	81286 2-6 154 159 159
42.5	72270 6-6 138 147 147	74633 6-6 142 150 150	77005 6-6 146 153 153	78549 6-6 149 154 154	80041 6-6 151 156 156
44.0	71828 6-6 138 147 147	74211 6-6 143 150 150	76596 6-6 147 152 152	78159 6-6 150 154 154	79445 2-6 152 156 156
45.0	71553 6-6 139 147 147	73942 6-6 143 149 149	76341 6-6 147 152 152	77909 6-6 150 154 154	78935 2-6 153 157 157
47.0	71034 6-6 139 146 146	73431 6-6 144 149 149	75734 4-6 148 152 152	76871 4-6 151 155 155	77830 2-8 155 157 157
48.0	70786 6-6 140 146 146	73193 6-6 144 149 149	75213 4-6 149 152 152	76342 4-6 152 155 155	76998 2-8 154 157 157
50.0	70317 6-6 140 146 146	72442 4-6 145 149 149	74150 4-6 150 153 153	75250 4-6 154 156 156	75332 2-8 153 155 155
51.0	70099 6-6 141 146 146	71936 4-6 146 149 149	73612 4-6 151 154 154	74499 8-3 154 154 154	74499 2-8 151 154 154
52.0	69682 4-6 141 146 146	71408 4-6 147 150 150	73054 4-3 152 154 154	73666 2-8 153 154 154	73666 2-8 151 154 154
54.0	68670 4-6 143 146 146	70238 4-3 147 150 150	71705 4-3 152 154 154	72417 2-8 153 154 154	72417 2-8 151 154 154
55.0	68089 4-3 143 146 146	69581 4-3 147 150 150	71033 4-3 152 153 153	71968 4-3 155 155 155	72416 2-8 155 156 156
57.0	66816 4-3 143 145 145	68274 4-3 147 149 149	69706 4-3 151 153 153	70614 4-4 154 155 155	71511 2-4 157 157 157
58.0	66190 4-3 142 145 145	67628 4-3 147 148 148	69045 4-4 151 152 152	69942 4-4 154 154 154	70809 4-4 157 157 157
59.0	65564 4-3 142 145 145	66989 4-3 147 148 148	68383 4-4 151 152 152	69273 4-3 154 154 154	70117 4-3 157 157 157
61.0	64324 4-3 142 144 144	65714 4-3 146 148 148	67072 4-4 151 151 151	67934 4-4 154 154 154	68688 4-3 156 156 156
62.0	63703 4-3 142 144 144	65083 4-3 146 147 147	66419 4-4 151 151 151	67255 4-3 154 154 154	67977 4-3 156 156 156
64.0	62475 4-3 141 143 143	63814 4-4 146 146 146	65118 4-4 150 150 150	65891 4-3 153 153 153	66557 4-3 155 155 155
65.0	61866 4-3 141 143 143	63184 4-4 146 146 146	64455 4-4 150 150 150	65207 4-3 153 153 153	65853 4-3 155 155 155
66.0	61258 4-3 141 143 143	62554 4-4 145 146 146	63800 4-4 150 150 150	64512 4-3 152 152 152	65152 4-3 154 154 154

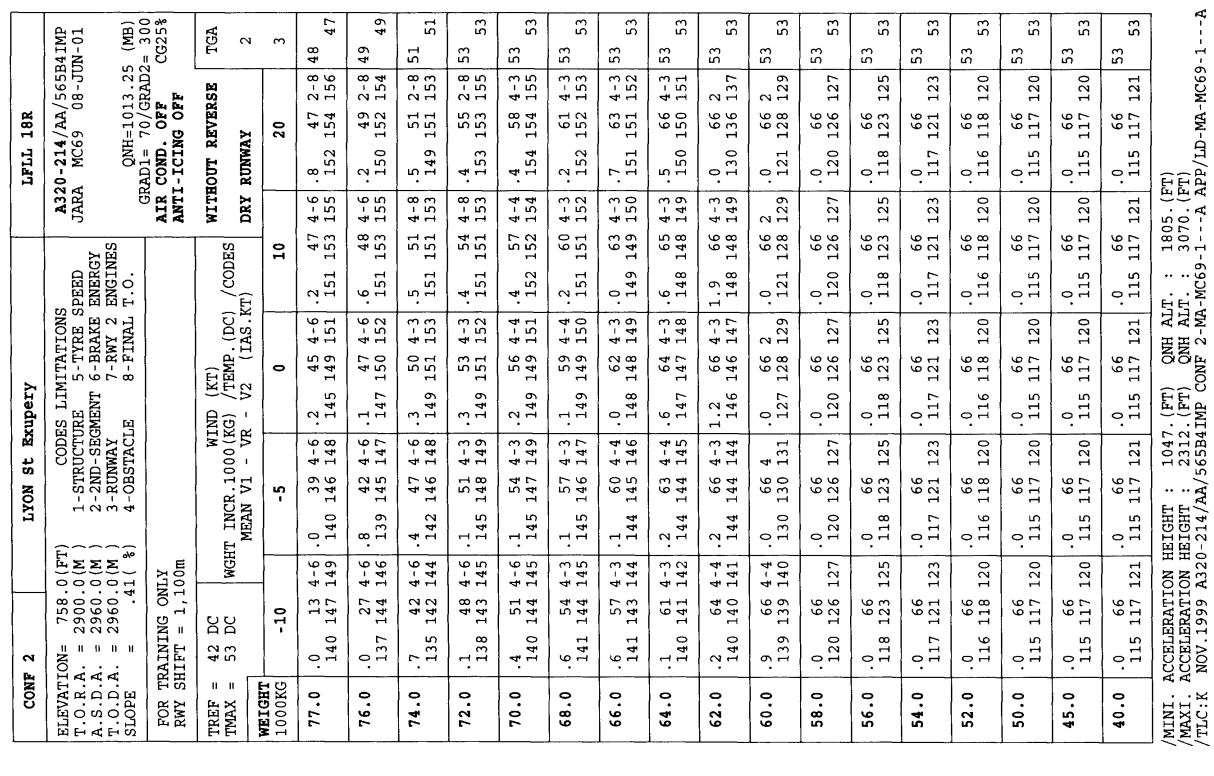
/MINI. ACCELERATION HEIGHT : 1052.(FT) QNH ALT. : 1810.(FT)
/MAXI. ACCELERATION HEIGHT : 2296.(FT) QNH ALT. : 3054.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	LYON St Exupery	LFLL 18R
ELEVATION= 758.0(FT) T.O.R.A. = 2900.0(M) A.S.D.A. = 2960.0(M) T.O.D.A. = 2960.0(M) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 80/GRAD2= 200 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY RWY SHIFT = 1,100m		
TREF = 42 DC TMAX = 53 DC	WGHT INCR.1000(KG) WIND (KT) /CODES MEAN V1 - VR - V2 /TEMP.(DC) (IAS.KT)	WITHOUT REVERSE TGA 2 DRY RUNWAY 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.1 0 6-6 144 152 152	.1 20 6-6 145 152 152	.1 42 6-6 146 153 153	.4 46 6-6 151 154 154	.8 47 2-8 48 155 157 157 47
76.0	.0 9 6-6 143 151 151	.1 29 6-6 144 151 151	.0 46 6-6 148 152 152	.3 48 4-6 152 155 155	.2 49 2-8 49 154 156 156 49
74.0	.1 26 6-6 140 149 149	.7 42 6-6 142 150 150	.2 50 4-6 150 153 153	.5 51 8-3 154 154 154	.5 51 2-8 51 152 154 154 51
72.0	.3 42 6-6 138 147 147	.4 50 4-6 145 149 149	.4 53 4-3 152 154 154	.4 54 2-8 154 154 154	.4 55 2-8 53 155 156 156 53
70.0	.1 51 6-6 141 146 146	.2 54 4-3 147 150 150	.4 56 4-3 151 153 153	.6 57 4-4 154 155 155	.1 59 4-3 53 157 157 157 53
68.0	.1 55 4-3 143 146 146	.3 57 4-3 147 149 149	.4 59 4-4 151 152 152	.6 60 4-3 154 154 154	.7 61 4-3 53 156 156 156 53
66.0	.2 58 4-3 142 145 145	.4 60 4-3 146 148 148	.4 62 4-4 151 151 151	.6 63 4-3 153 153 153	.6 64 4-3 53 155 155 155 53
64.0	.3 61 4-3 142 144 144	.4 63 4-3 146 147 147	.5 65 4-4 150 150 150	.5 66 4-3 152 152 152	1.2 66 4-3 53 154 154 154 53
62.0	.5 64 4-3 141 143 143	.6 66 4-4 145 146 146	1.8 66 4-4 150 150 150	.0 66 2 135 138 138	.0 66 2 53 132 138 138 53
60.0	1.3 66 4-3 141 143 143	.0 66 130 135 135	.0 66 128 135 135	.0 66 127 135 135	.0 66 53 125 135 135 53
58.0	.0 66 127 133 133	.0 66 125 133 133	.0 66 124 133 133	.0 66 124 133 133	.0 66 53 124 133 133 53
56.0	.0 66 123 130 131	.0 66 123 130 131	.0 66 123 130 131	.0 66 123 130 131	.0 66 53 123 130 131 53
54.0	.0 66 122 128 128	.0 66 122 128 128	.0 66 122 128 128	.0 66 122 128 128	.0 66 53 122 128 128 53
52.0	.0 66 120 125 126	.0 66 120 125 126	.0 66 120 125 126	.0 66 120 125 126	.0 66 53 120 125 126 53
50.0	.0 66 119 122 124	.0 66 119 122 124	.0 66 119 122 124	.0 66 119 122 124	.0 66 53 119 122 124 53
45.0	.0 66 117 119 122	.0 66 117 119 122	.0 66 117 119 122	.0 66 117 119 122	.0 66 53 117 119 122 53
40.0	.0 66 117 119 122	.0 66 117 119 122	.0 66 117 119 122	.0 66 117 119 122	.0 66 53 117 119 122 53

/MINI. ACCELERATION HEIGHT : 1052.(FT) QNH ALT. : 1810.(FT)
/MAXI. ACCELERATION HEIGHT : 2296.(FT) QNH ALT. : 3054.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

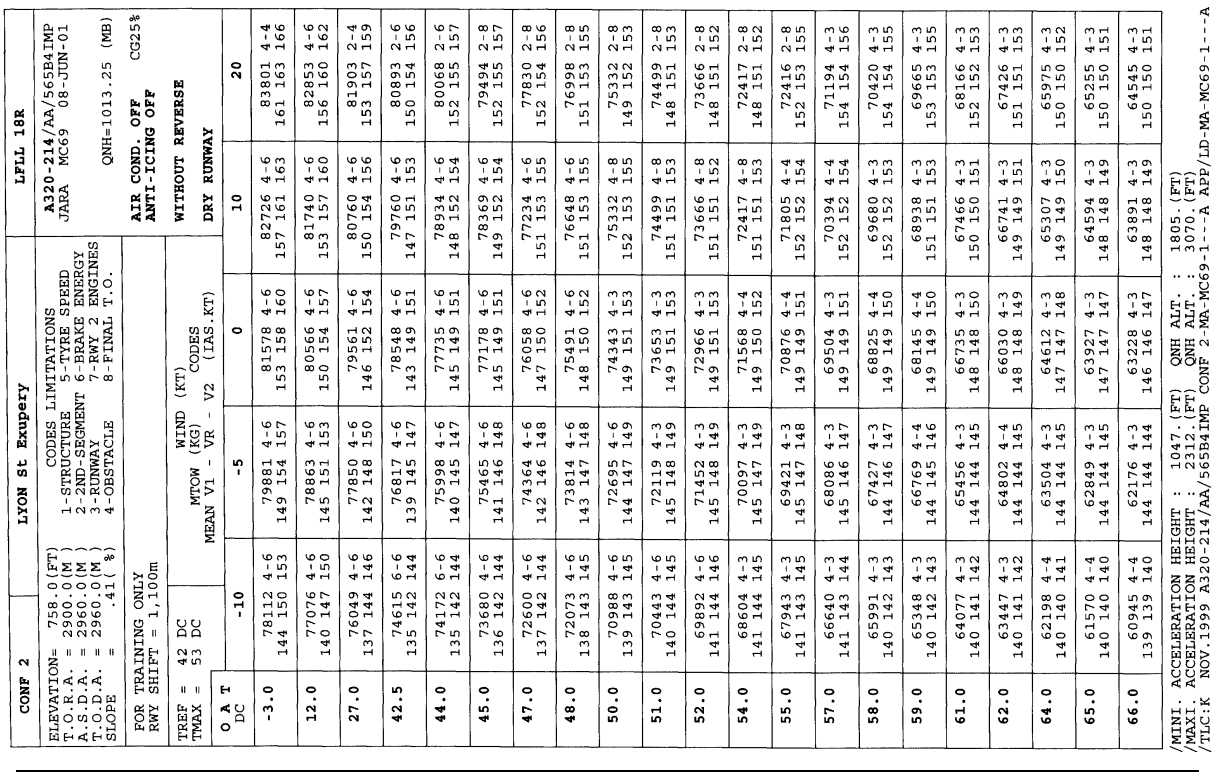
LYON (LFLL) - RWY 18R - CONF 2



CONF 2	LYON St Exupery	LFLL 18R
ELEVATION= 758.0(FT) T.O.R.A. = 2900.0(M) A.S.D.A. = 2960.0(M) T.O.D.A. = 2960.0(M) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 70/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY RWY SHIFT = 1,100m		
TREF = 42 DC TMAX = 53 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 13 4-6 140 147 149	.0 39 4-6 140 146 148	.2 45 4-6 145 149 151	.2 47 4-6 151 153 155	.8 47 2-8 152 154 156	48 47
76.0	.0 27 4-6 137 144 146	.8 42 4-6 139 145 147	.1 47 4-6 147 150 152	.6 48 4-6 151 153 155	.2 49 2-8 150 152 154	49
74.0	.7 42 4-6 135 142 144	.4 47 4-6 142 146 148	.3 50 4-3 149 151 153	.5 51 4-8 151 151 153	.5 51 2-8 149 151 153	51 51
72.0	.1 48 4-6 138 143 145	.1 51 4-3 145 148 149	.3 53 4-3 149 151 152	.4 54 4-8 151 151 153	.4 55 2-8 153 153 155	53
70.0	.4 51 4-6 140 144 145	.1 54 4-3 145 147 149	.2 56 4-4 149 149 151	.4 57 4-4 152 152 154	.4 58 4-3 154 154 155	53 53
68.0	.6 54 4-3 141 144 145	.1 57 4-3 145 146 147	.1 59 4-4 149 149 150	.2 60 4-3 151 151 152	.2 61 4-3 152 152 153	53 53
66.0	.6 57 4-3 141 143 144	.1 60 4-4 144 145 146	.0 62 4-3 148 148 149	.0 63 4-3 149 149 150	.7 63 4-3 151 151 152	53 53
64.0	.1 61 4-3 140 141 142	.2 63 4-4 144 144 145	.6 64 4-3 147 147 148	.6 65 4-3 148 148 149	.5 66 4-3 150 150 151	53 53
62.0	.2 64 4-4 140 140 141	.2 66 4-3 144 144 144	1.2 66 4-3 146 146 147	1.9 66 4-3 148 148 149	.0 66 2 130 136 137	53 53
60.0	.9 66 4-4 139 139 140	.0 66 4 130 130 131	.0 66 2 127 128 129	.0 66 2 121 128 129	.0 66 2 121 128 129	53 53
58.0	.0 66 120 126 127	.0 66 120 126 127	.0 66 120 126 127	.0 66 120 126 127	.0 66 120 126 127	53 53
56.0	.0 66 118 123 125	.0 66 118 123 125	.0 66 118 123 125	.0 66 118 123 125	.0 66 118 123 125	53 53
54.0	.0 66 117 121 123	.0 66 117 121 123	.0 66 117 121 123	.0 66 117 121 123	.0 66 117 121 123	53 53
52.0	.0 66 116 118 120	.0 66 116 118 120	.0 66 116 118 120	.0 66 116 118 120	.0 66 116 118 120	53 53
50.0	.0 66 115 117 120	.0 66 115 117 120	.0 66 115 117 120	.0 66 115 117 120	.0 66 115 117 120	53 53
45.0	.0 66 115 117 120	.0 66 115 117 120	.0 66 115 117 120	.0 66 115 117 120	.0 66 115 117 120	53 53
40.0	.0 66 115 117 121	.0 66 115 117 121	.0 66 115 117 121	.0 66 115 117 121	.0 66 115 117 121	53 53

/MINI. ACCELERATION HEIGHT : 1047.(FT) QNH ALT. : 1805.(FT)
/MAXI. ACCELERATION HEIGHT : 2312.(FT) QNH ALT. : 3070.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

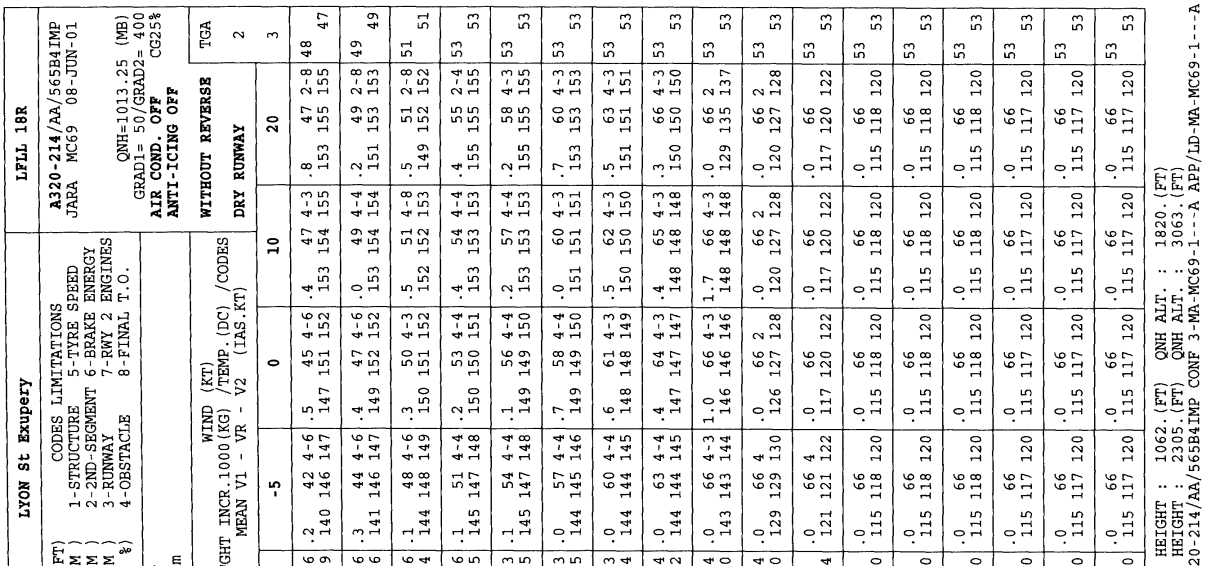


CONF 2	LYON St Exupery	LFLL 18R
ELEVATION= 758.0(FT) T.O.R.A. = 2900.0(M) A.S.D.A. = 2960.0(M) T.O.D.A. = 2960.0(M) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY RWY SHIFT = 1,100m		
TREF = 42 DC TMAX = 53 DC	MTOW (KG) CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE DRY RUNWAY

OAT DC	-10	-5	0	10	20
-3.0	78112 4-6 144 150 153	79881 4-6 149 154 157	81578 4-6 153 158 160	82726 4-6 157 161 163	83801 4-4 161 163 166
12.0	77076 4-6 140 147 150	78863 4-6 145 151 153	80566 4-6 150 154 157	81740 4-6 153 157 160	82853 4-6 156 160 162
27.0	76049 4-6 137 144 146	77850 4-6 142 148 150	79561 4-6 146 152 154	80760 4-6 150 154 156	81903 2-4 153 157 159
42.5	74615 6-6 135 142 144	76817 4-6 139 145 147	78548 4-6 143 149 151	79760 4-6 147 151 153	80893 2-6 150 154 156
44.0	74172 6-6 135 142 144	75998 4-6 140 145 147	77735 4-6 145 149 151	78934 4-6 148 152 154	80068 2-6 152 155 157
45.0	73680 4-6 136 142 144	75465 4-6 141 146 148	77178 4-6 145 149 151	78369 4-6 149 152 154	79494 2-8 152 155 157
47.0	72600 4-6 137 142 144	74364 4-6 142 146 148	76058 4-6 147 150 152	77234 4-6 151 153 155	77830 2-8 152 154 156
48.0	72073 4-6 138 143 145	73814 4-6 143 147 148	75491 4-6 148 150 152	76648 4-6 151 153 155	76998 2-8 151 153 155
50.0	70988 4-6 139 143 145	72695 4-6 144 147 149	74343 4-3 149 151 153	75332 4-8 152 153 155	75332 2-8 149 152 153
51.0	70443 4-6 140 144 145	72119 4-3 145 148 149	73653 4-3 149 151 153	74499 4-8 151 151 153	74499 2-8 148 151 153
52.0	69892 4-6 141 144 146	71452 4-3 145 148 149	72966 4-3 149 151 153	73666 4-8 151 151 152	73666 2-8 148 151 152
54.0	68604 4-3 141 144 145	70097 4-3 145 147 149	71568 4-4 149 150 152	72417 4-8 151 151 153	72417 2-8 148 151 152
55.0	67943 4-3 141 143 145	69421 4-3 145 147 148	70876 4-4 149 149 151	71805 4-4 152 152 154	72416 2-8 152 153 155
57.0	66640 4-3 141 143 144	68086 4-3 145 146 147	69504 4-3 149 149 151	70394 4-4 152 152 154	71194 4-3 154 154 156
58.0	65991 4-3 140 142 143	67427 4-3 144 146 147	68825 4-4 149 149 150	69680 4-3 152 152 153	70420 4-3 154 154 155
59.0	65348 4-3 140 142 143	66769 4-4 144 145 146	68145 4-4 149 149 150	68938 4-3 151 151 153	69665 4-3 153 153 155
61.0	64077 4-3 140 141 142	65456 4-3 144 144 145	66735 4-3 148 148 150	67466 4-3 150 150 151	68166 4-3 152 152 153
62.0	63447 4-3 140 141 142	64802 4-4 144 144 145	66030 4-3 148 148 149	66741 4-3 149 149 151	67426 4-3 151 151 153
64.0	62198 4-4 140 140 141	63504 4-3 144 144 145	64612 4-3 147 147 148	65307 4-3 149 149 150	65975 4-3 150 150 152
65.0	61570 4-4 140 140 140	62849 4-3 144 144 145	63927 4-3 147 147 147	64594 4-3 148 148 149	65255 4-3 150 150 151
66.0	60945 4-4 139 139 140	62176 4-3 144 144 144	63228 4-3 146 146 147	63891 4-3 148 148 149	64545 4-3 150 150 151

/MINI. ACCELERATION HEIGHT : 1047.(FT) QNH ALT. : 1805.(FT)
/MAXI. ACCELERATION HEIGHT : 2312.(FT) QNH ALT. : 3070.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

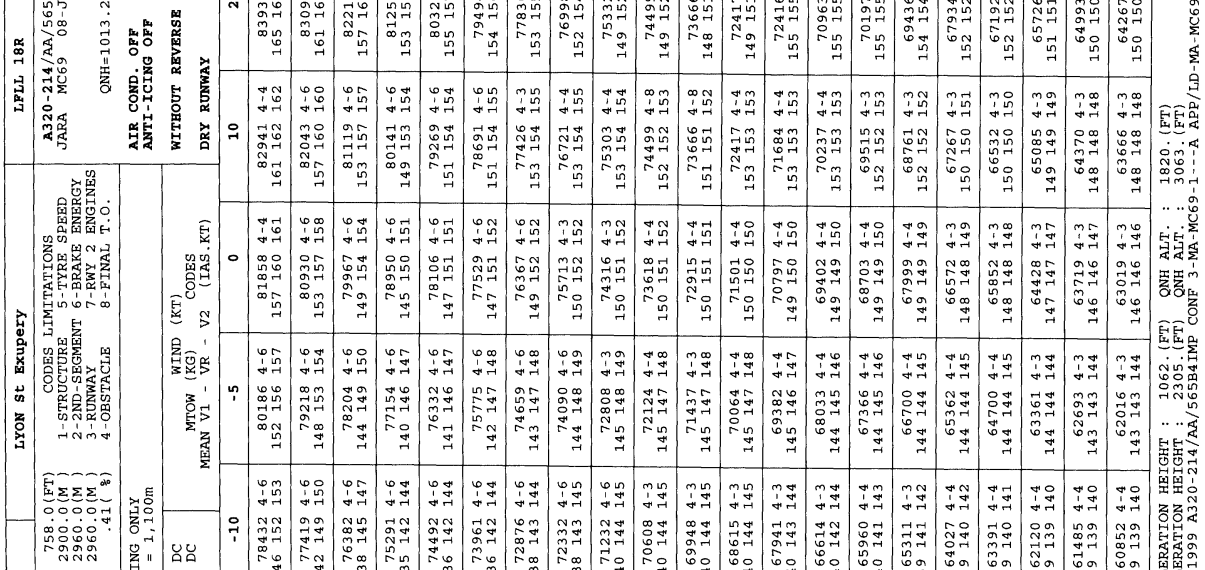
LYON (LFLL) - RWY 18R - CONF 3



CONF 3	LYON St Exupery	LFLL 18R
ELEVATION= 758.0(FT) T.O.R.A. = 2900.0(M) A.S.D.A. = 2960.0(M) T.O.D.A. = 2960.0(M) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY RWY SHIFT = 1,100m		**WITHOUT REVERSE** TGA
TREF = 42 DC TMAX = 53 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.0 18 4-6 140 147 149	.2 42 4-6 140 146 147	.5 45 4-6 147 151 152	.4 47 4-3 153 154 155	.8 47 2-8 48 47 153 155 155
76.0	.0 32 4-6 137 144 146	.3 44 4-6 141 146 147	.4 47 4-6 149 152 152	.0 49 4-4 153 154 154	.2 49 2-8 49 151 153 153
74.0	1.3 42 4-6 135 142 144	.1 48 4-6 144 148 149	.3 50 4-3 150 151 152	.5 51 4-8 152 152 153	.5 51 2-8 51 149 152 152
72.0	.3 48 4-6 138 143 145	.1 51 4-4 145 147 148	.2 53 4-4 150 150 151	.4 54 4-4 153 153 153	.4 55 2-4 53 155 155 155
70.0	.6 51 4-3 140 144 145	.1 54 4-4 145 147 148	.2 56 4-4 149 149 150	.2 57 4-4 153 153 153	.2 58 4-3 53 155 155 155
68.0	.6 54 4-3 140 144 145	.0 57 4-4 144 145 146	.7 58 4-4 149 149 150	.0 60 4-3 151 151 151	.7 60 4-3 53 153 153 153
66.0	.6 57 4-3 140 142 144	.0 60 4-4 144 144 145	.6 61 4-3 148 148 149	.5 62 4-3 150 150 150	.5 63 4-3 53 151 151 151
64.0	.0 61 4-4 139 140 142	.0 63 4-4 144 144 145	.4 64 4-3 147 147 147	.4 65 4-3 148 148 148	.3 66 4-3 53 150 150 150
62.0	.1 64 4-4 139 139 140	.0 66 4-3 143 143 144	1.0 66 4-3 146 146 146	1.7 66 4-3 148 148 148	.0 66 2 53 129 135 137
60.0	.9 66 4-4 139 139 140	.0 66 4 129 129 130	.0 66 2 126 127 128	.0 66 2 120 127 128	.0 66 2 53 120 127 128
58.0	.0 66 4 123 123 124	.0 66 4 121 121 122	.0 66 117 120 122	.0 66 117 120 122	.0 66 53 117 120 122
56.0	.0 66 115 118 120	.0 66 115 118 120	.0 66 115 118 120	.0 66 115 118 120	.0 66 53 115 118 120
54.0	.0 66 115 118 120	.0 66 115 118 120	.0 66 115 118 120	.0 66 115 118 120	.0 66 53 115 118 120
52.0	.0 66 115 118 120	.0 66 115 118 120	.0 66 115 118 120	.0 66 115 118 120	.0 66 53 115 118 120
50.0	.0 66 115 117 120	.0 66 115 117 120	.0 66 115 117 120	.0 66 115 117 120	.0 66 53 115 117 120
45.0	.0 66 115 117 120	.0 66 115 117 120	.0 66 115 117 120	.0 66 115 117 120	.0 66 53 115 117 120
40.0	.0 66 115 117 120	.0 66 115 117 120	.0 66 115 117 120	.0 66 115 117 120	.0 66 53 115 117 120

/MINI. ACCELERATION HEIGHT : 1062.(FT) QNH ALT. : 1820.(FT)
/MAXI. ACCELERATION HEIGHT : 2305.(FT) QNH ALT. : 3063.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF 3	LYON St Exupery	LFLL 18R
ELEVATION= 758.0(FT) T.O.R.A. = 2900.0(M) A.S.D.A. = 2960.0(M) T.O.D.A. = 2960.0(M) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY RWY SHIFT = 1,100m		**WITHOUT REVERSE**
TREF = 42 DC TMAX = 53 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
-3.0	78432 4-6 146 152 153	80186 4-6 152 156 157	81858 4-4 157 160 161	82941 4-4 161 162 162	83939 2-4 165 166 166
12.0	77419 4-6 142 149 150	79218 4-6 148 153 154	80930 4-6 153 157 158	82043 4-6 157 160 160	83097 2-4 161 163 163
27.0	76382 4-6 138 145 147	78204 4-6 144 149 150	79967 4-6 149 154 154	81119 4-6 153 157 157	82212 2-4 157 160 160
42.5	75291 4-6 135 142 144	77154 4-6 140 146 147	78950 4-6 145 150 151	80141 4-6 149 153 154	81257 2-6 153 156 156
44.0	74492 4-6 136 142 144	76332 4-6 141 146 147	78106 4-6 147 151 151	79269 4-6 151 154 154	80326 8-6 155 157 157
45.0	73961 4-6 136 142 144	75775 4-6 142 147 148	77529 4-6 147 151 152	78691 4-6 151 154 155	79494 2-8 154 156 156
47.0	72876 4-6 138 143 144	74659 4-6 143 147 148	76367 4-6 149 152 152	77426 4-3 153 154 155	77830 2-8 153 155 155
48.0	72332 4-6 138 143 145	74090 4-6 144 148 149	75713 4-3 150 152 152	76721 4-4 153 154 155	76998 2-8 152 154 154
50.0	71232 4-6 140 144 145	72808 4-3 145 148 149	74316 4-3 150 151 152	75303 4-4 153 154 154	75332 2-8 149 152 153
51.0	70608 4-3 140 144 145	72124 4-4 145 147 148	73618 4-4 150 151 152	74499 4-8 152 152 153	74499 2-8 149 152 152
52.0	69948 4-3 140 144 145	71437 4-3 145 147 148	72915 4-4 150 151 151	73666 4-8 151 151 152	73666 2-8 148 151 152
54.0	68615 4-3 140 144 145	70064 4-4 145 147 148	71501 4-4 150 150 150	72417 4-4 153 153 153	72417 2-8 149 151 152
55.0	67941 4-3 140 143 144	69382 4-4 145 146 147	70797 4-4 149 150 150	71684 4-4 153 153 153	72416 2-4 155 155 155
57.0	66614 4-3 140 142 144	68033 4-4 144 145 146	69402 4-4 149 149 150	70237 4-4 153 153 153	70963 4-3 155 155 155
58.0	65960 4-4 140 141 143	67366 4-4 144 145 146	68703 4-4 149 149 150	69515 4-3 152 152 153	70197 4-3 155 155 155
59.0	65311 4-3 139 141 142	66700 4-4 144 144 145	67999 4-4 149 149 149	68761 4-3 152 152 152	69436 4-3 154 154 154
61.0	64027 4-4 139 140 142	65362 4-4 144 144 145	66572 4-3 148 148 149	67267 4-3 150 150 151	67934 4-3 152 152 152
62.0	63391 4-4 139 140 141	64700 4-4 144 144 145	65852 4-3 148 148 148	66532 4-3 150 150 150	67192 4-3 152 152 152
64.0	62120 4-4 139 139 140	63361 4-3 144 144 144	64428 4-3 147 147 147	65085 4-3 149 149 149	65726 4-3 151 151 151
65.0	61485 4-4 139 139 140	62693 4-3 143 143 144	63719 4-3 146 146 147	64370 4-3 148 148 148	64993 4-3 150 150 150
66.0	60852 4-4 139 139 140	62016 4-3 143 143 144	63019 4-3 146 146 146	63666 4-3 148 148 148	64267 4-3 150 150 150

/MINI. ACCELERATION HEIGHT : 1062.(FT) QNH ALT. : 1820.(FT)
/MAXI. ACCELERATION HEIGHT : 2305.(FT) QNH ALT. : 3063.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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MARSEILLE (LFML) - RWY 32R - CONF 1 + F

CONF1+F	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3500.0(M) T.O.D.A. = 3500.0(M) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 80/GRAD2= 200 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 44 DC TMAX = 55 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.1 43 6-6 130 152 152	.1 49 2-6 138 154 154	.6 50 2-8 143 158 158	.6 50 2-8 144 158 158	.6 50 2-8 50 145 158 158 50
76.0	1.0 44 6-6 130 152 152	.0 51 2-6 139 154 154	.8 51 2-8 143 157 157	.8 51 2-8 144 157 157	.8 51 2-8 51 145 157 157 51
74.0	.2 52 2-6 134 150 150	.3 54 8-6 141 155 155	.3 54 2-8 143 155 155	.3 54 2-8 144 155 155	.3 54 2-8 53 143 155 155 53
72.0	.0 56 2-6 137 151 151	.6 57 2-6 144 155 155	.4 59 2-6 151 160 160	.3 60 2-6 156 163 163	.3 60 2-2 55 158 163 163 55
70.0	.4 59 2-6 139 151 151	.3 61 2-6 147 156 156	.6 62 2-6 154 161 161	.7 62 2-2 156 162 162	.7 62 2-2 55 156 162 162 55
68.0	.2 63 2-6 142 152 152	.6 64 2-6 149 156 156	.4 65 2-2 154 159 159	.4 65 2-2 154 159 159	.4 65 2-2 55 153 159 159 55
66.0	.5 66 2-6 145 152 152	.7 67 2-6 151 157 157	.8 67 2-2 153 157 157	.8 67 2-2 152 157 157	.8 67 2-2 55 151 157 157 55
64.0	1.4 68 2-6 147 153 153	2.0 68 2-2 152 156 156	2.0 68 2-2 152 156 156	2.0 68 2-2 151 156 156	2.0 68 2-2 55 149 156 156 55
62.0	.0 68 2 127 137 137	.0 68 2 127 137 137	.0 68 2 127 137 137	.0 68 2 127 137 137	.0 68 2 55 127 137 137 55
60.0	.0 68 125 134 135	.0 68 125 134 135	.0 68 125 134 135	.0 68 125 134 135	.0 68 55 125 134 135 55
58.0	.0 68 124 132 133	.0 68 124 132 133	.0 68 124 132 133	.0 68 124 132 133	.0 68 55 124 132 133 55
56.0	.0 68 123 129 131	.0 68 123 129 131	.0 68 123 129 131	.0 68 123 129 131	.0 68 55 123 129 131 55
54.0	.0 68 121 127 128	.0 68 121 127 128	.0 68 121 127 128	.0 68 121 127 128	.0 68 55 121 127 128 55
52.0	.0 68 120 124 126	.0 68 120 124 126	.0 68 120 124 126	.0 68 120 124 126	.0 68 55 120 124 126 55
50.0	.0 68 119 121 124	.0 68 119 121 124	.0 68 119 121 124	.0 68 119 121 124	.0 68 55 119 121 124 55
45.0	.0 68 118 120 123	.0 68 118 120 123	.0 68 118 120 123	.0 68 118 120 123	.0 68 55 118 120 123 55
40.0	.0 68 118 120 124	.0 68 118 120 124	.0 68 118 120 124	.0 68 118 120 124	.0 68 55 118 120 124 55

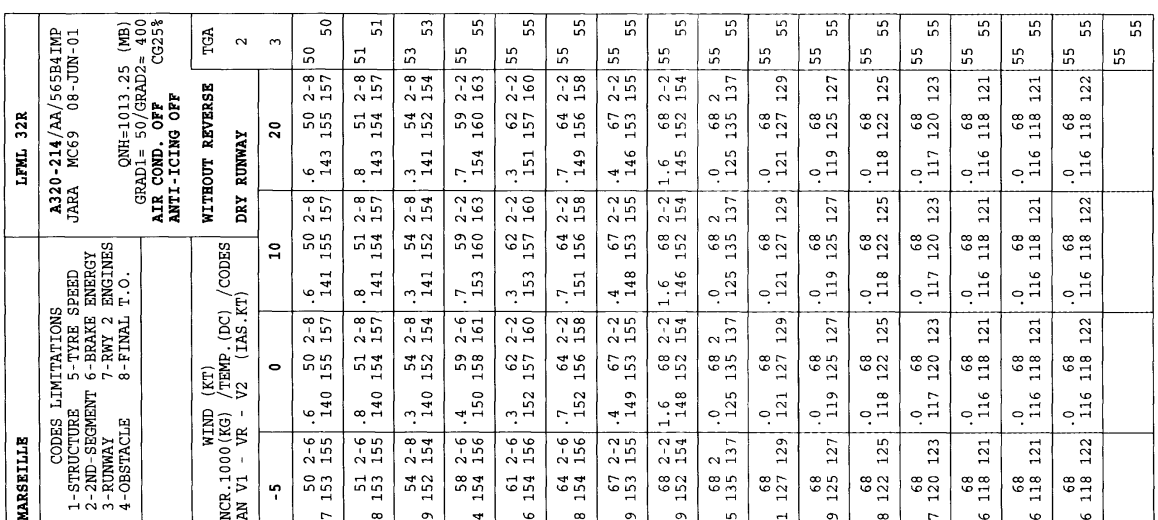
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2172.(FT) QNH ALT. : 2241.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3500.0(M) T.O.D.A. = 3500.0(M) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 44 DC TMAX = 55 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-1.0	81887 2-2 136 157 157	83139 2-6 142 161 161	84335 2-6 148 166 166	85068 2-6 151 169 169	85804 2-6 155 172 172
14.0	80205 6-6 134 155 155	82040 2-6 139 158 158	83283 2-6 144 162 162	84035 2-6 148 165 165	84769 2-6 151 168 168
29.0	78549 6-6 132 153 154	80618 6-6 137 156 156	82219 2-6 141 159 159	83010 2-6 145 162 162	83761 2-6 148 165 165
43.9	77004 6-6 130 152 152	79082 6-6 135 154 154	81158 6-6 139 157 157	82011 2-6 142 159 159	82778 8-6 145 162 162
45.0	76592 6-6 131 151 152	78687 6-6 135 154 154	80553 2-6 140 157 157	81364 2-6 143 160 160	81822 2-8 145 161 161
47.0	75903 6-6 132 151 151	78021 6-6 136 153 153	79458 2-6 141 157 157	80142 2-8 144 160 160	80142 2-8 145 160 160
48.0	75577 6-6 132 151 151	77643 2-6 137 153 153	78887 2-6 142 158 158	79301 2-8 145 159 159	79301 2-8 145 159 159
50.0	74949 6-6 133 150 150	76560 2-6 138 154 154	77619 2-8 143 158 158	77619 2-8 144 158 158	77619 2-8 145 158 158
51.0	74650 6-6 133 150 150	76010 2-6 139 154 154	76778 2-8 143 157 157	76778 2-8 144 157 157	76778 2-8 145 157 157
52.0	74224 2-6 134 150 150	75448 2-6 140 154 154	75937 2-8 143 156 156	75937 2-8 144 156 156	75937 2-8 144 156 156
54.0	73149 2-6 135 151 151	74254 8-6 141 155 155	74254 2-8 142 155 155	74254 2-8 143 155 155	74254 2-8 143 155 155
55.0	72595 2-6 136 151 151	73527 2-8 141 155 155	73527 2-8 143 155 155	73527 2-8 144 155 155	73527 2-8 143 155 155
57.0	71468 2-6 138 151 151	72583 2-6 144 155 155	73526 2-8 149 160 160	73526 2-8 151 160 160	73526 2-8 152 160 160
58.0	70915 2-6 138 151 151	71998 2-6 145 156 156	72994 2-6 151 160 160	73525 2-8 154 163 163	73525 2-8 156 163 163
59.0	70358 2-6 139 151 151	71432 2-6 145 156 156	72404 2-6 151 160 160	72999 2-6 156 163 163	73136 2-2 157 164 164
61.0	69273 2-6 141 151 151	70286 2-6 147 156 156	71210 2-6 153 161 161	71545 2-2 156 162 162	71545 2-2 157 162 162
62.0	68721 2-6 142 151 151	69695 2-6 148 156 156	70619 2-6 154 161 161	70749 2-2 156 162 162	70749 2-2 156 162 162
64.0	67617 2-6 143 152 152	68554 2-6 149 156 156	69156 2-2 154 160 160	69156 2-2 155 160 160	69156 2-2 154 160 160
65.0	67069 2-6 144 152 152	67962 2-6 150 157 157	68361 2-2 154 159 159	68361 2-2 154 159 159	68361 2-2 153 159 159
66.0	66501 2-6 145 152 152	67391 2-6 151 157 157	67566 2-2 154 158 158	67566 2-2 153 158 158	67566 2-2 152 158 158
68.0	65389 2-6 147 153 153	65975 2-2 151 156 156	65975 2-2 151 156 156	65975 2-2 150 156 156	65975 2-2 149 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2172.(FT) QNH ALT. : 2241.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

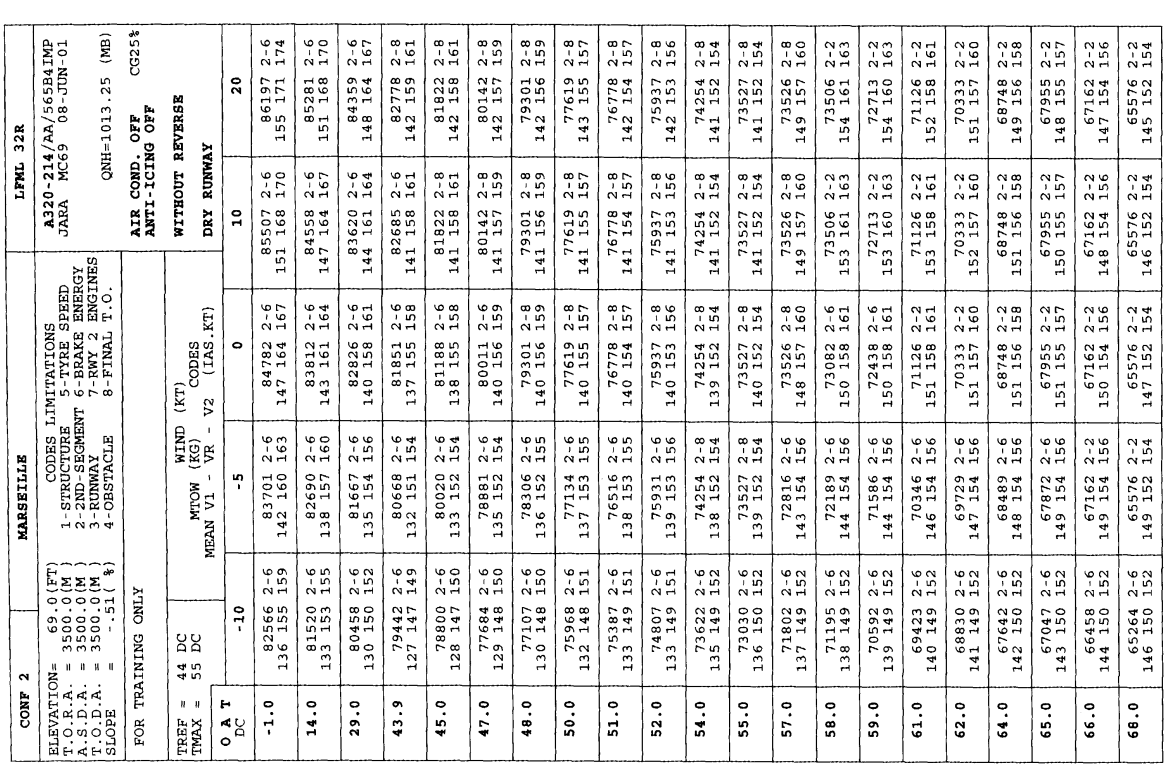
MARSEILLE (LFML) - RWY 32R - CONF 2



CONF 2	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3500.0(M) T.O.D.A. = 3500.0(M) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 44 DC TMAX = 55 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.1 48 2-6 130 148 150	.1 50 2-6 137 153 155	.6 50 2-8 140 155 157	.6 50 2-8 141 155 157	.6 50 2-8 143 155 157	50 50
76.0	.5 49 2-6 131 148 151	.5 51 2-6 138 153 155	.8 51 2-8 140 154 157	.8 51 2-8 141 154 157	.8 51 2-8 143 154 157	51 51
74.0	.2 53 2-6 134 149 152	.3 54 2-8 139 152 154	.3 54 2-8 140 152 154	.3 54 2-8 141 152 154	.3 54 2-8 141 152 154	53 53
72.0	.4 56 2-6 136 150 152	.2 58 2-6 144 154 156	.4 59 2-6 150 158 161	.7 59 2-2 153 160 163	.7 59 2-2 154 160 163	55 55
70.0	.0 60 2-6 139 149 152	.3 61 2-6 146 154 156	.3 62 2-2 152 157 160	.3 62 2-2 153 157 160	.3 62 2-2 151 157 160	55 55
68.0	.2 63 2-6 142 150 152	.5 64 2-6 148 154 156	.7 64 2-2 152 156 158	.7 64 2-2 151 156 158	.7 64 2-2 149 156 158	55 55
66.0	.5 66 2-6 144 150 152	.4 67 2-2 149 153 155	.4 67 2-2 149 153 155	.4 67 2-2 148 153 155	.4 67 2-2 146 153 155	55 55
64.0	1.3 68 2-6 146 150 152	1.6 68 2-2 149 152 154	1.6 68 2-2 148 152 154	1.6 68 2-2 146 152 154	1.6 68 2-2 145 152 154	55 55
62.0	.0 68 2 125 135 137	.0 68 2 125 135 137	.0 68 2 125 135 137	.0 68 2 125 135 137	.0 68 2 125 135 137	55 55
60.0	.0 68 121 127 129	.0 68 121 127 129	.0 68 121 127 129	.0 68 121 127 129	.0 68 121 127 129	55 55
58.0	.0 68 119 125 127	.0 68 119 125 127	.0 68 119 125 127	.0 68 119 125 127	.0 68 119 125 127	55 55
56.0	.0 68 118 122 125	.0 68 118 122 125	.0 68 118 122 125	.0 68 118 122 125	.0 68 118 122 125	55 55
54.0	.0 68 117 120 123	.0 68 117 120 123	.0 68 117 120 123	.0 68 117 120 123	.0 68 117 120 123	55 55
52.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
50.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
45.0	.0 68 116 118 122	.0 68 116 118 122	.0 68 116 118 122	.0 68 116 118 122	.0 68 116 118 122	55 55
40.0						55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2167.(FT) QNH ALT. : 2236.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF 2	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3500.0(M) T.O.D.A. = 3500.0(M) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 55 DC	MTOW (KG) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-1.0	82566 2-6 136 155 159	83701 2-6 142 160 163	84782 2-6 147 164 167	85507 2-6 151 168 170	86197 2-6 155 171 174
14.0	81520 2-6 133 153 155	82690 2-6 138 157 160	83812 2-6 143 161 164	84558 2-6 147 164 167	85281 2-6 151 168 170
29.0	80458 2-6 130 150 152	81667 2-6 135 154 156	82826 2-6 140 158 161	83620 2-6 144 161 164	84359 2-6 148 164 167
43.9	79442 2-6 127 147 149	80668 2-6 132 151 154	81851 2-6 137 155 158	82685 2-6 141 158 161	82778 2-8 142 159 161
45.0	78800 2-6 128 147 150	80020 2-6 133 152 154	81188 2-6 138 155 158	81822 2-8 141 158 161	81822 2-8 142 158 161
47.0	77684 2-6 129 148 150	78881 2-6 135 152 154	80011 2-6 140 156 159	80142 2-8 141 157 159	80142 2-8 142 157 159
48.0	77107 2-6 130 148 150	78306 2-6 136 152 155	79301 2-8 140 156 159	79301 2-8 141 156 159	79301 2-8 142 156 159
50.0	75968 2-6 132 148 151	77134 2-6 137 153 155	77619 2-8 140 155 157	77619 2-8 141 155 157	77619 2-8 143 155 157
51.0	75387 2-6 133 149 151	76516 2-6 138 153 155	76778 2-8 140 154 157	76778 2-8 141 154 157	76778 2-8 142 154 157
52.0	74807 2-6 133 149 151	75931 2-6 139 153 156	75937 2-8 140 153 156	75937 2-8 141 153 156	75937 2-8 142 153 156
54.0	73622 2-6 135 149 152	74254 2-8 138 152 154	74254 2-8 139 152 154	74254 2-8 141 152 154	74254 2-8 141 152 154
55.0	73030 2-6 136 150 152	73527 2-8 139 152 154	73527 2-8 140 152 154	73527 2-8 141 152 154	73527 2-8 141 152 154
57.0	71802 2-6 137 149 152	72816 2-6 143 154 156	73526 2-8 148 157 160	73526 2-8 149 157 160	73526 2-8 149 157 160
58.0	71195 2-6 138 149 152	72189 2-6 144 154 156	73082 2-6 150 158 161	73506 2-2 153 161 163	73506 2-2 154 161 163
59.0	70592 2-6 139 149 152	71586 2-6 144 154 156	72438 2-6 150 158 161	72713 2-2 153 160 163	72713 2-2 154 160 163
61.0	69423 2-6 140 149 152	70346 2-6 146 154 156	71126 2-2 151 158 161	71126 2-2 153 158 161	71126 2-2 152 158 161
62.0	68830 2-6 141 149 152	69729 2-6 147 154 156	70333 2-2 151 157 160	70333 2-2 152 157 160	70333 2-2 151 157 160
64.0	67642 2-6 142 150 152	68489 2-6 148 154 156	68748 2-2 151 156 158	68748 2-2 151 156 158	68748 2-2 149 156 158
65.0	67047 2-6 143 150 152	67872 2-6 149 154 156	67955 2-2 151 155 157	67955 2-2 150 155 157	67955 2-2 148 155 157
66.0	66458 2-6 144 150 152	67162 2-2 149 154 156	67162 2-2 150 154 156	67162 2-2 148 154 156	67162 2-2 147 154 156
68.0	65264 2-6 146 150 152	65576 2-2 149 152 154	65576 2-2 147 152 154	65576 2-2 146 152 154	65576 2-2 145 152 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2167.(FT) QNH ALT. : 2236.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

MARSEILLE (LFML) - RWY 32R - CONF 3

CONF 3	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3500.0(M) T.O.D.A. = 3500.0(M) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 44 DC TMAX = 55 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.3 48 2-6 131 149 150	.3 50 2-6 138 154 155	.6 50 2-8 141 156 157	.6 50 2-8 142 156 157	.6 50 2-8 144 156 157	50 50
76.0	.2 50 2-6 132 149 151	.7 51 2-6 139 155 155	.8 51 2-8 141 155 156	.8 51 2-8 142 155 156	.8 51 2-8 143 155 156	51 51
74.0	.4 53 2-6 135 150 151	.3 54 2-8 139 153 154	.3 54 2-8 141 153 154	.3 54 2-8 141 153 154	.3 54 2-8 141 153 154	53 53
72.0	.5 56 2-6 137 151 152	.2 58 2-6 145 156 156	.3 59 2-6 154 161 161	.5 59 2-2 157 163 163	.5 59 2-2 158 163 163	55 55
70.0	.0 60 2-6 140 151 151	.3 61 2-6 148 156 156	.2 62 2-2 155 160 160	.2 62 2-2 156 160 160	.2 62 2-2 154 160 160	55 55
68.0	.2 63 2-6 143 151 152	.3 64 2-6 151 156 157	.6 64 2-6 155 158 158	.6 64 2-2 154 158 158	.6 64 2-2 152 158 158	55 55
66.0	.4 66 2-6 146 151 152	.2 67 2-2 152 155 156	.2 67 2-2 151 155 156	.2 67 2-2 150 155 156	.2 67 2-2 149 155 156	55 55
64.0	1.2 68 2-6 148 152 153	1.4 68 2-2 152 154 155	1.4 68 2-2 150 154 155	1.4 68 2-2 149 154 155	1.4 68 2-2 147 154 155	55 55
62.0	.0 68 2 124 134 136	.0 68 2 124 134 136	.0 68 2 124 134 136	.0 68 2 124 134 136	.0 68 2 124 134 136	55 55
60.0	.0 68 2 120 126 128	.0 68 2 120 126 128	.0 68 2 120 126 128	.0 68 2 120 126 128	.0 68 2 120 126 128	55 55
58.0	.0 68 117 119 122	.0 68 117 119 122	.0 68 117 119 122	.0 68 117 119 122	.0 68 117 119 122	55 55
56.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
54.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
52.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
50.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
45.0	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	.0 68 116 118 121	55 55
40.0						55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2148.(FT) QNH ALT. : 2217.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3500.0(M) T.O.D.A. = 3500.0(M) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 44 DC TMAX = 55 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-1.0	82744 2-6 137 157 158	83838 2-6 144 162 163	84822 2-6 150 167 167	85448 2-6 155 170 171	86024 2-6 159 174 174
14.0	81767 2-6 134 154 155	82924 2-6 140 159 160	83968 2-6 146 164 164	84629 2-6 150 167 167	85250 2-6 155 170 171
29.0	80745 2-6 131 151 152	81952 2-6 137 156 157	83075 2-6 142 161 161	83781 2-6 147 164 164	84436 2-6 151 167 167
43.9	79709 2-6 128 148 149	80976 2-6 133 153 154	82168 2-6 139 158 158	82778 2-8 143 160 161	82778 2-8 143 160 161
45.0	79072 2-6 129 148 150	80326 2-6 134 153 154	81471 2-6 140 158 158	81822 2-8 142 159 160	81822 2-8 144 159 160
47.0	77908 2-6 130 149 150	79114 2-6 136 153 154	80142 2-8 141 158 159	80142 2-8 142 158 159	80142 2-8 143 158 159
48.0	77340 2-6 131 149 150	78520 2-6 137 154 155	79301 2-8 141 157 158	79301 2-8 142 157 158	79301 2-8 144 157 158
50.0	76152 2-6 132 149 151	77283 2-6 138 154 155	77619 2-8 141 156 157	77619 2-8 142 156 157	77619 2-8 144 156 157
51.0	75567 2-6 133 150 151	76675 2-6 139 155 155	76778 2-8 141 155 156	76778 2-8 142 155 156	76778 2-8 143 155 156
52.0	74969 2-6 134 150 151	75937 2-8 139 154 155	75937 2-8 141 154 155	75937 2-8 142 154 155	75937 2-8 142 154 155
54.0	73754 2-6 135 150 152	74254 2-8 139 153 154	74254 2-8 141 153 154	74254 2-8 141 153 154	74254 2-8 141 153 154
55.0	73123 2-6 136 151 152	73527 2-8 140 153 154	73527 2-8 141 153 154	73527 2-8 141 153 154	73527 2-8 141 153 154
57.0	71884 2-6 138 150 152	72812 2-6 145 156 156	73526 2-8 151 160 161	73526 2-8 152 160 161	73526 2-8 152 160 161
58.0	71265 2-6 139 150 151	72176 2-6 145 156 156	72956 2-6 153 161 161	73322 2-2 157 164 164	73322 2-2 158 164 164
59.0	70646 2-6 139 150 151	71535 2-6 146 156 156	72288 2-6 154 161 161	72531 2-2 157 163 163	72531 2-2 157 163 163
61.0	69430 2-6 141 151 151	70263 2-6 148 156 156	70947 2-2 155 161 161	70947 2-2 157 161 161	70947 2-2 155 161 161
62.0	68815 2-6 142 151 151	69620 2-6 149 156 156	70156 2-2 155 160 160	70156 2-2 156 160 160	70156 2-2 154 160 160
64.0	67604 2-6 144 151 152	68347 2-6 151 156 157	68572 2-2 155 158 158	68572 2-2 153 158 158	68572 2-2 152 158 158
65.0	67002 2-6 145 151 152	67695 2-6 152 156 157	67781 2-2 153 157 157	67781 2-2 152 157 157	67781 2-2 151 157 157
66.0	66376 2-6 146 151 152	66989 2-2 153 156 157	66989 2-2 152 156 157	66989 2-2 151 156 157	66989 2-2 150 156 157
68.0	65151 2-6 148 152 153	65405 2-2 151 154 155	65405 2-2 150 154 155	65405 2-2 148 154 155	65405 2-2 147 154 155

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2148.(FT) QNH ALT. : 2217.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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PARIS ORLY (LFPO) - RWY 08 - CONF 1 + F

CONF1+F	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3320.0(M) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 70/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA **DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20	20
77.0	-.2 -2 4-4 146 151 152	.0 17 4-4 147 152 152	.1 40 4-4 147 152 152	.3 46 4-4 151 153 153	.7 48 2-4 155 155 155	49
76.0	.0 6 4-4 144 151 151	.1 28 4-4 145 151 151	.8 43 4-4 147 152 152	.1 49 4-4 152 152 152	.3 50 2-4 155 155 155	50
74.0	.1 28 4-4 140 149 149	.8 43 4-4 142 150 150	.3 50 4-4 150 150 150	.1 52 4-4 152 152 152	.2 53 2-4 154 154 154	52
72.0	.7 43 4-4 137 147 148	.2 50 4-4 146 147 147	.6 53 4-4 149 149 149	.1 55 2-4 151 151 151	.1 56 2-4 153 153 153	54
70.0	.2 50 4-4 141 145 145	.5 54 4-4 146 146 146	.5 56 4-4 148 148 148	.6 57 2-4 149 149 149	.6 58 2-4 152 152 152	54
68.0	.4 55 4-4 143 143 143	.4 57 4-4 144 144 144	.4 59 4-4 146 146 146	.5 60 2-4 148 148 148	.5 61 2-4 150 150 150	54
66.0	.3 58 4-4 141 141 141	.4 60 4-4 142 142 142	.3 62 2-4 143 143 143	.4 63 2-4 146 146 146	.4 64 2-4 149 149 149	54
64.0	.4 61 4-4 139 139 139	.4 63 4-4 140 140 140	.4 65 2-4 142 142 142	.4 66 2-4 145 145 145	.4 67 2-4 147 147 147	54
62.0	.5 64 4-4 137 137 137	.5 66 4-4 139 139 139	1.1 67 2-4 141 141 141	1.8 67 2-4 144 144 144	.0 67 133 137 137	54
60.0	.7 67 4-4 136 136 136	1.9 67 4-4 138 138 138	.0 67 130 135 135	.0 67 128 135 135	.0 67 126 135 135	54
58.0	.0 67 128 132 133	.0 67 125 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	54
56.0	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	54
54.0	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128	54
52.0	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	54
50.0	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	54
45.0	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	54
40.0	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2251.(FT) QNH ALT. : 2527.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3320.0(M) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-06-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-2.0	76757 4-4 146 151 152	78870 4-4 150 154 154	81065 4-4 154 156 156	82224 2-4 158 159 159	83172 2-4 161 162 162
13.0	75417 4-4 143 150 151	77390 4-4 147 152 153	79588 4-4 152 155 155	81010 4-4 154 157 157	82095 2-4 157 159 159
28.0	74069 4-4 140 149 149	76074 4-4 145 151 151	78122 4-4 149 153 153	79580 4-4 152 155 155	80962 4-4 155 157 157
43.4	72687 4-4 137 147 148	74734 4-4 142 150 150	76742 4-4 147 152 152	78132 4-4 150 154 154	79552 4-4 152 155 155
45.0	72083 4-4 138 147 147	74112 4-4 143 149 149	76147 4-4 148 151 151	77612 4-4 150 153 153	79025 4-4 153 155 155
46.0	71699 4-4 139 146 147	73719 4-4 143 149 149	75794 4-4 148 151 151	77282 4-4 151 153 153	78678 4-4 154 155 155
48.0	70936 4-4 140 146 146	72931 4-4 145 148 148	75147 4-4 149 151 151	76601 4-4 152 152 152	77661 2-4 155 155 155
49.0	70551 4-4 140 145 146	72569 4-4 145 148 148	74818 4-4 150 150 150	76116 4-4 152 152 152	76999 2-4 155 155 155
51.0	69794 4-4 141 145 145	71917 4-4 146 147 147	73875 4-4 150 150 150	74774 4-4 152 152 152	75615 2-4 155 155 155
52.0	69407 4-4 142 144 144	71604 4-4 146 147 147	73217 4-4 149 149 149	74110 4-4 152 152 152	74927 2-4 154 154 154
53.0	69072 4-4 142 144 144	71187 4-4 147 147 147	72561 4-4 149 149 149	73442 2-4 151 151 151	74245 2-4 154 154 154
55.0	68401 4-4 143 143 143	69865 4-4 145 145 145	71210 4-4 149 149 149	72051 2-4 151 151 151	72828 2-4 154 154 154
56.0	67717 4-4 143 143 143	69145 4-4 144 144 144	70480 4-4 148 148 148	71321 2-4 150 150 150	72079 2-4 153 153 153
58.0	66337 4-4 141 141 141	67743 4-4 143 143 143	69058 4-4 146 146 146	69879 2-4 149 149 149	70619 2-4 152 152 152
59.0	65666 4-4 141 141 141	67057 4-4 142 142 142	68362 4-4 146 146 146	69166 2-4 148 148 148	69908 2-4 151 151 151
60.0	65007 4-4 140 140 140	66384 4-4 142 142 142	67677 4-4 145 145 145	68477 2-4 148 148 148	69197 2-4 151 151 151
62.0	63722 4-4 139 139 139	65065 4-4 141 141 141	66331 2-4 143 143 143	67111 2-4 146 146 146	67808 2-4 150 150 150
63.0	63094 4-4 138 138 138	64418 4-4 140 140 140	65667 2-4 143 143 143	66437 2-4 146 146 146	67120 2-4 149 149 149
65.0	61860 4-4 137 137 137	63149 4-4 139 139 139	64359 2-4 142 142 142	65103 2-4 145 145 145	65773 2-4 148 148 148
66.0	61253 4-4 136 136 136	62525 4-4 139 139 139	63715 2-4 142 142 142	64443 2-4 145 145 145	65098 2-4 148 148 148
67.0	60650 4-4 136 136 136	61905 4-4 138 138 138	63078 2-4 141 141 141	63788 2-4 144 144 144	64426 2-4 147 147 147

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2251.(FT) QNH ALT. : 2527.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

PARIS ORLY (LFPO) - RWY 08 - CONF 2

CONF 2 | **PARIS - ORLY** | **LFPO 08**

ELEVATION= 276.0(FT) — CODES LIMITATIONS — **A320-214**/AA/565B4IMP
T.O.R.A. = 3320.0(M) — 1-STRUCTURE 5-TYRE SPEED — JARA MC69 08-06-01
A.S.D.A. = 3320.0(M) — 2-2ND-SEGMENT 6-BRAKE ENERGY
T.O.D.A. = 3320.0(M) — 3-RUNWAY 7-RWY 2 ENGINES
SLOPE = .09(%) — 4-OBSTACLE 8-FINAL T.O.

QNH=1013.25 (MB)
GRAD1= 70/GRAD2= 300
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

WIND (KT)
WGHT INCR.1000(KG) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE TGA
DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.1 8 4-4 142 144 146	.0 33 4-4 142 144 146	.1 46 2-4 146 146 147	.4 47 2-4 148 148 150	.5 48 2-4 151 151 153	49 49
76.0	.0 19 4-4 140 143 146	.1 43 4-4 140 143 146	.4 47 2-4 146 146 147	.6 48 2-4 148 148 150	.1 50 2-4 151 151 153	50 50
74.0	.0 41 4-4 136 141 144	.2 48 4-4 142 142 144	.3 50 4-4 145 145 147	.5 51 2-4 147 147 149	.7 52 2-4 150 150 152	53 52
72.0	1.8 43 4-4 136 141 143	.2 51 4-4 141 141 143	.3 53 2-4 144 144 146	.4 54 2-4 147 147 149	.5 55 2-4 149 149 151	54 54
70.0	.0 52 4-4 138 138 140	.1 54 4-4 141 141 142	.1 56 2-4 143 143 144	.2 57 2-4 145 145 147	.2 58 2-4 147 147 149	54 54
68.0	.0 55 4-4 136 136 138	.7 56 4-4 140 140 141	.6 58 2-4 141 141 143	.7 59 2-4 144 144 145	.7 60 2-4 146 146 147	54 54
66.0	.6 57 4-4 135 135 137	.5 59 4-4 137 137 139	.5 61 2-4 139 139 141	.6 62 2-4 142 142 143	.6 63 2-4 144 144 146	54 54
64.0	.5 60 4-4 133 133 135	.5 62 4-4 135 135 137	.4 64 2-4 138 138 139	.5 65 2-4 140 140 142	.5 66 2-4 143 143 144	54 54
62.0	.5 63 4-4 131 131 133	.5 65 4-4 134 134 135	.4 67 2-4 137 137 138	1.2 67 2-4 140 140 141	1.8 67 2-4 143 143 144	54 54
60.0	.0 67 4-4 130 130 132	1.2 67 4-4 133 133 134	.0 67 123 128 129	.0 67 121 128 129	.0 67 121 128 129	54 54
58.0	.0 67 122 125 127	.0 67 120 125 127	.0 67 120 125 127	.0 67 120 125 127	.0 67 120 125 127	54 54
56.0	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	54 54
54.0	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	54 54
52.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54 54
50.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54 54
45.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54 54
40.0	.0 67 116 118 122	.0 67 116 118 122	.0 67 116 118 122	.0 67 116 118 122	.0 67 116 118 122	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2201.(FT) QNH ALT. : 2477.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2 | **PARIS - ORLY** | **LFPO 08**

ELEVATION= 276.0(FT) — CODES LIMITATIONS — **A320-214**/AA/565B4IMP
T.O.R.A. = 3320.0(M) — 1-STRUCTURE 5-TYRE SPEED — JARA MC69 08-06-01
A.S.D.A. = 3320.0(M) — 2-2ND-SEGMENT 6-BRAKE ENERGY
T.O.D.A. = 3320.0(M) — 3-RUNWAY 7-RWY 2 ENGINES
SLOPE = .09(%) — 4-OBSTACLE 8-FINAL T.O.

QNH=1013.25 (MB)
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

MTOW (KG) — CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE
DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	78060 4-4 144 145 147	79972 2-4 149 149 151	81485 2-4 153 153 155	82401 2-4 156 156 159	83247 2-4 159 159 162
13.0	76604 4-4 141 144 146	78862 4-4 145 146 148	80533 2-4 150 150 152	81552 2-4 154 154 156	82480 2-4 157 157 159
28.0	75212 4-4 138 142 145	77468 4-4 143 145 147	79479 2-4 147 147 149	80540 2-4 150 151 153	81537 2-4 154 154 156
43.4	73790 4-4 136 141 143	76034 4-4 140 143 145	78245 4-4 144 146 148	79521 2-4 147 148 150	80527 2-4 151 152 154
45.0	73191 4-4 137 141 143	75457 4-4 141 143 145	77618 2-4 145 145 147	78691 2-4 149 149 151	79696 2-4 152 152 154
46.0	72814 4-4 137 140 142	75086 4-4 141 143 145	77086 2-4 146 146 147	78069 2-4 149 149 151	78984 2-4 152 152 154
48.0	72054 4-4 138 140 142	74203 4-4 142 142 144	75694 4-4 146 146 148	76649 2-4 148 148 150	77530 2-4 151 151 153
49.0	71674 4-4 139 139 141	73523 4-4 142 142 144	75003 4-4 145 145 147	75941 2-4 148 148 150	76805 2-4 151 151 153
51.0	70662 4-4 138 138 140	72169 4-4 141 141 143	73627 4-4 145 145 146	74536 2-4 147 147 149	75366 2-4 151 151 153
52.0	70010 4-4 138 138 140	71497 4-4 141 141 143	72939 2-4 144 144 146	73837 2-4 147 147 149	74653 2-4 150 150 152
53.0	69362 4-4 138 138 139	70830 4-4 141 141 143	72257 2-4 144 144 146	73132 2-4 147 147 149	73934 2-4 150 150 152
55.0	68012 4-4 136 136 138	69453 4-4 140 140 142	70843 2-4 143 143 145	71680 2-4 146 146 148	72455 2-4 149 149 151
56.0	67279 4-4 136 136 137	68706 4-4 140 140 141	70077 2-4 143 143 144	70920 2-4 146 146 147	71688 2-4 149 149 150
58.0	65854 4-4 134 134 136	67253 4-4 138 138 140	68596 2-4 141 141 143	69420 2-4 144 144 146	70173 2-4 147 147 149
59.0	65161 4-4 134 134 135	66546 4-4 137 137 139	67874 2-4 140 140 142	68686 2-4 144 144 145	69430 2-4 147 147 148
60.0	64480 4-4 133 133 135	65850 4-4 137 137 138	67163 2-4 140 140 141	67965 2-4 143 143 144	68699 2-4 146 146 147
62.0	63151 4-4 132 132 134	64491 4-4 135 135 137	65771 2-4 139 139 140	66553 2-4 142 142 143	67263 2-4 145 145 146
63.0	62503 4-4 131 131 133	63826 4-4 135 135 136	65090 2-4 138 138 140	65866 2-4 141 141 143	66558 2-4 144 144 146
65.0	61236 4-4 131 131 132	62521 4-4 134 134 135	63753 2-4 137 137 138	64497 2-4 140 140 142	65178 2-4 143 143 145
66.0	60615 4-4 130 130 132	61880 4-4 133 133 135	63091 2-4 137 137 138	63822 2-4 140 140 141	64483 2-4 143 143 144
67.0	60004 4-4 130 130 132	61248 4-4 133 133 134	62437 2-4 137 137 138	63155 2-4 140 140 141	63797 2-4 143 143 144

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2201.(FT) QNH ALT. : 2477.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

PARIS ORLY (LFPO) - RWY 08 - CONF 3

CONF 3 | **PARIS - ORLY** | **LFPO 08**

ELEVATION= 276.0(FT) — CODES LIMITATIONS
T.O.R.A. = 3320.0(M) — 1-STRUCTURE 5-TYRE SPEED
A.S.D.A. = 3320.0(M) — 2-2ND-SEGMENT 6-BRAKE ENERGY
T.O.D.A. = 3320.0(M) — 3-RUNWAY 7-RWY 2 ENGINES
SLOPE = .09(%) — 4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 08-06-01

QNH=1013.25 (MB)
GRAD1= 70/GRAD2= 400
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE TGA
DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 22 4-4 139 140 142	.3 43 2-4 140 141 143	.3 46 2-4 146 146 147	.5 47 2-4 149 149 150	.6 48 2-4 152 152 153	49 49
76.0	.0 34 4-4 137 138 140	.5 45 2-4 141 141 143	.6 47 2-4 146 146 147	.1 49 2-4 148 148 149	.2 50 2-4 152 152 152	50 50
74.0	1.2 43 4-4 135 137 140	.5 48 4-4 142 142 144	.5 50 2-4 145 145 146	.7 51 2-4 148 148 149	.7 52 2-4 151 151 152	53 52
72.0	.3 49 4-4 138 138 140	.4 51 4-4 140 140 142	.4 53 2-4 144 144 145	.5 54 2-4 147 147 148	.5 55 2-4 150 150 151	54 54
70.0	.3 52 4-4 137 137 139	.4 54 4-4 140 140 141	.2 56 2-4 142 142 144	.3 57 2-4 145 145 146	.2 58 2-4 147 147 148	54 54
68.0	.3 55 4-4 136 136 138	.2 57 4-4 138 138 140	.0 59 2-4 140 140 142	.0 60 2-4 143 143 144	.7 60 2-4 146 146 147	54 54
66.0	.1 58 4-4 133 133 135	.0 60 4-4 136 136 137	.6 61 2-4 139 139 141	.6 62 2-4 141 141 143	.5 63 2-4 144 144 145	54 54
64.0	.0 61 4-4 131 131 133	.7 62 4-4 134 134 136	.5 64 2-4 137 137 139	.5 65 2-4 140 140 141	.4 66 2-4 143 143 144	54 54
62.0	.1 64 4-4 130 130 132	.0 66 2-4 132 132 133	.5 67 2-4 136 136 137	1.2 67 2-4 139 139 140	1.7 67 2-4 142 142 143	54 54
60.0	.2 67 4-4 129 129 130	1.4 67 2-4 131 131 133	.0 67 2 120 126 127	.0 67 2 120 126 127	.0 67 2 120 126 127	54 54
58.0	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	54 54
56.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
54.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
52.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
50.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
45.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	54 54
40.0						54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2138.(FT) QNH ALT. : 2414.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3 | **PARIS - ORLY** | **LFPO 08**

ELEVATION= 276.0(FT) — CODES LIMITATIONS
T.O.R.A. = 3320.0(M) — 1-STRUCTURE 5-TYRE SPEED
A.S.D.A. = 3320.0(M) — 2-2ND-SEGMENT 6-BRAKE ENERGY
T.O.D.A. = 3320.0(M) — 3-RUNWAY 7-RWY 2 ENGINES
SLOPE = .09(%) — 4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 08-06-01

QNH=1013.25 (MB)
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

MTOW (KG) WIND (KT) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE
DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	78650 4-4 146 146 147	80154 4-4 149 149 151	81585 2-4 154 154 155	82440 2-4 157 157 158	83218 2-4 160 160 161
13.0	77718 4-4 141 141 144	79343 4-4 147 147 148	80803 2-4 151 151 152	81702 2-4 155 155 156	82509 2-4 158 158 159
28.0	76560 4-4 138 139 141	78390 2-4 143 144 145	79970 2-4 149 149 150	80888 2-4 153 153 153	81742 2-4 156 156 156
43.4	75162 4-4 135 137 140	77264 2-4 140 141 142	78920 2-4 145 146 147	79976 2-4 150 150 151	80943 2-4 154 154 154
45.0	74539 4-4 136 137 139	76484 2-4 141 141 143	78025 2-4 146 146 147	78956 2-4 150 150 150	79825 2-4 153 153 154
46.0	74126 4-4 136 137 139	75840 4-4 142 142 144	77318 2-4 146 146 147	78238 2-4 149 149 150	79078 2-4 153 153 153
48.0	72969 4-4 138 138 140	74473 4-4 142 142 144	75912 2-4 145 145 147	76807 2-4 149 149 150	77621 2-4 152 152 153
49.0	72297 4-4 138 138 140	73788 4-4 141 141 143	75215 2-4 145 145 146	76092 2-4 148 148 149	76893 2-4 152 152 153
51.0	70964 4-4 137 137 140	72420 4-4 140 140 142	73813 2-4 145 145 146	74664 2-4 148 148 149	75439 2-4 151 151 152
52.0	70303 4-4 137 137 139	71740 4-4 140 140 142	73113 2-4 144 144 146	73950 2-4 148 148 149	74702 2-4 151 151 152
53.0	69646 4-4 137 137 139	71063 4-4 140 140 142	72418 2-4 144 144 145	73233 2-4 147 147 148	73972 2-4 151 151 152
55.0	68279 4-4 136 136 138	69667 4-4 139 139 141	70990 2-4 143 143 145	71778 2-4 147 147 148	72479 2-4 150 150 151
56.0	67538 4-4 135 135 137	68913 4-4 138 138 140	70223 2-4 142 142 144	71004 2-4 146 146 147	71712 2-4 149 149 150
58.0	66096 4-4 133 133 135	67444 4-4 137 137 139	68730 2-4 141 141 142	69498 2-4 144 144 145	70183 2-4 147 147 148
59.0	65395 4-4 133 133 135	66729 4-4 136 136 138	68008 2-4 140 140 142	68757 2-4 143 143 145	69445 2-4 147 147 148
60.0	64705 4-4 132 132 134	66025 4-4 136 136 137	67284 2-4 139 139 141	68033 2-4 143 143 144	68710 2-4 146 146 147
62.0	63358 4-4 131 131 133	64650 4-4 134 134 136	65872 2-4 138 138 140	66602 2-4 141 141 143	67251 2-4 145 145 146
63.0	62700 4-4 130 130 132	63977 4-4 133 133 135	65178 2-4 138 138 139	65895 2-4 141 141 142	66530 2-4 144 144 145
65.0	61413 4-4 129 129 131	62656 4-4 132 132 134	63821 2-4 137 137 138	64509 2-4 140 140 141	65125 2-4 143 143 144
66.0	60782 4-4 129 129 131	62006 2-4 132 132 133	63152 2-4 136 136 138	63836 2-4 139 139 141	64423 2-4 143 143 144
67.0	60160 4-4 129 129 130	61367 2-4 131 131 133	62491 2-4 136 136 137	63160 2-4 139 139 140	63732 2-4 142 142 143

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2138.(FT) QNH ALT. : 2414.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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PARIS ORLY (LFPO) - RWY 25 - CONF 1 + F

CONF1+F	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. = 3650.0(M) A.S.D.A. = 3650.0(M) T.O.D.A. = 3710.0(M) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.1 36 4-6 134 153 153	.4 45 4-6 138 155 155	.3 48 4-6 146 160 160	.7 49 4-4 150 163 163	.7 49 2-8 49 155 158 158 49
76.0	.6 43 4-6 132 152 152	.3 47 4-6 140 156 156	.1 50 4-4 148 160 160	.1 51 4-8 153 159 159	.1 51 2-8 50 154 156 156 50
74.0	.1 48 4-6 136 152 152	.5 50 4-4 143 157 157	.2 53 4-4 151 161 161	.4 53 4-8 155 156 156	.4 53 2-8 53 152 155 155 52
72.0	.4 51 4-4 138 153 153	.1 54 4-4 146 157 157	.3 56 4-4 153 162 162	.6 57 4-8 158 164 164	.1 59 4-4 54 163 166 166 54
70.0	.0 55 4-4 141 154 154	.3 57 4-4 148 158 158	.5 59 4-4 156 162 162	.1 61 4-4 161 163 163	.1 62 4-2 54 164 164 164 54
68.0	.3 58 4-4 144 154 154	.5 60 4-4 151 158 158	.0 63 4-4 159 161 161	.2 64 4-4 164 164 164	.5 64 4-2 54 162 162 162 54
66.0	.0 62 4-4 147 154 154	.2 64 4-4 155 158 158	.2 66 4-4 162 162 162	.7 66 4-2 164 164 164	.2 67 4-2 54 159 159 159 54
64.0	.3 65 4-4 150 155 155	.4 67 4-4 157 158 158	1.5 67 4-4 163 163 163	2.0 67 4-2 162 162 162	.0 67 2 54 142 146 146 54
62.0	1.2 67 4-4 152 155 155	.0 67 4 140 140 140	.0 67 4 138 138 138	.0 67 133 137 137	.0 67 127 137 137 54
60.0	.0 67 131 135 135	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135 54
58.0	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133 54
56.0	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131 54
54.0	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128 54
52.0	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126 54
50.0	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124 54
45.0	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122 54
40.0	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2287.(FT) QNH ALT. : 2573.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. = 3650.0(M) A.S.D.A. = 3650.0(M) T.O.D.A. = 3710.0(M) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-2.0	79631 4-4 141 161 161	81249 4-4 147 164 164	82790 4-4 152 168 168	83780 4-4 155 170 170	84716 4-4 158 173 173
13.0	78646 4-4 138 158 158	80281 4-4 143 161 161	81865 4-6 148 165 165	82874 4-6 151 167 167	83827 4-4 155 170 170
28.0	77636 4-6 135 155 155	79278 4-6 140 158 158	80896 4-6 145 162 162	81922 4-6 148 164 164	82918 4-6 151 166 166
43.4	76520 6-6 132 152 152	78242 4-6 137 155 155	79897 4-6 142 159 159	80950 4-6 145 161 161	81951 4-6 148 163 163
45.0	75706 4-6 133 152 152	77384 4-6 138 155 155	79010 4-6 144 159 159	80046 4-6 147 161 161	81036 4-6 150 164 164
46.0	75161 4-6 134 152 152	76823 4-6 139 156 156	78428 4-6 144 159 159	79461 4-6 148 162 162	80251 4-8 151 162 162
48.0	74060 4-6 136 152 152	75689 4-6 141 156 156	77266 4-6 146 160 160	78265 4-6 150 162 162	78575 4-8 154 159 159
49.0	73502 4-4 136 153 153	75100 4-6 142 156 156	76668 4-6 147 160 160	77650 4-4 150 163 163	77737 2-8 154 158 158
50.0	72944 4-4 137 153 153	74523 4-4 143 157 157	76058 4-4 148 160 160	76899 4-8 152 161 161	76899 2-8 154 157 157
52.0	71790 4-4 139 153 153	73335 4-4 144 157 157	74814 4-4 150 161 161	75221 4-8 154 158 158	75221 2-8 153 156 156
53.0	71220 4-4 139 154 154	72730 4-4 145 157 157	74178 4-4 151 161 161	74382 4-8 155 156 156	74382 2-8 152 155 155
55.0	70046 4-4 141 154 154	71501 4-4 147 158 158	72910 4-4 152 162 162	73179 4-8 156 156 156	73179 2-8 153 155 155
56.0	69461 4-4 142 154 154	70903 4-4 148 158 158	72297 4-4 153 162 162	73178 4-8 157 164 164	73178 2-8 157 158 158
58.0	68309 4-4 144 154 154	69718 4-4 149 158 158	71072 4-4 155 162 162	71929 4-4 159 164 164	72763 4-4 162 167 167
59.0	67731 4-4 144 154 154	69120 4-4 150 158 158	70455 4-4 156 162 162	71310 4-4 160 164 164	72135 4-4 163 166 166
60.0	67164 4-4 145 154 154	68530 4-4 151 158 158	69845 4-4 157 162 162	70692 4-4 161 164 164	71513 4-4 164 165 165
62.0	66024 4-4 147 154 154	67351 4-4 153 158 158	68633 4-4 158 162 162	69466 4-4 162 163 163	70108 4-2 164 164 164
63.0	65456 4-4 148 154 154	66760 4-4 154 158 158	68036 4-4 159 161 161	68844 4-4 163 163 163	69319 4-2 163 163 163
65.0	64319 4-4 150 155 155	65586 4-4 155 158 158	66815 4-4 161 161 161	67491 4-2 165 165 165	67752 4-2 161 161 161
66.0	63751 4-4 151 155 155	65001 4-4 156 157 157	66173 4-4 162 162 162	66736 4-2 164 164 164	66967 4-2 160 160 160
67.0	63182 4-4 152 155 155	64408 4-4 157 158 158	65482 4-4 163 163 163	65971 4-2 162 162 162	66175 4-2 159 159 159

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2287.(FT) QNH ALT. : 2573.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

PARIS ORLY (LFPO) - RWY 25 - CONF 2

CONF 2	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. = 3650.0(M) A.S.D.A. = 3650.0(M) T.O.D.A. = 3710.0(M) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 40/GRAD2= 400 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY	WIND (KT) WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA **DRY RUNWAY** 2 3

TREF = 43 DC TMAX = 54 DC		-10		-5		0		10		20		
WEIGHT 1000KG												
77.0	.1 132	43 4-4 150 152	.1 139	46 4-4 153 156	.4 145	48 4-4 157 160	.7 150	49 4-8 159 161	.7 152	49 2-8 155 157	49	49
76.0	.1 133	45 4-4 150 152	.5 140	47 4-4 153 156	.1 147	50 4-4 157 160	.1 152	51 4-8 155 157	.1 151	51 2-8 153 155	50	50
74.0	.3 135	48 4-4 150 153	.0 143	51 4-4 154 157	.2 150	53 4-4 158 161	.4 153	53 4-8 155 155	.4 149	53 2-8 152 154	53	52
72.0	.5 138	51 4-4 151 153	.1 145	54 4-4 155 157	.2 152	56 4-4 158 161	.4 157	57 4-4 160 162	.6 162	58 4-4 162 165	54	54
70.0	.1 141	55 4-4 151 153	.2 148	57 4-4 155 157	.3 155	59 4-4 157 160	.5 160	60 4-4 160 162	.3 160	61 4-4 160 162	54	54
68.0	.2 143	58 4-4 151 153	.4 150	60 4-4 155 157	.4 157	62 4-4 157 159	.2 158	63 4-4 158 160	.0 157	64 4-4 157 159	54	54
66.0	.5 145	61 4-4 151 153	.5 153	63 4-4 154 156	.2 155	65 4-4 155 157	.7 156	65 4-4 156 158	.5 156	66 4-4 156 158	54	54
64.0	.1 149	65 4-4 151 152	.6 154	66 4-4 154 155	.7 154	67 4-4 154 155	1.2 154	67 4-4 154 156	1.7 155	67 4-4 155 157	54	54
62.0	.9 151	67 4-4 151 152	1.8 153	67 4-4 153 154	.0 136	67 4 136 137	.0 132	67 2 135 136	.0 125	67 2 135 136	54	54
60.0	.0 132	67 4 132 133	.0 129	67 4 129 130	.0 123	67 4 128 129	.0 121	67 128 129	.0 121	67 128 129	54	54
58.0	.0 120	67 125 127	.0 120	67 125 127	.0 120	67 125 127	.0 120	67 125 127	.0 120	67 125 127	54	54
56.0	.0 118	67 123 125	.0 118	67 123 125	.0 118	67 123 125	.0 118	67 123 125	.0 118	67 123 125	54	54
54.0	.0 117	67 120 123	.0 117	67 120 123	.0 117	67 120 123	.0 117	67 120 123	.0 117	67 120 123	54	54
52.0	.0 116	67 118 121	.0 116	67 118 121	.0 116	67 118 121	.0 116	67 118 121	.0 116	67 118 121	54	54
50.0	.0 116	67 118 121	.0 116	67 118 121	.0 116	67 118 121	.0 116	67 118 121	.0 116	67 118 121	54	54
45.0	.0 116	67 118 121	.0 116	67 118 121	.0 116	67 118 121	.0 116	67 118 121	.0 116	67 118 121	54	54
40.0	.0 116	67 118 122	.0 116	67 118 122	.0 116	67 118 122	.0 116	67 118 122	.0 116	67 118 122	54	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2306.(FT) QNH ALT. : 2592.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. = 3650.0(M) A.S.D.A. = 3650.0(M) T.O.D.A. = 3710.0(M) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

TREF = 43 DC TMAX = 54 DC		-10		-5		0		10		20		
O A T DC												
-2.0	79812 142	4-4 158 161	81395 147	4-4 161 165	82892 151	4-4 165 168	83890 155	4-4 168 170	84844 159	4-4 170 173		
13.0	78902 138	4-4 155 158	80515 143	4-4 158 162	82033 148	4-4 162 165	83054 151	4-4 164 167	84041 155	4-4 167 170		
28.0	77971 135	4-4 152 155	79609 140	4-4 156 159	81166 144	4-4 159 162	82195 148	4-4 161 164	83215 151	4-4 164 166		
43.4	77025 132	4-4 150 152	78667 137	4-4 153 156	80246 141	4-4 156 159	81303 145	4-4 158 161	82352 148	4-4 161 164		
45.0	76096 133	4-4 150 152	77743 138	4-4 153 156	79295 143	4-4 156 159	80342 146	4-4 159 161	81089 150	8-4 159 161		
46.0	75507 134	4-4 150 152	77136 139	4-4 153 156	78686 143	4-4 157 159	79720 147	4-4 159 162	80251 151	4-8 157 159		
48.0	74319 135	4-4 150 153	75929 140	4-4 154 156	77429 145	4-4 157 160	78445 149	4-4 159 162	78575 152	2-8 155 157		
49.0	73723 136	4-4 150 153	75305 141	4-4 154 156	76794 146	4-4 157 160	77737 150	4-8 159 161	77737 152	2-8 155 157		
50.0	73119 137	4-4 150 153	74682 142	4-4 154 157	76142 147	4-4 157 160	76899 151	4-8 157 159	76899 151	2-8 154 156		
52.0	71909 138	4-4 151 153	73414 144	4-4 154 157	74835 149	4-4 158 160	75221 153	4-8 153 156	75221 150	2-8 153 155		
53.0	71293 139	4-4 151 153	72775 144	4-4 155 157	74164 150	4-4 158 161	74382 153	4-8 153 155	74382 149	2-8 152 154		
55.0	70052 141	4-4 151 153	71490 146	4-4 155 157	72841 151	4-4 158 161	73179 154	4-8 154 156	73179 150	2-8 152 154		
56.0	69441 142	4-4 151 153	70862 147	4-4 155 157	72195 152	4-4 158 161	73092 156	4-4 161 163	73178 155	2-8 155 157		
58.0	68244 143	4-4 151 153	69619 148	4-4 155 157	70921 154	4-4 158 160	71788 158	4-4 159 162	72626 162	4-4 162 165		
59.0	67641 144	4-4 151 153	68994 149	4-4 154 157	70284 155	4-4 157 160	71142 159	4-4 159 161	71864 162	4-4 162 164		
60.0	67046 145	4-4 151 153	68377 150	4-4 155 157	69653 155	4-4 157 159	70495 160	4-4 160 162	71086 161	4-4 161 163		
62.0	65860 146	4-4 151 153	67144 152	4-4 154 156	68384 157	4-4 157 159	68989 158	4-4 158 161	69539 159	4-4 159 161		
63.0	65264 147	4-4 151 153	66530 153	4-4 154 156	67662 157	4-4 157 159	68227 158	4-4 158 160	68769 158	4-4 158 160		
65.0	64082 149	4-4 151 152	65296 154	4-4 154 156	66162 155	4-4 155 157	66710 156	4-4 156 158	67236 157	4-4 157 158		
66.0	63490 150	4-4 150 152	64561 154	4-4 154 155	65415 155	4-4 155 156	65954 155	4-4 155 157	66470 156	4-4 156 158		
67.0	62893 151	4-4 151 152	63828 153	4-4 153 154	64670 154	4-4 154 155	65200 154	4-4 154 156	65708 155	4-4 155 157		

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2306.(FT) QNH ALT. : 2592.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

PARIS ORLY (LFPO) - RWY 25 - CONF 3

CONF 3	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. = 3650.0(M) A.S.D.A. = 3650.0(M) T.O.D.A. = 3710.0(M) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 40/GRAD2= 400 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 43 DC TMAX = 54 DC	WIND (KT) WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.2 43 4-4 132 151 152	.3 46 4-4 140 155 156	.5 48 4-4 148 159 160	.7 49 4-8 153 161 161	.7 49 2-8 49 153 156 156 49
76.0	.2 45 4-4 134 151 152	.0 48 4-4 142 155 156	.2 50 4-4 150 160 160	.1 51 4-8 155 156 157	.1 51 2-8 50 151 154 155 50
74.0	.4 48 4-4 136 151 152	.1 51 4-4 144 156 157	.1 53 4-4 153 160 160	.4 53 4-8 154 154 155	.4 53 2-8 53 150 153 153 52
72.0	.6 51 4-4 138 152 153	.1 54 4-4 147 157 157	.1 56 4-4 156 159 160	.2 57 4-4 161 161 162	.1 58 4-4 54 163 163 163 54
70.0	.0 55 4-4 142 153 153	.1 57 4-4 150 156 157	.1 59 4-4 159 159 159	.0 60 4-4 160 160 160	.6 60 4-4 54 161 161 161 54
68.0	.2 58 4-4 145 152 153	.2 60 4-4 153 155 155	.7 61 4-4 158 158 159	.5 62 4-4 158 158 158	.3 63 4-4 54 158 158 158 54
66.0	.4 61 4-4 148 151 152	.3 63 4-4 156 156 156	.4 64 4-4 156 156 156	.2 65 4-4 156 156 156	.7 65 4-4 54 156 156 156 54
64.0	.6 64 4-4 151 152 152	.1 66 4-4 153 153 153	.2 67 4-4 153 153 153	.7 67 4-4 154 154 154	1.2 67 4-4 54 155 155 155 54
62.0	.5 67 4-4 151 151 151	1.4 67 4-4 152 152 152	.0 67 4 135 135 136	.0 67 2 131 134 135	.0 67 2 54 124 134 135 54
60.0	.0 67 4 131 131 132	.0 67 4 128 128 129	.0 67 2 125 126 127	.0 67 2 120 126 127	.0 67 2 54 120 126 127 54
58.0	.0 67 4 122 122 124	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 54 117 120 122 54
56.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 54 116 118 120 54
54.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 54 116 118 120 54
52.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 54 116 118 120 54
50.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 54 116 118 120 54
45.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 54 115 117 120 54
40.0					54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2302.(FT) QNH ALT. : 2588.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

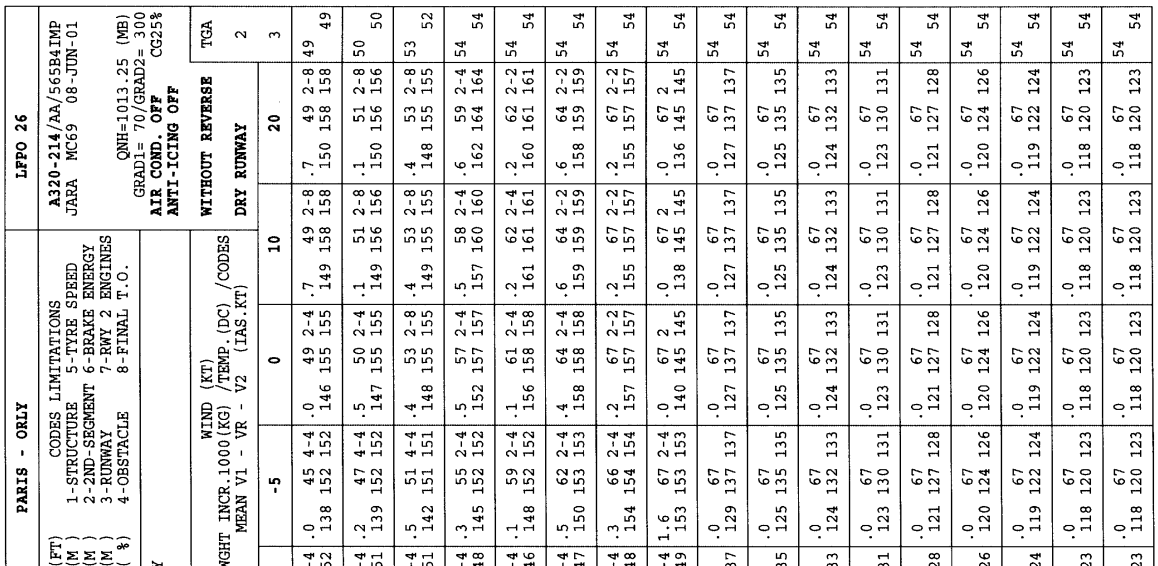
CONF 3	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. = 3650.0(M) A.S.D.A. = 3650.0(M) T.O.D.A. = 3710.0(M) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 43 DC TMAX = 54 DC	MTOW (KG) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
-2.0	79881 4-4 144 160 161	81426 4-4 150 164 165	82863 4-4 156 168 168	83803 4-4 160 170 170	84687 4-4 164 173 173
13.0	79036 4-4 140 157 158	80624 4-4 145 161 162	82114 4-4 151 165 165	83080 4-4 155 167 168	83995 4-4 159 170 170
28.0	78137 4-4 136 154 155	79779 4-4 141 158 159	81315 4-4 147 162 162	82311 4-4 151 164 164	83266 4-4 155 167 167
43.4	77185 4-4 132 151 152	78862 4-4 138 155 156	80460 4-4 143 159 159	81483 4-4 147 161 161	82406 4-8 151 163 163
45.0	76246 4-4 134 151 152	77895 4-4 139 155 156	79456 4-4 145 159 159	80469 4-4 149 161 162	81089 4-8 153 159 160
46.0	75642 4-4 134 151 152	77278 4-4 140 155 156	78814 4-4 146 159 160	79805 4-4 150 162 162	80251 2-8 154 158 158
48.0	74427 4-4 136 151 152	76003 4-4 142 155 156	77492 4-4 148 159 160	78465 4-4 152 162 163	78575 2-8 154 156 157
49.0	73809 4-4 137 151 153	75370 4-4 143 156 156	76829 4-4 149 160 160	77737 4-8 153 161 161	77737 2-8 153 156 156
50.0	73185 4-4 138 151 153	74718 4-4 143 156 157	76153 4-4 150 160 160	76899 4-8 154 158 158	76899 2-8 152 155 155
52.0	71944 4-4 139 152 153	73412 4-4 145 156 157	74788 4-4 152 160 161	75221 4-8 155 155 155	75221 2-8 150 153 154
53.0	71303 4-4 140 152 153	72740 4-4 146 157 157	74089 4-4 153 160 160	74382 4-8 154 154 155	74382 2-8 149 153 153
55.0	70037 4-4 142 153 153	71409 4-4 148 157 157	72715 4-4 155 160 160	73179 4-8 156 156 156	73179 2-8 151 154 154
56.0	69412 4-4 143 152 153	70764 4-4 149 157 157	72065 4-4 156 159 160	72923 4-4 160 161 161	73178 4-8 158 158 158
58.0	68187 4-4 145 152 153	69494 4-4 151 156 156	70782 4-4 158 158 159	71558 4-4 162 162 162	72130 4-4 163 163 163
59.0	67577 4-4 146 152 153	68867 4-4 152 156 156	70128 4-4 159 159 159	70789 4-4 161 161 161	71353 4-4 162 162 162
60.0	66967 4-4 147 151 152	68249 4-4 153 155 155	69440 4-4 159 159 159	70022 4-4 160 160 160	70579 4-4 161 161 161
62.0	65763 4-4 149 151 151	66996 4-4 156 156 156	67931 4-4 158 158 158	68497 4-4 158 158 158	69039 4-4 159 159 159
63.0	65169 4-4 150 151 151	66298 4-4 156 156 156	67180 4-4 157 157 157	67738 4-4 157 157 157	68273 4-4 158 158 158
65.0	63951 4-4 153 153 153	64828 4-4 154 154 154	65686 4-4 155 155 155	66228 4-4 156 156 156	66746 4-4 156 156 156
66.0	63233 4-4 152 152 152	64096 4-4 153 153 153	64943 4-4 154 154 154	65476 4-4 155 155 155	65986 4-4 155 155 155
67.0	62516 4-4 151 151 151	63366 4-4 152 152 152	64201 4-4 153 153 153	64726 4-4 154 154 154	65227 4-4 155 155 155

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2302.(FT) QNH ALT. : 2588.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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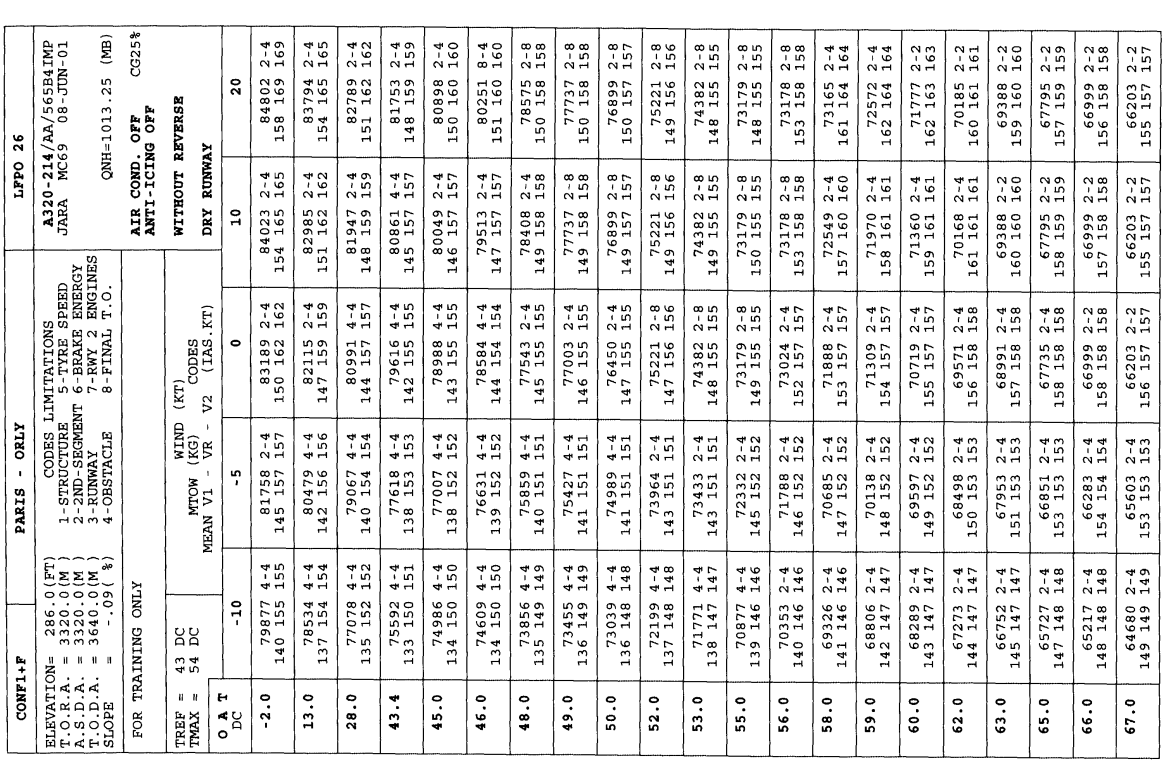
PARIS ORLY (LFPO) - RWY 26 - CONF 1 + F



CONF1+F	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3640.0(M) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 70/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

WEIGHT 1000KG	-10	-5	0	10	20	TGA 2	TGA 3
77.0	.1 28 4-4 135 152 152	.0 45 4-4 138 152 152	.0 49 2-4 146 155 155	.7 49 2-8 149 158 158	.7 49 2-8 150 158 158	49	49
76.0	.0 39 4-4 133 151 151	.2 47 4-4 139 152 152	.5 50 2-4 147 155 155	.1 51 2-8 149 156 156	.1 51 2-8 150 156 156	50	50
74.0	1.6 43 4-4 133 151 151	.5 51 4-4 142 151 151	.4 53 2-8 148 155 155	.4 53 2-8 149 155 155	.4 53 2-8 148 155 155	53	52
72.0	.2 52 4-4 137 148 148	.3 55 2-4 145 152 152	.5 57 2-4 152 157 157	.5 58 2-4 157 160 160	.6 59 2-4 162 164 164	54	54
70.0	.4 56 2-4 140 146 146	.1 59 2-4 148 152 152	.1 61 2-4 156 158 158	.2 62 2-4 161 161 161	.2 62 2-2 160 161 161	54	54
68.0	.3 60 2-4 143 147 147	.5 62 2-4 150 153 153	.4 64 2-4 158 158 158	.6 64 2-2 159 159 159	.6 64 2-2 158 159 159	54	54
66.0	.2 64 2-4 146 148 148	.3 66 2-4 154 154 154	.2 67 2-2 157 157 157	.2 67 2-2 155 157 157	.2 67 2-2 155 157 157	54	54
64.0	.7 67 2-4 149 149 149	1.6 67 2-4 153 153 153	.0 67 2 140 145 145	.0 67 2 138 145 145	.0 67 2 136 145 145	54	54
62.0	.0 67 132 137 137	.0 67 129 137 137	.0 67 127 137 137	.0 67 127 137 137	.0 67 127 137 137	54	54
60.0	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	54	54
58.0	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	54	54
56.0	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	54	54
54.0	.0 67 121 127 128	.0 67 121 127 128	.0 67 121 127 128	.0 67 121 127 128	.0 67 121 127 128	54	54
52.0	.0 67 120 124 126	.0 67 120 124 126	.0 67 120 124 126	.0 67 120 124 126	.0 67 120 124 126	54	54
50.0	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	54	54
45.0	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	54	54
40.0	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	54	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2229.(FT) QNH ALT. : 2515.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF1+F	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3640.0(M) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	79877 4-4 140 155 155	81758 2-4 145 157 157	83189 2-4 150 162 162	84023 2-4 154 165 165	84802 2-4 158 169 169
13.0	78534 4-4 137 154 154	80479 4-4 142 156 156	82115 2-4 147 159 159	82985 2-4 151 162 162	83794 2-4 154 165 165
28.0	77078 4-4 135 152 152	79067 4-4 140 154 154	80991 4-4 144 157 157	81947 2-4 148 159 159	82789 2-4 151 162 162
43.4	75592 4-4 133 150 151	77618 4-4 138 153 153	79616 4-4 142 155 155	80861 4-4 145 157 157	81753 2-4 148 159 159
45.0	74986 4-4 134 150 150	77007 4-4 138 152 152	78988 4-4 143 155 155	80049 2-4 146 157 157	80898 2-4 150 160 160
46.0	74609 4-4 134 150 150	76631 4-4 139 152 152	78584 4-4 144 154 154	79513 2-4 147 157 157	80251 8-4 151 160 160
48.0	73856 4-4 135 149 149	75859 4-4 140 151 151	77543 2-4 145 155 155	78408 2-4 149 158 158	78575 2-8 150 158 158
49.0	73455 4-4 136 149 149	75427 4-4 141 151 151	77003 2-4 146 155 155	77737 2-8 149 158 158	77737 2-8 150 158 158
50.0	73039 4-4 136 148 148	74989 4-4 141 151 151	76450 2-4 147 155 155	76899 2-8 149 157 157	76899 2-8 150 157 157
52.0	72199 4-4 137 148 148	73964 2-4 143 151 151	75221 2-8 147 156 156	75221 2-8 149 156 156	75221 2-8 149 156 156
53.0	71771 4-4 138 147 147	73433 2-4 143 151 151	74382 2-8 148 155 155	74382 2-8 149 155 155	74382 2-8 148 155 155
55.0	70877 4-4 139 146 146	72332 2-4 145 152 152	73179 2-8 149 155 155	73179 2-8 150 155 155	73179 2-8 148 155 155
56.0	70353 2-4 140 146 146	71708 2-4 146 152 152	73024 2-4 152 157 157	73178 2-8 153 158 158	73178 2-8 153 158 158
58.0	69326 2-4 141 146 146	70685 2-4 147 152 152	71888 2-4 153 157 157	72549 2-4 157 160 160	73165 2-4 161 164 164
59.0	68806 2-4 142 147 147	70138 2-4 148 152 152	71309 2-4 154 157 157	71970 2-4 158 161 161	72572 2-4 162 164 164
60.0	68289 2-4 143 147 147	69597 2-4 149 152 152	70719 2-4 155 157 157	71360 2-4 159 161 161	71777 2-2 162 163 163
62.0	67273 2-4 144 147 147	68498 2-4 150 153 153	69571 2-4 156 158 158	70168 2-4 161 161 161	70185 2-2 160 161 161
63.0	66752 2-4 145 147 147	67953 2-4 151 153 153	68991 2-4 157 158 158	69388 2-2 160 160 160	69388 2-2 159 160 160
65.0	65727 2-4 147 148 148	66851 2-4 153 153 153	67735 2-4 158 158 158	67795 2-2 158 159 159	67795 2-2 157 159 159
66.0	65217 2-4 148 148 148	66283 2-4 154 154 154	66999 2-2 158 158 158	66999 2-2 157 158 158	66999 2-2 156 158 158
67.0	64680 2-4 149 149 149	65603 2-4 153 153 153	66203 2-2 156 157 157	66203 2-2 155 157 157	66203 2-2 155 157 157

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2229.(FT) QNH ALT. : 2515.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

PARIS ORLY (LFPO) - RWY 26 - CONF 2

CONF 2	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3640.0(M) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.3 43 4-4 131 144 147	.1 47 2-4 138 148 150	.2 49 2-4 145 152 155	.7 49 2-8 148 154 157	.7 49 2-8 49 149 154 157 49
76.0	.0 46 4-4 132 143 145	.5 48 2-4 139 148 150	.6 50 2-4 146 153 155	.1 51 2-8 148 153 155	.1 51 2-8 50 147 153 155 50
74.0	.5 49 2-4 134 143 145	.2 52 2-4 142 149 151	.4 53 2-8 147 152 154	.4 53 2-8 147 152 154	.4 53 2-8 53 145 152 154 52
72.0	.3 53 2-4 137 144 146	.4 55 2-4 144 149 151	.3 57 2-4 151 154 156	.4 58 2-4 156 157 159	.1 59 2-4 54 159 159 162 54
70.0	.0 57 2-4 140 144 146	.1 59 2-4 147 149 151	.5 60 2-4 154 154 156	.2 61 2-4 156 156 158	.6 61 2-4 54 158 158 160 54
68.0	.3 60 2-4 142 144 146	.3 62 2-4 149 149 151	.3 63 2-4 152 152 154	.7 63 2-4 155 155 157	.2 64 2-2 54 155 155 157 54
66.0	.0 64 2-4 144 145 146	.2 65 4-4 148 148 149	.1 66 2-4 151 151 152	.5 66 2-4 153 153 155	.6 66 2-2 54 153 154 155 54
64.0	.7 66 2-4 144 144 145	.7 67 4-4 147 147 149	1.4 67 2-4 150 150 152	1.7 67 2-4 152 152 154	1.8 67 2-2 54 152 153 154 54
62.0	2.0 67 2-4 144 144 145	.0 67 2 127 135 136	.0 67 2 124 135 136	.0 67 2 124 135 136	.0 67 2 54 124 135 136 54
60.0	.0 67 121 128 129	.0 67 121 128 129	.0 67 121 128 129	.0 67 121 128 129	.0 67 54 121 128 129 54
58.0	.0 67 120 125 127	.0 67 120 125 127	.0 67 120 125 127	.0 67 120 125 127	.0 67 54 120 125 127 54
56.0	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 54 118 123 125 54
54.0	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 54 117 120 123 54
52.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 54 116 118 121 54
50.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 54 116 118 121 54
45.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 54 116 118 121 54
40.0	.0 67 116 118 122	.0 67 116 118 122	.0 67 116 118 122	.0 67 116 118 122	.0 67 54 116 118 122 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2172.(FT) QNH ALT. : 2458.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3640.0(M) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	80685 2-4 140 150 152	82172 2-4 145 155 158	83424 2-4 150 159 162	84249 2-4 154 163 166	85019 2-4 158 166 169
13.0	79615 2-4 136 147 149	81143 2-4 141 152 155	82440 2-4 146 157 159	83298 2-4 150 160 163	84092 2-4 154 163 166
28.0	78466 4-4 134 146 148	80117 2-4 138 149 152	81439 2-4 143 154 156	82341 2-4 147 157 160	83184 2-4 151 160 163
43.4	77238 4-4 131 144 147	79089 2-4 135 147 149	80430 2-4 140 151 153	81360 2-4 144 154 157	82233 2-4 148 157 160
45.0	76485 4-4 132 144 146	78219 2-4 137 147 149	79544 2-4 142 152 154	80464 2-4 145 155 157	81089 2-8 148 157 159
46.0	76000 4-4 132 143 145	77662 2-4 137 147 149	78982 2-4 142 152 154	79881 2-4 146 155 157	80251 2-8 148 156 159
48.0	75023 4-4 134 143 145	76541 2-4 139 148 150	77821 2-4 144 152 154	78575 2-8 147 155 157	78575 2-8 148 155 157
49.0	74475 2-4 134 143 145	75967 2-4 140 148 150	77237 2-4 145 152 155	77737 2-8 147 154 157	77737 2-8 148 154 157
50.0	73924 2-4 135 143 145	75398 2-4 140 148 150	76637 2-4 146 153 155	76899 2-8 148 154 156	76899 2-8 148 154 156
52.0	72820 2-4 137 144 145	74237 2-4 142 149 151	75221 2-8 147 152 155	75221 2-8 147 152 155	75221 2-8 145 152 155
53.0	72258 2-4 137 144 146	73641 2-4 143 149 151	74382 2-8 147 152 154	74382 2-8 146 152 154	74382 2-8 145 152 154
55.0	71124 2-4 139 144 146	72445 2-4 144 149 151	73179 2-8 148 152 154	73179 2-8 147 152 154	73179 2-8 146 152 154
56.0	70563 2-4 139 144 146	71853 2-4 145 149 151	72946 2-4 151 154 156	73178 2-8 152 155 157	73178 2-8 151 155 157
58.0	69441 2-4 141 144 146	70680 2-4 146 149 151	71725 2-4 152 154 156	72393 2-4 156 157 159	72908 2-4 160 160 163
59.0	68889 2-4 142 144 146	70086 2-4 147 149 151	71118 2-4 153 154 156	71743 2-4 157 157 159	72130 2-4 159 159 162
60.0	68340 2-4 142 144 146	69503 2-4 148 149 151	70504 2-4 154 154 156	70975 2-4 156 156 159	71367 2-4 159 159 161
62.0	67234 2-4 144 145 146	68326 2-4 149 149 151	69039 2-4 153 153 155	69462 2-4 155 155 157	69779 2-2 157 157 159
63.0	66698 2-4 144 145 146	67596 2-4 149 149 151	68299 2-4 152 152 154	68701 2-4 155 155 157	68985 2-2 156 156 158
65.0	65378 2-4 144 144 146	66153 4-4 148 148 149	66828 2-4 151 151 153	67222 2-4 153 153 155	67397 2-2 153 154 156
66.0	64692 2-4 144 144 145	65441 4-4 148 148 149	66108 2-4 151 151 152	66474 2-4 153 153 155	66602 2-2 153 154 155
67.0	63999 2-4 144 144 145	64734 4-4 147 147 149	65375 2-4 150 150 152	65745 2-4 152 152 154	65808 2-2 151 153 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2172.(FT) QNH ALT. : 2458.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

PARIS ORLY (LFPO) - RWY 26 - CONF 3

CONF 3	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3640.0(M) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.5 44 2-4 131 142 144	.4 47 2-4 139 148 150	.5 49 2-4 147 154 155	.7 49 2-8 149 155 156	.7 49 2-8 149 155 156	49 49
76.0	.4 46 2-4 133 143 144	.3 49 2-4 141 149 150	.0 51 2-4 148 154 155	.1 51 2-8 148 154 155	.1 51 2-8 147 154 155	50 50
74.0	.2 50 2-4 136 143 145	.5 52 2-4 143 150 151	.4 53 2-8 148 153 153	.4 53 2-8 147 153 153	.4 53 2-8 145 153 153	53 52
72.0	.5 53 2-4 138 144 146	.0 56 2-4 147 150 151	.4 57 2-4 154 156 156	.2 58 2-4 159 159 159	.5 58 2-4 161 161 161	54 54
70.0	.2 57 2-4 141 145 146	.2 59 2-4 149 151 151	.3 60 2-4 155 155 155	.6 60 2-4 157 157 158	.2 61 2-4 159 159 159	54 54
68.0	.5 60 2-4 144 145 146	.1 62 2-4 150 150 150	.0 63 2-4 153 153 153	.4 63 2-4 155 155 156	.7 63 2-4 158 158 158	54 54
66.0	.7 63 2-4 145 145 146	.7 64 2-4 148 148 149	.6 65 2-4 152 152 152	.1 66 2-4 153 153 154	.4 66 2-4 156 156 156	54 54
64.0	.6 66 2-4 144 144 145	.5 67 2-4 147 147 147	1.1 67 2-4 151 151 151	1.4 67 2-4 153 153 153	1.6 67 2-2 155 155 155	54 54
62.0	1.9 67 4-4 143 143 144	.0 67 2 126 134 135	.0 67 2 124 134 135	.0 67 2 124 134 135	.0 67 2 124 134 135	54 54
60.0	.0 67 2 120 126 127	.0 67 2 120 126 127	.0 67 2 120 126 127	.0 67 2 120 126 127	.0 67 2 120 126 127	54 54
58.0	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	54 54
56.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
54.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
52.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
50.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	54 54
45.0	.0 67 115 117 121	.0 67 115 117 121	.0 67 115 117 121	.0 67 115 117 121	.0 67 115 117 121	54 54
40.0						54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2142.(FT) QNH ALT. : 2428.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3640.0(M) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 08-JUN-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	81019 2-4 141 151 153	82443 2-4 147 157 158	83638 2-4 153 162 163	84367 2-4 158 166 166	85019 2-4 162 169 169
13.0	79981 2-4 138 148 150	81484 2-4 143 154 155	82732 2-4 149 159 160	83524 2-4 154 163 163	84220 2-4 158 166 166
28.0	78904 2-4 134 145 147	80484 2-4 140 151 152	81801 2-4 146 156 157	82631 2-4 150 160 160	83385 2-4 154 163 163
43.4	77815 2-4 131 142 144	79446 2-4 136 148 149	80814 2-4 142 153 154	81691 2-4 146 157 157	82406 2-8 150 160 160
45.0	76957 2-4 132 143 144	78566 2-4 138 148 149	79902 2-4 143 153 154	80748 2-4 148 157 157	81089 2-8 150 158 159
46.0	76413 2-4 133 143 144	77988 2-4 138 148 149	79301 2-4 144 154 154	80141 2-4 149 157 158	80251 2-8 150 158 158
48.0	75318 2-4 134 143 145	76824 2-4 140 149 150	78103 2-4 146 154 155	78575 2-8 149 156 157	78575 2-8 150 156 157
49.0	74760 2-4 135 143 145	76253 2-4 141 149 150	77485 2-4 147 154 155	77737 2-8 149 155 156	77737 2-8 149 155 156
50.0	74207 2-4 136 143 145	75652 2-4 141 149 150	76869 2-4 148 155 155	76899 2-8 149 155 155	76899 2-8 148 155 155
52.0	73085 2-4 137 144 146	74466 2-4 143 150 151	75221 2-8 148 153 154	75221 2-8 147 153 154	75221 2-8 146 153 154
53.0	72514 2-4 138 144 146	73839 2-4 144 150 151	74382 2-8 148 153 153	74382 2-8 147 153 153	74382 2-8 145 153 153
55.0	71364 2-4 139 145 146	72618 2-4 146 151 151	73179 2-8 150 153 154	73179 2-8 148 153 154	73179 2-8 147 153 154
56.0	70792 2-4 140 145 146	72001 2-4 147 150 151	73002 2-4 154 156 156	73178 2-8 155 157 157	73178 2-8 153 157 157
58.0	69655 2-4 142 145 146	70789 2-4 148 150 151	71731 2-4 155 156 156	72190 2-4 159 159 159	72519 2-4 161 161 161
59.0	69090 2-4 143 145 146	70185 2-4 149 151 151	71047 2-4 156 156 156	71413 2-4 158 158 158	71747 2-4 161 161 161
60.0	68525 2-4 144 145 146	69582 2-4 150 151 151	70285 2-4 155 155 155	70646 2-4 157 157 158	70974 2-4 160 160 160
62.0	67411 2-4 145 145 147	68149 2-4 150 150 150	68784 2-4 154 154 154	69132 2-4 156 156 156	69445 2-4 158 158 158
63.0	66697 2-4 145 145 146	67415 2-4 149 149 150	68043 2-4 153 153 153	68374 2-4 155 155 156	68672 2-4 158 158 158
65.0	65271 4-4 144 144 145	65966 2-4 148 148 148	66551 2-4 152 152 152	66885 2-4 154 154 154	67174 2-4 156 156 156
66.0	64570 2-4 144 144 145	65248 2-4 147 147 148	65804 2-4 151 151 151	66129 2-4 153 153 154	66416 2-4 156 156 156
67.0	63868 4-4 143 143 144	64533 2-4 147 147 147	65076 2-4 151 151 151	65389 2-4 153 153 153	65640 2-2 155 155 155

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2142.(FT) QNH ALT. : 2428.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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TOULOUSE (LFBO) - RWY 15R - CONF 1 + F

CONF1+F | **TOULOUSE-BLAGNAC** | **LFBO 15R**

ELEVATION= 486.0(FT) — CODES LIMITATIONS — **A320-214/AA/565B4IMP**
T.O.R.A. = 3500.0(M) — 1-STRUCTURE 5-TYRE SPEED — JARA MC69 10-DEC-98
A.S.D.A. = 3500.0(M) — 2-2ND-SEGMENT 6-BRAKE ENERGY
T.O.D.A. = 3500.0(M) — 3-RUNWAY 7-RWY 2 ENGINES
SLOPE = .10(%) — 4-OBSTACLE 8-FINAL T.O. — QNH=1013.25 (MB)
GRAD1= 80/GRAD2= 300
FOR TRAINING ONLY — **AIR COND. OFF** CG25%
ANTI-ICING OFF

TREF = 43 DC / TMAX = 54 DC — WGHT INCR.1000(KG) /TEMP.(DC) /CODES — **WITHOUT REVERSE** — TGA
MEAN V1 - VR - V2 (IAS.KT) — **DRY RUNWAY**

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.1 27 4-4 135 152 152	.2 44 4-4 138 153 153	.2 48 2-4 146 155 155	.1 49 2-8 149 157 157	.1 49 2-8 149 157 157	49 48
76.0	.1 37 4-4 134 151 151	.4 46 4-4 139 152 152	.1 50 2-4 147 156 156	.2 50 2-8 149 156 156	.2 50 2-8 149 156 156	50 49
74.0	1.4 43 4-4 133 150 151	.0 51 4-4 143 151 151	.6 52 2-8 148 155 155	.6 52 2-8 148 155 155	.6 52 2-8 147 155 155	52 52
72.0	.2 51 4-4 138 148 148	.4 54 4-4 145 152 152	.0 57 2-4 153 157 157	.2 58 2-4 158 161 161	.1 59 2-2 162 163 163	54 54
70.0	.2 55 4-4 140 148 148	.2 58 4-4 148 152 152	.3 60 2-4 155 157 157	.4 61 2-4 160 161 161	.5 61 2-2 160 162 162	54 54
68.0	.1 59 4-4 143 148 148	.0 62 4-4 151 153 153	.6 63 2-4 158 158 158	.1 64 2-2 158 159 159	.1 64 2-2 157 159 159	54 54
66.0	.0 63 4-4 146 149 149	.3 65 4-4 153 153 153	.4 66 2-4 157 157 157	.5 66 2-2 156 157 157	.5 66 2-2 155 157 157	54 54
64.0	.5 66 4-4 149 149 149	.9 67 4-4 152 152 152	1.7 67 2-2 156 156 156	1.7 67 2-2 155 156 156	1.7 67 2-2 154 156 156	54 54
62.0	1.9 67 4-4 150 150 150	.0 67 2 133 138 138	.0 67 2 128 138 138	.0 67 2 128 138 138	.0 67 2 128 138 138	54 54
60.0	.0 67 126 135 135	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	54 54
58.0	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	54 54
56.0	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	54 54
54.0	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128	54 54
52.0	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	54 54
50.0	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	54 54
45.0	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	54 54
40.0	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2260.(FT) QNH ALT. : 2746.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F | **TOULOUSE-BLAGNAC** | **LFBO 15R**

ELEVATION= 486.0(FT) — CODES LIMITATIONS — **A320-214/AA/565B4IMP**
T.O.R.A. = 3500.0(M) — 1-STRUCTURE 5-TYRE SPEED — JARA MC69 10-DEC-98
A.S.D.A. = 3500.0(M) — 2-2ND-SEGMENT 6-BRAKE ENERGY
T.O.D.A. = 3500.0(M) — 3-RUNWAY 7-RWY 2 ENGINES
SLOPE = .10(%) — 4-OBSTACLE 8-FINAL T.O. — QNH=1013.25 (MB)
AIR COND. OFF CG25%
ANTI-ICING OFF
FOR TRAINING ONLY

TREF = 43 DC / TMAX = 54 DC — MTOW (KG) CODES — **WITHOUT REVERSE**
MEAN V1 - VR - V2 (IAS.KT) — **DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-2.0	79601 4-4 141 155 155	81449 4-4 146 157 157	82985 2-4 151 162 162	83892 2-4 154 166 166	84709 2-4 158 169 169
13.0	78285 4-4 138 153 154	80222 4-4 143 156 156	81924 2-4 147 159 159	82861 2-4 151 163 163	83723 2-4 154 166 166
28.0	76999 4-4 135 152 152	78936 4-4 140 154 154	80835 4-4 145 157 157	81843 2-4 148 160 160	82730 2-4 151 163 163
43.0	75431 6-6 133 150 151	77608 6-6 138 153 153	79620 4-4 142 155 155	80824 2-4 145 157 157	81751 2-4 148 160 160
44.0	75099 6-6 134 150 150	77237 4-4 138 153 153	79183 4-4 143 155 155	80303 2-4 146 157 157	81218 2-4 149 160 160
46.0	74402 4-4 135 150 150	76363 4-4 139 152 152	78254 2-4 144 154 154	79215 2-4 148 158 158	79580 2-8 149 159 159
47.0	73955 4-4 135 149 149	75920 4-4 140 152 152	77708 2-4 145 155 155	78659 2-4 149 158 158	78744 2-8 149 158 158
49.0	73084 4-4 136 148 148	75033 4-4 141 151 151	76619 2-4 147 155 155	77072 2-8 149 157 157	77072 2-8 149 157 157
50.0	72655 4-4 137 148 148	74566 4-4 142 150 150	76063 2-4 147 156 156	76236 2-8 148 156 156	76236 2-8 149 156 156
52.0	71795 4-4 138 147 147	73510 4-4 143 151 151	74563 2-8 148 155 155	74563 2-8 148 155 155	74563 2-8 147 155 155
53.0	71294 4-4 139 147 147	72967 4-4 144 151 151	73727 2-8 148 154 154	73727 2-8 147 154 154	73727 2-8 145 154 154
54.0	70771 4-4 140 148 148	72408 4-4 145 152 152	72890 2-8 147 153 153	72890 2-8 146 153 153	72890 2-8 144 153 153
56.0	69706 4-4 141 148 148	71313 4-4 146 152 152	72615 2-4 152 157 157	72858 2-8 154 158 158	72858 2-8 153 158 158
57.0	69177 4-4 142 148 148	70759 4-4 147 152 152	72036 2-4 153 157 157	72763 2-4 157 161 161	72857 2-8 158 161 161
59.0	68139 4-4 143 148 148	69680 4-4 149 152 152	70879 2-4 155 157 157	71575 2-4 159 161 161	72053 2-2 162 163 163
60.0	67610 4-4 144 148 148	69135 4-4 150 152 152	70305 2-4 155 157 157	70987 2-4 160 161 161	71257 2-2 161 163 163
61.0	67088 4-4 145 148 148	68581 4-4 150 152 152	69736 2-4 156 158 158	70394 2-4 160 161 161	70460 2-2 160 162 162
63.0	66043 4-4 146 149 149	67498 2-4 152 153 153	68558 2-4 158 158 158	68867 2-2 159 160 160	68867 2-2 158 160 160
64.0	65524 4-4 147 149 149	66935 4-4 153 153 153	67873 2-4 158 158 158	68069 2-2 158 159 159	68069 2-2 157 159 159
66.0	64470 4-4 149 149 149	65636 4-4 153 153 153	66436 2-4 157 157 157	66476 2-2 156 157 157	66476 2-2 154 157 157
67.0	63926 4-4 150 150 150	64948 4-4 152 152 152	65679 2-2 156 156 156	65679 2-2 155 156 156	65679 2-2 153 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2260.(FT) QNH ALT. : 2746.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

TOULOUSE (LFBO) - RWY 15R - CONF 2

CONF 2	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3500.0(M) T.O.D.A. = 3500.0(M) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 400 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.0 42 4-4 132 144 146	.2 46 4-4 138 147 149	.5 48 2-4 145 153 155	.1 49 2-8 147 154 156	.1 49 2-8 49 146 154 156 48
76.0	1.0 43 4-4 131 144 146	.1 48 4-4 140 148 150	.2 50 2-8 146 153 155	.2 50 2-8 147 153 155	.2 50 2-8 50 145 153 155 49
74.0	.4 48 4-4 135 144 146	.4 51 4-4 142 148 150	.6 52 2-8 146 152 154	.6 52 2-8 146 152 154	.6 52 2-8 52 143 152 154 52
72.0	.1 52 4-4 138 145 147	.0 55 4-4 145 149 151	.6 56 2-4 151 154 156	.1 58 2-4 157 158 160	.3 58 2-8 54 157 159 161 54
70.0	.4 55 4-4 140 145 147	.3 58 4-4 147 149 151	.2 60 2-4 154 154 156	.7 60 2-4 157 157 159	.1 61 2-2 54 156 157 159 54
68.0	.2 59 4-4 143 145 147	.5 61 4-4 149 149 151	.7 62 2-4 153 153 155	.4 63 2-4 155 155 157	.5 63 2-2 54 155 156 158 54
66.0	.5 62 4-4 145 146 147	.3 64 4-4 148 148 149	.5 65 2-4 152 152 153	.1 66 2-2 153 153 155	.1 66 2-2 54 152 153 155 54
64.0	.6 65 4-4 145 145 146	.2 67 4-4 147 147 148	1.0 67 2-4 151 151 152	1.3 67 2-2 152 152 154	1.3 67 2-2 54 150 152 154 54
62.0	1.2 67 4-4 144 144 145	.0 67 2 131 136 137	.0 67 2 127 136 137	.0 67 2 126 136 137	.0 67 2 54 126 136 137 54
60.0	.0 67 4 129 129 130	.0 67 2 121 128 130	.0 67 2 121 128 130	.0 67 2 121 128 130	.0 67 2 54 121 128 130 54
58.0	.0 67 120 125 127	.0 67 120 125 127	.0 67 120 125 127	.0 67 120 125 127	.0 67 54 120 125 127 54
56.0	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 54 118 123 125 54
54.0	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 54 117 120 123 54
52.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 54 116 118 120 54
50.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 54 116 118 120 54
45.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 54 116 118 121 54
40.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 54 116 118 121 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2247.(FT) QNH ALT. : 2733.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3500.0(M) T.O.D.A. = 3500.0(M) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	80171 4-4 141 151 154	81896 4-4 145 155 157	83297 2-4 150 160 163	84185 2-4 154 163 166	84994 2-4 158 167 169
13.0	79131 4-4 137 148 151	80853 4-4 142 152 154	82302 2-4 147 157 159	83249 2-4 150 160 163	84084 2-4 154 164 166
28.0	78107 4-4 134 146 148	79830 4-4 139 149 151	81318 2-4 143 154 156	82293 2-4 147 157 160	83189 2-4 151 161 163
43.0	76971 4-4 131 144 146	78834 4-4 136 147 149	80343 2-4 140 151 153	81344 2-4 144 155 157	82063 2-8 147 157 160
44.0	76502 4-4 132 144 146	78301 4-4 137 147 149	79798 2-4 141 152 154	80787 2-4 145 155 157	81251 2-8 147 157 159
46.0	75464 4-4 133 144 146	77184 4-4 138 147 149	78663 2-4 143 152 154	79580 8-4 147 155 158	79580 2-8 147 155 158
47.0	74904 4-4 134 144 146	76625 4-4 139 148 149	78074 2-4 144 152 154	78744 2-8 146 155 157	78744 2-8 147 155 157
49.0	73800 4-4 135 144 146	75487 4-4 141 148 150	76907 2-4 145 153 155	77072 2-8 146 154 156	77072 2-8 146 154 156
50.0	73238 4-4 136 144 146	74929 4-4 141 148 150	76236 2-8 146 153 155	76236 2-8 147 153 155	76236 2-8 145 153 155
52.0	72115 4-4 138 145 147	73770 2-4 143 149 151	74563 2-8 146 152 154	74563 2-8 146 152 154	74563 2-8 143 152 154
53.0	71559 4-4 138 145 147	73183 4-4 143 149 151	73727 2-8 146 151 153	73727 2-8 144 151 153	73727 2-8 142 151 153
54.0	70983 4-4 139 145 147	72593 4-4 144 149 151	72890 2-8 145 150 152	72890 2-8 143 150 152	72890 2-8 141 150 152
56.0	69840 4-4 141 145 147	71415 4-4 146 149 151	72603 2-4 151 154 156	72858 2-8 152 155 157	72858 2-8 151 155 157
57.0	69275 4-4 141 145 147	70836 4-4 146 149 151	71990 2-4 152 154 156	72718 2-4 156 158 160	72857 2-8 156 158 161
59.0	68151 4-4 143 145 147	69663 2-4 148 149 151	70770 2-4 153 154 156	71452 2-4 158 158 160	71652 2-2 158 159 161
60.0	67605 4-4 143 145 147	69083 4-4 149 149 151	70158 2-4 154 154 156	70681 2-4 157 157 159	70857 2-2 157 158 160
61.0	67052 4-4 144 145 147	68508 4-4 149 149 151	69423 2-4 154 154 156	69924 2-4 157 157 159	70062 2-2 156 157 159
63.0	65934 4-4 146 146 147	67063 4-4 148 148 150	67943 2-4 153 153 154	68418 2-4 155 155 157	68471 2-2 154 156 158
64.0	65255 4-4 145 145 147	66348 4-4 148 148 149	67208 2-4 152 152 154	67676 2-4 155 155 157	67676 2-2 153 155 157
66.0	63872 4-4 144 144 146	64927 4-4 147 147 148	65754 2-4 151 151 153	66085 2-2 153 153 155	66085 2-2 151 153 155
67.0	63185 4-4 144 144 145	64229 4-4 147 147 148	65026 2-4 151 151 152	65290 2-2 151 152 154	65290 2-2 150 152 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2247.(FT) QNH ALT. : 2733.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

TOULOUSE (LFBO) - RWY 15R - CONF 3

CONF 3	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3500.0(M) T.O.D.A. = 3500.0(M) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3 TGA

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.4 43 4-4 132 144 145	.5 46 4-4 139 148 149	.1 49 2-8 147 155 155	.1 49 2-8 148 155 155	.1 49 2-8 49 147 155 155 48
76.0	.3 45 4-4 133 144 146	.3 48 4-4 141 149 150	.2 50 2-8 147 154 154	.2 50 2-8 148 154 154	.2 50 2-8 50 145 154 154 49
74.0	.1 49 4-4 136 145 146	.6 51 4-4 143 150 150	.6 52 2-8 147 152 153	.6 52 2-8 146 152 153	.6 52 2-8 52 144 152 153 52
72.0	.3 52 4-4 138 145 147	.2 55 4-4 147 150 151	.0 57 2-4 155 156 157	.6 57 2-4 160 160 160	.2 58 8-8 54 162 162 162 54
70.0	.0 56 4-4 141 146 147	.4 58 2-4 149 151 151	.7 59 2-4 156 156 156	.3 60 2-4 158 158 158	.7 60 2-2 54 161 161 161 54
68.0	.3 59 4-4 144 146 147	.4 61 4-4 150 150 150	.4 62 2-4 154 154 154	.1 63 2-4 156 156 156	.3 63 2-2 54 158 158 158 54
66.0	.5 62 4-4 146 146 147	.2 64 4-4 148 148 148	.2 65 2-4 152 152 152	.6 65 2-4 155 155 155	.7 65 2-2 54 156 156 156 54
64.0	.4 65 4-4 145 145 145	.0 67 4-4 147 147 147	.7 67 2-4 151 151 151	1.1 67 2-4 154 154 154	1.1 67 2-2 54 153 154 154 54
62.0	1.0 67 4-4 144 144 145	.0 67 2 130 135 137	.0 67 2 126 135 137	.0 67 2 125 135 137	.0 67 2 54 125 135 137 54
60.0	.0 67 4 127 127 129	.0 67 2 120 127 129	.0 67 2 120 127 129	.0 67 2 120 127 129	.0 67 2 54 120 127 129 54
58.0	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 54 117 120 122 54
56.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 54 116 118 120 54
54.0	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 54 115 118 120 54
52.0	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 54 115 118 120 54
50.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 54 115 117 120 54
45.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 54 115 117 120 54
40.0					54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2234.(FT) QNH ALT. : 2720.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3500.0(M) T.O.D.A. = 3500.0(M) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	80483 4-4 142 153 154	82189 4-4 148 157 158	83509 2-4 154 163 163	84292 2-4 158 166 166	84985 2-4 162 170 170
13.0	79469 4-4 138 150 151	81210 4-4 144 154 155	82615 2-4 150 159 160	83451 2-4 154 163 163	84200 2-4 158 167 167
28.0	78419 4-4 135 147 148	80199 4-4 140 151 152	81671 2-4 146 156 157	82570 2-4 150 160 160	83368 2-4 154 164 164
43.0	77386 4-4 132 144 145	79178 4-4 137 148 149	80723 2-4 142 153 154	81668 2-4 146 157 157	82063 2-8 148 159 159
44.0	76850 4-4 132 144 145	78637 4-4 138 148 149	80158 2-4 143 154 154	81093 2-4 147 157 158	81251 2-8 149 158 158
46.0	75731 4-4 134 144 146	77495 4-4 139 148 149	78968 2-4 145 154 154	79580 2-8 148 157 157	79580 2-8 148 157 157
47.0	75174 4-4 134 144 146	76923 4-4 140 149 149	78363 2-4 146 154 155	78744 2-8 148 156 156	78744 2-8 148 156 156
49.0	74055 4-4 136 145 146	75761 4-4 141 149 150	77072 2-8 147 155 155	77072 2-8 148 155 155	77072 2-8 146 155 155
50.0	73479 4-4 137 145 146	75173 4-4 142 149 150	76236 2-8 147 154 154	76236 2-8 148 154 154	76236 2-8 145 154 154
52.0	72341 4-4 138 145 147	73985 4-4 144 150 151	74563 2-8 147 152 153	74563 2-8 145 152 153	74563 2-8 143 152 153
53.0	71767 4-4 139 146 147	73383 4-4 145 150 151	73727 2-8 147 152 152	73727 2-8 145 152 152	73727 2-8 142 152 152
54.0	71184 4-4 140 146 147	72781 4-4 146 150 151	72890 2-8 146 151 152	72890 2-8 143 151 152	72890 2-8 141 151 152
56.0	70023 4-4 141 146 147	71558 2-4 147 150 151	72653 2-4 154 156 157	72858 2-8 156 158 158	72858 2-8 154 158 158
57.0	69446 4-4 142 146 147	70954 2-4 148 151 151	72014 2-4 155 156 157	72612 2-4 160 160 160	72857 8-8 161 162 162
59.0	68315 4-4 144 146 147	69757 4-4 150 151 151	70681 2-4 156 156 156	71115 2-4 159 159 159	71473 2-2 162 162 162
60.0	67737 4-4 145 146 147	69098 4-4 151 151 151	69916 2-4 155 155 156	70343 2-4 158 158 158	70680 2-2 161 161 161
61.0	67173 4-4 146 146 147	68352 4-4 150 150 150	69151 2-4 155 155 155	69574 2-4 158 158 158	69887 2-2 160 160 160
63.0	65827 4-4 146 146 146	66893 4-4 149 149 149	67657 2-4 153 153 153	68058 2-4 156 156 156	68300 2-2 157 158 158
64.0	65112 4-4 145 145 146	66165 4-4 148 148 148	66909 2-4 153 153 153	67303 2-4 156 156 156	67506 2-2 156 157 157
66.0	63713 4-4 144 144 145	64732 4-4 147 147 148	65449 2-4 152 152 152	65818 2-4 155 155 155	65919 2-2 154 155 155
67.0	63024 4-4 144 144 145	64021 4-4 147 147 147	64718 2-4 151 151 151	65076 2-4 154 154 154	65126 2-2 153 154 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2234.(FT) QNH ALT. : 2720.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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TOULOUSE (LFBO) - RWY 15L - CONF 1 + F

CONF1+F	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 3000.0(M) A.S.D.A. = 3000.0(M) T.O.D.A. = 3000.0(M) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 70/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) MEAN V1 - VR - V2 (IAS.KT) /TEMP.(DC) /CODES	DRY RUNWAY 2 3 TGA

WEIGHT 1000KG	-10	-5	0	10	20	TGA
77.0		.1 9 4-4 148 152 152	.0 33 4-4 149 152 152	.2 44 4-4 150 153 153	.5 46 4-4 155 155 155	48
76.0	.0 -2 4-4 146 151 151	.1 20 4-4 146 151 151	.1 43 4-4 147 151 151	.4 46 4-4 152 152 152	.1 48 4-4 156 156 156	49 50
74.0	.1 20 4-4 142 149 149	.1 43 4-4 142 149 149	.1 48 4-4 150 150 150	.6 49 4-4 154 154 154	.0 51 4-4 155 155 155	52
72.0	.0 43 4-4 138 146 147	.1 48 4-4 145 147 147	.3 51 4-4 152 152 152	.5 52 4-4 153 153 153	.7 53 4-4 155 155 155	54 54
70.0	.1 48 4-4 140 145 145	.3 52 4-4 148 148 148	.3 54 4-4 152 152 152	.4 55 4-4 152 152 152	.5 56 4-4 153 153 153	54 54
68.0	.1 53 4-4 143 143 143	.3 55 4-4 148 148 148	.1 57 4-4 150 150 150	.2 58 4-4 150 150 150	.3 59 4-4 151 151 151	54 54
66.0	.3 56 4-4 145 145 145	.2 58 4-4 146 146 146	.0 60 4-4 148 148 148	.2 61 4-4 148 148 148	.3 62 4-4 148 148 148	54 54
64.0	.2 59 4-4 143 143 143	.2 61 4-4 144 144 144	.0 63 4-4 146 146 146	.2 64 4-4 146 146 146	.2 65 4-4 146 146 146	54 54
62.0	.3 62 4-4 141 141 141	.2 64 4-4 143 143 143	.1 66 4-4 143 143 143	.2 67 4-4 144 144 144	.9 67 4-4 146 146 146	54 54
60.0	.4 65 4-4 139 139 139	.3 67 4-4 141 141 141	1.4 67 4-4 143 143 143	.0 67 131 135 135	.0 67 129 135 135	54 54
58.0	1.1 67 4-4 138 138 138	.0 67 128 132 133	.0 67 125 132 133	.0 67 124 132 133	.0 67 124 132 133	54 54
56.0	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	54 54
54.0	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128	.0 67 122 127 128	54 54
52.0	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	54 54
50.0	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	54 54
45.0	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	54 54
40.0	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 2524.(FT) QNH ALT. : 3013.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 3000.0(M) A.S.D.A. = 3000.0(M) T.O.D.A. = 3000.0(M) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	75957 4-4 146 151 151	77999 4-4 151 153 153	79992 4-4 155 155 155	81116 4-4 159 159 159	82141 4-4 162 162 162
13.0	74663 4-4 143 149 150	76722 4-4 148 152 152	78736 4-4 152 154 154	80052 4-4 155 155 155	81167 4-4 158 158 158
28.0	73362 4-4 140 148 149	75364 4-4 145 150 151	77486 4-4 149 153 153	78820 4-4 152 154 154	80099 4-4 155 156 156
43.0	72035 4-4 137 146 147	74086 4-4 142 149 149	76129 4-4 147 151 151	77574 4-4 150 153 153	78903 4-4 153 154 154
44.0	71651 4-4 138 146 147	73693 4-4 143 149 149	75789 4-4 148 151 151	77192 4-4 150 153 153	78499 4-4 153 154 154
46.0	70889 4-4 139 145 146	72904 4-4 144 148 148	75025 4-4 149 150 150	76370 4-4 152 152 152	77473 4-4 155 155 155
47.0	70501 4-4 140 145 146	72524 4-4 145 148 148	74611 4-4 149 150 150	75836 4-4 152 152 152	76829 4-4 156 156 156
49.0	69710 4-4 141 144 145	71769 4-4 146 147 147	73587 4-4 151 151 151	74561 4-4 154 154 154	75452 4-4 156 156 156
50.0	69312 4-4 141 144 144	71361 4-4 146 147 147	72968 4-4 152 152 152	73874 4-4 154 154 154	74748 4-4 155 155 155
51.0	68931 4-4 142 144 144	70851 4-4 147 147 147	72327 4-4 152 152 152	73185 4-4 153 153 153	74047 4-4 155 155 155
53.0	68140 4-4 143 143 143	69655 4-4 149 149 149	70960 4-4 152 152 152	71807 4-4 152 152 152	72655 4-4 155 155 155
54.0	67583 4-4 144 144 144	69002 4-4 149 149 149	70282 4-4 152 152 152	71121 4-4 152 152 152	71963 4-4 155 155 155
56.0	66259 4-4 145 145 145	67571 4-4 147 147 147	68830 4-4 151 151 151	69654 4-4 151 151 151	70484 4-4 153 153 153
57.0	65570 4-4 145 145 145	66871 4-4 146 146 146	68119 4-4 150 150 150	68936 4-4 150 150 150	69759 4-4 152 152 152
59.0	64220 4-4 143 143 143	65498 4-4 145 145 145	66727 4-4 149 149 149	67529 4-4 149 149 149	68336 4-4 151 151 151
60.0	63559 4-4 142 142 142	64825 4-4 144 144 144	66043 4-4 148 148 148	66839 4-4 149 149 149	67637 4-4 150 150 150
61.0	62907 4-4 141 141 141	64160 4-4 144 144 144	65367 4-4 147 147 147	66157 4-4 148 148 148	66945 4-4 149 149 149
63.0	61625 4-4 140 140 140	62852 4-4 143 143 143	64034 4-4 146 146 146	64813 4-4 147 147 147	65579 4-4 148 148 148
64.0	60994 4-4 139 139 139	62209 4-4 143 143 143	63376 4-4 145 145 145	64150 4-4 146 146 146	64903 4-4 147 147 147
66.0	59746 4-4 138 138 138	60940 4-4 142 142 142	62073 4-4 143 143 143	62836 4-4 144 144 144	63566 4-4 146 146 146
67.0	59130 4-4 138 138 138	60313 4-4 141 141 141	61431 4-4 143 143 143	62185 4-4 144 144 144	62904 4-4 146 146 146

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 2524.(FT) QNH ALT. : 3013.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

TOULOUSE (LFBO) - RWY 15L - CONF 2

CONF 2	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 3000.0(M) A.S.D.A. = 3000.0(M) T.O.D.A. = 3000.0(M) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) MEAN V1 - VR - V2 (IAS.KT) /TEMP.(DC) /CODES	DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	-.4 -2 4-4 145 145 148	.1 18 4-4 145 146 148	.2 43 4-4 145 145 147	.1 45 4-4 150 150 152	.4 46 4-4 153 153 155
76.0	.0 6 4-4 143 144 146	.0 33 4-4 142 143 145	.0 45 4-4 146 146 149	.4 46 4-4 150 150 153	.6 47 4-4 152 152 154
74.0	.0 32 4-4 138 141 144	1.2 43 4-4 141 143 145	.0 48 4-4 148 148 151	.3 49 4-4 150 150 152	.5 50 4-4 150 150 152
72.0	1.2 43 4-4 136 140 143	.5 48 4-4 144 144 146	.6 50 4-4 148 148 150	.1 52 4-4 148 148 150	.3 53 4-4 149 149 151
70.0	.3 49 4-4 140 140 142	.6 51 4-4 145 145 147	.5 53 4-4 146 146 148	.7 54 4-4 147 147 149	.1 56 4-4 148 148 150
68.0	.4 52 4-4 141 141 143	.5 54 4-4 144 144 146	.3 56 4-4 145 145 147	.5 57 4-4 145 145 146	.6 58 4-4 146 146 148
66.0	.4 55 4-4 141 141 143	.3 57 4-4 142 142 144	.2 59 4-4 143 143 144	.3 60 4-4 143 143 144	.4 61 4-4 144 144 146
64.0	.3 58 4-4 139 139 140	.2 60 4-4 140 140 141	.1 62 4-4 141 141 143	.2 63 4-4 141 141 143	.3 64 4-4 142 142 144
62.0	.3 61 4-4 137 137 138	.2 63 4-4 138 138 139	.1 65 4-4 140 140 141	.2 66 4-4 140 140 141	.3 67 4-4 140 140 141
60.0	.4 64 4-4 135 135 137	.3 66 4-4 136 136 138	.8 67 4-4 138 138 139	1.6 67 4-4 139 139 140	.0 67 2 124 128 130
58.0	.5 67 4-4 133 133 135	1.7 67 4-4 136 136 137	.0 67 120 125 127	.0 67 120 125 127	.0 67 120 125 127
56.0	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125
54.0	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123
52.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120
50.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120
45.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121
40.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 2506.(FT) QNH ALT. : 2995.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 3000.0(M) A.S.D.A. = 3000.0(M) T.O.D.A. = 3000.0(M) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	76614 4-4 145 145 148	78346 4-4 150 150 153	79891 4-4 155 155 158	80871 4-4 156 156 159	81819 4-4 158 158 161
13.0	75547 4-4 142 143 145	77397 4-4 146 146 149	79086 4-4 151 151 154	80122 4-4 155 155 158	81085 4-4 156 156 159
28.0	74353 4-4 139 141 144	76399 4-4 143 144 146	78159 4-4 148 148 150	79281 4-4 151 151 154	80302 4-4 155 155 158
43.0	73155 4-4 136 140 143	75245 4-4 141 143 145	77215 4-4 145 145 147	78395 4-4 148 148 151	79487 4-4 152 152 154
44.0	72726 4-4 137 140 142	74798 4-4 141 142 144	76643 4-4 146 146 148	77783 4-4 149 149 152	78811 4-4 153 153 155
46.0	71842 4-4 138 139 141	73761 4-4 143 143 145	75387 4-4 147 147 150	76396 4-4 150 150 153	77360 4-4 153 153 155
47.0	71398 4-4 138 139 141	73171 4-4 143 143 145	74735 4-4 148 148 151	75680 4-4 150 150 152	76638 4-4 152 152 154
49.0	70318 4-4 140 140 142	71923 4-4 145 145 147	73342 4-4 149 149 151	74259 4-4 150 150 152	75193 4-4 151 151 153
50.0	69729 4-4 141 141 143	71235 4-4 145 145 147	72641 4-4 148 148 150	73552 4-4 149 149 151	74471 4-4 150 150 152
51.0	69104 4-4 141 141 143	70550 4-4 145 145 147	71939 4-4 147 147 150	72846 4-4 148 148 151	73749 4-4 150 150 152
53.0	67787 4-4 141 141 143	69192 4-4 145 145 147	70536 4-4 146 146 148	71433 4-4 147 147 149	72312 4-4 149 149 151
54.0	67130 4-4 142 142 144	68517 4-4 144 144 146	69838 4-4 146 146 148	70726 4-4 147 147 149	71599 4-4 149 149 151
56.0	65690 4-4 140 140 142	67048 4-4 143 143 144	68344 4-4 145 145 147	69214 4-4 145 145 147	70070 4-4 148 148 150
57.0	64987 4-4 139 139 141	66331 4-4 142 142 144	67613 4-4 144 144 146	68473 4-4 145 145 146	69321 4-4 147 147 149
59.0	63617 4-4 138 138 140	64931 4-4 140 140 142	66184 4-4 143 143 144	67024 4-4 143 143 145	67855 4-4 146 146 147
60.0	62948 4-4 137 137 139	64246 4-4 140 140 141	65483 4-4 142 142 144	66314 4-4 143 143 144	67137 4-4 145 145 147
61.0	62289 4-4 137 137 138	63571 4-4 139 139 140	64793 4-4 142 142 143	65613 4-4 142 142 144	66427 4-4 144 144 146
63.0	60999 4-4 136 136 137	62245 4-4 138 138 139	63438 4-4 141 141 142	64238 4-4 141 141 143	65032 4-4 143 143 144
64.0	60366 4-4 135 135 137	61593 4-4 137 137 138	62773 4-4 141 141 142	63563 4-4 141 141 142	64346 4-4 142 142 144
66.0	59119 4-4 134 134 135	60311 4-4 136 136 138	61462 4-4 139 139 140	62235 4-4 140 140 141	62990 4-4 141 141 142
67.0	58507 4-4 133 133 135	59680 4-4 136 136 137	60815 4-4 138 138 139	61581 4-4 139 139 140	62319 4-4 140 140 141

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 2506.(FT) QNH ALT. : 2995.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

TOULOUSE (LFBO) - RWY 15L - CONF 3

CONF 3	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 3000.0(M) A.S.D.A. = 3000.0(M) T.O.D.A. = 3000.0(M) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	-.1 -2 4-4 148 148 149	.0 24 4-4 146 146 148	.6 43 4-4 147 147 148	.2 45 4-4 150 150 151	.4 46 4-4 152 152 153	49 48
76.0	.0 13 4-4 143 143 146	.0 40 4-4 142 142 144	.2 45 4-4 148 148 150	.5 46 4-4 150 150 151	.7 47 4-4 152 152 153	50 49
74.0	.1 41 4-4 136 137 139	1.8 43 4-4 141 141 143	.1 48 4-4 148 148 150	.3 49 4-4 149 149 150	.5 50 4-4 150 150 151	52 52
72.0	1.9 43 4-4 136 136 139	.0 49 4-4 144 144 146	.7 50 4-4 146 146 147	.2 52 4-4 147 147 148	.3 53 4-4 149 149 149	54 54
70.0	.6 49 4-4 140 140 143	.6 51 4-4 144 144 146	.6 53 4-4 145 145 147	.0 55 4-4 145 145 146	.1 56 4-4 147 147 148	54 54
68.0	.6 52 4-4 140 140 143	.6 54 4-4 143 143 145	.4 56 4-4 143 143 145	.5 57 4-4 143 143 145	.6 58 4-4 145 145 146	54 54
66.0	.5 55 4-4 138 138 141	.4 57 4-4 140 140 142	.2 59 4-4 141 141 142	.3 60 4-4 141 141 143	.4 61 4-4 143 143 144	54 54
64.0	.4 58 4-4 136 136 138	.3 60 4-4 138 138 140	.1 62 4-4 138 138 140	.2 63 4-4 139 139 141	.3 64 4-4 141 141 142	54 54
62.0	.3 61 4-4 134 134 136	.3 63 4-4 136 136 138	.1 65 4-4 136 136 138	.2 66 4-4 138 138 140	.3 67 4-4 139 139 140	54 54
60.0	.4 64 4-4 133 133 135	.3 66 4-4 134 134 136	.8 67 4-4 135 135 137	1.6 67 4-4 138 138 139	.0 67 2 122 127 129	54 54
58.0	.5 67 4-4 132 132 134	1.7 67 4-4 134 134 135	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	54 54
56.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
54.0	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	54 54
52.0	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	54 54
50.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	54 54
45.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	54 54
40.0						54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 2443.(FT) QNH ALT. : 2932.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 3000.0(M) A.S.D.A. = 3000.0(M) T.O.D.A. = 3000.0(M) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	76937 4-4 148 148 149	78475 4-4 153 153 155	79915 4-4 155 155 156	80878 4-4 156 156 157	81799 4-4 158 158 159
13.0	76014 4-4 143 143 146	77705 4-4 149 149 151	79177 4-4 153 153 154	80156 4-4 155 155 156	81099 4-4 157 157 157
28.0	74983 4-4 139 139 142	76780 4-4 145 145 147	78412 4-4 151 151 152	79389 4-4 153 153 154	80345 4-4 156 156 156
43.0	73905 4-4 136 136 139	75820 4-4 141 141 143	77566 4-4 147 147 148	78634 4-4 151 151 152	79596 4-4 153 153 154
44.0	73419 4-4 137 137 139	75255 4-4 142 142 144	76930 4-4 148 148 149	77937 4-4 151 151 152	78885 4-4 153 153 154
46.0	72338 4-4 138 138 140	74055 4-4 144 144 146	75539 4-4 149 149 150	76488 4-4 150 150 151	77426 4-4 152 152 153
47.0	71785 4-4 139 139 141	73404 4-4 145 145 147	74825 4-4 149 149 150	75768 4-4 149 149 151	76700 4-4 152 152 153
49.0	70564 4-4 140 140 143	72027 4-4 144 144 146	73408 4-4 148 148 149	74337 4-4 149 149 150	75250 4-4 150 150 151
50.0	69911 4-4 142 142 144	71333 4-4 144 144 146	72693 4-4 146 146 147	73625 4-4 149 149 150	74525 4-4 150 150 151
51.0	69238 4-4 141 141 143	70642 4-4 144 144 146	71998 4-4 147 147 148	72915 4-4 148 148 149	73798 4-4 149 149 150
53.0	67896 4-4 140 140 142	69271 4-4 144 144 145	70597 4-4 145 145 147	71493 4-4 146 146 148	72348 4-4 149 149 149
54.0	67226 4-4 139 139 141	68589 4-4 143 143 145	69902 4-4 145 145 146	70780 4-4 146 146 147	71626 4-4 148 148 149
56.0	65773 4-4 138 138 140	67108 4-4 141 141 143	68395 4-4 143 143 145	69257 4-4 144 144 145	70088 4-4 147 147 148
57.0	65064 4-4 137 137 139	66385 4-4 140 140 142	67658 4-4 142 142 144	68511 4-4 143 143 145	69333 4-4 146 146 147
59.0	63680 4-4 136 136 138	64973 4-4 139 139 141	66217 4-4 141 141 142	67050 4-4 142 142 143	67856 4-4 144 144 146
60.0	63004 4-4 135 135 137	64282 4-4 138 138 140	65512 4-4 140 140 142	66334 4-4 141 141 143	67131 4-4 144 144 145
61.0	62338 4-4 134 134 136	63600 4-4 138 138 140	64816 4-4 139 139 141	65627 4-4 140 140 142	66416 4-4 143 143 144
63.0	61034 4-4 133 133 135	62264 4-4 136 136 138	63450 4-4 138 138 139	64238 4-4 139 139 141	65011 4-4 142 142 143
64.0	60395 4-4 133 133 135	61606 4-4 135 135 137	62778 4-4 137 137 139	63557 4-4 139 139 141	64320 4-4 141 141 142
66.0	59141 4-4 132 132 134	60312 4-4 134 134 136	61454 4-4 136 136 137	62215 4-4 138 138 140	62956 4-4 140 140 141
67.0	58525 4-4 132 132 134	59674 4-4 134 134 135	60802 4-4 135 135 137	61555 4-4 138 138 139	62281 4-4 139 139 140

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 2443.(FT) QNH ALT. : 2932.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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TOULOUSE (LFBO) - RWY 33R - CONF 1 + F

CONF1+F	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0(FT) T.O.R.A. = 3000.0(M) A.S.D.A. = 3000.0(M) T.O.D.A. = 3000.0(M) SLOPE = -.06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 70/GRAD2= 200 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) MEAN V1 - VR - V2 /TEMP.(DC) /CODES (IAS.KT)	DRY RUNWAY

WEIGHT 1000KG	-10	-5	0	10	20	TGA
77.0	.0 5 4-4 142 152 152	.0 27 4-4 143 152 152	.3 44 4-4 145 153 153	.5 47 2-4 150 154 154	.0 49 2-8 154 157 157	49 48
76.0	.1 15 4-4 140 151 151	.1 38 4-4 141 151 151	.2 47 4-4 147 152 152	.4 49 2-4 151 154 154	.2 50 2-8 154 156 156	50 49
74.0	.1 36 4-4 136 149 149	1.6 43 4-4 140 151 151	.4 51 2-4 149 152 152	.5 52 2-4 153 154 154	.5 52 2-8 152 155 155	52 52
72.0	1.4 43 4-4 135 148 149	.2 52 4-4 145 148 148	.2 55 2-4 152 153 153	.4 56 2-4 156 156 156	.3 57 2-4 158 158 158	54 54
70.0	.1 52 4-4 140 145 145	.3 56 2-4 147 148 148	.3 58 2-4 152 152 152	.2 59 2-4 154 154 154	.1 60 2-4 156 156 156	54 54
68.0	.2 57 4-4 143 143 143	.4 59 4-4 148 148 148	.2 61 2-4 150 150 150	.1 62 2-4 153 153 153	.7 62 2-4 155 155 155	54 54
66.0	.5 60 4-4 143 143 143	.3 62 4-4 146 146 146	.1 64 2-4 149 149 149	.0 65 2-4 151 151 151	.5 65 2-4 154 154 154	54 54
64.0	.5 63 4-4 142 142 142	.4 65 4-4 144 144 144	.1 67 2-4 148 148 148	.6 67 2-4 150 150 150	1.1 67 2-4 153 153 153	54 54
62.0	.5 66 4-4 141 141 141	1.1 67 2-4 143 143 143	.0 67 2-4 134 138 138	.0 67 2 133 138 138	.0 67 2 131 138 138	54 54
60.0	1.9 67 4-4 141 141 141	.0 67 4-4 129 135 135	.0 67 126 135 135	.0 67 125 135 135	.0 67 125 135 135	54 54
58.0	.0 67 125 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	54 54
56.0	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	54 54
54.0	.0 67 121 127 128	.0 67 121 127 128	.0 67 121 127 128	.0 67 121 127 128	.0 67 121 127 128	54 54
52.0	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	54 54
50.0	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	54 54
45.0	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	54 54
40.0	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	54 54

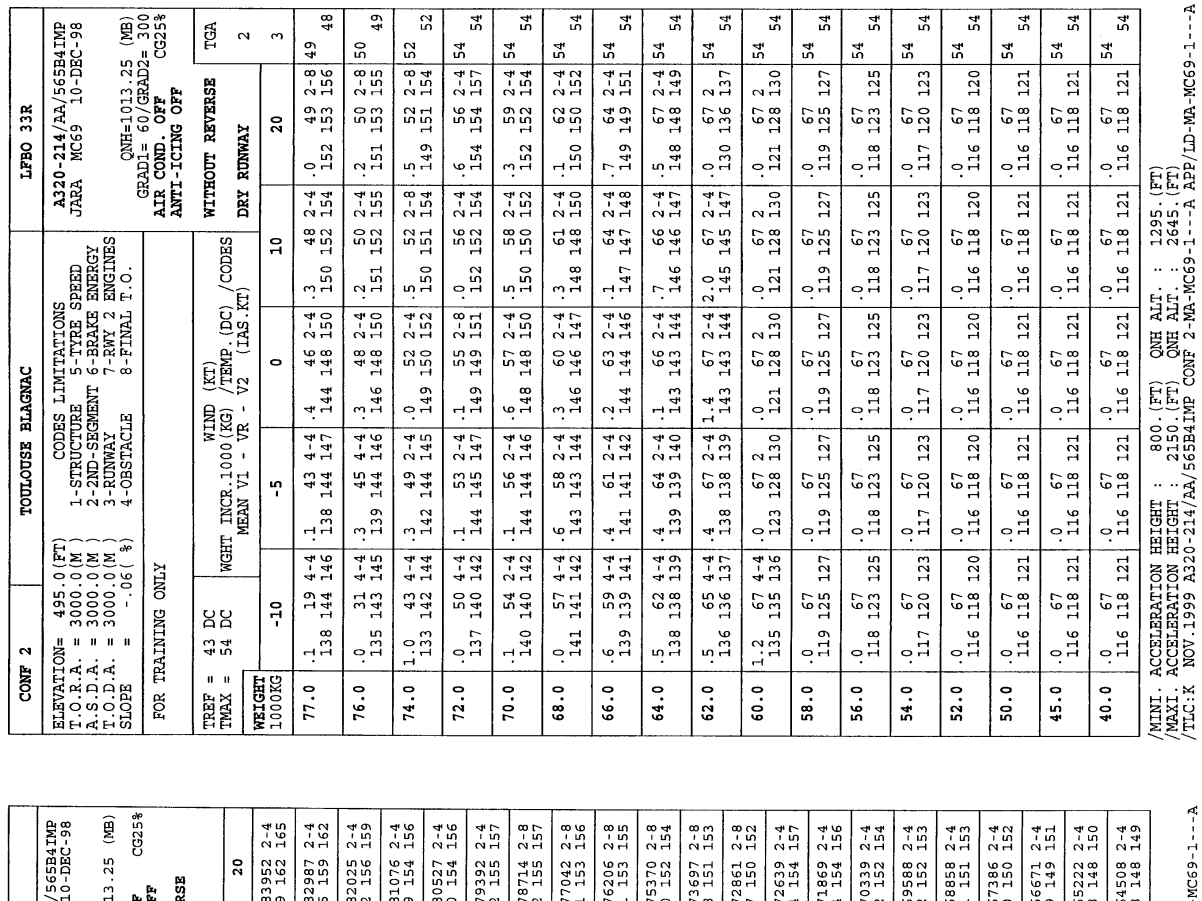
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2200.(FT) QNH ALT. : 2695.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0(FT) T.O.R.A. = 3000.0(M) A.S.D.A. = 3000.0(M) T.O.D.A. = 3000.0(M) SLOPE = -.06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	77682 4-4 143 152 153	79773 4-4 148 155 155	81698 2-4 152 158 158	82676 2-4 156 161 161	83583 2-4 159 164 164
13.0	76258 4-4 140 151 151	78331 4-4 145 153 154	80417 4-4 149 156 156	81598 2-4 152 158 158	82523 2-4 156 161 161
28.0	74847 4-4 138 150 150	76956 4-4 142 152 152	79043 4-4 147 154 154	80395 4-4 150 156 156	81499 2-4 153 158 158
43.0	73377 6-6 135 148 149	75597 4-4 140 151 151	77688 4-4 144 153 153	79080 4-4 147 155 155	80389 4-4 150 156 156
44.0	73065 6-6 136 148 148	75215 4-4 140 150 150	77314 4-4 145 153 153	78700 4-4 148 154 154	79970 2-4 151 156 156
46.0	72314 4-4 137 147 147	74439 4-4 142 150 150	76559 4-4 146 152 152	77929 4-4 149 154 154	78933 2-4 152 157 157
47.0	71932 4-4 137 147 147	74057 4-4 142 149 149	76182 4-4 147 152 152	77467 2-4 150 154 154	78391 2-4 153 157 157
49.0	71202 4-4 138 146 146	73313 4-4 143 149 149	75416 4-4 148 151 151	76407 2-4 151 154 154	77042 2-8 154 157 157
50.0	70840 4-4 139 146 146	72954 4-4 144 148 148	74917 2-4 148 151 151	75867 2-4 152 155 155	76206 2-8 154 156 156
51.0	70472 4-4 139 145 146	72587 4-4 144 148 148	74399 2-4 149 152 152	75315 2-4 153 155 155	75370 2-8 153 155 155
53.0	69752 4-4 140 145 145	71834 4-4 145 147 147	73324 2-4 151 152 152	73697 2-8 152 154 154	73697 2-8 151 154 154
54.0	69402 4-4 141 145 145	71368 2-4 146 147 147	72776 2-4 151 153 153	72861 2-8 151 153 153	72861 2-8 150 153 153
56.0	68601 4-4 142 144 144	70345 2-4 147 148 148	71683 2-4 153 153 153	72403 2-4 156 156 156	72844 2-8 157 158 158
57.0	68210 4-4 143 143 143	69789 4-4 148 148 148	70992 2-4 153 153 153	71696 2-4 155 155 155	72320 2-4 158 158 158
59.0	67114 4-4 143 143 143	68382 4-4 148 148 148	69557 2-4 151 151 151	70239 2-4 154 154 154	70841 2-4 157 157 157
60.0	66454 4-4 143 143 143	67692 4-4 147 147 147	68851 2-4 151 151 151	69518 2-4 154 154 154	70104 2-4 156 156 156
61.0	65783 4-4 143 143 143	67011 4-4 147 147 147	68159 2-4 150 150 150	68807 2-4 153 153 153	69383 2-4 156 156 156
63.0	64465 4-4 142 142 142	65671 4-4 145 145 145	66777 2-4 149 149 149	67402 2-4 152 152 152	67954 2-4 155 155 155
64.0	63817 4-4 142 142 142	65011 4-4 144 144 144	66090 2-4 149 149 149	66703 2-4 152 152 152	67246 2-4 154 154 154
66.0	62542 4-4 141 141 141	63702 2-4 143 143 143	64739 2-4 148 148 148	65317 2-4 151 151 151	65845 2-4 154 154 154
67.0	61915 4-4 141 141 141	63052 2-4 143 143 143	64066 2-4 148 148 148	64639 2-4 150 150 150	65142 2-4 153 153 153

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2200.(FT) QNH ALT. : 2695.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

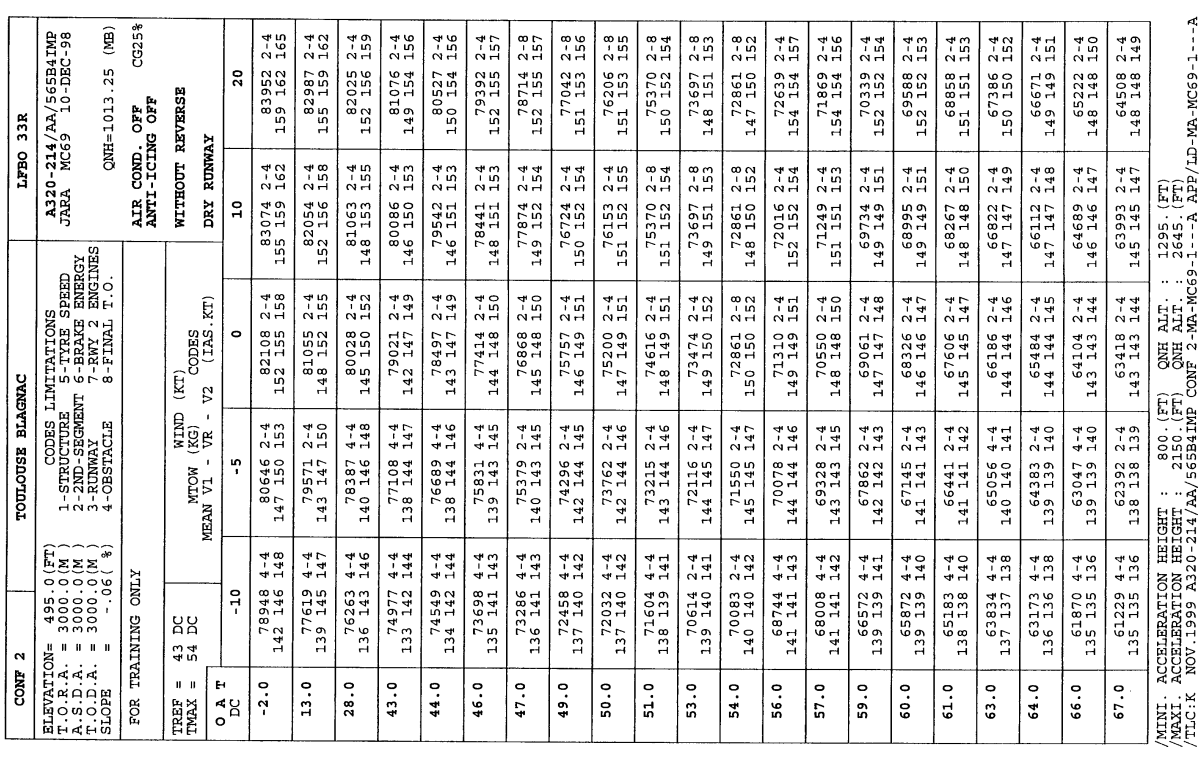
TOULOUSE (LFBO) - RWY 33R - CONF 2



CONF 2	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0(FT) T.O.R.A. = 3000.0(M) A.S.D.A. = 3000.0(M) T.O.D.A. = 3000.0(M) SLOPE = -.06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC		DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.1 19 4-4 138 144 146	.1 43 4-4 138 144 147	.4 46 2-4 144 148 150	.3 48 2-4 150 152 154	.0 49 2-8 152 153 156	49 48
76.0	.0 31 4-4 135 143 145	.3 45 4-4 139 144 146	.3 48 2-4 146 148 150	.2 50 2-4 151 152 155	.2 50 2-8 151 153 155	50 49
74.0	1.0 43 4-4 133 142 144	.3 49 2-4 142 144 145	.0 52 2-4 149 150 152	.5 52 2-8 150 151 154	.5 52 2-8 149 151 154	52 52
72.0	.0 50 4-4 137 140 142	.1 53 2-4 144 145 147	.1 55 2-8 149 149 151	.0 56 2-4 152 152 154	.6 56 2-4 154 154 157	54 54
70.0	.1 54 2-4 140 140 142	.1 56 2-4 144 144 146	.6 57 2-4 148 148 150	.5 58 2-4 150 150 152	.3 59 2-4 152 152 154	54 54
68.0	.0 57 4-4 141 141 142	.6 58 2-4 143 143 144	.3 60 2-4 146 146 147	.3 61 2-4 148 148 150	.1 62 2-4 150 150 152	54 54
66.0	.6 59 4-4 139 139 141	.4 61 2-4 141 141 142	.2 63 2-4 144 144 146	.1 64 2-4 147 147 148	.7 64 2-4 149 149 151	54 54
64.0	.5 62 4-4 138 138 139	.4 64 2-4 139 139 140	.1 66 2-4 143 143 144	.7 66 2-4 146 146 147	.5 67 2-4 148 148 149	54 54
62.0	.5 65 4-4 136 136 137	.4 67 2-4 138 138 139	1.4 67 2-4 143 143 144	2.0 67 2-4 145 145 147	.0 67 2 130 136 137	54 54
60.0	1.2 67 4-4 135 135 136	.0 67 2 123 128 130	.0 67 2 121 128 130	.0 67 2 121 128 130	.0 67 2 121 128 130	54 54
58.0	.0 67 119 125 127	.0 67 119 125 127	.0 67 119 125 127	.0 67 119 125 127	.0 67 119 125 127	54 54
56.0	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	54 54
54.0	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	54 54
52.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
50.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54 54
45.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54 54
40.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2150.(FT) QNH ALT. : 2645.(FT)
/TUC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF 2	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0(FT) T.O.R.A. = 3000.0(M) A.S.D.A. = 3000.0(M) T.O.D.A. = 3000.0(M) SLOPE = -.06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY	MTOW (KG) CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC		DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	78948 4-4 142 146 148	80646 2-4 147 150 153	82108 2-4 152 155 158	83074 2-4 155 159 162	83952 2-4 159 162 165
13.0	77619 4-4 139 145 147	79571 2-4 143 147 150	81055 2-4 148 152 155	82054 2-4 152 156 158	82987 2-4 155 159 162
28.0	76263 4-4 136 143 146	78387 4-4 140 146 148	80028 2-4 145 150 152	81063 2-4 148 153 155	82025 2-4 152 156 159
43.0	74977 4-4 133 142 144	77108 4-4 138 144 147	79021 2-4 142 147 149	80086 2-4 146 150 153	81076 2-4 149 154 156
44.0	74549 4-4 134 142 144	76689 4-4 138 144 146	78497 2-4 143 147 149	79542 2-4 146 151 153	80527 2-4 150 154 156
46.0	73698 4-4 135 141 143	75831 4-4 139 143 145	77414 2-4 144 148 150	78441 2-4 148 151 153	79392 2-4 152 155 157
47.0	73286 4-4 136 141 143	75379 2-4 140 143 145	76868 2-4 145 148 150	77874 2-4 149 152 154	78714 2-8 152 155 157
49.0	72458 4-4 137 140 142	74296 2-4 142 144 145	75757 2-4 146 149 151	76724 2-4 150 152 154	77042 2-8 151 153 156
50.0	72032 4-4 137 140 142	73762 2-4 142 144 146	75200 2-4 147 149 151	76153 2-4 151 152 155	76206 2-8 151 153 155
51.0	71604 4-4 138 139 141	73215 2-4 143 144 146	74616 2-4 148 149 151	75370 2-8 151 152 154	75370 2-8 150 152 154
53.0	70614 2-4 139 140 141	72116 2-4 144 145 147	73474 2-4 149 150 152	73697 2-8 149 151 153	73697 2-8 148 151 153
54.0	70083 2-4 140 140 142	71550 2-4 145 145 147	72861 2-8 150 150 152	72861 2-8 148 150 152	72861 2-8 147 150 152
56.0	68744 4-4 141 141 143	70078 2-4 144 144 146	71310 2-4 149 149 151	72016 2-4 152 152 154	72639 2-4 154 154 157
57.0	68008 4-4 141 141 142	69328 2-4 143 143 145	70550 2-4 148 148 150	71249 2-4 151 151 153	71869 2-4 154 154 156
59.0	66572 4-4 139 139 141	67862 2-4 142 142 143	69061 2-4 147 147 148	69734 2-4 149 149 151	70339 2-4 152 152 154
60.0	65872 4-4 139 139 140	67145 2-4 141 141 143	68326 2-4 146 146 147	68995 2-4 149 149 151	69588 2-4 152 152 153
61.0	65183 4-4 138 138 140	66441 2-4 141 141 142	67606 2-4 145 145 147	68267 2-4 148 148 150	68858 2-4 151 151 153
63.0	63834 4-4 137 137 138	65056 4-4 140 140 141	66186 2-4 144 144 146	66822 2-4 147 147 149	67386 2-4 150 150 152
64.0	63173 4-4 136 136 138	64383 2-4 139 139 140	65484 2-4 144 144 145	66112 2-4 147 147 148	66671 2-4 149 149 151
66.0	61870 4-4 135 135 136	63047 4-4 139 139 140	64104 2-4 143 143 144	64689 2-4 146 146 147	65222 2-4 148 148 150
67.0	61229 4-4 135 135 136	62392 2-4 138 138 139	63418 2-4 143 143 144	63993 2-4 145 145 147	64508 2-4 148 148 149

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2150.(FT) QNH ALT. : 2645.(FT)
/TUC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

TOULOUSE (LFBO) - RWY 33R - CONF 3

CONF 3 | **TOULOUSE BLAGNAC** | **LFBO 33R**

ELEVATION= 495.0(FT)
T.O.R.A. = 3000.0(M)
A.S.D.A. = 3000.0(M)
T.O.D.A. = 3000.0(M)
SLOPE = -.06(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 10-DEC-98

QNH=1013.25 (MB)
GRAD1= 60/GRAD2= 400
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE

WEIGHT 1000KG	-10	-5	0	10	20	TGA
DRY RUNWAY						2
77.0	.1 30 2-4 136 140 142	.4 44 2-4 139 143 145	.2 47 2-4 147 150 150	.6 48 2-4 152 154 154	.0 49 2-8 152 154 155	49 48
76.0	.1 43 2-4 133 138 141	.3 46 2-4 140 144 145	.1 49 2-4 149 150 151	.2 50 2-8 153 154 154	.2 50 2-8 151 154 154	50 49
74.0	.1 47 2-4 135 138 140	.1 50 2-4 143 145 146	.2 52 2-4 151 151 152	.5 52 8-4 152 152 153	.5 52 2-8 150 152 153	52 52
72.0	.0 51 2-4 138 139 141	.4 53 2-4 146 146 147	.1 55 8-4 150 150 151	.4 55 2-8 151 152 152	.5 56 2-4 155 155 156	54 54
70.0	.4 54 2-4 140 140 142	.2 56 2-4 144 144 145	.5 57 2-4 148 148 149	.4 58 2-4 151 151 151	.2 59 2-4 153 153 153	54 54
68.0	.1 57 4-4 140 140 141	.7 58 2-4 142 142 144	.3 60 2-4 146 146 147	.1 61 2-4 148 148 149	.7 61 2-4 152 152 152	54 54
66.0	.7 59 4-4 138 138 140	.5 61 2-4 140 140 142	.1 63 2-4 144 144 145	.7 63 2-4 147 147 148	.5 64 2-4 150 150 150	54 54
64.0	.6 62 4-4 136 136 138	.4 64 2-4 139 139 140	.0 66 2-4 143 143 144	.5 66 2-4 146 146 146	.3 67 2-4 148 148 149	54 54
62.0	.6 65 4-4 134 134 136	.4 67 2-4 137 137 139	1.3 67 2-4 142 142 143	1.8 67 2-4 145 145 146	.0 67 2 129 135 137	54 54
60.0	1.3 67 4-4 133 133 135	.0 67 2 122 127 129	.0 67 2 120 127 129	.0 67 2 120 127 129	.0 67 2 120 127 129	54 54
58.0	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	54 54
56.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
54.0	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	54 54
52.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	54 54
50.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	54 54
45.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	54 54
40.0						54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2107.(FT) QNH ALT. : 2602.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3 | **TOULOUSE BLAGNAC** | **LFBO 33R**

ELEVATION= 495.0(FT)
T.O.R.A. = 3000.0(M)
A.S.D.A. = 3000.0(M)
T.O.D.A. = 3000.0(M)
SLOPE = -.06(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 10-DEC-98

QNH=1013.25 (MB)
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

MTOW (KG) WIND (KT)
MEAN V1 - VR - V2 CODES (IAS.KT)

WITHOUT REVERSE

O A T DC	-10	-5	0	10	20
DRY RUNWAY					
-2.0	79461 2-4 143 146 148	81047 2-4 149 152 153	82468 2-4 155 158 158	83335 2-4 159 162 162	84118 2-4 163 165 166
13.0	78361 2-4 139 143 145	80003 2-4 145 149 150	81493 2-4 151 155 155	82413 2-4 155 158 159	83250 2-4 159 162 162
28.0	77234 2-4 136 140 142	78941 2-4 141 146 147	80484 2-4 147 152 152	81451 2-4 151 155 156	82345 2-4 155 159 159
43.0	76051 4-4 133 138 141	77875 2-4 138 143 145	79475 2-4 144 149 149	80486 2-4 148 152 153	81408 2-4 152 156 156
44.0	75602 4-4 133 138 140	77359 2-4 139 143 145	78938 2-4 144 149 150	79934 2-4 149 153 153	80839 2-4 153 156 157
46.0	74596 2-4 135 138 140	76295 2-4 140 144 145	77803 2-4 146 149 150	78781 2-4 150 153 154	79550 2-8 154 156 157
47.0	74092 2-4 135 138 140	75740 2-4 141 144 145	77238 2-4 147 150 150	78183 2-4 151 153 154	78714 2-8 154 156 156
49.0	73051 2-4 137 139 141	74660 2-4 142 144 146	76098 2-4 149 150 151	76999 2-4 153 154 155	77042 2-8 152 154 155
50.0	72539 2-4 137 139 141	74109 2-4 143 145 146	75512 2-4 149 150 151	76206 2-8 153 154 154	76206 2-8 151 154 154
51.0	72015 2-4 138 139 141	73536 2-4 144 145 146	74915 2-4 150 151 152	75370 8-4 153 153 154	75370 2-8 150 153 154
53.0	70948 2-4 140 140 142	72413 2-4 146 146 147	73573 2-4 151 151 152	73697 2-8 150 152 152	73697 2-8 149 152 152
54.0	70374 2-4 140 140 142	71708 2-4 146 146 147	72861 8-4 151 151 152	72861 2-8 149 151 152	72861 2-8 147 151 152
56.0	68869 4-4 140 140 142	70162 2-4 144 144 145	71308 2-4 149 149 150	71933 2-4 152 152 153	72483 2-4 155 155 156
57.0	68125 4-4 140 140 141	69406 2-4 143 143 144	70539 2-4 148 148 149	71165 2-4 151 151 152	71703 2-4 154 154 155
59.0	66676 4-4 138 138 140	67928 2-4 141 141 143	69030 2-4 147 147 148	69640 2-4 150 150 150	70172 2-4 153 153 153
60.0	65969 4-4 137 137 139	67206 2-4 141 141 142	68290 2-4 146 146 147	68891 2-4 149 149 150	69416 2-4 152 152 153
61.0	65273 4-4 137 137 139	66498 2-4 140 140 142	67555 2-4 145 145 146	68144 2-4 148 148 149	68673 2-4 152 152 152
63.0	63911 4-4 136 136 137	65097 2-4 139 139 141	66122 2-4 144 144 145	66689 2-4 147 147 148	67184 2-4 150 150 151
64.0	63243 4-4 135 135 137	64413 2-4 139 139 140	65406 2-4 143 143 145	65961 2-4 147 147 147	66461 2-4 150 150 150
66.0	61929 4-4 134 134 135	63057 2-4 138 138 139	64011 2-4 143 143 144	64544 2-4 146 146 146	65004 2-4 149 149 149
67.0	61282 4-4 133 133 135	62389 2-4 137 137 139	63324 2-4 142 142 143	63845 2-4 145 145 146	64290 2-4 148 148 149

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2107.(FT) QNH ALT. : 2602.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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TOULOUSE (LFBO) - RWY 33L - CONF 1 + F

CONF1+F | **TOULOUSE BLAGNAC** | **LFBO 33L**

ELEVATION= 497.0(FT)
T.O.R.A. = 3500.0(M)
A.S.D.A. = 3800.0(M)
T.O.D.A. = 3500.0(M)
SLOPE = -.10(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 10-DEC-98

QNH=1013.25 (MB)
GRAD1= 60/GRAD2= 300

FOR TRAINING ONLY

AIR COND. OFF CG25%
ANTI-ICING OFF

TREF = 43 DC
TMAX = 54 DC

MTOW (KG) WIND (KT) CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE

O A T DC	-10	-5	0	10	20
-2.0	79328 4-4 141 154 155	81319 4-4 145 157 157	82778 2-4 150 161 161	83669 2-4 154 165 165	84485 2-4 157 168 168
13.0	77899 4-4 138 153 153	79931 4-4 142 155 155	81707 2-4 147 158 158	82624 2-4 151 162 162	83473 2-4 154 165 165
28.0	76508 4-4 135 151 152	78527 4-4 140 154 154	80537 4-4 144 156 156	81608 2-4 148 159 159	82473 2-4 151 162 162
43.0	75223 4-4 133 150 150	77184 4-4 138 152 152	79224 4-4 142 155 155	80525 4-4 145 156 156	81490 2-4 148 159 159
44.0	74770 4-4 133 150 150	76768 4-4 138 152 152	78818 4-4 143 154 154	80045 2-4 146 156 156	80960 2-4 149 159 159
46.0	73920 4-4 135 149 149	75971 4-4 139 151 151	78007 4-4 144 154 154	78984 2-4 147 157 157	79543 2-8 150 159 159
47.0	73518 4-4 135 149 149	75577 4-4 140 151 151	77504 2-4 145 154 154	78421 2-4 148 157 157	78707 2-8 149 158 158
49.0	72718 4-4 136 148 148	74793 4-4 141 150 150	76425 2-4 146 154 154	77036 2-8 149 157 157	77036 2-8 150 157 157
50.0	72342 4-4 137 148 148	74392 4-4 142 150 150	75871 2-4 147 155 155	76200 2-8 148 156 156	76200 2-8 149 156 156
51.0	71970 4-4 137 147 147	73924 2-4 142 150 150	75309 2-4 148 155 155	75364 2-8 149 155 155	75364 2-8 148 155 155
53.0	71203 4-4 138 147 147	72867 2-4 144 151 151	73691 2-8 148 154 154	73691 2-8 148 154 154	73691 2-8 146 154 154
54.0	70818 4-4 139 146 146	72308 2-4 144 151 151	72854 2-8 147 153 153	72854 2-8 147 153 153	72854 2-8 145 153 153
56.0	69850 2-4 140 146 146	71219 2-4 146 151 151	72450 2-4 152 156 156	72840 2-8 154 158 158	72840 2-8 154 158 158
57.0	69331 2-4 141 146 146	70675 2-4 147 151 151	71877 2-4 153 156 156	72590 2-4 157 160 160	72839 2-8 158 161 161
59.0	68308 2-4 142 146 146	69592 2-4 148 151 151	70736 2-4 154 157 157	71426 2-4 158 160 160	72025 2-4 162 163 163
60.0	67800 2-4 143 146 146	69050 2-4 149 152 152	70167 2-4 155 157 157	70839 2-4 159 160 160	71228 2-2 161 162 162
61.0	67285 2-4 144 146 146	68513 2-4 150 152 152	69588 2-4 156 157 157	70247 2-4 160 160 160	70431 2-2 160 161 161
63.0	66257 2-4 145 147 147	67418 2-4 151 152 152	68417 2-4 157 157 157	68838 2-2 159 160 160	68838 2-2 158 160 160
64.0	65746 2-4 146 147 147	66870 2-4 152 153 153	67701 2-4 157 157 157	68040 2-2 158 159 159	68040 2-2 157 159 159
66.0	64719 2-4 148 148 148	65561 2-4 152 152 152	66289 2-4 156 156 156	66447 2-2 156 157 157	66447 2-2 155 157 157
67.0	64052 2-4 148 148 148	64878 2-4 152 152 152	65578 2-4 156 156 156	65650 2-2 155 156 156	65650 2-2 154 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2219.(FT) QNH ALT. : 2716.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F | **TOULOUSE BLAGNAC** | **LFBO 33L**

ELEVATION= 497.0(FT)
T.O.R.A. = 3500.0(M)
A.S.D.A. = 3800.0(M)
T.O.D.A. = 3500.0(M)
SLOPE = -.10(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 10-DEC-98

QNH=1013.25 (MB)
GRAD1= 60/GRAD2= 300

FOR TRAINING ONLY

AIR COND. OFF CG25%
ANTI-ICING OFF

TREF = 43 DC
TMAX = 54 DC

WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE

WEIGHT 1000KG	-10	-5	0	10	20	TGA
				DRY RUNWAY		2
77.0	.1 22 4-4 136 152 152	.2 43 4-4 138 152 152	.5 47 2-4 145 154 154	.0 49 2-8 149 157 157	.0 49 2-8 150 157 157	3 49 48
76.0	.1 33 4-4 134 151 151	.4 45 4-4 139 152 152	.4 49 2-4 146 154 154	.2 50 2-8 149 156 156	.2 50 2-8 150 156 156	50 49
74.0	1.2 43 4-4 133 150 150	.4 50 4-4 142 150 150	.5 52 2-4 148 154 154	.5 52 2-8 149 155 155	.5 52 2-8 147 155 155	52 52
72.0	.3 50 4-4 137 148 148	.3 54 2-4 144 151 151	.5 56 2-4 152 156 156	.0 58 2-4 157 160 160	.0 59 2-4 162 163 163	54 54
70.0	.3 55 4-4 140 146 146	.1 58 2-4 147 151 151	.2 60 2-4 155 157 157	.2 61 2-4 160 160 160	.4 61 2-2 161 161 161	54 54
68.0	.3 59 2-4 142 146 146	.5 61 2-4 150 152 152	.4 63 2-4 157 157 157	.0 64 2-2 159 159 159	.0 64 2-2 158 159 159	54 54
66.0	.3 63 2-4 145 147 147	.2 65 2-4 152 152 152	.3 66 2-4 156 156 156	.4 66 2-2 156 157 157	.4 66 2-2 155 157 157	54 54
64.0	.1 67 2-4 148 148 148	.9 67 2-4 152 152 152	1.6 67 2-4 156 156 156	1.7 67 2-2 155 156 156	1.7 67 2-2 154 156 156	54 54
62.0	.0 67 2 135 138 138	.0 67 2 132 138 138	.0 67 2 129 138 138	.0 67 2 128 138 138	.0 67 2 128 138 138	54 54
60.0	.0 67 127 135 135	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	.0 67 125 135 135	54 54
58.0	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	.0 67 124 132 133	54 54
56.0	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	.0 67 123 130 131	54 54
54.0	.0 67 121 127 128	.0 67 121 127 128	.0 67 121 127 128	.0 67 121 127 128	.0 67 121 127 128	54 54
52.0	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	.0 67 120 125 126	54 54
50.0	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	.0 67 119 122 124	54 54
45.0	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	.0 67 118 120 122	54 54
40.0	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	.0 67 118 120 123	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2219.(FT) QNH ALT. : 2716.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

TOULOUSE (LFBO) - RWY 33L - CONF 2

CONF 2	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3800.0(M) T.O.D.A. = 3500.0(M) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.1 39 4-4 132 144 146	.1 46 2-4 138 147 149	.3 48 2-4 144 152 154	.0 49 2-8 147 153 156	.0 49 2-8 147 153 156	49 48
76.0	.7 43 4-4 131 144 146	.5 47 2-4 138 147 149	.1 50 2-4 146 152 155	.2 50 2-8 147 153 155	.2 50 2-8 146 153 155	50 49
74.0	.4 48 4-4 134 143 144	.3 51 2-4 142 148 150	.5 52 2-8 146 151 154	.5 52 2-8 146 151 154	.5 52 2-8 144 151 154	52 52
72.0	.3 52 2-4 137 143 145	.5 54 2-4 144 149 151	.5 56 2-4 151 153 156	.6 57 2-4 156 157 159	.2 58 2-8 158 159 161	54 54
70.0	.0 56 2-4 140 144 145	.2 58 2-4 147 149 151	.0 60 2-4 154 154 156	.5 60 2-4 156 156 158	.0 61 2-2 157 157 159	54 54
68.0	.4 59 2-4 142 144 145	.4 61 2-4 149 149 151	.6 62 2-4 153 153 154	.3 63 2-4 155 155 156	.4 63 2-2 155 156 158	54 54
66.0	.1 63 2-4 144 144 145	.3 64 2-4 148 148 149	.4 65 2-4 151 151 153	.0 66 2-4 153 153 155	.1 66 2-2 152 153 155	54 54
64.0	.0 66 2-4 143 143 144	.2 67 2-4 146 146 148	.9 67 2-4 150 150 152	1.3 67 2-2 152 152 154	1.3 67 2-2 151 152 154	54 54
62.0	1.3 67 2-4 142 142 143	.0 67 2 131 136 137	.0 67 2 128 136 137	.0 67 2 126 136 137	.0 67 2 126 136 137	54 54
60.0	.0 67 2 121 128 130	.0 67 2 121 128 130	.0 67 2 121 128 130	.0 67 2 121 128 130	.0 67 2 121 128 130	54 54
58.0	.0 67 119 125 127	.0 67 119 125 127	.0 67 119 125 127	.0 67 119 125 127	.0 67 119 125 127	54 54
56.0	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	.0 67 118 123 125	54 54
54.0	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	.0 67 117 120 123	54 54
52.0	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	.0 67 116 118 120	54 54
50.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54 54
45.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54 54
40.0	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	.0 67 116 118 121	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2170.(FT) QNH ALT. : 2667.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3800.0(M) T.O.D.A. = 3500.0(M) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
-2.0	80345 2-4 140 149 152	81814 2-4 145 154 157	83148 2-4 150 159 162	84019 2-4 154 163 165	84807 2-4 158 166 169
13.0	79282 2-4 136 147 149	80775 2-4 141 151 154	82144 2-4 146 156 159	83045 2-4 150 159 162	83880 2-4 154 163 165
28.0	78016 4-4 134 145 147	79747 2-4 138 149 151	81136 2-4 143 153 156	82083 2-4 147 157 159	82965 2-4 150 160 162
43.0	76720 4-4 131 144 146	78744 2-2 135 146 148	80163 2-4 140 151 153	81135 2-4 144 154 156	82042 2-4 147 157 160
44.0	76287 4-4 132 144 146	78196 2-4 136 146 148	79611 2-4 141 151 153	80577 2-4 145 154 157	81214 2-8 147 157 159
46.0	75398 4-4 133 143 145	77080 2-4 138 147 149	78476 2-4 143 151 154	79414 2-4 146 155 157	79543 2-8 147 155 158
47.0	74951 4-4 133 143 144	76522 2-4 138 147 149	77890 2-4 143 152 154	78707 2-8 146 155 157	78707 2-8 148 155 157
49.0	73942 2-4 135 142 144	75398 2-4 140 147 149	76732 2-4 145 152 154	77036 2-8 147 153 156	77036 2-8 147 153 156
50.0	73386 2-4 135 143 145	74838 2-4 141 148 150	76147 2-4 146 152 155	76200 2-8 147 153 155	76200 2-8 146 153 155
51.0	72843 2-4 136 143 145	74263 2-4 142 148 150	75364 2-8 146 152 154	75364 2-8 147 152 154	75364 2-8 145 152 154
53.0	71724 2-4 137 143 145	73092 2-4 143 148 150	73691 2-8 146 151 153	73691 2-8 145 151 153	73691 2-8 143 151 153
54.0	71163 2-4 138 144 146	72501 2-4 144 149 151	72854 2-8 146 150 152	72854 2-8 144 150 152	72854 2-8 142 150 152
56.0	70031 2-4 140 144 145	71331 2-4 145 149 151	72473 2-4 151 153 156	72840 2-8 153 155 158	72840 2-8 152 155 158
57.0	69470 2-4 140 144 145	70741 2-4 146 149 150	71872 2-4 151 154 156	72582 2-4 156 157 159	72839 2-8 157 158 161
59.0	68374 2-4 142 144 145	69593 2-4 147 149 151	70652 2-4 153 154 156	71280 2-4 157 157 159	71624 2-2 158 159 161
60.0	67825 2-4 142 144 145	69009 2-4 148 149 151	70039 2-4 154 154 156	70510 2-4 156 156 158	70829 2-2 157 158 160
61.0	67274 2-4 143 144 145	68428 2-4 149 149 151	69288 2-4 153 153 155	69764 2-4 156 156 158	70033 2-2 156 157 159
63.0	66089 2-4 144 144 145	67016 2-4 148 148 150	67812 2-4 152 152 154	68255 2-4 155 155 156	68443 2-2 155 156 158
64.0	65405 2-4 143 143 145	66303 2-4 148 148 149	67072 2-4 151 151 153	67518 2-4 154 154 156	67648 2-2 154 155 157
66.0	64010 2-4 143 143 144	64882 2-4 147 147 148	65636 2-4 151 151 152	66045 2-4 153 153 155	66057 2-2 152 153 155
67.0	63330 2-4 142 142 143	64186 2-4 146 146 148	64909 2-4 150 150 152	65262 2-2 152 152 154	65262 2-2 150 152 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2170.(FT) QNH ALT. : 2667.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

TOULOUSE (LFBO) - RWY 33L - CONF 3

CONF 3	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3800.0(M) T.O.D.A. = 3500.0(M) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

WEIGHT 1000KG	-10	-5	0	10	20	TGA 2	TGA 3
77.0	.5 43 2-4 131 142 144	.4 46 2-4 139 148 149	.6 48 2-4 146 154 154	.0 49 2-8 148 154 155	.0 49 2-8 147 154 155	49	48
76.0	.4 45 2-4 132 142 144	.3 48 2-4 140 148 149	.2 50 2-8 147 154 154	.2 50 2-8 148 154 154	.2 50 2-8 146 154 154	50	49
74.0	.2 49 2-4 135 143 144	.5 51 2-4 143 149 150	.5 52 8-4 148 152 153	.5 52 2-8 146 152 153	.5 52 2-8 144 152 153	52	52
72.0	.6 52 2-4 137 144 145	.1 55 2-4 146 150 151	.5 56 2-4 154 156 156	.5 57 2-4 159 160 160	.1 58 2-8 161 161 162	54	54
70.0	.3 56 2-4 140 144 146	.3 58 2-4 149 150 151	.6 59 2-4 155 155 156	.2 60 2-4 157 157 158	.5 60 2-4 160 160 160	54	54
68.0	.0 60 2-4 144 144 146	.3 61 2-4 149 149 150	.3 62 2-4 153 153 154	.7 62 2-4 156 156 156	.3 63 2-4 158 158 158	54	54
66.0	.0 63 2-4 144 144 145	.1 64 2-4 148 148 148	.1 65 2-4 151 151 152	.4 65 2-4 154 154 154	.7 65 2-2 156 156 156	54	54
64.0	.6 65 2-4 143 143 144	.7 66 2-4 147 147 147	.6 67 2-4 150 150 151	.9 67 2-4 153 153 153	1.1 67 2-2 154 154 154	54	54
62.0	1.2 67 2-4 142 142 143	2.0 67 2-4 146 146 147	.0 67 2 127 135 137	.0 67 2 125 135 137	.0 67 2 125 135 137	54	54
60.0	.0 67 2 120 127 129	.0 67 2 120 127 129	.0 67 2 120 127 129	.0 67 2 120 127 129	.0 67 2 120 127 129	54	54
58.0	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	.0 67 117 120 122	54	54
56.0	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	54	54
54.0	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	.0 67 115 118 120	54	54
52.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	54	54
50.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	54	54
45.0	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	.0 67 115 117 120	54	54
40.0						54	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2140.(FT) QNH ALT. : 2637.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

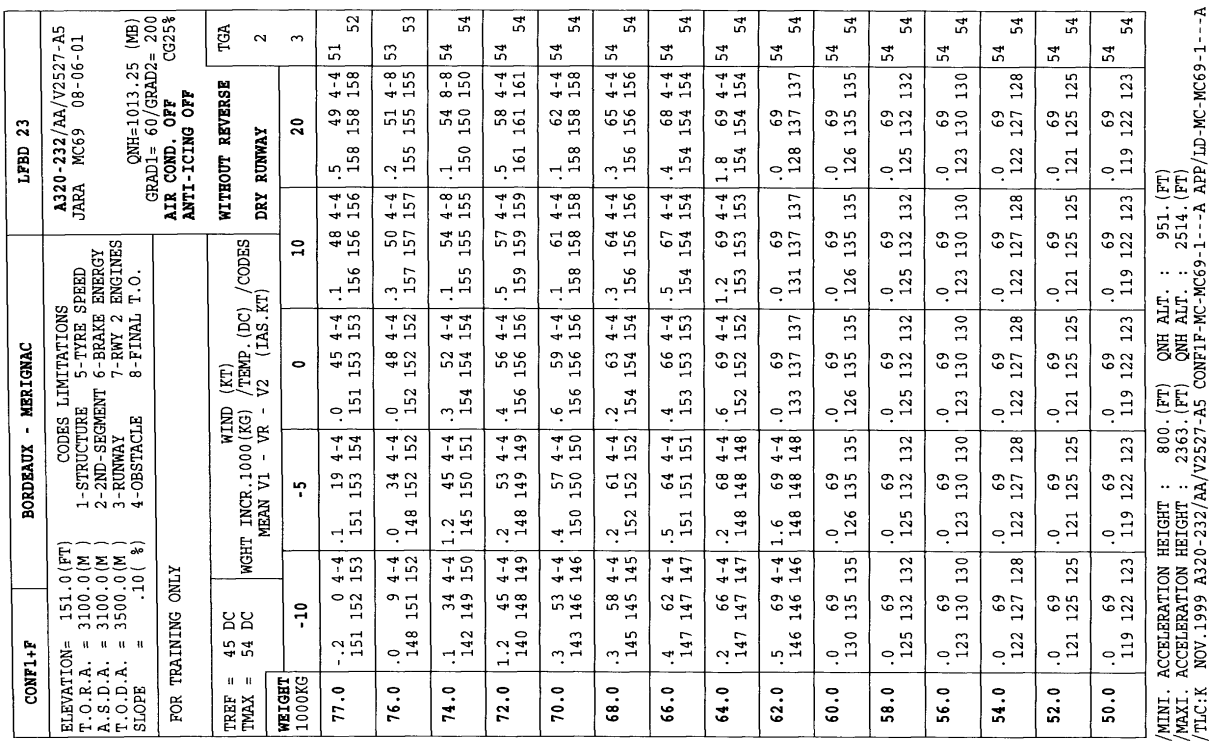
CONF 3	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3800.0(M) T.O.D.A. = 3500.0(M) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 10-DEC-98 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	80692 2-4 141 151 152	82111 2-4 147 156 157	83377 2-4 153 162 162	84135 2-4 158 166 166	84815 2-4 162 169 169
13.0	79642 2-4 137 148 149	81130 2-4 143 153 154	82455 2-4 149 159 159	83283 2-4 153 162 163	84018 2-4 158 166 166
28.0	78567 2-4 134 145 146	80122 2-4 140 150 151	81511 2-4 145 156 156	82391 2-4 150 159 159	83173 2-4 154 163 163
43.0	77501 2-4 131 142 144	79092 2-4 136 147 148	80548 2-4 142 153 153	81470 2-4 146 156 157	82044 2-8 149 159 159
44.0	76972 2-4 131 142 144	78541 2-4 137 147 148	79989 2-4 143 153 153	80879 2-4 147 157 157	81214 2-8 149 158 158
46.0	75877 2-4 133 142 144	77412 2-4 139 148 149	78795 2-4 144 153 154	79543 2-8 148 156 157	79543 2-8 149 156 157
47.0	75335 2-4 134 142 144	76838 2-4 139 148 149	78204 2-4 145 153 154	78707 2-8 148 156 156	78707 2-8 149 156 156
49.0	74230 2-4 135 143 144	75690 2-4 141 148 149	76979 2-4 147 154 155	77036 2-8 148 154 155	77036 2-8 147 154 155
50.0	73671 2-4 136 143 145	75095 2-4 142 149 150	76200 2-8 147 154 154	76200 2-8 148 154 154	76200 2-8 146 154 154
51.0	73112 2-4 136 143 145	74500 2-4 143 149 150	75364 8-4 149 153 154	75364 2-8 147 153 154	75364 2-8 145 153 154
53.0	71991 2-4 138 144 145	73293 2-4 144 150 150	73691 2-8 147 151 152	73691 2-8 145 151 152	73691 2-8 143 151 152
54.0	71414 2-4 139 144 146	72690 2-4 145 150 151	72854 2-8 146 151 152	72854 2-8 144 151 152	72854 2-8 142 151 152
56.0	70260 2-4 140 144 146	71484 2-4 147 150 151	72528 2-4 154 156 156	72840 2-8 156 158 158	72840 2-8 154 158 158
57.0	69701 2-4 141 144 146	70886 2-4 148 150 151	71892 2-4 155 156 156	72494 2-4 159 160 160	72839 2-8 162 162 162
59.0	68574 2-4 143 144 146	69688 2-4 150 150 151	70551 2-4 155 155 156	70964 2-4 158 158 158	71320 2-4 161 161 161
60.0	68007 2-4 144 144 146	69055 2-4 150 150 151	69799 2-4 155 155 155	70195 2-4 157 157 158	70546 2-4 160 160 160
61.0	67458 2-4 145 145 146	68316 2-4 149 149 150	69037 2-4 154 154 154	69431 2-4 157 157 157	69771 2-4 159 159 159
63.0	66019 2-4 144 144 145	66851 2-4 148 148 149	67549 2-4 153 153 153	67927 2-4 155 155 155	68254 2-4 158 158 158
64.0	65318 2-4 143 143 144	66131 2-4 148 148 148	66802 2-4 152 152 152	67175 2-4 155 155 155	67478 2-2 157 157 157
66.0	63916 2-4 142 142 143	64699 2-4 147 147 147	65337 2-4 151 151 151	65690 2-4 154 154 154	65891 2-2 154 155 155
67.0	63231 2-4 142 142 143	63991 2-4 146 146 147	64613 2-4 150 150 151	64948 2-4 153 153 153	65097 2-2 153 154 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2140.(FT) QNH ALT. : 2637.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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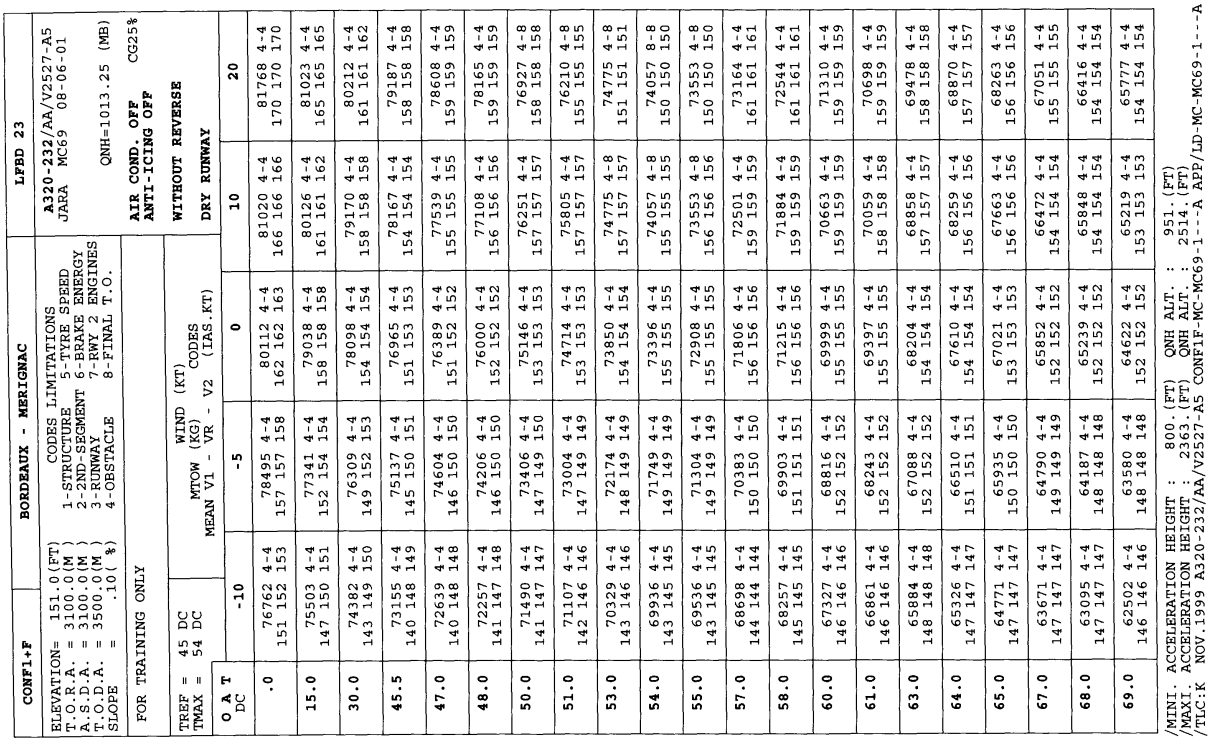
BORDEAUX (LFBD) - RWY 23 - CONF 1 + F



CONF1+F	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. = 3100.0(M) A.S.D.A. = 3100.0(M) T.O.D.A. = 3500.0(M) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 200 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA DRY RUNWAY 2

WEIGHT 1000KG	-10	-5	0	10	20	3
77.0	-.2 0 4-4 151 152 153	.1 19 4-4 151 153 154	.0 45 4-4 151 153 153	.1 48 4-4 156 156 156	.5 49 4-4 158 158 158	51 52
76.0	.0 9 4-4 148 151 152	.0 34 4-4 148 152 152	.0 48 4-4 152 152 152	.3 50 4-4 157 157 157	.2 51 4-8 155 155 155	53 53
74.0	.1 34 4-4 142 149 150	1.2 45 4-4 145 150 151	.3 52 4-4 154 154 154	.1 54 4-8 155 155 155	.1 54 8-8 150 150 150	54 54
72.0	1.2 45 4-4 140 148 149	.2 53 4-4 148 149 149	.4 56 4-4 156 156 156	.5 57 4-4 159 159 159	.5 58 4-4 161 161 161	54 54
70.0	.3 53 4-4 143 146 146	.4 57 4-4 150 150 150	.6 59 4-4 156 156 156	.1 61 4-4 158 158 158	.1 62 4-4 158 158 158	54 54
68.0	.3 58 4-4 145 145 145	.2 61 4-4 152 152 152	.2 63 4-4 154 154 154	.3 64 4-4 156 156 156	.3 65 4-4 156 156 156	54 54
66.0	.4 62 4-4 147 147 147	.5 64 4-4 151 151 151	.4 66 4-4 153 153 153	.5 67 4-4 154 154 154	.4 68 4-4 154 154 154	54 54
64.0	.2 66 4-4 147 147 147	.2 68 4-4 148 148 148	.6 69 4-4 152 152 152	1.2 69 4-4 153 153 153	1.8 69 4-4 154 154 154	54 54
62.0	.5 69 4-4 146 146 146	1.6 69 4-4 148 148 148	.0 69 133 137 137	.0 69 131 137 137	.0 69 128 137 137	54 54
60.0	.0 69 130 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	54 54
58.0	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	54 54
56.0	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	54 54
54.0	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	54 54
52.0	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	54 54
50.0	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2363.(FT) QNH ALT. : 2514.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A



CONF1+F	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. = 3100.0(M) A.S.D.A. = 3100.0(M) T.O.D.A. = 3500.0(M) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		
TREF = 45 DC TMAX = 54 DC	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	WITHOUT REVERSE DRY RUNWAY

OAT DC	-10	-5	0	10	20
.0	76762 4-4 151 152 153	78495 4-4 157 157 158	80112 4-4 162 162 163	81020 4-4 166 166 166	81768 4-4 170 170 170
15.0	75503 4-4 147 150 151	77341 4-4 152 154 154	79038 4-4 158 158 158	80126 4-4 161 161 162	81023 4-4 165 165 165
30.0	74382 4-4 143 149 150	76309 4-4 149 152 153	78098 4-4 154 154 154	79170 4-4 158 158 158	80212 4-4 161 161 162
45.5	73155 4-4 140 148 149	75137 4-4 145 150 151	76965 4-4 151 153 153	78167 4-4 154 154 154	79187 4-4 158 158 158
47.0	72639 4-4 140 148 148	74604 4-4 146 150 150	76389 4-4 151 152 152	77539 4-4 155 155 155	78608 4-4 159 159 159
48.0	72257 4-4 141 147 148	74206 4-4 146 150 150	76000 4-4 152 152 152	77108 4-4 156 156 156	78165 4-4 159 159 159
50.0	71490 4-4 141 147 147	73406 4-4 147 149 150	75146 4-4 153 153 153	76251 4-4 157 157 157	76927 4-8 158 158 158
51.0	71107 4-4 142 146 146	73004 4-4 147 149 149	74714 4-4 153 153 153	75805 4-4 157 157 157	76210 4-8 155 155 155
53.0	70329 4-4 143 146 146	72174 4-4 148 149 149	73850 4-4 154 154 154	74775 4-8 157 157 157	74775 4-8 151 151 151
54.0	69936 4-4 143 145 145	71749 4-4 149 149 149	73396 4-4 155 155 155	74057 4-8 155 155 155	74057 8-8 150 150 150
55.0	69536 4-4 143 145 145	71304 4-4 149 149 149	72908 4-4 155 155 155	73553 4-8 156 156 156	73553 4-8 150 150 150
57.0	68698 4-4 144 144 144	70383 4-4 150 150 150	71806 4-4 156 156 156	72501 4-4 159 159 159	73164 4-4 161 161 161
58.0	68257 4-4 145 145 145	69903 4-4 151 151 151	71215 4-4 156 156 156	71884 4-4 159 159 159	72544 4-4 161 161 161
60.0	67327 4-4 146 146 146	68816 4-4 152 152 152	69999 4-4 155 155 155	70663 4-4 159 159 159	71310 4-4 159 159 159
61.0	66861 4-4 146 146 146	68243 4-4 152 152 152	69397 4-4 155 155 155	70059 4-4 158 158 158	70698 4-4 159 159 159
63.0	65884 4-4 148 148 148	67088 4-4 152 152 152	68204 4-4 154 154 154	68858 4-4 157 157 157	69478 4-4 158 158 158
64.0	65326 4-4 147 147 147	66510 4-4 151 151 151	67610 4-4 154 154 154	68259 4-4 156 156 156	68870 4-4 157 157 157
65.0	64771 4-4 147 147 147	65935 4-4 150 150 150	67021 4-4 153 153 153	67663 4-4 156 156 156	68263 4-4 156 156 156
67.0	63671 4-4 147 147 147	64790 4-4 149 149 149	65852 4-4 152 152 152	66472 4-4 154 154 154	67051 4-4 155 155 155
68.0	63095 4-4 147 147 147	64187 4-4 148 148 148	65239 4-4 152 152 152	65848 4-4 154 154 154	66416 4-4 154 154 154
69.0	62502 4-4 146 146 146	63580 4-4 148 148 148	64622 4-4 152 152 152	65219 4-4 153 153 153	65777 4-4 154 154 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2363.(FT) QNH ALT. : 2514.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

BORDEAUX (LFBD) - RWY 23 - CONF 2

CONF 2 | **BORDEAUX - MERIGNAC** | **LFBD 23**

ELEVATION= 151.0(FT)
T.O.R.A. = 3100.0(M)
A.S.D.A. = 3100.0(M)
T.O.D.A. = 3500.0(M)
SLOPE = .10(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-232/AA/V2527-A5
JARA MC69 08-06-01

QNH=1013.25 (MB)
GRAD1= 50/GRAD2= 300
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 45 DC
TMAX = 54 DC

WGHT INCR.1000(KG) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE TGA
DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	20	
77.0	-.8 0 4-4 149 150 154	.0 15 4-4 150 150 154	.1 45 4-4 150 150 153	.4 47 4-4 154 154 157	.2 49 4-4 156 156 160	51	52
76.0	.0 3 4-4 148 149 153	.0 33 4-4 147 147 150	.4 47 4-4 150 150 153	.4 49 4-4 155 155 158	.0 51 4-4 154 154 157	53	53
74.0	.0 35 4-4 141 146 149	1.2 45 4-4 145 145 147	.4 51 4-4 152 152 155	.1 53 4-4 156 156 159	.1 54 4-8 149 149 151	54	54
72.0	1.4 45 4-4 140 145 148	.0 53 4-4 148 148 150	.3 55 4-4 154 154 157	.3 56 4-4 155 155 158	.4 57 4-4 151 151 153	54	54
70.0	.3 53 4-4 143 144 147	.0 57 4-4 150 150 152	.4 58 4-4 152 152 155	.5 59 4-4 154 154 157	.6 60 4-4 149 149 151	54	54
68.0	.1 58 4-4 145 145 147	.3 60 4-4 149 149 151	.0 62 4-4 151 151 153	.1 63 4-4 152 152 154	.1 64 4-4 147 147 149	54	54
66.0	.5 61 4-4 145 145 147	.5 63 4-4 148 148 150	.3 65 4-4 150 150 152	.3 66 4-4 150 150 152	.4 67 4-4 147 147 148	54	54
64.0	.2 65 4-4 145 145 146	.2 67 4-4 146 146 148	.5 68 4-4 148 148 150	.4 69 4-4 148 148 150	1.1 69 4-4 146 146 147	54	54
62.0	.5 68 4-4 143 143 145	1.0 69 4-4 145 145 146	1.9 69 4-4 148 148 149	.0 69 129 131 132	.0 69 126 131 132	54	54
60.0	1.9 69 4-4 143 143 144	.0 69 125 128 129	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	54	54
58.0	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	54	54
56.0	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	54	54
54.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54	54
52.0	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	54	54
50.0	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	54	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2472.(FT) QNH ALT. : 2623.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2 | **BORDEAUX - MERIGNAC** | **LFBD 23**

ELEVATION= 151.0(FT)
T.O.R.A. = 3100.0(M)
A.S.D.A. = 3100.0(M)
T.O.D.A. = 3500.0(M)
SLOPE = .10(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-232/AA/V2527-A5
JARA MC69 08-06-01

QNH=1013.25 (MB)
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 45 DC
TMAX = 54 DC

MTOW (KG) CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE
DRY RUNWAY

OAT DC	-10	-5	0	10	20
.0	76228 4-4 149 150 154	77869 4-4 154 154 158	79263 4-4 160 160 164	80044 4-4 157 157 161	80894 4-4 158 158 162
15.0	75243 4-4 145 145 149	77045 4-4 150 150 154	78556 4-4 156 156 159	79463 4-4 160 160 164	80313 4-4 158 158 161
30.0	74343 4-4 142 147 150	76194 4-4 147 147 151	77903 4-4 152 152 156	78840 4-4 156 156 160	79729 4-4 157 157 161
45.5	73360 4-4 139 145 148	75201 4-4 145 145 147	77031 4-4 149 149 152	78131 4-4 153 153 157	79037 4-4 156 156 160
47.0	72817 4-4 140 145 147	74656 4-4 145 145 148	76399 4-4 150 150 153	77395 4-4 154 154 157	78288 4-4 156 156 159
48.0	72407 4-4 140 144 147	74140 4-4 146 148 151	75921 4-4 151 151 154	76899 4-4 155 155 158	77757 4-4 158 158 162
50.0	71581 4-4 141 144 147	73329 4-4 146 146 149	74914 4-4 152 152 155	75863 4-4 156 156 159	76597 4-4 154 154 157
51.0	71169 4-4 142 144 147	72883 4-4 147 148 150	74448 4-4 152 152 155	75318 4-4 156 156 159	76026 4-4 154 154 157
53.0	70345 4-4 143 144 147	72001 4-4 148 148 150	73423 4-4 153 153 156	74145 4-4 156 156 159	74775 4-8 151 151 153
54.0	69932 4-4 143 144 147	71549 4-4 148 148 151	72889 4-4 154 154 157	73554 4-4 156 156 159	74057 4-8 149 149 151
55.0	69513 4-4 143 144 147	71085 4-4 149 149 151	72293 4-4 154 154 157	72955 4-4 156 156 159	73553 4-8 149 149 152
57.0	68629 4-4 144 144 147	70002 4-4 150 150 152	71060 4-4 153 153 156	71713 4-4 155 155 158	72434 4-4 151 151 153
58.0	68137 4-4 145 145 147	69420 4-4 150 150 152	70449 4-4 152 152 155	71097 4-4 155 155 157	71812 4-4 150 150 152
60.0	67044 4-4 145 145 147	68250 4-4 149 149 151	69239 4-4 152 152 154	69875 4-4 153 153 156	70578 4-4 149 149 151
61.0	66470 4-4 145 145 147	67662 4-4 149 149 151	68638 4-4 151 151 154	69267 4-4 153 153 155	69965 4-4 148 148 150
63.0	65335 4-4 145 145 147	66490 4-4 148 148 150	67448 4-4 150 150 153	68061 4-4 152 152 154	68748 4-4 147 147 149
64.0	64773 4-4 145 145 147	65908 4-4 147 147 149	66857 4-4 150 150 152	67460 4-4 151 151 153	68144 4-4 147 147 149
65.0	64215 4-4 145 145 146	65329 4-4 147 147 149	66270 4-4 150 150 152	66862 4-4 151 151 153	67544 4-4 147 147 149
67.0	63109 4-4 144 144 145	64181 4-4 146 146 148	65101 4-4 149 149 151	65671 4-4 150 150 151	66355 4-4 147 147 148
68.0	62529 4-4 143 143 145	63584 4-4 146 146 147	64492 4-4 148 148 150	65052 4-4 149 149 151	65733 4-4 146 146 148
69.0	61946 4-4 143 143 144	62984 4-4 145 145 146	63880 4-4 148 148 149	64430 4-4 148 148 150	65109 4-4 146 146 147

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2472.(FT) QNH ALT. : 2623.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

BORDEAUX (LFBD) - RWY 23 - CONF 3

CONF 3	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. = 3100.0(M) A.S.D.A. = 3100.0(M) T.O.D.A. = 3500.0(M) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2

WEIGHT 1000KG	-10	-5	0	10	20	3	
77.0	.0 3 4-4 152 152 155	.0 30 4-4 150 152 154	.1 47 4-4 153 153 154	.5 48 4-4 158 158 159	.6 49 4-4 153 153 154	51	52
76.0	.0 18 4-4 148 150 152	.0 44 4-4 147 147 149	.1 49 4-4 154 154 156	.3 50 4-4 158 158 160	.2 51 4-8 150 150 151	53	53
74.0	.0 45 4-4 141 141 143	2.0 45 4-4 146 146 149	.4 52 4-4 155 155 157	.6 53 4-4 151 151 153	.1 54 4-8 146 146 148	54	54
72.0	.3 50 4-4 142 145 147	.2 54 4-4 150 150 152	.1 56 4-4 154 154 155	.1 57 4-4 150 150 151	.3 58 4-4 151 151 152	54	54
70.0	.3 55 4-4 145 145 147	.4 57 4-4 150 150 152	.2 59 4-4 152 152 153	.3 60 4-4 149 149 150	.4 61 4-4 149 149 150	54	54
68.0	.6 58 4-4 145 145 147	.6 60 4-4 148 148 150	.4 62 4-4 150 150 151	.5 63 4-4 147 147 148	.6 64 4-4 147 147 148	54	54
66.0	.3 62 4-4 144 144 146	.2 64 4-4 147 147 148	.5 65 4-4 148 148 149	.1 67 4-4 144 144 145	.1 68 4-4 145 145 146	54	54
64.0	.5 65 4-4 142 142 144	.5 67 4-4 145 145 146	.1 69 4-4 142 142 143	.8 69 4-4 143 143 144	1.5 69 4-4 144 144 145	54	54
62.0	.2 69 4-4 140 140 141	1.2 69 4-4 144 144 145	.0 69 4 129 129 130	.0 69 2 126 128 130	.0 69 2 124 128 130	54	54
60.0	.0 69 4 126 126 127	.0 69 4 123 123 125	.0 69 2 119 122 124	.0 69 2 119 122 124	.0 69 2 119 122 124	54	54
58.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54	54
56.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54	54
54.0	.0 69 118 120 123	.0 69 118 120 123	.0 69 118 120 123	.0 69 118 120 123	.0 69 118 120 123	54	54
52.0	.0 69 117 120 123	.0 69 117 120 123	.0 69 117 120 123	.0 69 117 120 123	.0 69 117 120 123	54	54
50.0	.0 69 117 120 123	.0 69 117 120 123	.0 69 117 120 123	.0 69 117 120 123	.0 69 117 120 123	54	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2233.(FT) QNH ALT. : 2384.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. = 3100.0(M) A.S.D.A. = 3100.0(M) T.O.D.A. = 3500.0(M) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 45 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
.0	77195 4-4 153 153 155	78599 4-4 159 159 161	79717 4-4 158 158 160	80587 4-4 159 159 161	81440 4-4 160 160 162
15.0	76258 4-4 149 150 153	77943 4-4 155 155 157	79205 4-4 161 161 163	79999 4-4 157 157 159	80864 4-4 159 159 161
30.0	75159 4-4 144 148 150	77008 4-4 150 152 154	78609 4-4 156 156 158	79435 4-4 161 161 163	80309 4-4 157 157 158
45.5	73987 4-4 140 141 143	75920 4-4 146 146 148	77765 4-4 152 152 154	78790 4-4 154 154 156	79671 4-4 155 155 157
47.0	73472 4-4 141 145 148	75311 4-4 147 149 151	77140 4-4 153 153 154	78029 4-4 154 154 155	78898 4-4 155 155 156
48.0	73072 4-4 141 145 148	74907 4-4 147 149 151	76615 4-4 153 153 155	77483 4-4 158 158 159	78318 4-4 154 154 156
50.0	72269 4-4 142 145 147	74094 4-4 148 149 151	75590 4-4 155 155 156	76322 4-4 158 158 160	76927 4-8 151 151 153
51.0	71871 4-4 143 145 147	73682 4-4 149 149 151	75021 4-4 155 155 157	75736 4-4 158 158 159	76210 4-8 150 150 151
53.0	71073 4-4 144 145 147	72710 4-4 150 150 152	73864 4-4 155 155 157	74569 4-4 151 151 153	74775 4-8 147 147 149
54.0	70670 4-4 144 145 147	72175 4-4 150 150 152	73278 4-4 155 155 156	73983 4-4 151 151 153	74057 4-8 146 146 148
55.0	70273 4-4 145 145 147	71607 4-4 150 150 152	72679 4-4 154 154 156	73384 4-4 151 151 152	73553 4-8 146 146 148
57.0	69156 4-4 145 145 147	70391 4-4 150 150 152	71430 4-4 153 153 154	72128 4-4 150 150 151	72931 4-4 152 152 153
58.0	68571 4-4 145 145 147	69782 4-4 149 149 151	70811 4-4 152 152 154	71506 4-4 149 149 151	72302 4-4 151 151 152
60.0	67413 4-4 145 145 147	68576 4-4 148 148 150	69581 4-4 151 151 152	70275 4-4 149 149 150	71054 4-4 150 150 151
61.0	66836 4-4 145 145 146	67977 4-4 148 148 149	68970 4-4 150 150 152	69665 4-4 148 148 150	70434 4-4 149 149 150
63.0	65678 4-4 144 144 145	66791 4-4 147 147 148	67754 4-4 149 149 150	68454 4-4 147 147 148	69203 4-4 148 148 149
64.0	65104 4-4 143 143 144	66203 4-4 147 147 148	67150 4-4 148 148 150	67852 4-4 146 146 147	68591 4-4 147 147 148
65.0	64532 4-4 142 142 144	65619 4-4 146 146 147	66547 4-4 148 148 149	67253 4-4 146 146 147	67981 4-4 147 147 148
67.0	63396 4-4 141 141 142	64458 4-4 145 145 146	65345 4-4 146 146 148	66061 4-4 144 144 145	66768 4-4 145 145 146
68.0	62803 4-4 140 140 142	63854 4-4 145 145 146	64722 4-4 146 146 147	65438 4-4 144 144 145	66135 4-4 145 145 146
69.0	62208 4-4 140 140 141	63244 4-4 144 144 145	64109 4-4 142 142 143	64812 4-4 143 143 144	65499 4-4 144 144 145

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2233.(FT) QNH ALT. : 2384.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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PARIS CHARLES DE GAULLE (LFPG) - RWY 08L - CONF 1 + F

CONF1+F	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. = 4215.1(M) A.S.D.A. = 4215.1(M) T.O.D.A. = 4275.1(M) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232/AA/V2527-A5** JARA MC69 13-07-01 QNH=1013.25 (MB) GRAD1= 90/GRAD2= 400 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 45 DC TMAX = 54 DC	WIND (KT) WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.3 49 8-8 132 153 153	.3 49 8-8 136 153 153	.3 49 8-8 140 153 153	.3 49 8-8 142 153 153	.3 49 8-8 51 142 153 153 51
76.0	.6 50 8-8 132 152 152	.6 50 8-8 136 152 152	.6 50 8-8 140 152 152	.6 50 8-8 141 152 152	.6 50 8-8 52 141 152 152 53
74.0	.5 53 8-8 132 150 150	.5 53 8-8 136 150 150	.5 53 8-8 139 150 150	.5 53 8-8 139 150 150	.5 53 8-8 54 139 150 150 54
72.0	.4 62 2-6 139 156 156	.5 64 2-6 146 161 161	.1 65 2-2 152 164 164	.1 65 2-2 153 164 164	.1 65 2-2 54 154 164 164 54
70.0	.4 66 2-6 141 157 157	.6 67 2-6 148 162 162	.6 67 2-2 151 163 163	.6 67 2-2 152 163 163	.6 67 2-2 54 151 163 163 54
68.0	.8 69 2-6 143 157 157	1.1 69 2-2 149 161 161	1.1 69 2-2 150 161 161	1.1 69 2-2 150 161 161	1.1 69 2-2 54 149 161 161 54
66.0	.0 69 2 135 146 146	.0 69 2 135 146 146	.0 69 2 135 146 146	.0 69 2 135 146 146	.0 69 2 54 135 146 146 54
64.0	.0 69 129 139 139	.0 69 129 139 139	.0 69 129 139 139	.0 69 129 139 139	.0 69 54 129 139 139 54
62.0	.0 69 127 137 137	.0 69 127 137 137	.0 69 127 137 137	.0 69 127 137 137	.0 69 54 127 137 137 54
60.0	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 54 126 135 135 54
58.0	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	.0 69 54 125 132 132 54
56.0	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 54 123 130 130 54
54.0	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 54 122 127 128 54
52.0	.0 69 121 124 125	.0 69 121 124 125	.0 69 121 124 125	.0 69 121 124 125	.0 69 54 121 124 125 54
50.0	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 54 119 122 123 54
45.0	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	.0 69 54 119 121 123 54
40.0	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	.0 69 54 119 121 124 54

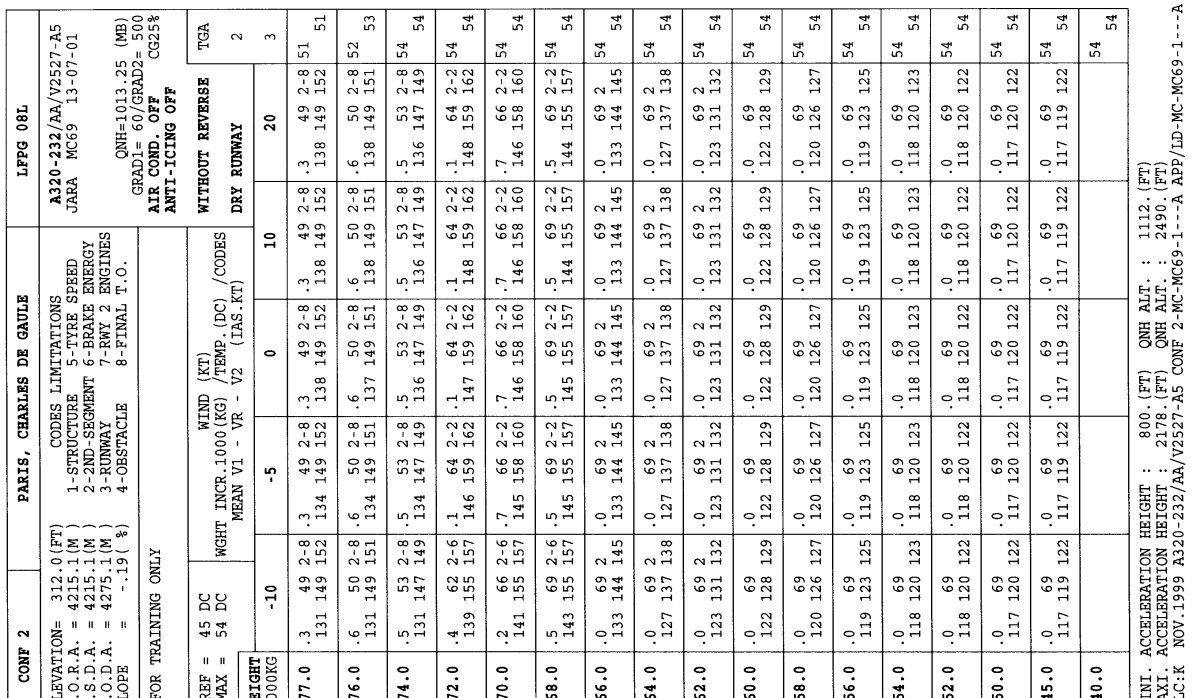
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2314.(FT) QNH ALT. : 2626.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. = 4215.1(M) A.S.D.A. = 4215.1(M) T.O.D.A. = 4275.1(M) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232/AA/V2527-A5** JARA MC69 13-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 45 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
.0	83545 2-6 139 164 164	84722 2-6 145 168 168	85894 2-6 150 172 172	86624 2-6 154 175 175	86892 2-6 158 179 179
15.0	82299 2-2 136 160 160	83682 2-6 142 165 165	84851 2-6 147 169 169	85669 2-6 150 172 172	86403 2-6 154 175 175
30.0	81234 2-6 134 157 157	82662 2-6 139 161 161	83954 2-6 144 166 166	84729 2-6 148 169 169	85532 2-6 151 171 171
45.0	79446 6-6 132 155 155	80164 8-8 135 156 156	80164 8-8 139 156 156	80164 8-8 141 156 156	80164 8-8 143 156 156
46.0	79358 8-8 132 155 155	79451 8-8 135 155 155	79451 8-8 139 155 155	79451 8-8 141 155 155	79451 8-8 143 155 155
48.0	78023 8-8 132 154 154	78023 8-8 136 154 154	78023 8-8 139 154 154	78023 8-8 142 154 154	78023 8-8 142 154 154
49.0	77309 8-8 132 153 153	77309 8-8 136 153 153	77309 8-8 139 153 153	77309 8-8 141 153 153	77309 8-8 141 153 153
51.0	75880 8-8 132 152 152	75880 8-8 136 152 152	75880 8-8 140 152 152	75880 8-8 140 152 152	75880 8-8 140 152 152
52.0	75165 8-8 132 151 151	75165 8-8 136 151 151	75165 8-8 139 151 151	75165 8-8 139 151 151	75165 8-8 139 151 151
54.0	73735 8-8 132 150 150	73735 8-8 136 150 150	73735 8-8 138 150 150	73735 8-8 138 150 150	73735 8-8 138 150 150
55.0	73461 8-8 132 149 149	73461 8-8 136 149 149	73461 8-8 138 149 149	73461 8-8 138 149 149	73461 8-8 138 149 149
56.0	73460 2-8 132 150 150	73460 2-8 136 150 150	73460 2-8 138 150 150	73460 2-8 138 150 150	73460 2-8 138 150 150
58.0	73459 2-8 134 153 153	73459 2-8 137 153 153	73459 2-8 141 153 153	73459 2-8 141 153 153	73459 2-8 141 153 153
59.0	73458 2-8 135 154 154	73458 2-8 138 154 154	73458 2-8 142 154 154	73458 2-8 142 154 154	73458 2-8 142 154 154
61.0	72901 2-6 138 156 156	73457 2-8 142 158 158	73457 2-8 144 158 158	73457 2-8 146 158 158	73457 2-8 146 158 158
62.0	72405 2-6 139 156 156	73456 2-8 145 160 160	73456 2-8 146 160 160	73456 2-8 147 160 160	73456 2-8 148 160 160
64.0	71407 2-6 140 156 156	72477 2-6 146 161 161	72812 2-2 152 165 165	72812 2-2 153 165 165	72812 2-2 154 165 165
65.0	70893 2-6 140 156 156	71906 2-6 147 161 161	72073 2-2 151 164 164	72073 2-2 152 164 164	72073 2-2 153 164 164
67.0	69849 2-6 142 157 157	70551 2-6 148 162 162	70596 2-2 151 163 163	70596 2-2 152 163 163	70596 2-2 151 163 163
68.0	69302 2-6 142 157 157	69857 2-2 149 162 162	69857 2-2 151 162 162	69857 2-2 151 162 162	69857 2-2 150 162 162
69.0	68761 2-6 143 157 157	69119 2-2 148 161 161	69119 2-2 150 161 161	69119 2-2 150 161 161	69119 2-2 149 161 161

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2314.(FT) QNH ALT. : 2626.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 08L - CONF 2



CONF 2	PARIS, CHARLES DE GAULE					LFPG 08L		
ELEVATION= 312.0(FT) T.O.R.A. = 4215.1(M) A.S.D.A. = 4215.1(M) T.O.D.A. = 4275.1(M) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.					A320-232/AA/V2527-A5 JARA MC69 13-07-01 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 500 AIR COND. OFF CG25% ANTI-ICING OFF		
FOR TRAINING ONLY						WITHOUT REVERSE		TGA
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)					DRY RUNWAY		2
WEIGHT 1000KG	-10	-5	0	10	20			3
77.0	.3 49 2-8 131 149 152	.3 49 2-8 134 149 152	.3 49 2-8 138 149 152	.3 49 2-8 138 149 152	.3 49 2-8 138 149 152	51		51
76.0	.6 50 2-8 131 149 151	.6 50 2-8 134 149 151	.6 50 2-8 137 149 151	.6 50 2-8 138 149 151	.6 50 2-8 138 149 151	52		53
74.0	.5 53 2-8 131 147 149	.5 53 2-8 134 147 149	.5 53 2-8 136 147 149	.5 53 2-8 136 147 149	.5 53 2-8 136 147 149	54		54
72.0	.4 62 2-6 139 155 157	.1 64 2-2 146 159 162	.1 64 2-2 147 159 162	.1 64 2-2 148 159 162	.1 64 2-2 148 159 162	54		54
70.0	.2 66 2-6 141 155 157	.7 66 2-2 145 158 160	.7 66 2-2 146 158 160	.7 66 2-2 146 158 160	.7 66 2-2 146 158 160	54		54
68.0	.5 69 2-6 143 155 157	.5 69 2-2 145 155 157	.5 69 2-2 145 155 157	.5 69 2-2 144 155 157	.5 69 2-2 144 155 157	54		54
66.0	.0 69 2 133 144 145	.0 69 2 133 144 145	.0 69 2 133 144 145	.0 69 2 133 144 145	.0 69 2 133 144 145	54		54
64.0	.0 69 2 127 137 138	.0 69 2 127 137 138	.0 69 2 127 137 138	.0 69 2 127 137 138	.0 69 2 127 137 138	54		54
62.0	.0 69 2 123 131 132	.0 69 2 123 131 132	.0 69 2 123 131 132	.0 69 2 123 131 132	.0 69 2 123 131 132	54		54
60.0	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	54		54
58.0	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	54		54
56.0	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	54		54
54.0	.0 69 118 120 123	.0 69 118 120 123	.0 69 118 120 123	.0 69 118 120 123	.0 69 118 120 123	54		54
52.0	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	54		54
50.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54		54
45.0	.0 69 117 119 122	.0 69 117 119 122	.0 69 117 119 122	.0 69 117 119 122	.0 69 117 119 122	54		54
40.0						54		54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2178.(FT) QNH ALT. : 2490.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A



CONF 2	PARIS, CHARLES DE GAULE					LFPG 08L		
ELEVATION= 312.0(FT) T.O.R.A. = 4215.1(M) A.S.D.A. = 4215.1(M) T.O.D.A. = 4275.1(M) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.					A320-232/AA/V2527-A5 JARA MC69 13-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF		
FOR TRAINING ONLY						WITHOUT REVERSE		
TREF = 45 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)					DRY RUNWAY		
O A T DC	-10	-5	0	10	20			
.0	83487 2-2 139 162 165	84734 2-6 144 167 170	85649 2-6 150 172 174	86025 2-2 153 174 176	86025 2-2 154 174 176			
15.0	82345 2-2 135 158 162	83925 2-6 141 164 167	84921 2-6 146 169 171	85579 2-6 150 172 174	86018 2-2 153 174 176			
30.0	81350 2-6 133 155 158	83067 2-2 138 161 164	84237 2-6 143 166 168	84940 2-6 147 169 171	85598 2-6 151 172 174			
45.0	80164 2-8 130 152 155	80164 2-8 134 152 155	80164 2-8 137 152 155	80164 2-8 140 152 155	80164 2-8 141 152 155			
46.0	79451 2-8 130 151 154	79451 2-8 133 151 154	79451 2-8 137 151 154	79451 2-8 139 151 154	79451 2-8 140 151 154			
48.0	78023 2-8 130 150 153	78023 2-8 134 150 153	78023 2-8 137 150 153	78023 2-8 139 150 153	78023 2-8 139 150 153			
49.0	77309 2-8 131 149 152	77309 2-8 134 149 152	77309 2-8 138 149 152	77309 2-8 138 149 152	77309 2-8 138 149 152			
51.0	75880 2-8 130 148 150	75880 2-8 134 148 150	75880 2-8 137 148 150	75880 2-8 137 148 150	75880 2-8 137 148 150			
52.0	75165 2-8 131 147 150	75165 2-8 134 147 150	75165 2-8 136 147 150	75165 2-8 136 147 150	75165 2-8 136 147 150			
54.0	73735 2-8 130 146 148	73735 2-8 134 146 148	73735 2-8 135 146 148	73735 2-8 135 146 148	73735 2-8 135 146 148			
55.0	73461 2-8 131 147 149	73461 2-8 135 147 149	73461 2-8 136 147 149	73461 2-8 136 147 149	73461 2-8 136 147 149			
56.0	73460 2-8 132 148 150	73460 2-8 135 148 150	73460 2-8 137 148 150	73460 2-8 137 148 150	73460 2-8 137 148 150			
58.0	73459 2-8 133 151 153	73459 2-8 137 151 153	73459 2-8 140 151 153	73459 2-8 140 151 153	73459 2-8 140 151 153			
59.0	73458 2-8 134 153 155	73458 2-8 137 153 155	73458 2-8 141 153 155	73458 2-8 141 153 155	73458 2-8 141 153 155			
61.0	72986 2-6 138 155 157	73457 2-8 142 157 160	73457 2-8 143 157 160	73457 2-8 145 157 160	73457 2-8 145 157 160			
62.0	72441 2-6 139 155 157	73299 2-6 145 159 162	73456 8-8 147 160 163	73456 8-8 148 160 163	73456 8-8 148 160 163			
64.0	71341 2-6 140 155 157	72121 2-2 145 159 162	72121 2-2 147 159 162	72121 2-2 147 159 162	72121 2-2 147 159 162			
65.0	70784 2-6 140 155 157	71405 2-2 145 158 161	71405 2-2 147 158 161	71405 2-2 146 158 161	71405 2-2 146 158 161			
67.0	69655 2-6 142 155 157	69973 2-2 145 157 159	69973 2-2 146 157 159	69973 2-2 145 157 159	69973 2-2 145 157 159			
68.0	69064 2-6 142 155 157	69257 2-2 145 156 158	69257 2-2 146 156 158	69257 2-2 145 156 158	69257 2-2 145 156 158			
69.0	68490 2-6 143 155 157	68541 2-2 144 155 157	68541 2-2 144 155 157	68541 2-2 144 155 157	68541 2-2 144 155 157			

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2178.(FT) QNH ALT. : 2490.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 08L - CONF 3

CONF 3 | **PARIS, CHARLES DE GAULE** | **LFPG 08L**

ELEVATION= 312.0(FT) | CODES LIMITATIONS | **A320-232**/AA/V2527-A5
T.O.R.A. = 4215.1(M) | 1-STRUCTURE 5-TYRE SPEED | JARA MC69 13-07-01
A.S.D.A. = 4215.1(M) | 2-2ND-SEGMENT 6-BRAKE ENERGY
T.O.D.A. = 4275.1(M) | 3-RUNWAY 7-RWY 2 ENGINES
SLOPE = -.19(%) | 4-OBSTACLE 8-FINAL T.O. | QNH=1013.25 (MB)

FOR TRAINING ONLY | **AIR COND. OFF** CG25%
ANTI-ICING OFF

TREF = 45 DC
TMAX = 54 DC

MTOW (KG) WIND (KT) CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE

O A T DC	-10	-5	0	10	20
DRY RUNWAY					
.0	83742 2-6 140 165 166	84602 2-6 146 170 170	85302 2-6 153 174 175	85343 2-2 154 175 175	85343 2-2 156 175 175
15.0	83025 2-6 137 162 163	84021 2-6 143 167 167	84834 2-6 149 171 172	85287 2-6 154 175 175	85336 2-2 155 175 175
30.0	81977 2-2 133 158 159	83300 2-6 139 163 164	84244 2-6 145 168 169	84801 2-6 150 171 172	85247 2-6 154 174 175
45.0	80164 2-8 130 152 154	80164 2-8 134 152 154	80164 2-8 138 152 154	80164 2-8 140 152 154	80164 2-8 140 152 154
46.0	79451 2-8 130 151 153	79451 2-8 134 151 153	79451 2-8 138 151 153	79451 2-8 139 151 153	79451 2-8 139 151 153
48.0	78023 2-8 130 150 151	78023 2-8 134 150 151	78023 2-8 138 150 151	78023 2-8 138 150 151	78023 2-8 138 150 151
49.0	77309 2-8 130 149 151	77309 2-8 134 149 151	77309 2-8 137 149 151	77309 2-8 137 149 151	77309 2-8 137 149 151
51.0	75880 2-8 130 147 149	75880 2-8 134 147 149	75880 2-8 136 147 149	75880 2-8 136 147 149	75880 2-8 136 147 149
52.0	75165 2-8 130 146 148	75165 2-8 134 146 148	75165 2-8 135 146 148	75165 2-8 135 146 148	75165 2-8 135 146 148
54.0	73735 8-8 131 145 147	73735 8-8 134 145 147	73735 8-8 134 145 147	73735 8-8 134 145 147	73735 8-8 134 145 147
55.0	73461 2-8 131 145 147	73461 2-8 134 145 147	73461 2-8 134 145 147	73461 2-8 134 145 147	73461 2-8 134 145 147
56.0	73460 2-8 132 147 149	73460 2-8 136 147 149	73460 2-8 136 147 149	73460 2-8 136 147 149	73460 2-8 136 147 149
58.0	73459 2-8 133 151 153	73459 2-8 137 151 153	73459 2-8 139 151 153	73459 2-8 139 151 153	73459 2-8 139 151 153
59.0	73458 2-8 135 154 155	73458 2-8 138 154 155	73458 2-8 142 154 155	73458 2-8 142 154 155	73458 2-8 142 154 155
61.0	72911 2-6 139 157 158	73457 2-8 145 160 161	73457 2-8 147 160 161	73457 2-8 147 160 161	73457 2-8 147 160 161
62.0	72343 2-6 140 157 158	72984 2-2 147 161 162	72984 2-2 149 161 162	72984 2-2 148 161 162	72984 2-2 148 161 162
64.0	71188 2-6 142 157 158	71559 2-2 146 160 160	71559 2-2 148 160 160	71559 2-2 147 160 160	71559 2-2 147 160 160
65.0	70584 2-6 142 157 158	70846 2-2 146 159 160	70846 2-2 148 159 160	70846 2-2 146 159 160	70846 2-2 146 159 160
67.0	69404 2-6 144 157 158	69421 2-2 146 157 158	69421 2-2 146 157 158	69421 2-2 145 157 158	69421 2-2 145 157 158
68.0	68708 2-2 144 157 157	68708 2-2 146 157 157	68708 2-2 145 157 157	68708 2-2 144 157 157	68708 2-2 144 157 157
69.0	67996 2-2 144 156 156	67996 2-2 146 156 156	67996 2-2 144 156 156	67996 2-2 144 156 156	67996 2-2 144 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2122.(FT) QNH ALT. : 2434.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3 | **PARIS, CHARLES DE GAULE** | **LFPG 08L**

ELEVATION= 312.0(FT) | CODES LIMITATIONS | **A320-232**/AA/V2527-A5
T.O.R.A. = 4215.1(M) | 1-STRUCTURE 5-TYRE SPEED | JARA MC69 13-07-01
A.S.D.A. = 4215.1(M) | 2-2ND-SEGMENT 6-BRAKE ENERGY
T.O.D.A. = 4275.1(M) | 3-RUNWAY 7-RWY 2 ENGINES
SLOPE = -.19(%) | 4-OBSTACLE 8-FINAL T.O. | QNH=1013.25 (MB)

FOR TRAINING ONLY | **AIR COND. OFF** CG25%
ANTI-ICING OFF

TREF = 45 DC
TMAX = 54 DC

WGHT INCR.1000(KG) WIND (KT)
MEAN V1 - VR - V2 /TEMP.(DC) /CODES
(IAS.KT)

WITHOUT REVERSE TGA

WEIGHT 1000KG	-10	-5	0	10	20
DRY RUNWAY					
77.0	.3 49 2-8 130 149 151	.3 49 2-8 134 149 151	.3 49 2-8 138 149 151	.3 49 2-8 138 149 151	.3 49 2-8 138 149 151 51 51
76.0	.6 50 2-8 130 148 150	.6 50 2-8 134 148 150	.6 50 2-8 137 148 150	.6 50 2-8 137 148 150	.6 50 2-8 137 148 150 52 53
74.0	.5 53 2-8 131 146 147	.5 53 2-8 134 146 147	.5 53 2-8 135 146 147	.5 53 2-8 135 146 147	.5 53 2-8 135 146 147 54 54
72.0	.3 62 2-6 140 157 158	.3 63 2-2 147 161 161	.3 63 2-2 149 161 161	.3 63 2-2 149 161 161	.3 63 2-2 148 161 161 54 54
70.0	.6 65 2-6 142 157 158	.1 66 2-2 146 158 159	.1 66 2-2 147 158 159	.1 66 2-2 146 158 159	.1 66 2-2 146 158 159 54 54
68.0	.7 68 2-2 144 157 157	.7 68 2-2 146 157 157	.7 68 2-2 145 157 157	.7 68 2-2 144 157 157	.7 68 2-2 144 157 157 54 54
66.0	2.0 69 2-2 144 156 156	2.0 69 2-2 146 156 156	2.0 69 2-2 144 156 156	2.0 69 2-2 144 156 156	2.0 69 2-2 144 156 156 54 54
64.0	.0 69 2 125 136 137	.0 69 2 125 136 137	.0 69 2 125 136 137	.0 69 2 125 136 137	.0 69 2 125 136 137 54 54
62.0	.0 69 2 122 129 131	.0 69 2 122 129 131	.0 69 2 122 129 131	.0 69 2 122 129 131	.0 69 2 122 129 131 54 54
60.0	.0 69 2 119 123 125	.0 69 2 119 123 125	.0 69 2 119 123 125	.0 69 2 119 123 125	.0 69 2 119 123 125 54 54
58.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122 54 54
56.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122 54 54
54.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122 54 54
52.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122 54 54
50.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122 54 54
45.0	.0 69 117 119 122	.0 69 117 119 122	.0 69 117 119 122	.0 69 117 119 122	.0 69 117 119 122 54 54
40.0					54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2122.(FT) QNH ALT. : 2434.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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PARIS CHARLES DE GAULLE (LFPG) - RWY 26R - CONF 1 + F

CONF1+F	PARIS, CHARLES DE GAULE	LFPG 26R
ELEVATION= 312.0(FT) T.O.R.A. = 4215.1(M) A.S.D.A. = 4275.1(M) T.O.D.A. = 4275.1(M) SLOPE = .19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 13-07-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

WEIGHT 1000KG	-10	-5	0	10	20	TGA
					2	3
77.0	.3 45 4-4 135 155 155	.3 49 4-4 143 154 154	.3 49 8-8 143 153 153	.3 49 8-8 142 153 153	.3 49 8-8 142 153 153	51 51
76.0	.1 48 4-4 137 155 156	.6 50 4-4 143 153 153	.6 50 8-8 143 153 153	.6 50 8-8 141 153 153	.6 50 8-8 141 153 153	52 53
74.0	.2 52 4-4 138 151 151	.5 53 8-8 142 151 151	.5 53 8-8 140 151 151	.5 53 8-8 139 151 151	.5 53 8-8 139 151 151	54 54
72.0	.4 56 4-4 140 149 149	.1 60 4-4 148 155 155	.5 62 2-4 155 157 157	.3 64 2-4 160 160 160	.1 65 2-2 164 164 164	54 54
70.0	.0 61 4-4 143 149 149	.1 64 4-4 150 155 155	.4 66 2-4 157 157 157	.5 67 4-4 162 162 162	.6 67 2-2 162 163 163	54 54
68.0	.2 65 4-4 145 150 150	.1 68 4-4 152 152 152	.6 69 4-4 159 159 159	1.1 69 4-2 164 164 164	1.1 69 2-2 160 161 161	54 54
66.0	.2 69 4-4 147 150 150	1.5 69 4-4 153 155 155	.0 69 2 140 146 146	.0 69 2 138 146 146	.0 69 2 135 146 146	54 54
64.0	.0 69 136 140 140	.0 69 132 140 140	.0 69 129 140 140	.0 69 129 140 140	.0 69 129 140 140	54 54
62.0	.0 69 127 137 137	.0 69 127 137 137	.0 69 127 137 137	.0 69 127 137 137	.0 69 127 137 137	54 54
60.0	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	54 54
58.0	.0 69 125 133 133	.0 69 125 133 133	.0 69 125 133 133	.0 69 125 133 133	.0 69 125 133 133	54 54
56.0	.0 69 124 130 130	.0 69 124 130 130	.0 69 124 130 130	.0 69 124 130 130	.0 69 124 130 130	54 54
54.0	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	54 54
52.0	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	54 54
50.0	.0 69 120 122 123	.0 69 120 122 123	.0 69 120 122 123	.0 69 120 122 123	.0 69 120 122 123	54 54
45.0	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	54 54
40.0	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2345.(FT) QNH ALT. : 2657.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+P	PARIS, CHARLES DE GAULE	LFPG 26R
ELEVATION= 312.0(FT) T.O.R.A. = 4215.1(M) A.S.D.A. = 4275.1(M) T.O.D.A. = 4275.1(M) SLOPE = .19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 13-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
.0	80413 4-4 146 158 158	82036 4-4 151 162 162	83502 4-4 156 167 167	84376 4-4 159 169 169	85239 4-4 162 171 171
15.0	79298 4-4 142 155 156	80957 4-4 147 159 159	82534 4-4 152 164 164	83480 4-4 155 166 166	84346 4-4 159 169 169
30.0	78379 4-4 138 158 159	79993 4-4 144 156 156	81594 4-4 149 161 161	82610 4-4 153 164 164	83557 4-4 156 166 166
45.0	77305 4-4 135 155 155	78871 4-4 141 159 159	80164 8-8 145 156 156	80164 8-8 146 156 156	80164 8-8 145 156 156
46.0	76959 4-4 136 155 155	78542 4-4 141 155 155	79451 8-8 145 155 155	79451 8-8 145 155 155	79451 8-8 143 155 155
48.0	76067 4-4 137 155 156	77698 4-4 142 154 154	78023 8-8 143 154 154	78023 8-8 143 154 154	78023 8-8 142 154 154
49.0	75622 4-4 137 156 156	77269 4-4 143 154 154	77309 8-8 143 153 153	77309 8-8 142 153 153	77309 8-8 141 153 153
51.0	74729 4-4 138 156 156	75880 8-8 142 152 152	75880 8-8 142 152 152	75880 8-8 140 152 152	75880 8-8 140 152 152
52.0	74225 4-4 138 151 151	75165 8-8 142 151 151	75165 8-8 141 151 151	75165 8-8 140 151 151	75165 8-8 140 151 151
54.0	73354 4-4 139 155 155	73735 8-8 141 150 150	73735 8-8 139 150 150	73735 8-8 138 150 150	73735 8-8 138 150 150
55.0	72858 4-4 140 155 155	73461 8-8 143 150 150	73461 8-8 140 150 150	73461 8-8 138 150 150	73461 8-8 138 150 150
56.0	72397 4-4 140 149 149	73460 2-8 145 150 150	73460 2-8 144 150 150	73460 2-8 141 150 150	73460 2-8 139 150 150
58.0	71435 4-4 141 149 149	73082 4-4 147 155 155	73459 2-8 149 153 153	73459 2-8 147 153 153	73459 2-8 144 153 153
59.0	70963 4-4 142 149 149	72601 4-4 148 155 155	73458 2-8 152 155 155	73458 2-8 150 155 155	73458 2-8 148 155 155
61.0	70027 4-4 143 149 149	71602 4-4 149 155 155	72986 4-4 155 159 159	73457 2-8 156 158 158	73457 2-8 155 158 158
62.0	69562 4-4 143 149 149	71096 4-4 149 155 155	72497 2-4 155 157 157	73365 2-4 159 160 160	73456 2-8 159 161 161
64.0	68637 4-4 144 150 150	70092 4-4 150 155 155	71497 2-4 156 157 157	72328 2-4 160 160 160	72812 2-4 165 165 165
65.0	68182 4-4 145 150 150	69612 2-4 151 152 152	70971 2-4 157 157 157	71699 2-4 160 160 160	72073 2-2 163 164 164
67.0	67225 4-4 146 150 150	68636 2-4 152 152 152	69802 2-4 157 157 157	70457 4-4 162 162 162	70596 2-2 161 163 163
68.0	66718 4-4 146 150 150	68097 4-4 152 152 152	69207 4-4 159 159 159	69782 4-4 163 163 163	69857 2-2 160 162 162
69.0	66220 4-4 147 150 150	67483 4-4 153 155 155	68601 4-4 159 159 159	69110 4-2 164 164 164	69119 2-2 159 161 161

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2345.(FT) QNH ALT. : 2657.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 26R - CONF 2

CONF 2 | **PARIS, CHARLES DE GAULE** | **LFPG 26R**

ELEVATION= 312.0(FT) — CODES LIMITATIONS — **A320-232**/AA/V2527-A5
T.O.R.A. = 4215.1(M) — 1-STRUCTURE 5-TYRE SPEED — JARA MC69 13-07-01
A.S.D.A. = 4275.1(M) — 2-2ND-SEGMENT 6-BRAKE ENERGY
T.O.D.A. = 4275.1(M) — 3-RUNWAY 7-RWY 2 ENGINES — QNH=1013.25 (MB)
SLOPE = .19(%) — 4-OBSTACLE 8-FINAL T.O. — GRAD1= 50/GRAD2= 300

FOR TRAINING ONLY — **AIR COND. OFF** CG25%
ANTI-ICING OFF

TREF = 45 DC — WGHT INCR 1000(KG) WIND (KT) /TEMP (DC) /CODES — **WITHOUT REVERSE** TGA
TMAX = 54 DC — MEAN V1 - VR - V2 (IAS.KT) — **DRY RUNWAY** 2

WEIGHT 1000KG	-10	-5	0	10	20	3
77.0	.0 46 4-4 135 149 152	.2 49 4-4 142 154 157	.3 49 2-8 143 150 152	.3 49 2-8 141 150 152	.3 49 2-8 139 150 152	51 51
76.0	.1 48 4-4 136 149 152	.6 50 4-4 142 151 154	.6 50 2-8 142 149 151	.6 50 2-8 140 149 151	.6 50 2-8 138 149 151	52 53
74.0	.3 52 4-4 138 149 152	.5 53 2-8 142 147 149	.5 53 2-8 139 147 149	.5 53 2-8 136 147 149	.5 53 2-8 136 147 149	54 54
72.0	.3 56 4-4 140 149 152	.4 59 2-4 147 149 151	.2 62 2-4 154 154 156	.3 63 2-4 157 157 159	.1 64 2-4 159 159 161	54 54
70.0	.3 60 4-4 142 147 149	.4 63 2-4 149 150 151	.3 65 2-4 153 153 155	.3 66 2-4 156 156 158	.7 66 2-2 158 158 160	54 54
68.0	.5 64 2-4 144 144 146	.1 67 4-4 150 150 151	.4 68 2-4 152 152 154	.3 69 2-4 154 154 156	.5 69 2-2 155 156 157	54 54
66.0	.3 68 4-4 147 149 150	.8 69 4-4 148 148 150	1.7 69 2-4 152 152 153	.0 69 2 138 144 145	.0 69 2 135 144 145	54 54
64.0	1.8 69 4-4 148 149 150	.0 69 2 131 137 138	.0 69 2 127 137 138	.0 69 2 127 137 138	.0 69 2 127 137 138	54 54
62.0	.0 69 2 124 131 132	.0 69 2 123 131 132	.0 69 2 123 131 132	.0 69 2 123 131 132	.0 69 2 123 131 132	54 54
60.0	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	54 54
58.0	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	54 54
56.0	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	54 54
54.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54 54
52.0	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	54 54
50.0	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	54 54
45.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54 54
40.0						54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2207.(FT) QNH ALT. : 2519.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2 | **PARIS, CHARLES DE GAULE** | **LFPG 26R**

ELEVATION= 312.0(FT) — CODES LIMITATIONS — **A320-232**/AA/V2527-A5
T.O.R.A. = 4215.1(M) — 1-STRUCTURE 5-TYRE SPEED — JARA MC69 13-07-01
A.S.D.A. = 4275.1(M) — 2-2ND-SEGMENT 6-BRAKE ENERGY
T.O.D.A. = 4275.1(M) — 3-RUNWAY 7-RWY 2 ENGINES — QNH=1013.25 (MB)
SLOPE = .19(%) — 4-OBSTACLE 8-FINAL T.O. — **AIR COND. OFF** CG25%

FOR TRAINING ONLY — **ANTI-ICING OFF**

TREF = 45 DC — MTOW (KG) WIND (KT) CODES — **WITHOUT REVERSE**
TMAX = 54 DC — MEAN V1 - VR - V2 (IAS.KT) — **DRY RUNWAY**

O A T DC	-10	-5	0	10	20
.0	80044 4-4 144 156 160	81491 4-4 149 161 165	83100 2-4 154 161 164	84042 2-4 158 165 167	84883 2-4 163 168 171
15.0	79170 4-4 141 154 157	80696 4-4 146 158 162	82195 2-4 151 158 161	83224 2-4 155 162 164	84148 2-4 159 165 168
30.0	78296 4-4 138 151 154	79910 4-4 143 156 159	81364 2-4 148 156 158	82440 2-4 152 159 162	83428 2-4 155 163 165
45.0	77243 4-4 135 153 156	79032 4-4 140 154 157	80164 2-8 145 153 155	80164 2-8 145 153 155	80164 2-8 143 153 155
46.0	77002 4-4 135 149 152	78674 4-4 141 154 157	79451 2-8 143 152 154	79451 2-8 144 152 154	79451 2-8 141 152 154
48.0	76100 4-4 136 149 152	77722 4-4 142 154 157	78023 2-8 143 150 153	78023 2-8 142 150 153	78023 2-8 139 150 153
49.0	75649 4-4 137 149 152	77243 4-4 142 154 157	77309 2-8 143 150 152	77309 2-8 141 150 152	77309 2-8 139 150 152
51.0	74745 4-4 138 149 152	75880 2-8 142 148 150	75880 2-8 141 148 150	75880 2-8 138 148 150	75880 2-8 137 148 150
52.0	74291 4-4 138 149 152	75165 2-8 142 148 150	75165 2-8 140 148 150	75165 2-8 137 148 150	75165 2-8 137 148 150
54.0	73330 4-4 139 149 152	73735 2-8 141 146 148	73735 2-8 138 146 148	73735 2-8 135 146 148	73735 2-8 135 146 148
55.0	72837 4-4 140 149 152	73461 2-8 142 147 149	73461 2-8 139 147 149	73461 2-8 136 147 149	73461 2-8 136 147 149
56.0	72342 4-4 140 149 152	73460 2-8 144 148 150	73460 2-8 142 148 150	73460 2-8 139 148 150	73460 2-8 137 148 150
58.0	71347 4-4 141 149 151	72873 2-4 147 149 151	73459 2-8 148 151 153	73459 2-8 146 151 153	73459 2-8 144 151 153
59.0	70856 4-4 142 149 151	72375 2-4 147 149 151	73458 2-8 151 153 155	73458 2-8 149 153 155	73458 2-8 147 153 155
61.0	69811 4-4 143 144 146	71407 2-4 148 149 151	72761 2-4 154 154 156	73457 2-8 157 157 160	73457 2-8 155 157 160
62.0	69359 4-4 143 144 146	70924 2-4 149 149 151	72224 2-4 154 154 156	72906 2-4 157 157 160	73416 2-4 160 160 162
64.0	68465 2-4 144 144 146	69892 4-4 150 150 151	70983 2-4 154 154 156	71595 2-4 156 156 159	72096 2-4 159 159 161
65.0	67979 4-4 145 145 146	69309 4-4 150 150 152	70346 2-4 153 153 155	70933 2-4 156 156 158	71405 2-2 158 159 161
67.0	66965 4-4 146 146 147	68078 4-4 150 150 151	69072 2-4 153 153 154	69632 2-4 155 155 157	69973 2-2 156 157 159
68.0	66305 4-4 147 149 150	67426 4-4 149 149 150	68408 2-4 152 152 154	68948 2-4 155 155 157	69257 2-2 155 156 158
69.0	65785 4-4 148 149 150	66777 4-4 148 148 150	67746 2-4 152 152 153	68277 2-4 154 154 156	68541 2-2 155 156 157

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2207.(FT) QNH ALT. : 2519.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 26R - CONF 3

CONF 3	PARIS, CHARLES DE GAULE	LFPG 26R
ELEVATION= 312.0(FT) T.O.R.A. = 4215.1(M) A.S.D.A. = 4275.1(M) T.O.D.A. = 4275.1(M) SLOPE = .19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 13-07-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.1 47 4-4 136 150 152	.3 49 2-8 142 149 151	.3 49 2-8 142 149 151	.3 49 2-8 139 149 151	.3 49 2-8 138 149 151	51 51
76.0	.2 49 4-4 137 150 152	.6 50 2-8 142 148 150	.6 50 2-8 140 148 150	.6 50 2-8 138 148 150	.6 50 2-8 137 148 150	52 53
74.0	.3 53 4-4 139 149 151	.5 53 2-8 141 146 147	.5 53 2-8 137 146 147	.5 53 2-8 135 146 147	.5 53 2-8 135 146 147	54 54
72.0	.4 57 4-4 141 150 151	.5 60 2-4 150 152 153	.4 62 2-4 158 158 158	.2 63 2-4 160 160 160	.3 63 2-2 160 161 161	54 54
70.0	.1 62 2-4 145 146 147	.3 64 2-4 152 152 153	.5 65 2-4 156 156 157	.1 66 4-4 158 158 159	.1 66 2-2 157 159 159	54 54
68.0	.0 66 4-4 147 147 148	.4 67 2-4 151 151 151	.4 68 2-4 155 155 155	.7 68 2-2 156 157 157	.7 68 2-2 155 157 157	54 54
66.0	.2 69 4-4 150 150 151	1.1 69 2-4 150 150 150	1.8 69 2-4 154 154 155	2.0 69 2-2 155 156 156	2.0 69 2-2 154 156 156	54 54
64.0	.0 69 2 132 136 137	.0 69 2 129 136 137	.0 69 2 126 136 137	.0 69 2 126 136 137	.0 69 2 126 136 137	54 54
62.0	.0 69 2 122 129 131	.0 69 2 122 129 131	.0 69 2 122 129 131	.0 69 2 122 129 131	.0 69 2 122 129 131	54 54
60.0	.0 69 2 119 123 125	.0 69 2 119 123 125	.0 69 2 119 123 125	.0 69 2 119 123 125	.0 69 2 119 123 125	54 54
58.0	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	54 54
56.0	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	54 54
54.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54 54
52.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54 54
50.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54 54
45.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54 54
40.0						54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2150.(FT) QNH ALT. : 2462.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	PARIS, CHARLES DE GAULE	LFPG 26R
ELEVATION= 312.0(FT) T.O.R.A. = 4215.1(M) A.S.D.A. = 4275.1(M) T.O.D.A. = 4275.1(M) SLOPE = .19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 13-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
.0	80758 4-4 146 158 160	82294 2-4 152 159 160	83599 2-4 158 165 165	84326 2-4 162 168 169	84950 2-4 167 172 172
15.0	79962 4-4 143 156 157	81438 4-4 149 160 162	82778 4-4 155 163 164	83726 2-4 159 166 166	84425 2-4 163 169 169
30.0	78947 4-4 139 153 154	80617 4-4 145 157 159	82048 4-4 150 161 162	83018 2-4 155 162 163	83804 2-4 159 166 167
45.0	77861 4-4 135 150 152	79642 4-4 141 155 156	80164 2-8 144 153 154	80164 2-8 144 153 154	80164 2-8 141 153 154
46.0	77524 4-4 136 150 152	79298 4-4 141 155 156	79451 2-8 143 151 153	79451 2-8 142 151 153	79451 2-8 139 151 153
48.0	76640 4-4 137 150 152	78023 2-8 142 150 151	78023 2-8 142 150 151	78023 2-8 140 150 151	78023 2-8 138 150 151
49.0	76198 4-4 137 150 152	77309 2-8 142 149 151	77309 2-8 141 149 151	77309 2-8 138 149 151	77309 2-8 137 149 151
51.0	75312 4-4 138 150 152	75880 2-8 142 148 149	75880 2-8 139 148 149	75880 2-8 136 148 149	75880 2-8 136 148 149
52.0	74870 4-4 139 150 152	75165 2-8 141 147 148	75165 2-8 138 147 148	75165 2-8 135 147 148	75165 2-8 135 147 148
54.0	73735 4-8 140 148 150	73735 8-8 139 145 147	73735 8-8 135 145 147	73735 8-8 134 145 147	73735 8-8 134 145 147
55.0	73443 4-4 140 150 151	73461 2-8 141 146 147	73461 2-8 137 146 147	73461 2-8 135 146 147	73461 2-8 135 146 147
56.0	72933 4-4 141 150 151	73460 2-8 143 147 149	73460 2-8 140 147 149	73460 2-8 137 147 149	73460 2-8 136 147 149
58.0	71925 4-4 142 150 151	73459 2-8 148 152 153	73459 2-8 147 152 153	73459 2-8 145 152 153	73459 2-8 142 152 153
59.0	71408 4-4 143 146 147	72969 2-4 149 152 153	73458 2-8 151 154 155	73458 2-8 149 154 155	73458 2-8 147 154 155
61.0	70525 2-4 144 146 147	71937 2-4 150 152 153	73032 2-4 157 158 158	73457 2-8 160 161 161	73457 2-8 159 161 161
62.0	70087 2-4 145 146 147	71424 2-4 151 152 153	72441 2-4 158 158 158	72840 2-4 161 161 161	72984 2-2 161 162 162
64.0	69116 2-4 146 146 147	70306 2-4 152 152 153	71118 2-4 157 157 157	71506 4-4 160 160 160	71559 2-2 158 160 160
65.0	68603 4-4 147 147 148	69676 2-4 151 151 152	70461 2-4 156 156 157	70830 4-4 159 159 160	70846 2-2 157 159 160
67.0	67396 4-4 147 147 148	68403 2-4 151 151 151	69129 2-4 155 155 156	69421 2-2 156 158 158	69421 2-2 156 158 158
68.0	66793 4-4 150 150 150	67737 2-4 150 150 151	68443 2-4 155 155 155	68708 2-2 156 157 157	68708 2-2 155 157 157
69.0	66224 4-4 150 150 151	67079 2-4 150 150 150	67761 2-4 154 154 155	67996 2-2 155 156 156	67996 2-2 154 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2150.(FT) QNH ALT. : 2462.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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PARIS CHARLES DE GAULLE (LFPG) - RWY 27 - CONF 1 + F

CONF1+F — **PARIS CHARLES DE GAULLE** — **LFPG 27**

ELEVATION= 388.0(FT)
T.O.R.A. = 3600.0(M)
A.S.D.A. = 3660.0(M)
T.O.D.A. = 3775.0(M)
SLOPE = -.14(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-232/AA/V2527-A5
JARA MC69 08-06-01

QNH=1013.25 (MB)
GRAD1= 70/GRAD2= 200
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 44 DC
TMAX = 54 DC

WGHT INCR.1000(KG) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)
WIND (KT)

WITHOUT REVERSE TGA 2
DRY RUNWAY 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.1 31 4-4 138 152 153	.4 46 4-4 142 153 153	.2 49 8-8 146 153 153	.2 49 8-8 146 153 153	.2 49 8-8 144 153 153	50 51
76.0	.1 42 4-4 136 151 152	.2 49 4-4 143 152 152	.4 50 8-8 146 152 152	.4 50 8-8 145 152 152	.4 50 8-8 143 152 152	52 52
74.0	1.9 44 4-4 136 151 151	.3 53 8-8 144 150 150	.3 53 8-8 144 150 150	.3 53 8-8 142 150 150	.3 53 8-8 140 150 150	54 54
72.0	.4 54 4-4 139 148 148	.3 58 4-4 147 150 150	.0 62 2-4 154 155 155	.4 63 4-4 159 159 159	.3 64 2-4 161 161 161	54 54
70.0	.2 59 4-4 141 147 147	.1 63 4-4 149 150 150	.5 65 4-4 156 156 156	.5 66 4-4 159 159 159	.3 67 2-4 161 161 161	54 54
68.0	.0 64 4-4 144 146 146	.2 67 2-4 151 151 151	.0 69 4-4 156 156 156	.6 69 4-4 157 157 157	.9 69 2-2 160 161 161	54 54
66.0	.3 68 4-4 146 146 146	1.1 69 4-4 152 152 152	.0 69 2 142 146 146	.0 69 2 141 146 146	.0 69 2 139 146 146	54 54
64.0	1.8 69 4-4 146 147 147	.0 69 134 140 140	.0 69 131 140 140	.0 69 129 140 140	.0 69 129 140 140	54 54
62.0	.0 69 128 137 137	.0 69 127 137 137	.0 69 127 137 137	.0 69 127 137 137	.0 69 127 137 137	54 54
60.0	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	54 54
58.0	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	54 54
56.0	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	54 54
54.0	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	54 54
52.0	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	54 54
50.0	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2312.(FT) QNH ALT. : 2700.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F — **PARIS CHARLES DE GAULLE** — **LFPG 27**

ELEVATION= 388.0(FT)
T.O.R.A. = 3600.0(M)
A.S.D.A. = 3660.0(M)
T.O.D.A. = 3775.0(M)
SLOPE = -.14(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-232/AA/V2527-A5
JARA MC69 08-06-01

QNH=1013.25 (MB)
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 44 DC
TMAX = 54 DC

MTOW (KG) CODES
MEAN V1 - VR - V2 (IAS.KT)
WIND (KT)

WITHOUT REVERSE
DRY RUNWAY

O A T DC	-10	-5	0	10	20
-1.0	79770 4-4 146 155 156	81376 4-4 151 158 158	82906 2-4 156 162 162	83886 2-4 159 165 165	84748 2-4 162 168 168
14.0	78481 4-4 142 154 154	80194 4-4 147 156 156	81808 2-4 152 159 159	82810 2-4 156 162 162	83764 2-4 159 165 165
29.0	77256 4-4 139 152 153	79077 4-4 144 154 155	80795 4-4 149 157 157	81860 2-4 153 159 159	82828 2-4 156 162 162
44.8	75820 4-4 136 151 151	77734 4-4 141 153 153	79562 4-4 146 155 155	80175 8-8 149 156 156	80175 8-8 149 156 156
46.0	75450 4-4 136 151 151	77355 4-4 142 153 153	79170 4-4 147 155 155	79290 8-8 148 155 155	79290 8-8 148 155 155
48.0	74726 4-4 137 150 150	76598 4-4 142 152 152	77864 8-8 146 154 154	77864 8-8 147 154 154	77864 8-8 145 154 154
49.0	74358 4-4 137 150 150	76208 4-4 143 152 152	77151 8-8 146 153 153	77151 8-8 146 153 153	77151 8-8 144 153 153
51.0	73605 4-4 138 149 149	75413 4-4 144 151 151	75724 8-8 145 152 152	75724 8-8 144 152 152	75724 8-8 142 152 152
52.0	73223 4-4 138 149 149	75004 4-4 144 151 151	75011 8-8 145 151 151	75011 8-8 143 151 151	75011 8-8 141 151 151
53.0	72829 4-4 139 148 148	74297 8-8 144 150 150	74297 8-8 143 150 150	74297 8-8 141 150 150	74297 8-8 139 150 150
55.0	71992 4-4 139 148 148	73417 8-8 145 149 149	73417 8-8 143 149 149	73417 8-8 141 149 149	73417 8-8 139 149 149
56.0	71552 4-4 140 147 147	73258 4-4 146 150 150	73416 2-8 146 150 150	73416 2-8 144 150 150	73416 2-8 142 150 150
58.0	70674 4-4 141 147 147	72332 4-4 147 150 150	73415 8-4 153 153 153	73415 2-8 149 153 153	73415 2-8 148 153 153
59.0	70236 4-4 141 147 147	71870 4-4 147 150 150	73414 2-8 153 155 155	73414 2-8 152 155 155	73414 2-8 151 155 155
61.0	69364 4-4 142 146 146	70957 2-4 148 150 150	72502 2-4 154 155 155	73407 2-4 158 159 159	73413 2-8 157 159 159
62.0	68919 4-4 143 146 146	70503 2-4 149 150 150	72013 2-4 154 155 155	72901 2-4 158 159 159	73412 2-8 160 161 161
63.0	68474 4-4 143 146 146	70051 4-4 149 150 150	71520 2-4 155 155 155	72356 4-4 159 159 159	72977 2-4 162 162 162
65.0	67595 4-4 144 146 146	69150 4-4 150 151 151	70503 4-4 156 156 156	71156 4-4 160 160 160	71701 2-4 161 161 161
66.0	67158 4-4 145 146 146	68701 2-4 150 151 151	69928 4-4 157 157 157	70532 4-4 159 159 159	71036 2-4 161 161 161
68.0	66265 4-4 146 146 146	67674 4-4 152 152 152	68695 4-4 157 157 157	69236 4-4 158 158 158	69658 2-4 162 162 162
69.0	65814 4-4 146 147 147	67126 4-4 152 152 152	68046 4-4 156 156 156	68574 4-4 157 157 157	68921 2-2 160 161 161

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2312.(FT) QNH ALT. : 2700.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 27 - CONF 2

CONF 2 — **PARIS CHARLES DE GAULLE** — **LFPG 27**

ELEVATION= 388.0 (FT)
T.O.R.A. = 3600.0 (M)
A.S.D.A. = 3660.0 (M)
T.O.D.A. = 3775.0 (M)
SLOPE = -.14 (%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-232/AA/V2527-A5
JARA MC69 08-06-01

QNH=1013.25 (MB)
GRAD1= 50/GRAD2= 300
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 44 DC
TMAX = 54 DC

WIND (KT)
WGHT INCR.1000(KG) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE TGA
DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 36 4-4 136 148 151	.3 47 4-4 141 149 152	.2 49 2-8 145 149 152	.2 49 2-8 144 149 152	.2 49 2-8 141 149 152	50 51
76.0	.5 44 4-4 135 147 150	.4 49 4-4 142 150 152	.4 50 2-8 144 149 151	.4 50 2-8 143 149 151	.4 50 2-8 140 149 151	52 52
74.0	.3 50 4-4 137 146 149	.3 53 2-8 143 147 149	.3 53 2-8 142 147 149	.3 53 2-8 139 147 149	.3 53 2-8 137 147 149	54 54
72.0	.1 55 4-4 139 146 148	.2 58 4-4 146 148 151	.2 61 4-4 153 153 155	.2 62 4-4 156 156 159	.1 63 4-4 157 157 159	54 54
70.0	.3 59 4-4 141 146 148	.3 62 4-4 148 149 151	.4 64 4-4 154 154 156	.3 65 4-4 155 155 157	.1 66 4-4 157 157 159	54 54
68.0	.4 63 4-4 143 145 146	.3 66 4-4 151 151 152	.5 67 4-4 153 153 155	.3 68 4-4 154 154 156	.1 69 4-4 155 155 157	54 54
66.0	.0 68 4-4 146 146 148	.4 69 4-4 150 150 152	1.2 69 4-4 151 151 153	1.6 69 4-4 153 153 155	.0 69 2 139 145 146	54 54
64.0	1.5 69 4-4 147 147 148	.0 69 2 134 138 139	.0 69 2 131 138 139	.0 69 2 128 138 139	.0 69 2 127 138 139	54 54
62.0	.0 69 2 127 131 133	.0 69 2 123 131 133	.0 69 2 123 131 133	.0 69 2 123 131 133	.0 69 2 123 131 133	54 54
60.0	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	54 54
58.0	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	54 54
56.0	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	54 54
54.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54 54
52.0	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	54 54
50.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2187.(FT) QNH ALT. : 2575.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2 — **PARIS CHARLES DE GAULLE** — **LFPG 27**

ELEVATION= 388.0 (FT)
T.O.R.A. = 3600.0 (M)
A.S.D.A. = 3660.0 (M)
T.O.D.A. = 3775.0 (M)
SLOPE = -.14 (%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-232/AA/V2527-A5
JARA MC69 08-06-01

QNH=1013.25 (MB)
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 44 DC
TMAX = 54 DC

MTOW (KG) WIND (KT)
MEAN V1 - VR - V2 CODES (IAS.KT)

WITHOUT REVERSE
DRY RUNWAY

O A T DC	-10	-5	0	10	20
-1.0	79470 4-4 144 154 157	81053 4-4 149 156 159	82560 4-4 154 159 163	83549 2-4 158 163 166	84445 2-4 162 166 169
14.0	78446 4-4 140 151 154	80088 4-4 146 154 158	81636 4-4 151 157 160	82685 4-4 154 160 163	83643 2-4 158 163 166
29.0	77513 4-4 138 149 152	79172 4-4 143 152 155	80788 4-4 148 155 158	81873 2-4 151 157 160	82897 2-4 155 160 163
44.8	76414 4-4 135 147 150	78133 4-4 140 150 153	79755 4-4 145 153 156	80175 2-8 147 153 155	80175 2-8 146 153 155
46.0	75996 4-4 135 147 150	77706 4-4 141 150 152	79290 4-8 146 151 154	79290 2-8 144 151 154	79290 2-8 144 151 154
48.0	75157 4-4 136 147 150	76829 4-4 141 149 152	77864 2-8 145 150 153	77864 2-8 144 150 153	77864 2-8 142 150 153
49.0	74736 4-4 137 147 149	76389 4-4 142 150 152	77151 2-8 145 149 152	77151 2-8 143 149 152	77151 2-8 141 149 152
51.0	73878 4-4 137 146 149	75512 4-4 143 150 153	75724 2-8 143 148 150	75724 2-8 141 148 150	75724 2-8 139 148 150
52.0	73439 4-4 138 146 149	75011 4-8 143 148 151	75011 2-8 142 147 150	75011 2-8 140 147 150	75011 2-8 137 147 150
53.0	72995 4-4 138 146 149	74297 2-8 143 147 149	74297 2-8 142 147 149	74297 2-8 139 147 149	74297 2-8 137 147 149
55.0	72095 4-4 139 146 148	73417 2-8 144 147 149	73417 2-8 142 147 149	73417 2-8 140 147 149	73417 2-8 137 147 149
56.0	71632 4-4 140 146 148	73208 4-4 145 149 151	73416 2-8 145 148 150	73416 2-8 143 148 150	73416 2-8 140 148 150
58.0	70715 4-4 141 146 148	72239 4-4 146 148 151	73415 2-8 150 151 154	73415 2-8 148 151 154	73415 2-8 147 151 154
59.0	70261 4-4 141 146 148	71760 4-4 147 149 151	73188 2-4 152 152 155	73414 2-8 152 153 156	73414 2-8 150 153 156
61.0	69344 4-4 142 145 147	70807 4-4 148 149 151	72157 4-4 153 153 155	72847 4-4 157 157 160	73377 4-4 158 158 160
62.0	68879 4-4 143 145 146	70333 4-4 148 149 151	71587 4-4 154 154 156	72200 4-4 156 156 159	72720 2-4 157 157 160
63.0	68416 4-4 143 145 146	69850 4-4 149 149 151	70996 4-4 154 154 157	71554 4-4 156 156 158	72063 4-4 157 157 159
65.0	67496 4-4 144 145 147	68824 4-4 150 150 152	69749 4-4 154 154 156	70266 4-4 155 155 157	70760 4-4 157 157 159
66.0	67039 4-4 145 145 147	68255 4-4 151 151 152	69118 4-4 153 153 155	69622 4-4 154 154 156	70113 4-4 157 157 159
68.0	66048 4-4 146 146 148	67026 4-4 151 151 153	67817 4-4 152 152 154	68305 4-4 154 154 156	68788 4-4 156 156 158
69.0	65521 4-4 147 147 148	66384 4-4 150 150 152	67159 4-4 151 151 153	67639 4-4 153 153 155	68119 4-4 155 155 157

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2187.(FT) QNH ALT. : 2575.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 27 - CONF 3

CONF 3 | **PARIS CHARLES DE GAULLE** | **LFPG 27**

ELEVATION= 388.0(FT)
T.O.R.A. = 3600.0(M)
A.S.D.A. = 3660.0(M)
T.O.D.A. = 3775.0(M)
SLOPE = -.14(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-232/AA/V2527-A5
JARA MC69 08-06-01

QNH=1013.25 (MB)
GRAD1= 60/GRAD2= 300
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 44 DC
TMAX = 54 DC

WIND (KT)
MTOW (KG) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE TGA
DRY RUNWAY 2

WEIGHT 1000KG	-10		-5		0		10		20		3	
77.0	.0 136	44 4-4 148 150	.1 143	49 4-4 151 153	.2 144	49 2-8 149 151	.2 142	49 2-8 149 151	.2 139	49 2-8 149 151	50	51
76.0	.1 136	47 4-4 148 150	.4 143	50 4-4 149 151	.4 143	50 2-8 148 150	.4 140	50 2-8 148 150	.4 138	50 2-8 148 150	52	52
74.0	.0 138	52 4-4 147 149	.3 143	53 2-8 146 147	.3 140	53 2-8 146 147	.3 137	53 2-8 146 147	.3 135	53 2-8 146 147	54	54
72.0	.3 140	56 4-4 147 149	.0 149	60 2-4 150 151	.6 156	61 2-4 156 157	.4 158	62 2-4 158 159	.1 160	63 2-2 160 161	54	54
70.0	.1 143	61 4-4 146 147	.4 151	63 4-4 151 152	.0 154	65 2-4 154 155	.4 157	65 2-4 157 158	.6 158	65 2-2 159 159	54	54
68.0	.2 146	65 4-4 146 147	.6 150	66 4-4 150 151	.1 153	68 2-4 153 154	.4 156	68 2-4 156 156	.5 155	68 2-2 156 157	54	54
66.0	.5 148	68 4-4 148 149	.6 148	69 4-4 148 149	1.4 152	69 2-4 152 153	1.7 155	69 4-4 155 156	1.8 154	69 2-2 156 156	54	54
64.0	1.9 147	69 4-4 147 148	.0 131	69 2 136 137	.0 128	69 2 136 137	.0 126	69 2 136 137	.0 126	69 2 136 137	54	54
62.0	.0 125	69 2 129 131	.0 122	69 2 129 131	.0 122	69 2 129 131	.0 122	69 2 129 131	.0 122	69 2 129 131	54	54
60.0	.0 119	69 2 123 125	.0 119	69 2 123 125	.0 119	69 2 123 125	.0 119	69 2 123 125	.0 119	69 2 123 125	54	54
58.0	.0 117	69 120 122	.0 117	69 120 122	.0 117	69 120 122	.0 117	69 120 122	.0 117	69 120 122	54	54
56.0	.0 117	69 120 122	.0 117	69 120 122	.0 117	69 120 122	.0 117	69 120 122	.0 117	69 120 122	54	54
54.0	.0 117	69 120 122	.0 117	69 120 122	.0 117	69 120 122	.0 117	69 120 122	.0 117	69 120 122	54	54
52.0	.0 117	69 120 122	.0 117	69 120 122	.0 117	69 120 122	.0 117	69 120 122	.0 117	69 120 122	54	54
50.0	.0 117	69 120 122	.0 117	69 120 122	.0 117	69 120 122	.0 117	69 120 122	.0 117	69 120 122	54	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2130.(FT) QNH ALT. : 2518.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3 | **PARIS CHARLES DE GAULLE** | **LFPG 27**

ELEVATION= 388.0(FT)
T.O.R.A. = 3600.0(M)
A.S.D.A. = 3660.0(M)
T.O.D.A. = 3775.0(M)
SLOPE = -.14(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-232/AA/V2527-A5
JARA MC69 08-06-01

QNH=1013.25 (MB)
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 44 DC
TMAX = 54 DC

MTOW (KG)
MEAN V1 - VR - V2
CODES (IAS.KT)

WITHOUT REVERSE
DRY RUNWAY

O A T DC	-10	-5	0	10	20
-1.0	80308 4-4 146 156 158	81934 2-4 152 158 159	83275 2-4 158 163 164	84063 2-4 162 167 168	84707 2-4 166 171 171
14.0	79289 4-4 143 153 155	81007 4-4 148 157 158	82521 2-4 154 160 161	83387 2-4 158 164 165	84138 2-4 162 168 168
29.0	78203 4-4 139 150 152	79940 4-4 145 154 155	81645 4-4 150 158 159	82604 2-4 154 161 162	83442 2-4 158 164 165
44.8	76942 4-4 135 148 150	78748 4-4 141 151 153	80175 2-8 146 153 154	80175 2-8 147 153 154	80175 2-8 144 153 154
46.0	76532 4-4 136 148 150	78328 4-4 141 151 153	79290 2-8 145 151 153	79290 2-8 145 151 153	79290 2-8 142 151 153
48.0	75713 4-4 137 148 150	77477 4-4 142 151 153	77864 2-8 145 150 151	77864 2-8 143 150 151	77864 2-8 140 150 151
49.0	75304 4-4 137 147 149	77053 4-4 143 151 153	77151 2-8 144 149 151	77151 2-8 141 149 151	77151 2-8 139 149 151
51.0	74465 4-4 138 147 149	75724 2-8 143 147 149	75724 2-8 141 147 149	75724 2-8 139 147 149	75724 2-8 136 147 149
52.0	74042 4-4 138 147 149	75011 2-8 143 147 148	75011 2-8 141 147 148	75011 2-8 138 147 148	75011 2-8 136 147 148
53.0	73613 4-4 139 147 149	74297 2-8 143 146 147	74297 2-8 139 146 147	74297 2-8 137 146 147	74297 2-8 135 146 147
55.0	72739 4-4 140 147 149	73417 2-8 143 146 148	73417 2-8 140 146 148	73417 2-8 137 146 148	73417 2-8 135 146 148
56.0	72289 4-4 140 147 149	73416 2-8 145 148 149	73416 2-8 142 148 149	73416 2-8 140 148 149	73416 2-8 138 148 149
58.0	71403 4-4 142 147 148	72982 2-4 148 150 151	73415 2-8 149 152 153	73415 2-8 147 152 153	73415 2-8 145 152 153
59.0	70965 4-4 142 146 148	72491 2-4 148 150 151	73414 2-8 153 154 155	73414 2-8 151 154 155	73414 2-8 149 154 155
61.0	70076 4-4 143 146 147	71512 2-4 150 150 152	72601 2-4 156 156 157	73091 2-4 159 159 160	73413 2-8 161 161 162
62.0	69626 4-4 144 145 147	71010 2-4 150 150 152	71949 2-4 156 156 156	72420 2-4 158 158 159	72778 2-2 161 161 162
63.0	69167 4-4 145 145 146	70448 4-4 151 151 152	71300 2-4 155 155 156	71748 2-4 158 158 159	72067 2-2 160 160 161
65.0	68200 4-4 146 146 147	69228 4-4 151 151 152	70008 2-4 154 154 155	70423 2-4 157 157 158	70646 2-2 158 159 159
66.0	67683 4-4 147 147 148	68599 4-4 150 150 151	69367 2-4 154 154 154	69763 2-4 157 157 157	69936 2-2 157 158 159
68.0	66498 4-4 148 148 149	67302 4-4 149 149 150	68052 2-4 153 153 154	68421 2-4 156 156 156	68514 2-2 155 156 157
69.0	65858 4-4 147 147 148	66646 4-4 148 148 149	67384 2-4 152 152 153	67744 4-4 155 155 156	67804 2-2 154 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2130.(FT) QNH ALT. : 2518.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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FRANKFURT (EDDF) - RWY 18 - CONF 1 + F

CONF1+F	FRANKFURT	EDDF 18
ELEVATION= 325.0(FT) T.O.R.A. = 3970.0(M) A.S.D.A. = 3970.0(M) T.O.D.A. = 3970.0(M) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
DEPARTURE ONLY RWY NOT AVAILABLE FOR LANDING	WIND (KT) WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA
TREF = 45 DC TMAX = 54 DC		**DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 33 4-4 138 153 153	.1 47 4-4 142 154 154	.3 49 8-8 147 153 153	.3 49 8-8 146 153 153	.3 49 8-8 144 153 153	50 51
76.0	.1 45 4-4 136 152 152	.2 49 4-4 143 154 154	.6 50 8-8 147 152 152	.6 50 8-8 145 152 152	.6 50 8-8 142 152 152	52 53
74.0	.0 50 4-4 138 151 151	.3 53 4-4 145 152 152	.4 53 8-8 144 150 150	.4 53 8-8 142 150 150	.4 53 8-8 139 150 150	54 54
72.0	.3 54 4-4 140 150 150	.1 58 4-4 147 153 153	.4 61 4-4 155 155 155	.3 63 4-4 160 160 160	.3 64 4-4 163 163 163	54 54
70.0	.4 58 4-4 141 150 150	.2 62 4-4 149 152 152	.3 65 4-4 157 157 157	.4 66 4-4 161 161 161	.4 67 4-4 162 162 162	54 54
68.0	.1 63 4-4 144 149 149	.3 66 4-4 151 151 151	.5 68 4-4 159 159 159	.5 69 4-4 160 160 160	1.1 69 2-4 161 161 161	54 54
66.0	.3 67 4-4 146 148 148	.7 69 4-4 153 153 153	1.8 69 4-4 159 159 159	.0 69 2 141 146 146	.0 69 2 138 146 146	54 54
64.0	1.3 69 4-4 147 147 147	.0 69 136 140 140	.0 69 132 140 140	.0 69 129 140 140	.0 69 129 140 140	54 54
62.0	.0 69 129 137 137	.0 69 127 137 137	.0 69 127 137 137	.0 69 127 137 137	.0 69 127 137 137	54 54
60.0	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	54 54
58.0	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	54 54
56.0	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	54 54
54.0	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	54 54
52.0	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	54 54
50.0	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	54 54
45.0	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	54 54
40.0	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1125.(FT)
/MAXI. ACCELERATION HEIGHT : 2324.(FT) QNH ALT. : 2649.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	FRANKFURT	EDDF 18
ELEVATION= 325.0(FT) T.O.R.A. = 3970.0(M) A.S.D.A. = 3970.0(M) T.O.D.A. = 3970.0(M) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
DEPARTURE ONLY RWY NOT AVAILABLE FOR LANDING	MTOW (KG) CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**
TREF = 45 DC TMAX = 54 DC		

O A T DC	-10	-5	0	10	20
.0	79338 4-4 146 159 160	81019 4-4 152 162 163	82653 4-4 156 164 164	83701 4-4 160 165 165	84677 2-4 163 168 168
15.0	78213 4-4 142 156 157	79916 4-4 148 159 159	81586 4-4 153 162 163	82672 4-4 156 164 164	83718 2-4 159 166 166
30.0	77221 4-4 139 153 154	78941 4-4 144 156 157	80636 4-4 150 159 159	81739 4-4 153 161 161	82808 4-4 156 163 163
45.0	76120 4-4 136 152 153	77880 4-4 141 154 154	79596 4-4 147 157 157	80166 8-8 149 156 156	80166 8-8 149 156 156
46.0	75770 4-4 136 152 152	77525 4-4 142 154 154	79240 4-4 147 157 157	79424 8-8 148 155 155	79424 8-8 147 155 155
48.0	74906 4-4 137 151 151	76641 4-4 143 153 154	77996 8-8 147 154 154	77996 8-8 147 154 154	77996 8-8 145 154 154
49.0	74471 4-4 137 151 151	76198 4-4 143 154 154	77282 8-8 147 153 153	77282 8-8 146 153 153	77282 8-8 143 153 153
51.0	73590 4-4 138 151 151	75313 4-4 144 154 154	75853 8-8 146 152 152	75853 8-8 144 152 152	75853 8-8 141 152 152
52.0	73149 4-4 139 151 151	74868 4-4 144 154 154	75138 8-8 145 151 151	75138 8-8 143 151 151	75138 8-8 139 151 151
54.0	72252 4-4 140 150 150	73709 8-8 145 150 150	73709 8-8 143 150 150	73709 8-8 140 150 150	73709 8-8 138 150 150
55.0	71785 4-4 140 150 150	73453 4-8 146 151 151	73453 8-8 144 149 149	73453 8-8 141 149 149	73453 8-8 138 149 149
56.0	71309 4-4 140 150 150	73018 4-4 146 153 153	73452 2-8 147 150 150	73452 2-8 144 150 150	73452 2-8 142 150 150
58.0	70366 4-4 141 150 150	72068 4-4 147 153 153	73451 2-8 152 153 153	73451 2-8 150 153 153	73451 2-8 148 153 153
59.0	69903 4-4 142 150 150	71599 4-4 148 153 153	73300 4-4 153 155 155	73450 2-8 153 155 155	73450 2-8 151 155 155
61.0	68986 4-4 143 150 150	70670 4-4 149 153 153	72353 4-4 155 155 155	73358 4-4 158 158 158	73449 2-8 156 158 158
62.0	68531 4-4 143 150 150	70204 4-4 149 152 152	71839 4-4 155 155 155	72822 4-4 159 159 159	73448 2-8 160 160 160
64.0	67632 4-4 144 149 149	69281 4-4 150 151 151	70828 4-4 156 156 156	71683 4-4 160 160 160	72345 4-4 163 163 163
65.0	67185 4-4 145 149 149	68815 4-4 151 151 151	70277 4-4 157 157 157	71056 4-4 161 161 161	71704 4-4 163 163 163
66.0	66736 4-4 145 148 148	68328 4-4 151 151 151	69720 4-4 157 157 157	70423 4-4 161 161 161	71066 4-4 163 163 163
68.0	65824 4-4 147 147 147	67312 4-4 152 152 152	68483 4-4 159 159 159	69123 4-4 160 160 160	69753 4-4 162 162 162
69.0	65349 4-4 147 147 147	66748 4-4 153 153 153	67829 4-4 159 159 159	68463 4-4 160 160 160	69085 2-4 161 161 161

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1125.(FT)
/MAXI. ACCELERATION HEIGHT : 2324.(FT) QNH ALT. : 2649.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

FRANKFURT (EDDF) - RWY 18 - CONF 2

CONF 2	FRANKFURT	EDDF 18
ELEVATION= 325.0(FT) T.O.R.A. = 3970.0(M) A.S.D.A. = 3970.0(M) T.O.D.A. = 3970.0(M) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
DEPARTURE ONLY RWY NOT AVAILABLE FOR LANDING	WIND (KT) WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA
TREF = 45 DC TMAX = 54 DC	DRY RUNWAY 2 3	

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 34 4-4 137 151 154	.3 47 4-4 141 152 155	.3 49 2-8 146 149 152	.3 49 2-8 144 149 152	.3 49 2-8 140 149 152	50 51
76.0	.3 45 4-4 135 149 152	.3 49 4-4 142 151 154	.6 50 2-8 145 149 151	.6 50 2-8 143 149 151	.6 50 2-8 139 149 151	52 53
74.0	.2 50 4-4 137 149 152	.3 53 4-4 144 148 150	.4 53 2-8 142 147 149	.4 53 2-8 139 147 149	.4 53 2-8 136 147 149	54 54
72.0	.3 54 4-4 139 147 150	.1 58 4-4 147 150 152	.1 61 4-4 153 153 156	.3 62 4-4 156 156 159	.3 63 2-4 157 157 160	54 54
70.0	.4 58 4-4 141 146 148	.2 62 4-4 149 149 151	.3 64 4-4 154 154 157	.4 65 4-4 155 155 157	.3 66 2-4 156 156 158	54 54
68.0	.1 63 4-4 144 146 148	.0 66 4-4 151 151 153	.4 67 4-4 153 153 155	.4 68 4-4 153 153 155	.3 69 2-4 155 155 156	54 54
66.0	.2 67 4-4 146 146 148	.2 69 4-4 150 150 152	1.1 69 4-4 151 151 153	1.7 69 4-4 152 152 154	.0 69 2 137 144 146	54 54
64.0	1.1 69 4-4 148 148 149	.0 69 2 135 137 138	.0 69 2 131 137 138	.0 69 2 127 137 138	.0 69 2 127 137 138	54 54
62.0	.0 69 2 130 131 132	.0 69 2 125 131 132	.0 69 2 123 131 132	.0 69 2 123 131 132	.0 69 2 123 131 132	54 54
60.0	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	54 54
58.0	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	54 54
56.0	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	54 54
54.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54 54
52.0	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	54 54
50.0	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	54 54
45.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54 54
40.0						54 54

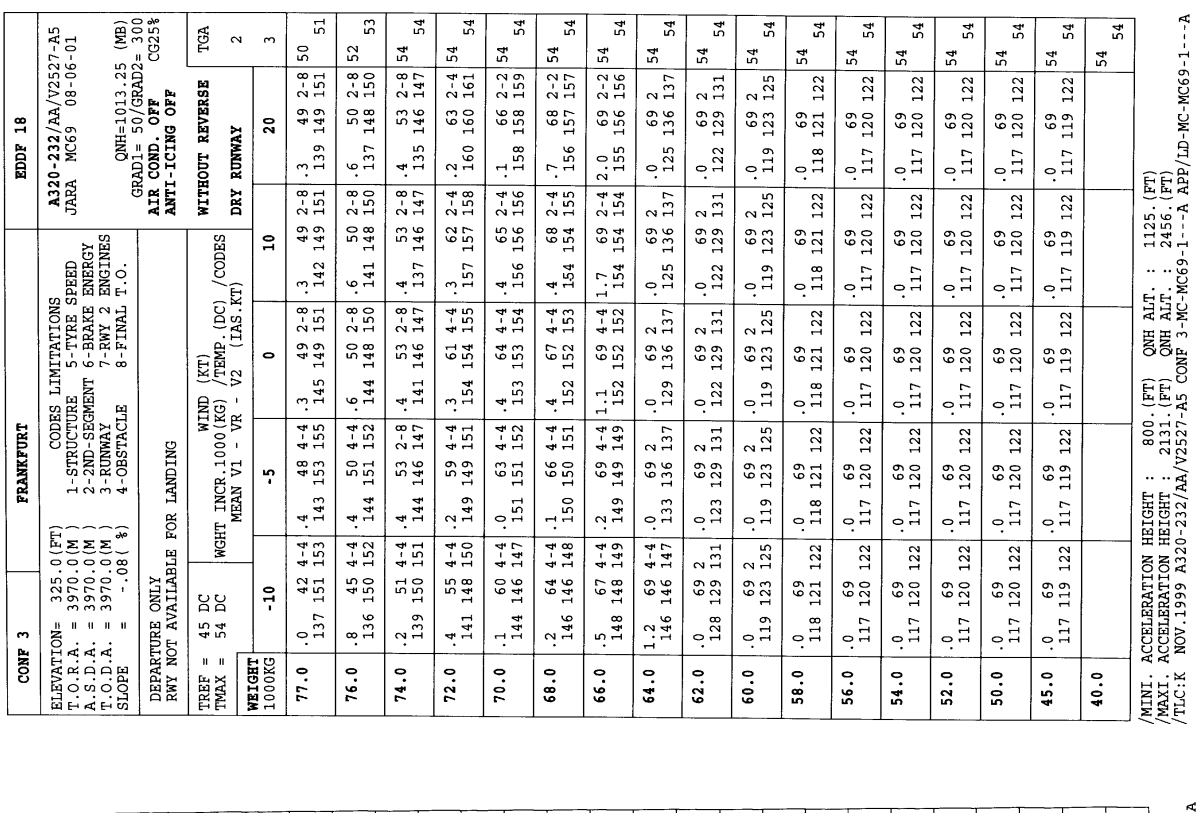
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1125.(FT)
/MAXI. ACCELERATION HEIGHT : 2187.(FT) QNH ALT. : 2512.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2	FRANKFURT	EDDF 18
ELEVATION= 325.0(FT) T.O.R.A. = 3970.0(M) A.S.D.A. = 3970.0(M) T.O.D.A. = 3970.0(M) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
DEPARTURE ONLY RWY NOT AVAILABLE FOR LANDING	MTOW (KG) CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC		DRY RUNWAY

O A T DC	-10	-5	0	10	20
.0	79017 4-4 144 154 158	80730 4-4 150 157 161	82412 4-4 155 160 163	83526 2-4 158 163 166	84523 2-4 162 167 169
15.0	78115 4-4 141 152 156	79821 4-4 146 155 158	81498 4-4 151 158 161	82661 4-4 155 160 163	83732 2-4 158 164 166
30.0	77264 4-4 138 151 155	79001 4-4 143 153 157	80683 4-4 148 155 158	81851 4-4 152 158 161	82995 2-4 155 161 164
45.0	76311 4-4 135 149 152	78069 4-4 141 152 156	79783 4-4 145 154 157	80166 2-8 147 153 155	80166 2-8 146 153 155
46.0	75951 4-4 136 149 152	77709 4-4 141 152 155	79414 4-4 146 154 157	79424 2-8 144 152 154	79424 2-8 144 152 154
48.0	75063 4-4 136 149 152	76803 4-4 142 152 155	77996 2-8 146 150 153	77996 2-8 144 150 153	77996 2-8 141 150 153
49.0	74618 4-4 137 149 152	76344 4-4 142 151 154	77282 2-8 145 149 152	77282 2-8 143 149 152	77282 2-8 140 149 152
51.0	73718 4-4 138 149 151	75420 4-4 143 151 153	75853 2-8 144 148 150	75853 2-8 141 148 150	75853 2-8 138 148 150
52.0	73265 4-4 138 148 151	74956 4-4 144 150 153	75138 2-8 143 147 150	75138 2-8 140 147 150	75138 2-8 136 147 150
54.0	72339 4-4 139 147 150	73709 2-8 145 146 148	73709 2-8 141 146 148	73709 2-8 138 146 148	73709 2-8 135 146 148
55.0	71862 4-4 140 147 149	73453 4-8 145 148 150	73453 2-8 143 147 149	73453 2-8 140 147 149	73453 2-8 136 147 149
56.0	71380 4-4 140 147 149	73040 4-4 146 150 152	73452 2-8 145 148 150	73452 2-8 142 148 150	73452 2-8 139 148 150
58.0	70423 4-4 141 146 148	72072 4-4 147 150 152	73451 2-8 150 151 153	73451 2-8 148 151 153	73451 2-8 146 151 153
59.0	69951 4-4 142 146 148	71593 4-4 147 149 152	73196 4-4 152 152 155	73450 2-8 151 153 155	73450 2-8 149 153 155
61.0	69014 4-4 143 146 148	70643 4-4 148 149 151	72148 4-4 153 153 156	72944 4-4 157 157 160	73449 2-8 156 157 160
62.0	68549 4-4 143 146 148	70167 4-4 149 149 151	71560 4-4 154 154 156	72294 4-4 156 156 159	72956 2-4 158 158 160
64.0	67633 4-4 144 146 148	69145 4-4 150 150 152	70339 4-4 154 154 157	70999 4-4 155 155 157	71637 2-4 157 157 159
65.0	67177 4-4 145 146 147	68613 4-4 151 151 152	69703 4-4 154 154 156	70353 4-4 155 155 157	70983 2-4 156 156 159
66.0	66716 4-4 146 146 147	68039 4-4 151 151 153	69069 4-4 153 153 155	69709 4-4 154 154 156	70335 2-4 156 156 158
68.0	65707 4-4 147 147 148	66798 4-4 151 151 153	67769 4-4 152 152 154	68390 4-4 153 153 155	68998 2-4 155 155 157
69.0	65129 4-4 148 148 149	66154 4-4 150 150 152	67111 4-4 151 151 153	67722 4-4 152 152 154	68324 2-4 155 155 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1125.(FT)
/MAXI. ACCELERATION HEIGHT : 2187.(FT) QNH ALT. : 2512.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

FRANKFURT (EDDF) - RWY 18 - CONF 3



CONF 3	FRANKFURT	EDDF 18
ELEVATION= 325.0(FT) T.O.R.A. = 3970.0(M) A.S.D.A. = 3970.0(M) T.O.D.A. = 3970.0(M) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
DEPARTURE ONLY RWY NOT AVAILABLE FOR LANDING		**WITHOUT REVERSE** TGA
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) MEAN V1 - VR - V2 /TEMP.(DC) /CODES (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.0 42 4-4 137 151 153	.4 48 4-4 143 153 155	.3 49 2-8 145 149 151	.3 49 2-8 142 149 151	.3 49 2-8 50 139 149 151 51
76.0	.8 45 4-4 136 150 152	.4 50 4-4 144 151 152	.6 50 2-8 144 148 150	.6 50 2-8 141 148 150	.6 50 2-8 52 137 148 150 53
74.0	.2 51 4-4 139 150 151	.4 53 2-8 144 146 147	.4 53 2-8 141 146 147	.4 53 2-8 137 146 147	.4 53 2-8 54 135 146 147 54
72.0	.4 55 4-4 141 148 150	.2 59 4-4 149 149 151	.3 61 4-4 154 154 155	.3 62 2-4 157 157 158	.2 63 2-4 54 160 160 161 54
70.0	.1 60 4-4 144 146 147	.0 63 4-4 151 151 152	.4 64 4-4 153 153 154	.4 65 2-4 156 156 156	.1 66 2-2 54 158 158 159 54
68.0	.2 64 4-4 146 146 148	.1 66 4-4 150 150 151	.4 67 4-4 152 152 153	.4 68 2-4 154 154 155	.7 68 2-2 54 156 157 157 54
66.0	.5 67 4-4 148 148 149	.2 69 4-4 149 149 149	1.1 69 4-4 152 152 152	1.7 69 2-4 154 154 154	2.0 69 2-2 54 155 156 156 54
64.0	1.2 69 4-4 146 146 147	.0 69 2 133 136 137	.0 69 2 129 136 137	.0 69 2 125 136 137	.0 69 2 54 125 136 137 54
62.0	.0 69 2 128 129 131	.0 69 2 123 129 131	.0 69 2 122 129 131	.0 69 2 122 129 131	.0 69 2 54 122 129 131 54
60.0	.0 69 2 119 123 125	.0 69 2 119 123 125	.0 69 2 119 123 125	.0 69 2 119 123 125	.0 69 2 54 119 123 125 54
58.0	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	.0 69 54 118 121 122 54
56.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 54 117 120 122 54
54.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 54 117 120 122 54
52.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 54 117 120 122 54
50.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 54 117 120 122 54
45.0	.0 69 117 119 122	.0 69 117 119 122	.0 69 117 119 122	.0 69 117 119 122	.0 69 54 117 119 122 54
40.0					54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1125.(FT)
/MAXI. ACCELERATION HEIGHT : 2131.(FT) QNH ALT. : 2456.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A



CONF 3	FRANKFURT	EDDF 18
ELEVATION= 325.0(FT) T.O.R.A. = 3970.0(M) A.S.D.A. = 3970.0(M) T.O.D.A. = 3970.0(M) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
DEPARTURE ONLY RWY NOT AVAILABLE FOR LANDING		**WITHOUT REVERSE**
TREF = 45 DC TMAX = 54 DC	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	**DRY RUNWAY**

OAT DC	-10	-5	0	10	20
.0	79743 4-4 147 155 157	81443 4-4 153 157 159	83043 2-4 158 162 163	83949 2-4 162 166 167	84679 2-4 166 170 171
15.0	78857 4-4 144 154 156	80606 4-4 149 156 158	82267 2-4 155 159 160	83275 2-4 159 163 164	84127 2-4 162 167 168
30.0	77877 4-4 139 153 155	79667 4-4 145 155 157	81399 4-4 151 157 159	82488 2-4 154 160 161	83435 2-4 158 164 165
45.0	76801 4-4 136 150 152	78616 4-4 141 154 156	80166 2-8 147 152 154	80166 2-8 146 152 154	80166 2-8 143 152 154
46.0	76445 4-4 136 150 152	78257 4-4 142 154 156	79424 2-8 146 151 153	79424 2-8 145 151 153	79424 2-8 142 151 153
48.0	75565 4-4 137 151 153	77366 4-4 143 153 155	77996 2-8 146 150 151	77996 2-8 143 150 151	77996 2-8 140 150 151
49.0	75124 4-4 138 150 152	76913 4-4 143 153 154	77282 2-8 145 149 151	77282 2-8 142 149 151	77282 2-8 138 149 151
51.0	74239 4-4 139 150 151	75853 4-8 145 149 150	75853 2-8 142 147 149	75853 2-8 139 147 149	75853 2-8 136 147 149
52.0	73795 4-4 139 149 151	75138 2-8 145 147 148	75138 2-8 142 147 148	75138 2-8 139 147 148	75138 2-8 135 147 148
54.0	72888 4-4 140 148 150	73709 8-8 143 145 147	73709 8-8 139 145 147	73709 8-8 136 145 147	73709 8-8 134 145 147
55.0	72421 4-4 141 148 150	73453 2-8 145 146 147	73453 2-8 141 146 147	73453 2-8 138 146 147	73453 2-8 135 146 147
56.0	71947 4-4 141 147 149	73452 2-8 147 147 149	73452 2-8 143 147 149	73452 2-8 140 147 149	73452 2-8 137 147 149
58.0	71010 4-4 142 146 148	72687 4-4 149 149 150	73451 8-8 149 151 153	73451 8-8 147 151 153	73451 8-8 144 151 153
59.0	70542 4-4 143 146 148	72193 4-4 149 149 151	73450 2-8 153 154 155	73450 2-8 151 154 155	73450 2-8 149 154 155
61.0	69617 4-4 144 145 147	71166 4-4 151 151 152	72338 4-4 154 154 155	72998 2-4 158 158 158	73449 8-8 160 161 161
62.0	69148 4-4 145 145 146	70608 4-4 151 151 153	71687 4-4 154 154 155	72341 2-4 157 157 158	72847 2-4 161 161 161
64.0	68184 4-4 146 146 148	69392 4-4 151 151 152	70389 4-4 153 153 154	71039 2-4 156 156 157	71506 2-4 160 160 160
65.0	67652 4-4 147 147 148	68759 4-4 150 150 151	69744 4-4 153 153 154	70375 2-4 156 156 156	70812 2-2 159 159 160
66.0	67113 4-4 148 148 149	68127 4-4 150 150 151	69101 4-4 153 153 153	69719 2-4 155 155 156	70099 2-2 158 158 159
68.0	65867 4-4 147 147 148	66837 4-4 149 149 150	67791 4-4 152 152 153	68369 2-4 154 154 155	68675 2-2 156 157 157
69.0	65228 4-4 146 146 147	66185 4-4 149 149 149	67129 4-4 152 152 152	67693 2-4 154 154 154	67963 2-2 155 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1125.(FT)
/MAXI. ACCELERATION HEIGHT : 2131.(FT) QNH ALT. : 2456.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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LONDON HEATHROW (EGLL) - RWY 27L - CONF 1 + F

CONF1+F	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. = 3658.0(M) A.S.D.A. = 3658.0(M) T.O.D.A. = 3658.0(M) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 45 DC TMAX = 55 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20		
77.0	.0 27 4-4 141 152 153	.3 46 4-4 143 153 153	.1 50 8-8 149 153 153	.1 50 8-8 149 153 153	.1 50 8-8 147 153 153	51	52
76.0	.0 40 4-4 138 151 152	.1 49 4-4 144 152 152	.4 51 8-8 149 152 152	.4 51 8-8 148 152 152	.4 51 8-8 146 152 152	53	54
74.0	1.6 45 4-4 137 151 151	.0 54 4-4 146 151 151	.2 54 8-8 146 150 150	.2 54 8-8 144 150 150	.2 54 8-8 142 150 150	55	55
72.0	.3 54 4-4 140 148 148	.2 58 4-4 148 151 151	.3 61 4-4 155 155 155	.6 62 4-4 160 160 160	.6 63 4-4 161 161 161	55	55
70.0	.1 59 4-4 143 146 146	.3 62 4-4 150 151 151	.1 65 4-4 157 157 157	.1 66 4-4 159 159 159	.6 66 4-4 159 159 159	55	55
68.0	.3 63 4-4 145 146 146	.4 66 4-4 152 152 152	.3 68 4-4 157 157 157	.2 69 4-4 157 157 157	.7 69 4-4 159 159 159	55	55
66.0	.1 68 4-4 147 147 147	.1 70 4-4 153 153 153	1.0 70 4-4 155 155 155	1.5 70 4-4 157 157 157	2.0 70 4-4 159 159 159	55	55
64.0	1.0 70 4-4 149 149 149	.0 70 138 140 140	.0 70 135 140 140	.0 70 133 140 140	.0 70 131 140 140	55	55
62.0	.0 70 131 137 137	.0 70 127 137 137	.0 70 127 137 137	.0 70 127 137 137	.0 70 127 137 137	55	55
60.0	.0 70 126 135 135	.0 70 126 135 135	.0 70 126 135 135	.0 70 126 135 135	.0 70 126 135 135	55	55
58.0	.0 70 125 132 132	.0 70 125 132 132	.0 70 125 132 132	.0 70 125 132 132	.0 70 125 132 132	55	55
56.0	.0 70 123 130 130	.0 70 123 130 130	.0 70 123 130 130	.0 70 123 130 130	.0 70 123 130 130	55	55
54.0	.0 70 122 127 128	.0 70 122 127 128	.0 70 122 127 128	.0 70 122 127 128	.0 70 122 127 128	55	55
52.0	.0 70 121 125 125	.0 70 121 125 125	.0 70 121 125 125	.0 70 121 125 125	.0 70 121 125 125	55	55
50.0	.0 70 119 122 123	.0 70 119 122 123	.0 70 119 122 123	.0 70 119 122 123	.0 70 119 122 123	55	55

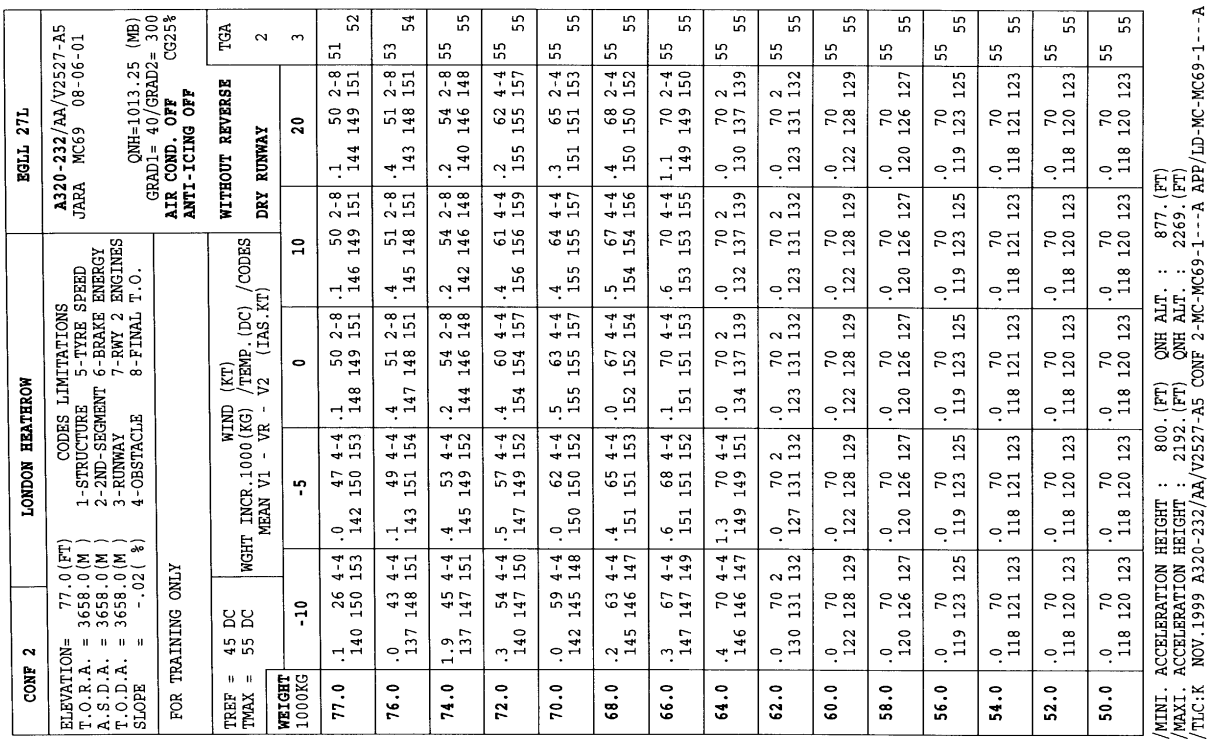
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2366.(FT) QNH ALT. : 2443.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. = 3658.0(M) A.S.D.A. = 3658.0(M) T.O.D.A. = 3658.0(M) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 55 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
.0	79097 4-4 148 155 155	80731 4-4 153 160 160	82293 4-4 158 163 163	83288 4-4 161 165 165	84220 4-4 165 166 166
15.0	77884 4-4 144 154 154	79600 4-4 149 156 156	81193 4-4 154 160 160	82226 4-4 158 162 162	83221 4-4 161 165 165
30.0	76785 4-4 140 152 152	78571 4-4 146 155 155	80228 4-4 151 157 157	81280 4-4 155 159 159	82297 4-4 158 162 162
45.8	75554 4-4 137 151 151	77395 4-4 143 153 153	79144 4-4 148 155 155	80130 8-8 151 156 156	80130 8-8 152 156 156
47.0	75105 4-4 138 150 151	76931 4-4 143 152 152	78666 4-4 149 155 155	79235 8-8 151 155 155	79235 8-8 150 155 155
49.0	74314 4-4 138 150 150	76128 4-4 144 152 152	77799 4-8 149 154 154	77799 8-8 150 154 154	77799 8-8 148 154 154
50.0	73918 4-4 139 149 149	75722 4-4 144 152 152	77081 8-8 149 153 153	77081 8-8 149 153 153	77081 8-8 147 153 153
51.0	73513 4-4 139 149 149	75307 4-4 145 152 152	76362 8-8 149 152 152	76362 8-8 147 152 152	76362 8-8 145 152 152
53.0	72689 4-4 140 148 148	74451 4-4 146 151 151	74925 8-8 147 151 151	74925 8-8 145 151 151	74925 8-8 143 151 151
54.0	72271 4-4 140 148 148	74011 4-4 146 151 151	74206 8-8 146 150 150	74206 8-8 144 150 150	74206 8-8 142 150 150
56.0	71399 4-4 141 148 148	73095 4-4 147 151 151	73596 8-8 148 150 150	73596 8-8 146 150 150	73596 8-8 144 150 150
57.0	70949 4-4 142 147 147	72627 4-4 147 151 151	73595 2-8 149 150 150	73595 2-8 148 150 150	73595 2-8 146 150 150
59.0	70066 4-4 143 146 146	71699 4-4 148 151 151	73315 4-4 154 155 155	73594 2-8 153 154 154	73594 2-8 152 154 154
60.0	69622 4-4 143 146 146	71241 4-4 149 151 151	72845 4-4 155 155 155	73593 4-8 157 157 157	73593 2-8 154 155 155
61.0	69170 4-4 144 146 146	70784 4-4 149 151 151	72339 4-4 155 155 155	73182 4-4 159 159 159	73592 4-8 158 158 158
63.0	68280 4-4 145 146 146	69875 4-4 150 151 151	71292 4-4 156 156 156	71998 4-4 161 161 161	72559 4-4 161 161 161
64.0	67837 4-4 145 146 146	69422 4-4 151 151 151	70720 4-4 157 157 157	71367 4-4 160 160 160	71916 4-4 161 161 161
66.0	66959 4-4 146 147 147	68436 4-4 152 152 152	69551 4-4 158 158 158	70104 4-4 159 159 159	70631 4-4 159 159 159
67.0	66522 4-4 147 147 147	67924 4-4 153 153 153	68931 4-4 157 157 157	69472 4-4 158 158 158	69990 4-4 159 159 159
68.0	66066 4-4 147 147 147	67335 4-4 153 153 153	68286 4-4 157 157 157	68816 4-4 157 157 157	69329 4-4 159 159 159
70.0	64994 4-4 149 149 149	66064 4-4 153 153 153	66976 4-4 155 155 155	67491 4-4 157 157 157	67997 4-4 159 159 159

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2366.(FT) QNH ALT. : 2443.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

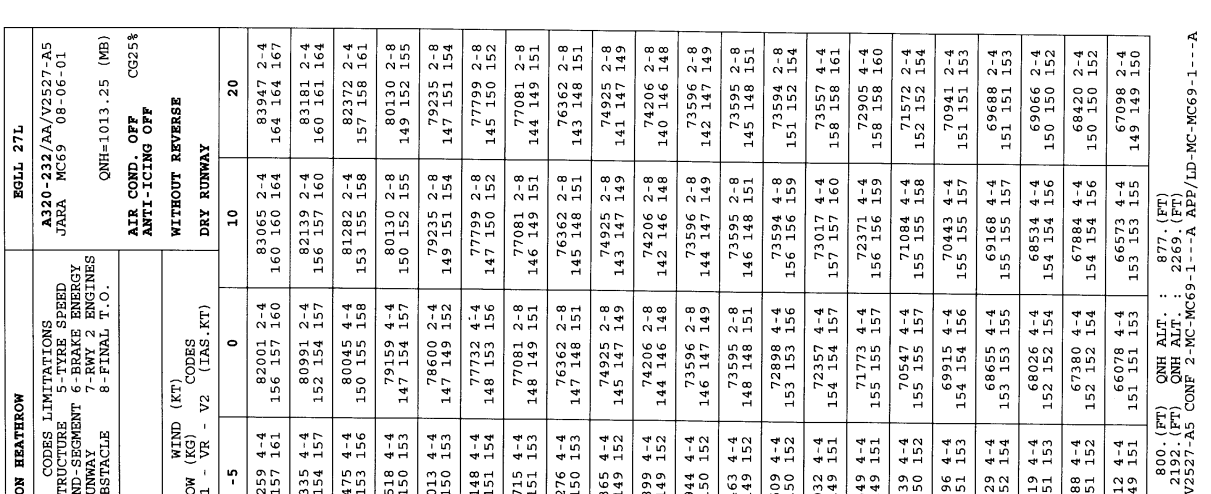
LONDON HEATHROW (EGLL) - RWY 27L - CONF 2



CONF 2	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. = 3658.0(M) A.S.D.A. = 3658.0(M) T.O.D.A. = 3658.0(M) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 40/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY	WIND (KT) WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA **DRY RUNWAY** 2 3

TREF = 45 DC TMAX = 55 DC		-10		-5		0		10		20		
WEIGHT 1000KG												
77.0	.1 140	26 4-4 150 153	.0 142	47 4-4 150 153	.1 148	50 2-8 149 151	.1 146	50 2-8 149 151	.1 144	50 2-8 149 151	51	52
76.0	.0 137	43 4-4 148 151	.1 143	49 4-4 151 154	.4 147	51 2-8 148 151	.4 145	51 2-8 148 151	.4 143	51 2-8 148 151	53	54
74.0	1.9 137	45 4-4 147 151	.4 145	53 4-4 149 152	.2 144	54 2-8 146 148	.2 142	54 2-8 146 148	.2 140	54 2-8 146 148	55	55
72.0	.3 140	54 4-4 147 150	.5 147	57 4-4 149 152	.4 154	60 4-4 154 157	.4 156	61 4-4 156 159	.2 155	62 4-4 155 157	55	55
70.0	.0 142	59 4-4 145 148	.0 150	62 4-4 150 152	.5 155	63 4-4 155 157	.4 155	64 4-4 155 157	.3 151	65 2-4 151 153	55	55
68.0	.2 145	63 4-4 146 147	.4 151	65 4-4 151 153	.0 152	67 4-4 152 154	.5 154	67 4-4 154 156	.4 150	68 2-4 150 152	55	55
66.0	.3 147	67 4-4 147 149	.6 151	68 4-4 151 152	.1 151	70 4-4 151 153	.6 153	70 4-4 153 155	1.1 149	70 2-4 149 150	55	55
64.0	.4 146	70 4-4 146 147	1.3 149	70 4-4 149 151	.0 134	70 2 137 139	.0 132	70 2 137 139	.0 130	70 2 137 139	55	55
62.0	.0 130	70 2 131 132	.0 127	70 2 131 132	.0 123	70 2 131 132	.0 123	70 2 131 132	.0 123	70 2 131 132	55	55
60.0	.0 122	70 128 129	.0 122	70 128 129	.0 122	70 128 129	.0 122	70 128 129	.0 122	70 128 129	55	55
58.0	.0 120	70 126 127	.0 120	70 126 127	.0 120	70 126 127	.0 120	70 126 127	.0 120	70 126 127	55	55
56.0	.0 119	70 123 125	.0 119	70 123 125	.0 119	70 123 125	.0 119	70 123 125	.0 119	70 123 125	55	55
54.0	.0 118	70 121 123	.0 118	70 121 123	.0 118	70 121 123	.0 118	70 121 123	.0 118	70 121 123	55	55
52.0	.0 118	70 120 123	.0 118	70 120 123	.0 118	70 120 123	.0 118	70 120 123	.0 118	70 120 123	55	55
50.0	.0 118	70 120 123	.0 118	70 120 123	.0 118	70 120 123	.0 118	70 120 123	.0 118	70 120 123	55	55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2192.(FT) QNH ALT. : 2269.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A



CONF 2	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. = 3658.0(M) A.S.D.A. = 3658.0(M) T.O.D.A. = 3658.0(M) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY	MTOW (KG) CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

TREF = 45 DC TMAX = 55 DC		-10		-5		0		10		20	
O A T DC											
.0	78695 146	4-4 153 157	80259 151	4-4 157 161	82001 156	2-4 157 160	83065 160	2-4 160 164	83947 164	2-4 164 167
15.0	77722 142	4-4 152 155	79335 148	4-4 154 157	80991 152	2-4 154 157	82139 156	2-4 157 160	83181 160	2-4 161 164
30.0	76809 139	4-4 149 152	78475 145	4-4 153 156	80045 150	4-4 155 158	81282 153	2-4 155 158	82372 157	2-4 158 161
45.8	75837 136	4-4 147 150	77518 142	4-4 150 153	79159 147	4-4 154 157	80130 150	2-8 152 155	80130 149	2-8 152 155
47.0	75344 137	4-4 147 150	77013 142	4-4 150 153	78600 147	2-4 149 152	79235 149	2-8 151 154	79235 147	2-8 151 154
49.0	74487 138	4-4 147 150	76148 143	4-4 151 154	77732 148	4-4 153 156	77799 147	2-8 150 152	77799 145	2-8 150 152
50.0	74056 138	4-4 147 150	75715 144	4-4 151 153	77081 148	2-8 149 151	77081 146	2-8 149 151	77081 144	2-8 149 151
51.0	73623 139	4-4 147 150	75276 144	4-4 150 153	76362 147	2-8 148 151	76362 145	2-8 148 151	76362 143	2-8 148 151
53.0	72754 140	4-4 147 150	74365 145	4-4 149 152	74925 145	2-8 147 149	74925 143	2-8 147 149	74925 141	2-8 147 149
54.0	72318 140	4-4 147 150	73899 145	4-4 149 152	74206 144	2-8 146 148	74206 142	2-8 146 148	74206 140	2-8 146 148
56.0	71410 141	4-4 147 149	72944 146	4-4 150 152	73596 146	2-8 147 149	73596 144	2-8 147 149	73596 142	2-8 147 149
57.0	70945 141	4-4 146 148	72463 147	4-4 149 152	73595 148	2-8 148 151	73595 146	2-8 148 151	73595 145	2-8 148 151
59.0	70012 142	4-4 145 148	71509 148	4-4 150 152	72898 153	4-4 153 156	73594 156	4-8 156 159	73594 151	2-8 152 154
60.0	69544 143	4-4 145 147	71032 148	4-4 149 151	72357 154	4-4 154 157	73017 157	4-4 157 160	73557 158	4-4 158 161
61.0	69080 144	4-4 145 147	70549 149	4-4 149 151	71773 155	4-4 155 157	72371 156	4-4 156 159	72905 158	4-4 158 160
63.0	68160 145	4-4 146 147	69539 150	4-4 150 152	70547 155	4-4 155 157	71084 155	4-4 155 158	71572 152	2-4 152 154
64.0	67703 145	4-4 146 147	68996 151	4-4 151 153	69915 154	4-4 154 156	70443 155	4-4 155 157	70941 151	2-4 151 153
66.0	66750 146	4-4 146 148	67829 152	4-4 152 154	68655 153	4-4 153 155	69168 155	4-4 155 157	69688 151	2-4 151 153
67.0	66254 147	4-4 147 149	67219 151	4-4 151 153	68026 152	4-4 152 154	68534 154	4-4 154 156	69066 150	2-4 150 152
68.0	65662 147	4-4 147 148	66588 151	4-4 151 152	67380 152	4-4 152 154	67884 154	4-4 154 156	68420 150	2-4 150 152
70.0	64414 146	4-4 146 147	65312 149	4-4 149 151	66078 151	4-4 151 153	66573 153	4-4 153 155	67098 149	2-4 149 150

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2192.(FT) QNH ALT. : 2269.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

LONDON HEATHROW (EGLL) - RWY 27L - CONF 3

CONF 3	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. = 3658.0(M) A.S.D.A. = 3658.0(M) T.O.D.A. = 3658.0(M) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 45 DC TMAX = 55 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2

WEIGHT 1000KG	-10	-5	0	10	20		3	
77.0	.0 37 4-4 139 150 152	.3 48 4-4 144 152 154	.1 50 2-8 146 148 150	.1 50 2-8 144 148 150	.1 50 2-8 142 148 150	51		52
76.0	.5 45 4-4 137 148 151	.0 51 4-4 145 152 153	.4 51 2-8 145 147 149	.4 51 2-8 143 147 149	.4 51 2-8 141 147 149	53		54
74.0	.3 51 4-4 139 148 150	.2 54 2-8 145 145 147	.2 54 2-8 142 145 147	.2 54 2-8 140 145 147	.2 54 2-8 138 145 147	55		55
72.0	.1 56 4-4 142 147 149	.2 59 4-4 150 150 152	.1 61 4-4 154 154 155	.6 61 4-4 156 156 157	.5 62 4-4 158 158 158	55		55
70.0	.3 60 4-4 144 146 147	.6 62 4-4 152 152 153	.2 64 4-4 153 153 154	.0 65 4-4 155 155 156	.6 65 2-4 154 154 154	55		55
68.0	.4 64 4-4 147 147 148	.1 66 4-4 150 150 151	.2 67 4-4 153 153 153	.1 68 2-4 149 149 150	.6 68 2-4 152 152 153	55		55
66.0	.5 67 4-4 146 146 148	.2 69 4-4 148 148 149	.3 70 4-4 151 151 151	.8 70 2-4 148 148 149	1.3 70 2-4 151 151 152	55		55
64.0	.7 70 4-4 145 145 146	1.5 70 4-4 148 148 149	.0 70 2 132 136 137	.0 70 2 130 136 137	.0 70 2 127 136 137	55		55
62.0	.0 70 2 128 129 131	.0 70 2 125 129 131	.0 70 2 122 129 131	.0 70 2 122 129 131	.0 70 2 122 129 131	55		55
60.0	.0 70 2 119 123 125	.0 70 2 119 123 125	.0 70 2 119 123 125	.0 70 2 119 123 125	.0 70 2 119 123 125	55		55
58.0	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	55		55
56.0	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	55		55
54.0	.0 70 118 120 123	.0 70 118 120 123	.0 70 118 120 123	.0 70 118 120 123	.0 70 118 120 123	55		55
52.0	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	55		55
50.0	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	55		55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2125.(FT) QNH ALT. : 2202.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

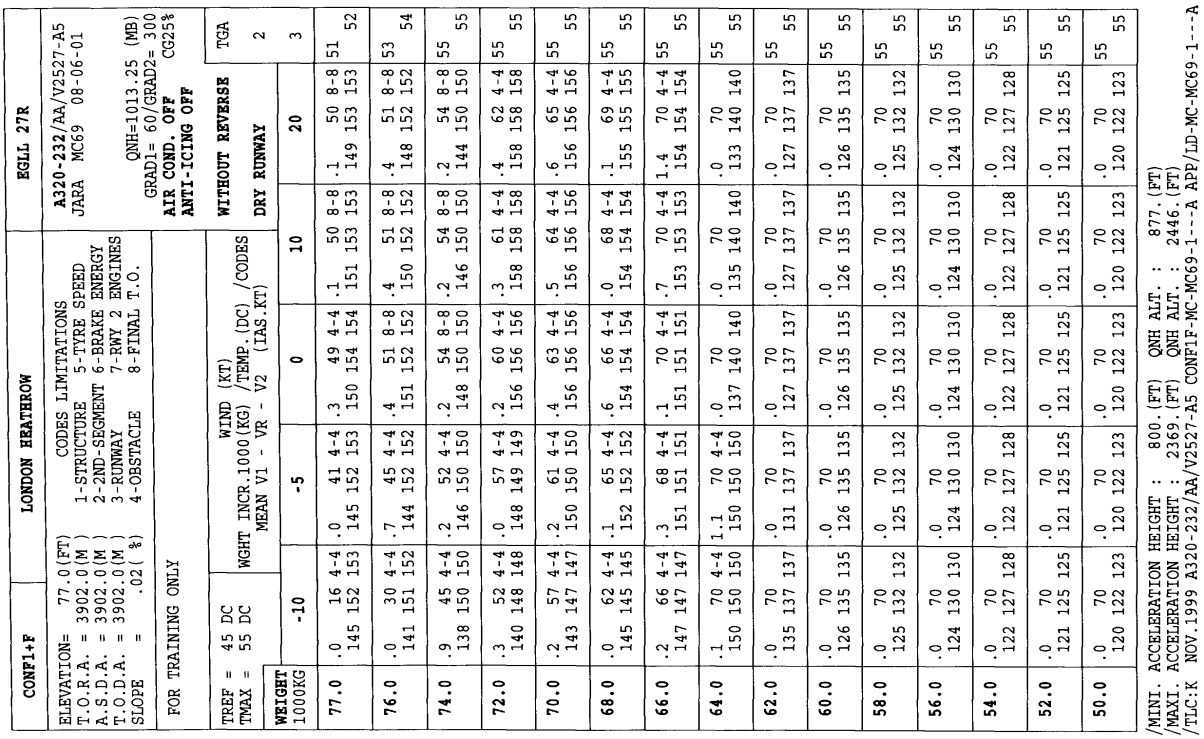
CONF 3	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. = 3658.0(M) A.S.D.A. = 3658.0(M) T.O.D.A. = 3658.0(M) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 55 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
.0	79566 4-4 148 155 157	81177 2-4 154 155 156	82747 2-4 160 160 162	83612 2-4 164 164 165	84325 2-4 168 168 168
15.0	78620 4-4 145 153 155	80305 4-4 151 156 158	81972 2-4 156 158 159	82926 2-4 160 161 162	83750 2-4 164 165 166
30.0	77548 4-4 141 151 153	79306 4-4 147 155 157	80967 2-4 152 154 156	82096 2-4 156 158 159	83008 2-4 160 162 163
45.8	76418 4-4 137 148 151	78188 4-4 143 152 154	79929 4-4 148 156 157	80130 2-8 149 152 153	80130 2-8 147 152 153
47.0	75935 4-4 138 148 150	77698 4-4 143 152 154	79235 8-4 149 151 152	79235 8-4 148 151 152	79235 8-8 146 151 152
49.0	75098 4-4 139 148 150	76861 4-4 144 152 154	77799 2-8 147 149 151	77799 2-8 145 149 151	77799 2-8 143 149 151
50.0	74677 4-4 139 148 150	76439 4-4 145 152 154	77081 2-8 146 148 150	77081 2-8 144 148 150	77081 2-8 142 148 150
51.0	74257 4-4 139 148 150	76007 4-4 145 152 153	76362 2-8 145 147 149	76362 2-8 143 147 149	76362 2-8 141 147 149
53.0	73414 4-4 140 148 149	74925 4-8 146 146 148	74925 2-8 143 146 148	74925 2-8 141 146 148	74925 2-8 139 146 148
54.0	72984 4-4 141 147 149	74206 2-8 145 145 147	74206 2-8 142 145 147	74206 2-8 140 145 147	74206 2-8 138 145 147
56.0	72105 4-4 142 147 149	73596 4-8 148 148 149	73596 2-8 144 146 148	73596 2-8 142 146 148	73596 2-8 140 146 148
57.0	71660 4-4 143 147 149	73232 4-4 149 149 151	73595 2-8 146 148 149	73595 2-8 145 148 149	73595 2-8 143 148 149
59.0	70748 4-4 144 146 148	72245 4-4 150 150 152	73394 4-4 156 156 157	73594 2-8 151 152 153	73594 2-8 150 152 153
60.0	70290 4-4 144 146 147	71733 4-4 151 151 152	72742 4-4 155 155 156	73291 4-4 157 157 158	73593 2-8 154 155 156
61.0	69827 4-4 145 145 147	71165 4-4 152 152 153	72091 4-4 154 154 155	72635 4-4 156 156 157	73173 4-4 158 158 159
63.0	68864 4-4 146 146 148	69963 4-4 152 152 153	70796 4-4 153 153 154	71331 4-4 156 156 157	71854 4-4 157 157 158
64.0	68356 4-4 147 147 148	69333 4-4 151 151 152	70152 4-4 153 153 154	70683 4-4 156 156 157	71240 2-4 154 154 155
66.0	67152 4-4 147 147 148	68074 4-4 150 150 151	68874 4-4 153 153 154	69392 4-4 154 154 155	69939 2-4 153 153 154
67.0	66547 4-4 146 146 148	67446 4-4 149 149 150	68238 4-4 153 153 153	68747 4-4 154 154 154	69284 2-4 153 153 154
68.0	65922 4-4 146 146 147	66801 4-4 149 149 150	67586 4-4 152 152 153	68104 2-4 149 149 150	68616 2-4 152 152 153
70.0	64661 4-4 145 145 146	65502 4-4 148 148 149	66268 4-4 151 151 151	66789 2-4 148 148 149	67275 2-4 151 151 152

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2125.(FT) QNH ALT. : 2202.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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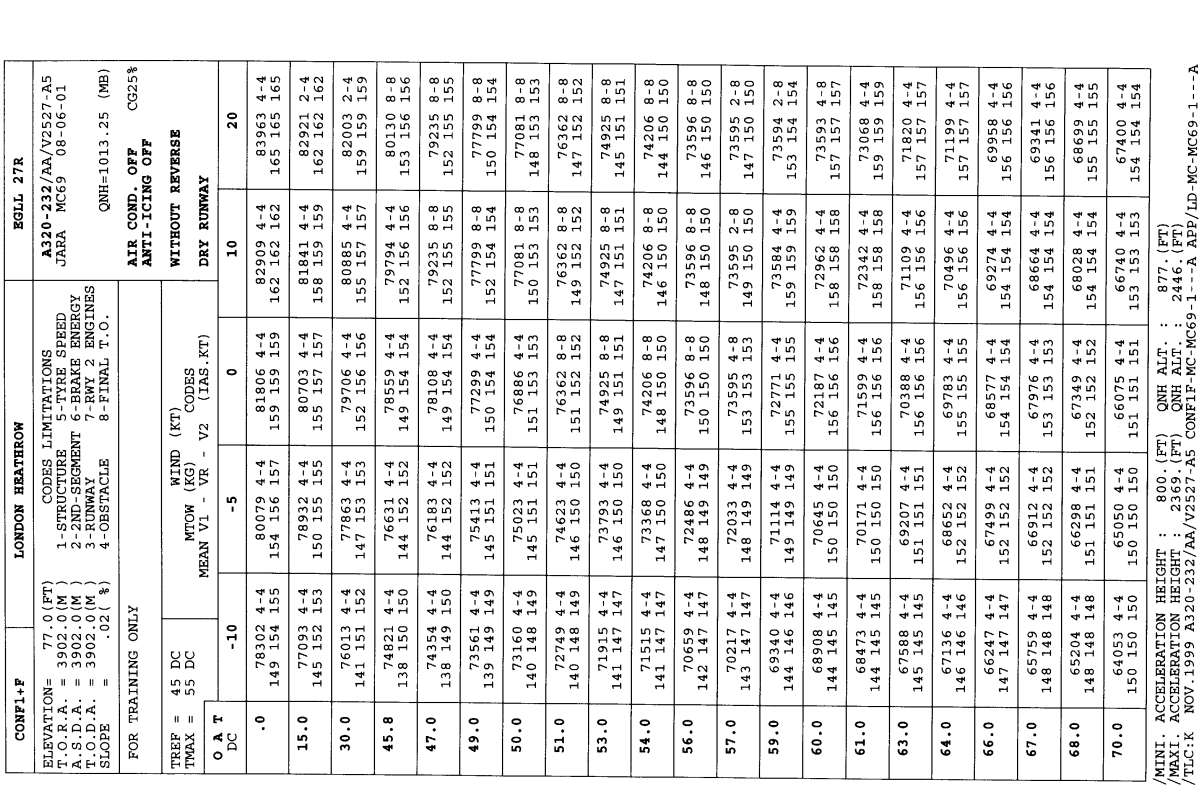
LONDON HEATHROW (EGLL) - RWY 27R - CONF 1 + F



CONF1+F	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. = 3902.0(M) A.S.D.A. = 3902.0(M) T.O.D.A. = 3902.0(M) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 45 DC TMAX = 55 DC	WIND (KT) WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA **DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20		
77.0	.0 16 4-4 145 152 153	.0 41 4-4 145 152 153	.3 49 4-4 150 154 154	.1 50 8-8 151 153 153	.1 50 8-8 149 153 153	51	52
76.0	.0 30 4-4 141 151 152	.7 45 4-4 144 152 152	.4 51 8-8 151 152 152	.4 51 8-8 150 152 152	.4 51 8-8 148 152 152	53	54
74.0	.9 45 4-4 138 150 150	.2 52 4-4 146 150 150	.2 54 8-8 148 150 150	.2 54 8-8 146 150 150	.2 54 8-8 144 150 150	55	55
72.0	.3 52 4-4 140 148 148	.0 57 4-4 148 149 149	.2 60 4-4 156 156 156	.3 61 4-4 158 158 158	.4 62 4-4 158 158 158	55	55
70.0	.2 57 4-4 143 147 147	.2 61 4-4 150 150 150	.4 63 4-4 156 156 156	.5 64 4-4 156 156 156	.6 65 4-4 156 156 156	55	55
68.0	.0 62 4-4 145 145 145	.1 65 4-4 152 152 152	.6 66 4-4 154 154 154	.0 68 4-4 154 154 154	.1 69 4-4 155 155 155	55	55
66.0	.2 66 4-4 147 147 147	.3 68 4-4 151 151 151	.1 70 4-4 151 151 151	.7 70 4-4 153 153 153	1.4 70 4-4 154 154 154	55	55
64.0	.1 70 4-4 150 150 150	1.1 70 4-4 150 150 150	.0 70 137 140 140	.0 70 135 140 140	.0 70 133 140 140	55	55
62.0	.0 70 135 137 137	.0 70 131 137 137	.0 70 127 137 137	.0 70 127 137 137	.0 70 127 137 137	55	55
60.0	.0 70 126 135 135	.0 70 126 135 135	.0 70 126 135 135	.0 70 126 135 135	.0 70 126 135 135	55	55
58.0	.0 70 125 132 132	.0 70 125 132 132	.0 70 125 132 132	.0 70 125 132 132	.0 70 125 132 132	55	55
56.0	.0 70 124 130 130	.0 70 124 130 130	.0 70 124 130 130	.0 70 124 130 130	.0 70 124 130 130	55	55
54.0	.0 70 122 127 128	.0 70 122 127 128	.0 70 122 127 128	.0 70 122 127 128	.0 70 122 127 128	55	55
52.0	.0 70 121 125 125	.0 70 121 125 125	.0 70 121 125 125	.0 70 121 125 125	.0 70 121 125 125	55	55
50.0	.0 70 120 122 123	.0 70 120 122 123	.0 70 120 122 123	.0 70 120 122 123	.0 70 120 122 123	55	55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2369.(FT) QNH ALT. : 2446.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LiD-MC-MC69-1---A

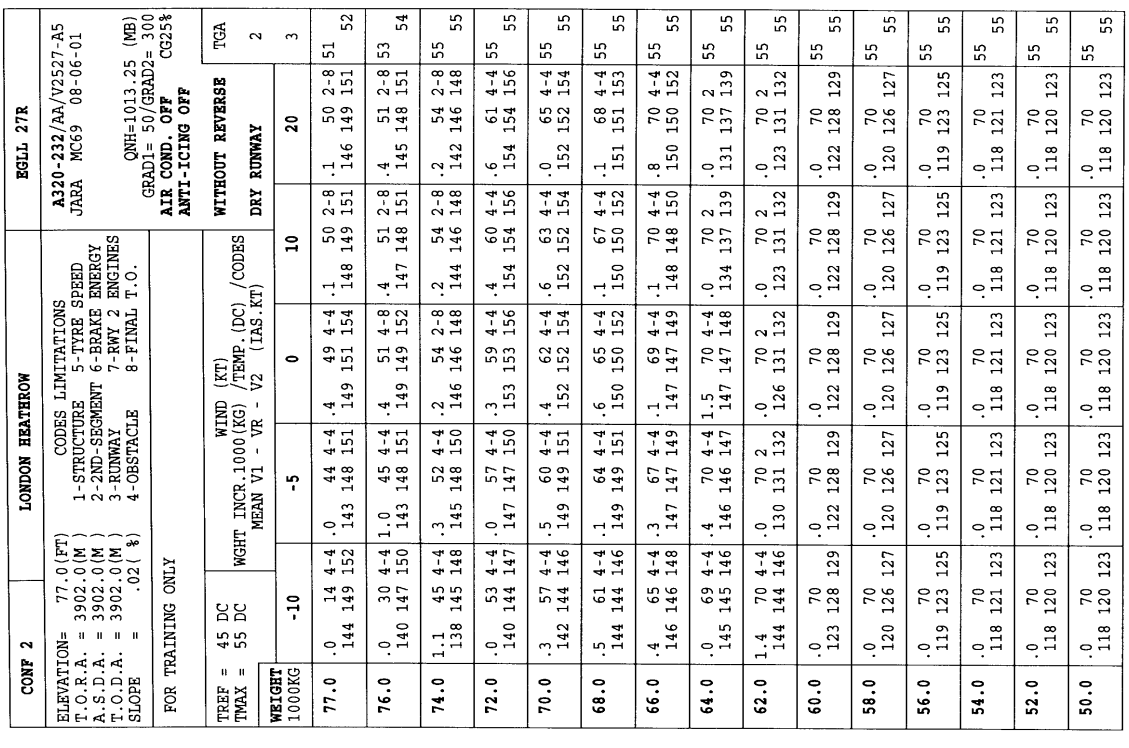


CONF1+F	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. = 3902.0(M) A.S.D.A. = 3902.0(M) T.O.D.A. = 3902.0(M) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 45 DC TMAX = 55 DC	MTOW (KG) CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

O A T DC	-10	-5	0	10	20
.0	78302 4-4 149 154 155	80079 4-4 154 156 157	81806 4-4 159 159 159	82909 4-4 162 162 162	83963 4-4 165 165 165
15.0	77093 4-4 145 152 153	78932 4-4 150 155 155	80703 4-4 155 157 157	81841 4-4 158 159 159	82921 2-4 162 162 162
30.0	76013 4-4 141 151 152	77863 4-4 147 153 153	79706 4-4 152 156 156	80885 4-4 155 157 157	82003 2-4 159 159 159
45.8	74821 4-4 138 150 150	76631 4-4 144 152 152	78559 4-4 149 154 154	79794 4-4 152 156 156	80130 8-8 153 156 156
47.0	74354 4-4 138 149 150	76183 4-4 144 152 152	78108 4-4 149 154 154	79235 8-8 152 155 155	79235 8-8 152 155 155
49.0	73561 4-4 139 149 149	75413 4-4 145 151 151	77299 4-4 150 154 154	77799 8-8 152 154 154	77799 8-8 150 154 154
50.0	73160 4-4 140 148 149	75023 4-4 145 151 151	76886 4-4 151 153 153	77081 8-8 150 153 153	77081 8-8 148 153 153
51.0	72749 4-4 140 148 149	74623 4-4 146 150 150	76362 8-8 151 152 152	76362 8-8 149 152 152	76362 8-8 147 152 152
53.0	71915 4-4 141 147 147	73793 4-4 146 150 150	74925 8-8 149 151 151	74925 8-8 147 151 151	74925 8-8 145 151 151
54.0	71515 4-4 141 147 147	73368 4-4 147 150 150	74206 8-8 148 150 150	74206 8-8 146 150 150	74206 8-8 144 150 150
56.0	70659 4-4 142 147 147	72486 4-4 148 149 149	73596 8-8 150 150 150	73596 8-8 148 150 150	73596 8-8 146 150 150
57.0	70217 4-4 143 147 147	72033 4-4 148 149 149	73595 2-8 149 153 153	73595 2-8 149 150 150	73595 2-8 147 150 150
59.0	69340 4-4 144 146 146	71114 4-4 149 149 149	72771 4-4 155 155 155	73584 4-4 159 159 159	73594 2-8 153 154 154
60.0	68908 4-4 144 145 145	70645 4-4 150 150 150	72187 4-4 156 156 156	72962 4-4 158 158 158	73593 4-8 157 157 157
61.0	68473 4-4 144 145 145	70171 4-4 150 150 150	71599 4-4 156 156 156	72342 4-4 158 158 158	73068 4-4 159 159 159
63.0	67588 4-4 145 145 145	69207 4-4 151 151 151	70388 4-4 156 156 156	71109 4-4 156 156 156	71820 4-4 157 157 157
64.0	67136 4-4 146 146 146	68652 4-4 152 152 152	69783 4-4 155 155 155	70496 4-4 156 156 156	71199 4-4 157 157 157
66.0	66247 4-4 147 147 147	67499 4-4 152 152 152	68577 4-4 154 154 154	69274 4-4 154 154 154	69958 4-4 156 156 156
67.0	65759 4-4 148 148 148	66912 4-4 152 152 152	67976 4-4 153 153 153	68664 4-4 154 154 154	69341 4-4 156 156 156
68.0	65204 4-4 148 148 148	66298 4-4 151 151 151	67349 4-4 152 152 152	68028 4-4 154 154 154	68699 4-4 155 155 155
70.0	64053 4-4 150 150 150	65050 4-4 150 150 150	66075 4-4 151 151 151	66740 4-4 153 153 153	67400 4-4 154 154 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2369.(FT) QNH ALT. : 2446.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LiD-MC-MC69-1---A

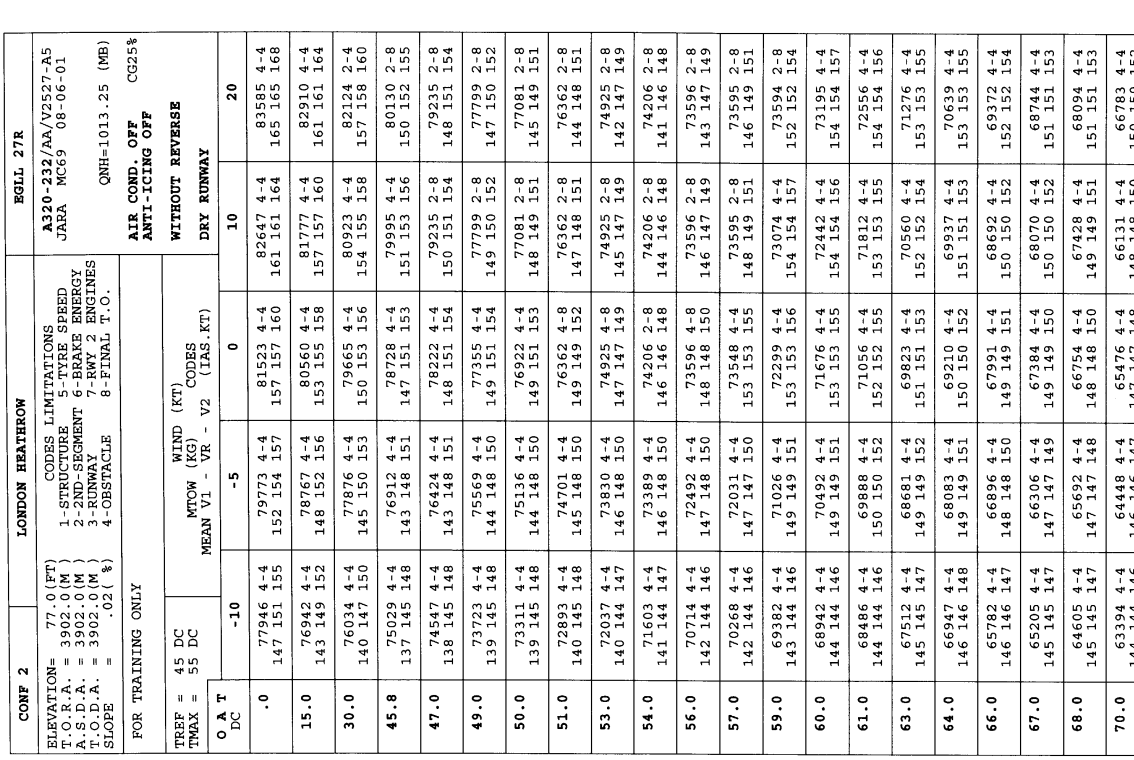
LONDON HEATHROW (EGLL) - RWY 27R - CONF 2



CONF 2	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT)	CODES LIMITATIONS	A320-232/AA/V2527-A5
T.O.R.A. = 3902.0(M)	1-STRUCTURE 5-TYRE SPEED	JARA MC69 08-06-01
A.S.D.A. = 3902.0(M)	2-2ND-SEGMENT 6-BRAKE ENERGY	
T.O.D.A. = 3902.0(M)	3-RUNWAY 7-RWY 2 ENGINES	QNH=1013.25 (MB)
SLOPE .02(%)	4-OBSTACLE 8-FINAL T.O.	GRAD1= 50/GRAD2= 300
FOR TRAINING ONLY		AIR COND. OFF CG25%
		ANTI-ICING OFF
TREF = 45 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES	WITHOUT REVERSE TGA
TMAX = 55 DC	MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 14 4-4 144 149 152	.0 44 4-4 143 148 151	.4 49 4-4 149 151 154	.1 50 2-8 148 149 151	.1 50 2-8 146 149 151	51 52
76.0	.0 30 4-4 140 147 150	1.0 45 4-4 143 148 151	.4 51 4-8 149 149 152	.4 51 2-8 147 148 151	.4 51 2-8 145 148 151	53 54
74.0	1.1 45 4-4 138 145 148	.3 52 4-4 145 148 150	.2 54 2-8 146 146 148	.2 54 2-8 144 146 148	.2 54 2-8 142 146 148	55 55
72.0	.0 53 4-4 140 144 147	.0 57 4-4 147 147 150	.3 59 4-4 153 153 156	.4 60 4-4 154 154 156	.6 61 4-4 154 154 156	55 55
70.0	.3 57 4-4 142 144 146	.5 60 4-4 149 149 151	.4 62 4-4 152 152 154	.6 63 4-4 152 152 154	.0 65 4-4 152 152 154	55 55
68.0	.5 61 4-4 144 144 146	.1 64 4-4 149 149 151	.6 65 4-4 150 150 152	.1 67 4-4 150 150 152	.1 68 4-4 151 151 153	55 55
66.0	.4 65 4-4 146 146 148	.3 67 4-4 147 147 149	.1 69 4-4 147 147 149	.1 70 4-4 148 148 150	.8 70 4-4 150 150 152	55 55
64.0	.0 69 4-4 145 145 146	.4 70 4-4 146 146 147	1.5 70 4-4 147 147 148	.0 70 2 134 137 139	.0 70 2 131 137 139	55 55
62.0	1.4 70 4-4 144 144 146	.0 70 2 130 131 132	.0 70 2 126 131 132	.0 70 2 123 131 132	.0 70 2 123 131 132	55 55
60.0	.0 70 123 128 129	.0 70 122 128 129	.0 70 122 128 129	.0 70 122 128 129	.0 70 122 128 129	55 55
58.0	.0 70 120 126 127	.0 70 120 126 127	.0 70 120 126 127	.0 70 120 126 127	.0 70 120 126 127	55 55
56.0	.0 70 119 123 125	.0 70 119 123 125	.0 70 119 123 125	.0 70 119 123 125	.0 70 119 123 125	55 55
54.0	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	55 55
52.0	.0 70 118 120 123	.0 70 118 120 123	.0 70 118 120 123	.0 70 118 120 123	.0 70 118 120 123	55 55
50.0	.0 70 118 120 123	.0 70 118 120 123	.0 70 118 120 123	.0 70 118 120 123	.0 70 118 120 123	55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2194.(FT) QNH ALT. : 2271.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A



CONF 2	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT)	CODES LIMITATIONS	A320-232/AA/V2527-A5
T.O.R.A. = 3902.0(M)	1-STRUCTURE 5-TYRE SPEED	JARA MC69 08-06-01
A.S.D.A. = 3902.0(M)	2-2ND-SEGMENT 6-BRAKE ENERGY	
T.O.D.A. = 3902.0(M)	3-RUNWAY 7-RWY 2 ENGINES	QNH=1013.25 (MB)
SLOPE .02(%)	4-OBSTACLE 8-FINAL T.O.	AIR COND. OFF CG25%
FOR TRAINING ONLY		ANTI-ICING OFF
TREF = 45 DC	MTOW (KG) WIND (KT) CODES	WITHOUT REVERSE
TMAX = 55 DC	MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
.0	77946 4-4 147 151 155	79773 4-4 152 154 157	81523 4-4 157 157 160	82647 4-4 161 161 164	83585 4-4 165 165 168
15.0	76942 4-4 143 149 152	78767 4-4 148 152 156	80560 4-4 153 155 158	81777 4-4 157 157 160	82910 4-4 161 161 164
30.0	76034 4-4 140 147 150	77876 4-4 145 150 153	79665 4-4 150 153 156	80923 4-4 154 155 158	82124 2-4 157 158 160
45.8	75029 4-4 137 145 148	76912 4-4 143 148 151	78728 4-4 147 151 153	79995 4-4 151 153 156	80130 2-8 150 152 155
47.0	74547 4-4 138 145 148	76424 4-4 143 148 151	78222 4-4 148 151 154	79235 2-8 150 151 154	79235 2-8 148 151 154
49.0	73723 4-4 139 145 148	75569 4-4 144 148 150	77355 4-4 149 151 154	77799 2-8 149 150 152	77799 2-8 147 150 152
50.0	73311 4-4 139 145 148	75136 4-4 144 148 150	76922 4-4 149 151 153	77081 2-8 148 149 151	77081 2-8 145 149 151
51.0	72893 4-4 140 145 148	74701 4-4 145 148 150	76362 4-8 149 149 152	76362 2-8 147 148 151	76362 2-8 144 148 151
53.0	72037 4-4 140 144 147	73830 4-4 146 148 150	74925 4-8 147 147 149	74925 2-8 145 147 149	74925 2-8 142 147 149
54.0	71603 4-4 141 144 147	73389 4-4 146 148 150	74206 2-8 146 146 148	74206 2-8 144 146 148	74206 2-8 141 146 148
56.0	70714 4-4 142 144 146	72492 4-4 147 148 150	73596 4-8 148 148 150	73596 2-8 146 147 149	73596 2-8 143 147 149
57.0	70268 4-4 142 144 146	72031 4-4 147 147 150	73548 4-4 153 153 155	73595 2-8 148 149 151	73595 2-8 146 149 151
59.0	69382 4-4 143 144 146	71026 4-4 149 149 151	72299 4-4 153 153 156	73074 4-4 154 154 157	73594 2-8 152 152 154
60.0	68942 4-4 144 144 146	70492 4-4 149 149 151	71676 4-4 153 153 155	72442 4-4 154 154 156	73195 4-4 154 154 157
61.0	68486 4-4 144 144 146	69888 4-4 150 150 152	71056 4-4 152 152 155	71812 4-4 153 153 155	72556 4-4 154 154 156
63.0	67512 4-4 145 145 147	68681 4-4 149 149 152	69823 4-4 151 151 153	70560 4-4 152 152 154	71276 4-4 153 153 155
64.0	66947 4-4 146 146 148	68083 4-4 149 149 151	69210 4-4 150 150 152	69937 4-4 151 151 153	70639 4-4 153 153 155
66.0	65782 4-4 146 146 147	66896 4-4 148 148 150	67991 4-4 149 149 151	68692 4-4 150 150 152	69372 4-4 152 152 154
67.0	65205 4-4 145 145 147	66306 4-4 147 147 149	67384 4-4 149 149 150	68070 4-4 150 150 152	68744 4-4 151 151 153
68.0	64605 4-4 145 145 147	65692 4-4 147 147 148	66754 4-4 148 148 150	67428 4-4 149 149 151	68094 4-4 151 151 153
70.0	63394 4-4 144 144 146	64448 4-4 146 146 147	65476 4-4 147 147 148	66131 4-4 148 148 150	66783 4-4 150 150 152

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2194.(FT) QNH ALT. : 2271.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

LONDON HEATHROW (EGLL) - RWY 27R - CONF 3

CONF 3	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. = 3902.0(M) A.S.D.A. = 3902.0(M) T.O.D.A. = 3902.0(M) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY	WIND (KT) WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA **DRY RUNWAY** 2

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.1 26 4-4 143 149 152	.1 47 4-4 144 149 151	.1 50 4-8 149 149 150	.1 50 2-8 146 148 150	.1 50 2-8 144 148 150	51 52
76.0	.0 40 4-4 140 147 149	.2 49 4-4 145 149 151	.4 51 4-8 148 148 149	.4 51 2-8 145 147 149	.4 51 2-8 143 147 149	53 54
74.0	1.7 45 4-4 138 146 148	.1 54 4-4 148 149 151	.2 54 2-8 144 145 147	.2 54 2-8 142 145 147	.2 54 2-8 140 145 147	55 55
72.0	.3 54 4-4 142 145 147	.1 58 4-4 150 150 152	.0 60 4-4 153 153 155	.1 61 4-4 154 154 155	.2 62 4-4 154 154 155	55 55
70.0	.1 59 4-4 145 145 147	.3 61 4-4 150 150 151	.1 63 4-4 152 152 153	.2 64 4-4 152 152 153	.2 65 4-4 152 152 153	55 55
68.0	.5 62 4-4 147 147 148	.4 64 4-4 149 149 150	.3 66 4-4 150 150 151	.3 67 4-4 150 150 151	.3 68 2-4 150 150 151	55 55
66.0	.1 66 4-4 146 146 147	.6 67 4-4 148 148 149	.3 69 4-4 148 148 149	.3 70 4-4 148 148 149	1.0 70 2-4 149 149 150	55 55
64.0	.3 69 4-4 145 145 146	.7 70 4-4 146 146 147	1.7 70 4-4 147 147 148	.0 70 2 132 136 137	.0 70 2 129 136 137	55 55
62.0	1.7 70 4-4 144 144 145	.0 70 2 128 129 131	.0 70 2 124 129 131	.0 70 2 122 129 131	.0 70 2 122 129 131	55 55
60.0	.0 70 2 122 123 125	.0 70 2 119 123 125	.0 70 2 119 123 125	.0 70 2 119 123 125	.0 70 2 119 123 125	55 55
58.0	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	55 55
56.0	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	55 55
54.0	.0 70 118 120 123	.0 70 118 120 123	.0 70 118 120 123	.0 70 118 120 123	.0 70 118 120 123	55 55
52.0	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	55 55
50.0	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2127.(FT) QNH ALT. : 2204.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. = 3902.0(M) A.S.D.A. = 3902.0(M) T.O.D.A. = 3902.0(M) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY	MTOW (KG) CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

OAT DC	-10	-5	0	10	20
.0	78808 4-4 150 154 156	80652 4-4 155 156 158	82242 4-4 161 161 162	83112 4-4 165 165 166	83913 4-4 166 166 167
15.0	77842 4-4 146 151 153	79718 4-4 152 154 156	81541 4-4 157 157 159	82559 4-4 161 161 162	83416 4-4 165 165 166
30.0	76780 4-4 142 149 151	78673 4-4 148 152 154	80523 4-4 153 155 157	81758 4-4 157 158 159	82800 2-4 161 161 162
45.8	75625 4-4 138 146 148	77573 4-4 144 150 152	79448 4-4 149 152 154	80130 2-8 151 152 153	80130 2-8 148 152 153
47.0	75151 4-4 139 146 148	77087 4-4 144 149 151	78957 4-4 150 152 154	79235 8-4 151 151 152	79235 8-8 147 151 152
49.0	74342 4-4 140 146 148	76244 4-4 145 149 151	77799 4-8 150 150 151	77799 2-8 147 149 151	77799 2-8 145 149 151
50.0	73931 4-4 140 146 148	75819 4-4 146 148 150	77081 4-8 149 149 150	77081 2-8 146 148 150	77081 2-8 143 148 150
51.0	73516 4-4 141 146 148	75395 4-4 146 149 150	76362 4-8 148 148 149	76362 2-8 145 147 149	76362 2-8 142 147 149
53.0	72677 4-4 142 145 147	74543 4-4 147 149 151	74925 2-8 145 146 148	74925 2-8 143 146 148	74925 2-8 140 146 148
54.0	72252 4-4 142 145 147	74114 4-4 148 149 151	74206 2-8 144 145 147	74206 2-8 142 145 147	74206 2-8 139 145 147
56.0	71388 4-4 143 145 147	73219 4-4 149 149 151	73596 2-8 146 146 148	73596 2-8 144 146 148	73596 2-8 141 146 148
57.0	70951 4-4 144 145 147	72672 4-4 150 150 151	73595 4-8 149 149 150	73595 2-8 146 148 149	73595 2-8 144 148 149
59.0	70089 4-4 145 145 147	71504 4-4 151 151 152	72647 4-4 154 154 155	73396 4-4 156 156 157	73594 2-8 151 152 153
60.0	69603 4-4 146 146 147	70878 4-4 150 150 152	72011 4-4 153 153 155	72753 4-4 155 155 156	73478 4-4 156 156 157
61.0	69073 4-4 146 146 148	70255 4-4 150 150 151	71379 4-4 153 153 154	72111 4-4 154 154 155	72827 4-4 155 155 156
63.0	67911 4-4 147 147 149	69020 4-4 150 150 151	70122 4-4 152 152 153	70835 4-4 153 153 154	71532 4-4 154 154 155
64.0	67309 4-4 146 146 148	68407 4-4 149 149 150	69496 4-4 151 151 152	70200 4-4 152 152 153	70887 4-4 153 153 154
66.0	66115 4-4 146 146 147	67191 4-4 148 148 150	68251 4-4 150 150 151	68935 4-4 151 151 152	69601 4-4 152 152 152
67.0	65523 4-4 145 145 147	66587 4-4 148 148 149	67631 4-4 149 149 150	68304 4-4 150 150 151	68961 2-4 151 151 152
68.0	64910 4-4 145 145 146	65961 4-4 147 147 148	66991 4-4 149 149 149	67654 4-4 149 149 150	68294 2-4 150 150 151
70.0	63674 4-4 144 144 145	64696 4-4 146 146 147	65696 4-4 147 147 148	66339 4-4 148 148 149	66959 2-4 149 149 150

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2127.(FT) QNH ALT. : 2204.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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LYON (LFLL) - RWY 18R - CONF 1 + F

CONF1+F	LYON St Exupery	LFLL 18R
ELEVATION= 758.0(FT) T.O.R.A. = 2900.0(M) A.S.D.A. = 2960.0(M) T.O.D.A. = 2960.0(M) SLOPE = .41(%) FOR TRAINING ONLY RWY SHIFT = 1,100m TREF = 43 DC TMAX = 53 DC	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O. WIND (KT) MTOW (KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 90/GRAD2= 100 **AIR COND. OFF** CG25% **ANTI-ICING OFF** **WITHOUT REVERSE** TGA **DRY RUNWAY** 2

O A T DC	-10	-5	0	10	20
-2.0	77566 4-6 150 155 156	79377 4-6 155 159 160	81102 4-6 160 163 163	82176 4-6 163 166 166	83211 4-6 167 168 168
13.0	76320 6-6 145 152 152	78209 4-6 151 155 156	79991 4-6 156 159 159	81139 4-6 159 162 162	82241 4-6 162 165 165
28.0	74489 6-6 143 150 150	76994 6-6 148 152 153	78932 4-6 153 156 156	80167 4-6 156 159 159	81297 4-6 159 161 161
43.6	72609 6-6 140 148 148	75127 6-6 145 151 151	77664 6-6 150 153 153	79094 4-6 153 156 156	80242 4-6 156 158 158
45.0	72291 6-6 140 147 148	74821 6-6 145 150 150	77334 4-6 150 153 153	78556 4-6 153 156 156	79305 4-8 156 156 156
47.0	71816 6-6 141 147 147	74365 6-6 146 150 150	76497 4-6 151 154 154	77685 4-6 154 157 157	77888 4-8 154 154 154
48.0	71580 6-6 141 147 147	74142 6-6 146 150 150	76055 4-6 151 154 154	77179 8-3 155 156 156	77179 4-8 154 154 154
49.0	71351 6-6 141 147 147	73796 4-6 146 150 150	75622 4-6 152 154 154	76470 4-8 155 155 155	76470 8-8 153 153 153
51.0	70895 6-6 141 147 147	72971 4-6 147 150 150	74711 4-3 152 154 154	75051 4-8 153 153 153	75051 8-8 150 151 151
52.0	70661 6-6 142 146 146	72544 4-6 147 151 151	74193 4-3 152 154 154	74342 4-8 152 152 152	74342 8-8 150 151 151
54.0	69884 4-6 142 147 147	71594 4-3 148 151 151	73155 4-3 152 154 154	73278 4-8 152 152 152	73278 4-8 150 150 150
55.0	69446 4-6 143 147 147	71047 4-3 148 150 150	72594 4-3 152 154 154	73277 4-8 154 154 154	73277 4-8 152 152 152
57.0	68455 4-3 143 146 146	69963 4-3 147 150 150	71491 4-3 152 153 153	72450 4-3 154 156 156	73276 4-8 157 157 157
58.0	67915 4-3 143 146 146	69418 4-3 147 149 149	70941 4-3 151 153 153	71881 4-3 154 156 156	72821 4-3 157 158 158
60.0	66863 4-3 143 146 146	68356 4-3 147 149 149	69820 4-3 151 153 153	70751 4-3 154 155 155	71664 4-4 157 157 157
61.0	66343 4-3 142 145 145	67827 4-3 147 149 149	69265 4-3 151 153 153	70187 4-3 154 155 155	71078 4-4 157 157 157
63.0	65309 4-3 142 145 145	66772 4-3 146 149 149	68157 4-3 151 152 152	69059 4-4 154 154 154	69914 4-4 157 157 157
64.0	64800 4-3 142 145 145	66233 4-3 146 148 148	67604 4-3 151 152 152	68484 4-4 154 154 154	69332 4-4 157 157 157
66.0	63778 4-3 142 145 145	65153 4-3 146 148 148	66499 4-4 150 152 152	67339 4-4 153 154 154	68176 4-4 157 157 157
67.0	63238 4-3 142 144 144	64584 4-3 146 148 148	65907 4-4 150 151 151	66740 4-4 153 153 153	67557 4-3 156 156 156
68.0	62696 4-3 141 144 144	64018 4-3 146 148 148	65316 4-4 150 151 151	66143 4-4 153 154 154	66935 4-4 156 156 156

/MINI. ACCELERATION HEIGHT : 1021.(FT) QNH ALT. : 1779.(FT)
/MAXI. ACCELERATION HEIGHT : 2288.(FT) QNH ALT. : 3046.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	LYON St Exupery	LFLL 18R
ELEVATION= 758.0(FT) T.O.R.A. = 2900.0(M) A.S.D.A. = 2960.0(M) T.O.D.A. = 2960.0(M) SLOPE = .41(%) FOR TRAINING ONLY RWY SHIFT = 1,100m TREF = 43 DC TMAX = 53 DC	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O. WIND (KT) WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 90/GRAD2= 100 **AIR COND. OFF** CG25% **ANTI-ICING OFF** **WITHOUT REVERSE** TGA **DRY RUNWAY** 2

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.1 4-6 148 154 154	.1 27 4-6 148 153 153	.3 45 4-6 150 153 153	.2 48 8-3 155 156 156	.2 48 4-8 49 154 154 154 49
76.0	.1 15 6-6 145 151 152	.0 36 6-6 146 152 152	.1 48 4-6 151 154 154	.5 49 4-8 155 155 155	.5 49 8-8 50 153 153 153 51
74.0	.0 32 6-6 142 149 150	1.2 43 6-6 145 151 151	.2 52 4-3 152 154 154	.3 52 4-8 152 152 152	.3 52 8-8 53 150 151 151 53
72.0	.7 43 6-6 140 148 148	.1 53 4-6 148 151 151	.0 56 4-3 152 154 154	.5 57 4-3 154 156 156	.2 59 4-3 53 157 158 158 53
70.0	.3 53 6-6 142 147 147	.5 56 4-3 147 150 150	.4 59 4-3 151 153 153	.2 61 4-3 154 155 155	.5 62 4-4 53 157 157 157 53
68.0	.5 57 4-3 143 146 146	.4 60 4-3 147 149 149	.2 63 4-3 151 152 152	.5 64 4-4 154 154 154	.2 66 4-4 53 157 157 157 53
66.0	.3 61 4-3 142 145 145	.2 64 4-3 146 148 148	.5 66 4-4 150 152 152	.1 68 4-4 153 154 154	.9 68 4-4 53 156 156 156 53
64.0	.3 65 4-3 142 145 145	.0 68 4-3 146 148 148	1.3 68 4-4 150 151 151	.0 68 4 141 141 141	.0 68 2 53 139 140 140 53
62.0	.7 68 4-3 141 144 144	.0 68 135 138 138	.0 68 131 138 138	.0 68 129 138 138	.0 68 53 127 138 138 53
60.0	.0 68 130 135 135	.0 68 128 135 135	.0 68 126 135 135	.0 68 126 135 135	.0 68 53 126 135 135 53
58.0	.0 68 125 133 133	.0 68 125 133 133	.0 68 125 133 133	.0 68 125 133 133	.0 68 53 125 133 133 53
56.0	.0 68 124 130 130	.0 68 124 130 130	.0 68 124 130 130	.0 68 124 130 130	.0 68 53 124 130 130 53
54.0	.0 68 122 128 128	.0 68 122 128 128	.0 68 122 128 128	.0 68 122 128 128	.0 68 53 122 128 128 53
52.0	.0 68 121 125 125	.0 68 121 125 125	.0 68 121 125 125	.0 68 121 125 125	.0 68 53 121 125 125 53
50.0	.0 68 120 122 123	.0 68 120 122 123	.0 68 120 122 123	.0 68 120 122 123	.0 68 53 120 122 123 53

/MINI. ACCELERATION HEIGHT : 1021.(FT) QNH ALT. : 1779.(FT)
/MAXI. ACCELERATION HEIGHT : 2288.(FT) QNH ALT. : 3046.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

LYON (LFLL) - RWY 18R - CONF 2

CONF 2	LYON St Exupery	LFLL 18R
ELEVATION= 758.0(FT) T.O.R.A. = 2900.0(M) A.S.D.A. = 2960.0(M) T.O.D.A. = 2960.0(M) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY RWY SHIFT = 1,100m		
TREF = 43 DC TMAX = 53 DC	WIND (KT) WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA 2 **DRY RUNWAY** 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 1 4-6 146 152 156	.1 31 4-6 145 151 154	.1 46 4-6 149 153 155	.1 48 4-3 152 155 158	.2 48 4-8 152 152 154	49
76.0	.0 17 4-6 143 149 152	.3 43 4-6 143 149 151	.1 48 4-3 149 153 155	.5 49 4-8 152 154 156	.5 49 4-8 151 151 153	50 51
74.0	.4 43 4-6 138 145 148	.4 48 4-6 145 149 152	.5 51 4-3 149 153 155	.3 52 4-8 150 150 152	.3 52 4-8 148 148 150	53
72.0	.2 49 4-6 140 145 148	.4 52 4-3 145 149 151	.3 55 4-3 149 152 154	.1 57 4-3 152 153 156	.4 58 4-4 155 155 157	53
70.0	.3 53 4-3 141 145 147	.2 56 4-3 145 148 150	.0 59 4-3 149 151 153	.4 60 4-4 152 152 154	.6 61 4-4 155 155 157	53
68.0	.2 57 4-3 141 144 146	.1 60 4-3 144 147 149	.3 62 4-3 149 150 151	.0 64 4-4 151 151 153	.2 65 4-4 154 154 156	53
66.0	.1 61 4-3 140 143 145	.4 63 4-3 144 146 148	.1 66 4-4 148 148 150	.2 67 4-4 151 151 152	.3 68 4-4 153 153 155	53
64.0	.5 64 4-3 140 143 144	.2 67 4-3 144 145 147	.9 68 4-4 148 148 149	1.6 68 4-4 151 151 152	.0 68 2 138 138 139	53
62.0	.4 68 4-3 139 142 143	1.7 68 4-3 143 145 146	.0 68 4 133 133 134	.0 68 2 132 132 133	.0 68 2 127 132 133	53
60.0	.0 68 4 130 130 130	.0 68 126 129 129	.0 68 122 129 129	.0 68 122 129 129	.0 68 122 129 129	53
58.0	.0 68 120 126 127	.0 68 120 126 127	.0 68 120 126 127	.0 68 120 126 127	.0 68 120 126 127	53
56.0	.0 68 119 124 125	.0 68 119 124 125	.0 68 119 124 125	.0 68 119 124 125	.0 68 119 124 125	53
54.0	.0 68 118 121 123	.0 68 118 121 123	.0 68 118 121 123	.0 68 118 121 123	.0 68 118 121 123	53
52.0	.0 68 118 120 122	.0 68 118 120 122	.0 68 118 120 122	.0 68 118 120 122	.0 68 118 120 122	53
50.0	.0 68 118 120 122	.0 68 118 120 122	.0 68 118 120 122	.0 68 118 120 122	.0 68 118 120 122	53

/MINI. ACCELERATION HEIGHT : 1027.(FT) QNH ALT. : 1785.(FT)
/MAXI. ACCELERATION HEIGHT : 2290.(FT) QNH ALT. : 3048.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2	LYON St Exupery	LFLL 18R
ELEVATION= 758.0(FT) T.O.R.A. = 2900.0(M) A.S.D.A. = 2960.0(M) T.O.D.A. = 2960.0(M) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY RWY SHIFT = 1,100m		
TREF = 43 DC TMAX = 53 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-2.0	77233 4-6 147 153 157	78991 4-6 152 157 160	80640 4-6 158 161 165	81649 4-4 161 162 166	82612 4-4 164 164 167
13.0	76291 4-6 144 150 153	78098 4-6 149 154 157	79819 4-6 154 158 161	80937 4-3 158 161 164	81945 4-4 161 163 166
28.0	75382 4-6 141 147 150	77242 4-6 146 151 154	79004 4-6 151 155 158	80217 4-6 155 158 161	81245 4-3 157 160 163
43.6	74337 4-6 138 145 147	76246 4-6 143 149 151	78069 4-6 148 152 155	79321 4-3 152 155 158	80315 4-8 155 156 159
45.0	73821 4-6 139 145 147	75723 4-6 144 149 151	77537 4-6 149 153 155	78694 4-3 152 155 158	79305 4-8 154 154 156
47.0	73006 4-6 139 145 148	74852 4-6 145 149 151	76583 4-3 149 153 155	77636 4-3 152 155 158	77888 4-8 152 152 155
48.0	72583 4-6 140 145 148	74420 4-6 145 149 152	76057 4-3 149 153 155	77104 4-3 152 155 158	77179 4-8 152 152 154
49.0	72155 4-6 140 145 148	73949 4-3 145 149 152	75527 4-3 149 153 155	76470 4-8 152 154 156	76470 4-8 151 151 153
51.0	71326 4-3 141 146 148	72928 4-3 145 149 151	74490 4-3 149 153 155	75051 4-8 151 151 153	75051 4-8 149 149 151
52.0	70828 4-3 141 146 148	72404 4-3 145 149 151	73955 4-3 149 152 155	74342 4-8 150 150 152	74342 4-8 148 148 150
54.0	69814 4-3 141 145 147	71345 4-3 145 149 151	72846 4-3 149 152 154	73278 4-8 150 150 152	73278 4-8 148 148 150
55.0	69273 4-3 141 145 147	70793 4-3 145 148 150	72277 4-3 149 152 154	73229 4-3 152 154 157	73277 4-8 150 150 152
57.0	68196 4-3 141 144 146	69695 4-3 145 148 150	71143 4-3 149 151 153	72080 4-3 152 153 156	72975 4-4 155 155 157
58.0	67670 4-3 141 144 146	69157 4-3 145 147 149	70584 4-3 149 151 153	71503 4-4 152 153 155	72378 4-4 155 155 157
60.0	66602 4-3 140 144 145	68059 4-3 144 147 149	69455 4-3 149 151 152	70351 4-4 152 152 154	71189 4-4 155 155 157
61.0	66080 4-3 140 143 145	67510 4-3 144 147 148	68896 4-3 149 150 152	69769 4-4 152 152 153	70598 4-4 155 155 157
63.0	65031 4-3 140 143 144	66418 4-3 144 146 148	67766 4-4 148 149 151	68604 4-4 151 151 153	69385 4-4 154 154 156
64.0	64513 4-3 140 143 144	65875 4-3 144 146 147	67202 4-4 148 149 150	68023 4-4 151 151 153	68770 4-4 154 154 156
66.0	63474 4-3 140 142 143	64795 4-3 144 146 147	66065 4-4 148 148 150	66865 4-4 151 151 153	67548 4-3 154 154 156
67.0	62915 4-3 139 142 143	64227 4-3 144 145 147	65472 4-4 148 148 149	66245 4-4 151 151 152	66908 4-4 154 154 156
68.0	62364 4-3 139 142 143	63661 4-3 143 145 146	64880 4-4 148 148 149	65623 4-4 151 151 152	66260 4-4 153 153 155

/MINI. ACCELERATION HEIGHT : 1027.(FT) QNH ALT. : 1785.(FT)
/MAXI. ACCELERATION HEIGHT : 2290.(FT) QNH ALT. : 3048.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

LYON (LFLL) - RWY 18R - CONF 3

CONF 3	LYON St Exupery	LFLL 18R
ELEVATION= 758.0(FT) T.O.R.A. = 2900.0(M) A.S.D.A. = 2960.0(M) T.O.D.A. = 2960.0(M) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY RWY SHIFT = 1,100m		
TREF = 43 DC TMAX = 53 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA 2 **DRY RUNWAY** 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.0 13 4-3 147 152 154	.0 40 4-3 145 151 152	.4 46 4-3 150 154 155	.2 48 4-3 153 153 154	.2 48 4-8 49 151 151 152 49
76.0	.0 28 4-6 143 149 151	.8 43 4-3 144 150 152	.3 48 4-3 150 154 155	.5 49 4-8 152 152 153	.5 49 4-8 50 150 150 151 51
74.0	.9 43 4-6 139 146 148	.3 49 4-3 145 150 151	.2 52 4-3 150 153 154	.3 52 4-8 149 149 150	.3 52 4-8 53 147 147 148 53
72.0	.1 50 4-3 141 146 148	.1 53 4-3 145 149 150	.5 55 4-4 150 152 153	.2 57 4-4 153 153 154	.4 58 4-4 53 156 156 157 53
70.0	.1 54 4-3 140 145 147	.5 56 4-3 145 148 150	.2 59 4-4 149 149 150	.5 60 4-4 152 152 153	.6 61 4-4 53 156 156 156 53
68.0	.5 57 4-3 140 144 146	.2 60 4-3 144 147 148	.4 62 4-4 149 149 150	.0 64 4-4 152 152 153	.0 65 4-4 53 153 153 154 53
66.0	.3 61 4-3 139 143 144	.6 63 4-4 144 145 146	.1 66 4-4 148 148 149	.2 67 4-4 151 151 151	.1 68 4-4 53 151 151 152 53
64.0	.2 65 4-3 139 142 143	.3 67 4-4 143 144 145	.9 68 4-4 148 148 149	1.5 68 4-4 150 150 151	.0 68 2 53 136 137 138 53
62.0	.5 68 4-4 139 140 141	1.7 68 4-4 143 144 145	.0 68 4 131 131 133	.0 68 4 130 130 131	.0 68 2 53 126 130 131 53
60.0	.0 68 4 128 128 129	.0 68 4 126 126 127	.0 68 4 124 124 126	.0 68 2 119 124 125	.0 68 2 53 119 124 125 53
58.0	.0 68 120 121 122	.0 68 118 121 122	.0 68 118 121 122	.0 68 118 121 122	.0 68 53 118 121 122 53
56.0	.0 68 117 121 122	.0 68 117 121 122	.0 68 117 121 122	.0 68 117 121 122	.0 68 53 117 121 122 53
54.0	.0 68 117 120 122	.0 68 117 120 122	.0 68 117 120 122	.0 68 117 120 122	.0 68 53 117 120 122 53
52.0	.0 68 117 120 122	.0 68 117 120 122	.0 68 117 120 122	.0 68 117 120 122	.0 68 53 117 120 122 53
50.0	.0 68 117 120 122	.0 68 117 120 122	.0 68 117 120 122	.0 68 117 120 122	.0 68 53 117 120 122 53

/MINI. ACCELERATION HEIGHT : 1038.(FT) QNH ALT. : 1796.(FT)
/MAXI. ACCELERATION HEIGHT : 2204.(FT) QNH ALT. : 2962.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	LYON St Exupery	LFLL 18R
ELEVATION= 758.0(FT) T.O.R.A. = 2900.0(M) A.S.D.A. = 2960.0(M) T.O.D.A. = 2960.0(M) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY RWY SHIFT = 1,100m		
TREF = 43 DC TMAX = 53 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-2.0	77797 4-3 150 155 157	79324 4-4 154 158 160	80815 4-4 159 160 162	81796 4-4 163 163 164	82726 4-4 166 166 167
13.0	77045 4-3 147 152 154	78603 4-3 151 156 158	80147 4-4 156 159 161	81144 4-4 159 160 162	82118 4-4 163 163 163
28.0	76043 4-6 143 149 151	77857 4-3 148 153 155	79452 4-3 153 157 158	80490 4-3 156 160 161	81493 4-4 159 161 162
43.6	74855 4-6 139 146 148	76808 4-6 144 150 152	78607 4-3 150 154 155	79681 4-3 153 157 158	80315 4-8 155 155 156
45.0	74353 4-6 139 146 148	76289 4-3 145 150 152	77982 4-3 150 154 155	79010 4-3 153 157 158	79305 4-8 153 153 155
47.0	73536 4-6 140 146 148	75268 4-3 145 150 151	76887 4-3 150 154 155	77888 4-8 153 156 157	77888 4-8 152 152 153
48.0	73107 4-3 141 146 148	74770 4-3 145 150 151	76338 4-3 150 154 155	77179 4-3 153 153 154	77179 4-8 151 151 152
49.0	72613 4-3 141 146 148	74263 4-3 145 150 151	75795 4-3 150 154 155	76470 4-8 152 152 153	76470 4-8 150 150 151
51.0	71627 4-3 141 146 147	73224 4-3 145 149 151	74718 4-3 150 153 155	75051 4-8 150 150 151	75051 4-8 148 148 149
52.0	71126 4-3 141 146 147	72684 4-3 145 149 151	74170 4-3 150 153 154	74342 4-8 149 149 150	74342 4-8 147 147 148
54.0	70103 4-3 140 145 147	71593 4-3 145 149 150	73043 4-4 150 152 153	73278 4-8 149 149 150	73278 4-8 147 147 148
55.0	69567 4-3 140 145 146	71031 4-3 145 149 150	72463 4-4 150 152 153	73277 4-8 152 152 153	73277 4-8 149 149 150
57.0	68482 4-3 140 144 146	69908 4-3 144 148 149	71306 4-4 149 150 151	72207 4-4 153 153 154	73065 4-4 156 156 157
58.0	67929 4-3 140 144 145	69353 4-3 144 148 149	70728 4-4 149 150 151	71620 4-4 153 153 153	72441 4-4 156 156 157
60.0	66841 4-3 140 143 145	68236 4-3 144 147 148	69573 4-4 149 149 150	70452 4-4 152 152 153	71195 4-4 156 156 156
61.0	66301 4-3 139 143 144	67676 4-4 144 146 148	68998 4-4 149 149 150	69851 4-4 152 152 153	70575 4-4 156 156 156
63.0	65227 4-3 139 143 144	66555 4-4 144 145 146	67852 4-4 149 149 150	68632 4-4 152 152 153	69296 4-4 155 155 155
64.0	64693 4-3 139 142 144	65995 4-4 144 145 146	67281 4-4 149 149 149	68023 4-4 152 152 153	68655 4-4 154 154 154
66.0	63621 4-4 139 142 143	64879 4-4 143 144 145	66110 4-4 148 148 149	66803 4-4 152 152 152	67377 4-4 152 152 153
67.0	63056 4-3 139 141 142	64299 4-4 143 144 145	65491 4-4 148 148 149	66154 4-4 151 151 151	66720 4-4 152 152 152
68.0	62493 4-4 139 140 141	63722 4-4 143 144 145	64876 4-4 148 148 149	65508 4-4 150 150 151	66066 4-4 151 151 152

/MINI. ACCELERATION HEIGHT : 1038.(FT) QNH ALT. : 1796.(FT)
/MAXI. ACCELERATION HEIGHT : 2204.(FT) QNH ALT. : 2962.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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MARSEILLE (LFML) - RWY 32R - CONF 1 + F

CONF1+F	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3500.0(M) T.O.D.A. = 3500.0(M) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 80/GRAD2= 200 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 45 DC TMAX = 55 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA **DRY RUNWAY** 2

WEIGHT 1000KG	-10	-5	0	10	20	3
77.0	.1 47 6-6 134 152 153	.1 50 8-8 137 153 153	.1 50 8-8 139 153 153	.1 50 8-8 141 153 153	.1 50 8-8 141 153 153	52 52
76.0	.0 51 6-6 135 151 152	.4 51 8-8 137 152 152	.4 51 8-8 139 152 152	.4 51 8-8 141 152 152	.4 51 8-8 141 152 152	53 54
74.0	.2 54 8-8 134 150 150	.2 54 8-8 136 150 150	.2 54 8-8 139 150 150	.2 54 8-8 139 150 150	.2 54 8-8 139 150 150	55 55
72.0	.5 60 2-6 138 151 151	.3 63 2-6 146 156 156	.4 65 2-6 154 161 161	.7 65 2-6 158 164 164	.7 65 2-2 159 165 165	55 55
70.0	.1 65 2-6 141 152 152	.3 67 2-6 148 157 157	.5 68 2-6 156 162 162	.5 68 2-2 157 162 162	.5 68 2-2 157 162 162	55 55
68.0	.2 69 2-6 143 152 152	.8 70 2-6 150 157 157	1.0 70 2-2 155 161 161	1.0 70 2-2 156 161 161	1.0 70 2-2 155 161 161	55 55
66.0	1.7 70 2-6 144 152 152	.0 70 2 136 146 146	.0 70 2 135 146 146	.0 70 2 135 146 146	.0 70 2 135 146 146	55 55
64.0	.0 70 129 139 139	.0 70 129 139 139	.0 70 129 139 139	.0 70 129 139 139	.0 70 129 139 139	55 55
62.0	.0 70 127 137 137	.0 70 127 137 137	.0 70 127 137 137	.0 70 127 137 137	.0 70 127 137 137	55 55
60.0	.0 70 126 134 134	.0 70 126 134 134	.0 70 126 134 134	.0 70 126 134 134	.0 70 126 134 134	55 55
58.0	.0 70 125 132 132	.0 70 125 132 132	.0 70 125 132 132	.0 70 125 132 132	.0 70 125 132 132	55 55
56.0	.0 70 123 129 130	.0 70 123 129 130	.0 70 123 129 130	.0 70 123 129 130	.0 70 123 129 130	55 55
54.0	.0 70 122 127 128	.0 70 122 127 128	.0 70 122 127 128	.0 70 122 127 128	.0 70 122 127 128	55 55
52.0	.0 70 121 124 125	.0 70 121 124 125	.0 70 121 124 125	.0 70 121 124 125	.0 70 121 124 125	55 55
50.0	.0 70 119 122 123	.0 70 119 122 123	.0 70 119 122 123	.0 70 119 122 123	.0 70 119 122 123	55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2308.(FT) QNH ALT. : 2377.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3500.0(M) T.O.D.A. = 3500.0(M) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 45 DC TMAX = 55 DC	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

O A T DC	-10	-5	0	10	20
.0	82146 2-6 142 159 159	83455 2-6 147 163 163	84685 2-6 152 167 167	85503 2-6 155 170 170	86293 2-6 159 173 173
15.0	80829 6-6 138 156 156	82305 2-6 144 160 160	83634 2-6 149 164 164	84469 2-6 152 167 167	85254 2-6 155 170 170
30.0	79191 6-6 136 154 155	81262 2-6 141 157 157	82627 2-6 146 161 161	83502 2-6 150 164 164	84370 2-6 153 166 166
45.8	77444 6-6 134 152 153	79619 6-6 138 155 155	80129 8-8 140 155 156	80129 8-8 141 155 156	80129 8-8 143 155 156
47.0	77121 6-6 134 152 153	79252 8-8 139 155 155	79252 8-8 140 155 155	79252 8-8 141 155 155	79252 8-8 143 155 155
49.0	76581 6-6 134 152 152	77816 8-8 138 153 153	77816 8-8 139 153 153	77816 8-8 141 153 153	77816 8-8 141 153 153
50.0	76315 6-6 135 152 152	77097 8-8 137 153 153	77097 8-8 139 153 153	77097 8-8 141 153 153	77097 8-8 141 153 153
51.0	76042 6-6 135 151 152	76379 8-8 137 152 152	76379 8-8 139 152 152	76379 8-8 140 152 152	76379 8-8 140 152 152
53.0	74941 8-8 134 150 150	74941 8-8 136 150 150	74941 8-8 139 150 150	74941 8-8 139 150 150	74941 8-8 139 150 150
54.0	74222 8-8 134 150 150	74222 8-8 135 150 150	74222 8-8 138 150 150	74222 8-8 138 150 150	74222 8-8 138 150 150
56.0	73600 8-8 134 149 149	73600 8-8 136 149 149	73600 8-8 138 149 149	73600 8-8 138 149 149	73600 8-8 138 149 149
57.0	73599 2-8 136 150 150	73599 2-8 138 150 150	73599 2-8 139 150 150	73599 2-8 139 150 150	73599 2-8 139 150 150
59.0	72919 2-6 138 151 151	73598 2-8 142 153 153	73598 2-8 143 153 153	73598 2-8 142 153 153	73598 2-8 141 153 153
60.0	72453 2-6 138 151 151	73597 8-6 145 155 155	73597 2-8 145 155 155	73597 2-8 145 155 155	73597 2-8 143 155 155
61.0	71996 2-6 139 151 151	73340 2-6 145 156 156	73596 2-8 147 157 157	73596 2-8 148 157 157	73596 2-8 147 157 157
63.0	71056 2-6 140 151 151	72347 2-6 146 156 156	73526 2-6 152 161 161	73595 2-8 154 161 161	73595 2-8 154 161 161
64.0	70599 2-6 140 151 151	71844 2-6 147 156 156	73000 2-6 153 161 161	73418 2-6 157 164 164	73480 2-2 159 166 166
66.0	69668 2-6 141 152 152	70853 2-6 148 156 156	71851 2-6 154 161 161	71990 2-2 158 164 164	71990 2-2 159 164 164
67.0	69176 2-6 142 152 152	70345 2-6 148 157 157	71171 2-6 155 162 162	71245 2-2 157 163 163	71245 2-2 158 163 163
68.0	68687 2-6 142 152 152	69828 2-6 149 157 157	70490 2-6 156 162 162	70500 2-2 157 162 162	70500 2-2 156 162 162
70.0	67664 2-6 144 152 152	68755 2-6 150 157 157	69010 2-2 155 161 161	69010 2-2 156 161 161	69010 2-2 155 161 161

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2308.(FT) QNH ALT. : 2377.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

MARSEILLE (LFML) - RWY 32R - CONF 2

CONF 2	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3500.0(M) T.O.D.A. = 3500.0(M) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 400 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA DRY RUNWAY 2 3

| TREF = 45 DC
TMAX = 55 DC | | |

MARSEILLE (LFML) - RWY 32R - CONF 3

CONF 3	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3500.0(M) T.O.D.A. = 3500.0(M) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 500 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 45 DC TMAX = 55 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2

WEIGHT 1000KG	-10	-5	0	10	20	3
77.0	.1 50 2-8 130 148 150	.1 50 2-8 134 148 150	.1 50 2-8 137 148 150	.1 50 2-8 137 148 150	.1 50 2-8 137 148 150	52 52
76.0	.4 51 2-8 130 147 149	.4 51 2-8 134 147 149	.4 51 2-8 136 147 149	.4 51 2-8 136 147 149	.4 51 2-8 136 147 149	53 54
74.0	.2 54 2-8 130 145 147	.2 54 2-8 134 145 147	.2 54 2-8 134 145 147	.2 54 2-8 134 145 147	.2 54 2-8 134 145 147	55 55
72.0	.0 62 2-6 140 152 153	.4 63 2-6 148 157 158	.2 64 2-2 154 160 161	.2 64 2-2 155 160 161	.2 64 2-2 153 160 161	55 55
70.0	.4 65 2-6 142 152 153	.0 67 2-6 151 158 159	.1 67 2-2 153 158 159	.1 67 2-2 151 158 159	.1 67 2-2 150 158 159	55 55
68.0	.2 69 2-6 146 153 154	.6 69 2-2 151 156 157	.6 69 2-2 151 156 157	.6 69 2-2 149 156 157	.6 69 2-2 148 156 157	55 55
66.0	1.6 70 2-6 146 153 154	1.9 70 2-2 151 155 156	1.9 70 2-2 150 155 156	1.9 70 2-2 148 155 156	1.9 70 2-2 147 155 156	55 55
64.0	.0 70 2 125 136 137	.0 70 2 125 136 137	.0 70 2 125 136 137	.0 70 2 125 136 137	.0 70 2 125 136 137	55 55
62.0	.0 70 2 122 129 131	.0 70 2 122 129 131	.0 70 2 122 129 131	.0 70 2 122 129 131	.0 70 2 122 129 131	55 55
60.0	.0 70 2 119 123 125	.0 70 2 119 123 125	.0 70 2 119 123 125	.0 70 2 119 123 125	.0 70 2 119 123 125	55 55
58.0	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	55 55
56.0	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	55 55
54.0	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	55 55
52.0	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	55 55
50.0	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	.0 70 117 120 123	55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2087.(FT) QNH ALT. : 2156.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. = 3500.0(M) A.S.D.A. = 3500.0(M) T.O.D.A. = 3500.0(M) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 45 DC TMAX = 55 DC	MTOW (KG) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
.0	82725 2-6 141 160 162	83784 2-6 147 165 166	84697 2-6 154 169 170	85226 2-6 159 173 173	85496 2-2 162 175 175
15.0	81934 2-6 138 157 159	83091 2-6 144 162 163	84099 2-6 151 166 167	84700 2-6 155 170 170	85218 2-6 160 173 173
30.0	80991 2-6 135 154 156	82255 2-6 140 159 160	83377 2-6 147 163 164	84068 2-6 151 166 167	84664 2-6 155 170 170
45.8	79960 2-6 131 151 153	80129 2-8 133 151 153	80129 2-8 137 151 153	80129 2-8 139 151 153	80129 2-8 139 151 153
47.0	79252 8-6 132 150 152	79252 8-6 140 150 152	79252 8-8 137 150 152	79252 8-8 138 150 152	79252 8-8 138 150 152
49.0	77816 2-8 130 149 151	77816 2-8 133 149 151	77816 2-8 137 149 151	77816 2-8 137 149 151	77816 2-8 137 149 151
50.0	77097 2-8 129 148 150	77097 2-8 133 148 150	77097 2-8 136 148 150	77097 2-8 136 148 150	77097 2-8 136 148 150
51.0	76379 2-8 130 147 149	76379 2-8 134 147 149	76379 2-8 136 147 149	76379 2-8 136 147 149	76379 2-8 136 147 149
53.0	74941 2-8 130 146 148	74941 2-8 134 146 148	74941 2-8 134 146 148	74941 2-8 134 146 148	74941 2-8 134 146 148
54.0	74222 2-8 130 145 147	74222 2-8 134 145 147	74222 2-8 134 145 147	74222 2-8 134 145 147	74222 2-8 134 145 147
56.0	73600 2-8 131 146 148	73600 2-8 135 146 148	73600 2-8 135 146 148	73600 2-8 135 146 148	73600 2-8 135 146 148
57.0	73599 2-8 133 148 149	73599 2-8 136 148 149	73599 2-8 136 148 149	73599 2-8 136 148 149	73599 2-8 136 148 149
59.0	73598 8-6 138 152 153	73598 2-8 140 152 153	73598 2-8 140 152 153	73598 2-8 140 152 153	73598 2-8 140 152 153
60.0	73100 2-6 139 152 153	73597 2-8 143 154 156	73597 2-8 145 154 156	73597 2-8 143 154 156	73597 2-8 142 154 156
61.0	72559 2-6 140 152 153	73515 2-6 147 157 158	73596 2-8 149 157 159	73596 2-8 148 157 159	73596 2-8 147 157 159
63.0	71491 2-6 141 152 153	72384 2-6 148 157 158	72927 2-2 154 161 162	72927 2-2 155 161 162	72927 2-2 154 161 162
64.0	70954 2-6 142 152 153	71802 2-6 149 157 158	72208 2-2 154 160 161	72208 2-2 154 160 161	72208 2-2 153 160 161
66.0	69865 2-6 143 152 153	70629 2-6 150 158 158	70770 2-2 154 159 159	70770 2-2 152 159 159	70770 2-2 151 159 159
67.0	69318 2-6 144 153 154	70034 2-6 151 158 159	70051 2-2 153 158 159	70051 2-2 151 158 159	70051 2-2 150 158 159
68.0	68745 2-6 145 153 154	69332 2-2 151 157 158	69332 2-2 151 157 158	69332 2-2 150 157 158	69332 2-2 149 157 158
70.0	67591 2-6 146 153 154	67894 2-2 151 155 156	67894 2-2 149 155 156	67894 2-2 148 155 156	67894 2-2 146 155 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2087.(FT) QNH ALT. : 2156.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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PARIS ORLY (LFPO) - RWY 08 - CONF 1 + F

CONF1+F	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3320.0(M) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 70/GRAD2= 200 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	WIND (KT) MTOW (KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

OAT DC	-10	-5	0	10	20
.0	76990 4-4 150 152 153	78761 4-4 156 156 156	80352 4-4 161 161 162	81208 4-4 165 165 165	81953 4-4 167 167 167
15.0	75610 4-4 146 150 151	77533 4-4 152 153 153	79260 4-4 157 157 157	80287 4-4 161 161 161	81174 4-4 164 164 164
30.0	74307 4-4 143 149 150	76338 4-4 148 151 152	78247 4-4 154 154 154	79339 4-4 157 157 157	80337 4-4 161 161 161
45.1	72885 4-4 140 148 148	74984 4-4 145 150 151	77010 4-4 150 152 153	78281 4-4 154 154 154	79312 4-4 157 157 157
47.0	72316 4-4 140 147 148	74395 4-4 146 150 150	76390 4-4 151 152 152	77558 4-4 155 155 155	78551 4-4 158 158 158
48.0	71981 4-4 141 147 147	74044 4-4 146 149 150	76011 4-4 151 152 152	77098 4-4 155 155 155	78089 4-4 159 159 159
49.0	71643 4-4 141 147 147	73688 4-4 146 149 149	75622 4-4 152 152 152	76648 4-4 156 156 156	77384 4-8 157 157 157
51.0	70964 4-4 142 146 146	72966 4-4 147 148 148	74718 4-4 153 153 153	75717 4-4 157 157 157	75953 4-8 154 154 154
52.0	70621 4-4 142 146 146	72592 4-4 147 148 148	74256 4-4 153 153 153	75238 4-4 157 157 157	75238 4-8 152 152 152
54.0	69905 4-4 143 145 145	71802 4-4 148 148 148	73325 4-4 154 154 154	73807 4-8 153 153 153	73807 4-8 150 150 150
55.0	69530 4-4 143 145 145	71317 4-4 149 149 149	72804 4-4 155 155 155	73481 4-8 155 155 155	73481 4-8 151 151 151
57.0	68748 4-4 144 144 144	70336 4-4 150 150 150	71591 4-4 154 154 154	72317 4-4 157 157 157	73027 4-4 158 158 158
58.0	68330 4-4 144 144 144	69831 4-4 150 150 150	70992 4-4 154 154 154	71713 4-4 156 156 156	72416 4-4 157 157 157
59.0	67873 4-4 145 145 145	69307 4-4 151 151 151	70399 4-4 154 154 154	71115 4-4 156 156 156	71808 4-4 157 157 157
61.0	66921 4-4 146 146 146	68148 4-4 150 150 150	69226 4-4 153 153 153	69929 4-4 155 155 155	70604 4-4 156 156 156
62.0	66439 4-4 147 147 147	67576 4-4 150 150 150	68647 4-4 153 153 153	69340 4-4 154 154 154	70003 4-4 155 155 155
64.0	65388 4-4 147 147 147	66445 4-4 150 150 150	67499 4-4 152 152 152	68170 4-4 153 153 153	68809 4-4 154 154 154
65.0	64837 4-4 146 146 146	65886 4-4 150 150 150	66928 4-4 152 152 152	67585 4-4 152 152 152	68214 4-4 153 153 153
67.0	63743 4-4 146 146 146	64778 4-4 149 149 149	65788 4-4 150 150 150	66417 4-4 151 151 151	67029 4-4 153 153 153
68.0	63154 4-4 146 146 146	64179 4-4 148 148 148	65175 4-4 150 150 150	65795 4-4 151 151 151	66401 4-4 153 153 153
69.0	62573 4-4 145 145 145	63586 4-4 148 148 148	64565 4-4 149 149 149	65175 4-4 150 150 150	65776 4-4 153 153 153

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2351.(FT) QNH ALT. : 2627.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3320.0(M) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 70/GRAD2= 200 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	WIND (KT) WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	TGA
77.0	.0 0 4-4 150 152 153	.1 21 4-4 150 152 153	.0 45 4-4 151 152 153	.1 48 4-4 155 155 155	.4 49 4-8 157 157 157	51 51
76.0	.1 10 4-4 147 151 152	.1 33 4-4 148 151 152	.0 48 4-4 151 152 152	.2 50 4-4 156 156 156	.7 50 4-8 155 155 155	52 53
74.0	.0 33 4-4 142 149 150	1.0 45 4-4 145 150 151	.3 52 4-4 153 153 153	.5 53 4-4 155 155 155	.5 53 4-8 151 151 151	54 54
72.0	.9 45 4-4 140 148 148	.2 53 4-4 148 148 148	.2 56 4-4 155 155 155	.3 57 4-4 157 157 157	.4 58 4-4 157 157 157	54 54
70.0	.3 53 4-4 142 146 146	.3 57 4-4 150 150 150	.4 59 4-4 154 154 154	.5 60 4-4 155 155 155	.0 62 4-4 155 155 155	54 54
68.0	.3 58 4-4 144 144 144	.1 61 4-4 150 150 150	.1 63 4-4 153 153 153	.2 64 4-4 153 153 153	.2 65 4-4 153 153 153	54 54
66.0	.4 62 4-4 147 147 147	.4 64 4-4 150 150 150	.4 66 4-4 151 151 151	.4 67 4-4 151 151 151	.4 68 4-4 153 153 153	54 54
64.0	.3 66 4-4 146 146 146	.2 68 4-4 148 148 148	.6 69 4-4 149 149 149	1.2 69 4-4 150 150 150	1.8 69 4-4 153 153 153	54 54
62.0	.6 69 4-4 145 145 145	1.6 69 4-4 148 148 148	.0 69 4-4 133 137 137	.0 69 131 137 137	.0 69 129 137 137	54 54
60.0	.0 69 130 135 135	.0 69 128 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	54 54
58.0	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	54 54
56.0	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	54 54
54.0	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	54 54
52.0	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	54 54
50.0	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	54 54
45.0	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	54 54
40.0	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2351.(FT) QNH ALT. : 2627.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS ORLY (LFPO) - RWY 08 - CONF 2

CONF 2 | **PARIS - ORLY** | **LFPO 08**

ELEVATION= 276.0(FT)
T.O.R.A. = 3320.0(M)
A.S.D.A. = 3320.0(M)
T.O.D.A. = 3320.0(M)
SLOPE = .09(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-232/AA/V2527-A5
JARA MC69 08-06-01

QNH=1013.25 (MB)
GRAD1= 50/GRAD2= 300
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 45 DC
TMAX = 54 DC

MTOW (KG) WIND (KT) /CODES
MEAN V1 - VR - V2 (IAS.KT) /TEMP.(DC)

WITHOUT REVERSE TGA
DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	-.5 0 4-4 148 149 153	.0 19 4-4 149 150 153	.1 45 4-4 149 149 152	.5 47 4-4 154 154 157	.2 49 4-4 51 158 158 161 51
76.0	.0 7 4-4 146 148 151	.1 34 4-4 146 147 150	.4 47 4-4 150 150 153	.4 49 4-4 155 155 158	.6 50 4-4 52 156 156 159 53
74.0	.0 37 4-4 141 144 147	1.3 45 4-4 144 146 149	.5 51 4-4 152 152 155	.2 53 4-4 155 155 158	.5 53 8-8 54 151 151 154 54
72.0	1.5 45 4-4 139 142 145	.1 53 4-4 147 147 150	.3 55 4-4 152 152 155	.4 56 4-4 153 153 156	.4 57 4-4 54 153 153 156 54
70.0	.0 54 4-4 143 143 145	.5 56 4-4 148 148 151	.4 58 4-4 151 151 153	.5 59 4-4 152 152 154	.6 60 4-4 54 152 152 154 54
68.0	.2 58 4-4 145 145 147	.2 60 4-4 147 147 149	.1 62 4-4 149 149 151	.1 63 4-4 149 149 151	.1 64 4-4 54 150 150 152 54
66.0	.5 61 4-4 145 145 147	.4 63 4-4 146 146 148	.3 65 4-4 147 147 149	.3 66 4-4 148 148 149	.3 67 4-4 54 150 150 151 54
64.0	.3 65 4-4 143 143 144	.2 67 4-4 145 145 147	.5 68 4-4 146 146 147	.5 69 4-4 147 147 148	1.1 69 4-4 54 149 149 150 54
62.0	.0 69 4-4 141 141 143	1.0 69 4-4 144 144 145	1.9 69 4-4 145 145 146	.0 69 2 130 131 132	.0 69 2 54 128 131 132 54
60.0	.0 69 4 128 128 130	.0 69 125 128 129	.0 69 122 128 129	.0 69 122 128 129	.0 69 54 122 128 129 54
58.0	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 54 120 126 127 54
56.0	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 54 119 123 125 54
54.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 54 118 121 123 54
52.0	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 54 118 120 122 54
50.0	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 54 118 120 122 54
45.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 54 117 120 122 54
40.0					54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2558.(FT) QNH ALT. : 2834.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2 | **PARIS - ORLY** | **LFPO 08**

ELEVATION= 276.0(FT)
T.O.R.A. = 3320.0(M)
A.S.D.A. = 3320.0(M)
T.O.D.A. = 3320.0(M)
SLOPE = .09(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-232/AA/V2527-A5
JARA MC69 08-06-01

QNH=1013.25 (MB)
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 45 DC
TMAX = 54 DC

MTOW (KG) WIND (KT) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE
DRY RUNWAY

O A T DC	-10	-5	0	10	20
.0	76530 4-4 148 149 153	78230 4-4 153 153 157	79632 4-4 159 159 163	80373 4-4 160 160 164	81066 4-4 162 162 165
15.0	75490 4-4 145 147 150	77253 4-4 150 150 154	78874 4-4 155 155 158	79782 4-4 159 159 163	80531 4-4 161 161 165
30.0	74510 4-4 142 145 148	76337 4-4 147 148 151	78062 4-4 152 152 155	79124 4-4 156 156 159	79967 4-4 160 160 163
45.1	73469 4-4 139 142 145	75306 4-4 144 146 149	77086 4-4 149 149 152	78282 4-4 153 153 156	79264 4-4 157 157 160
47.0	72805 4-4 140 142 145	74637 4-4 145 146 149	76380 4-4 150 150 153	77466 4-4 154 154 157	78324 4-4 158 158 161
48.0	72412 4-4 140 142 145	74236 4-4 145 146 149	75938 4-4 150 150 153	76970 4-4 154 154 157	77754 4-4 158 158 161
49.0	72018 4-4 140 142 145	73826 4-4 146 146 148	75488 4-4 151 151 154	76435 4-4 155 155 158	77184 4-4 158 158 161
51.0	71234 4-4 141 143 145	72990 4-4 146 146 149	74514 4-4 152 152 155	75303 4-4 155 155 158	75953 4-8 154 154 157
52.0	70842 4-4 142 143 145	72558 4-4 147 147 149	73994 4-4 152 152 155	74737 4-4 155 155 158	75238 8-8 152 152 155
54.0	70036 4-4 143 143 145	71626 4-4 148 148 150	72850 4-4 152 152 155	73584 4-4 154 154 157	73807 4-8 150 150 152
55.0	69601 4-4 143 143 145	71109 4-4 148 148 151	72255 4-4 152 152 155	72983 4-4 154 154 157	73481 4-8 151 151 154
57.0	68692 4-4 144 144 146	69937 4-4 148 148 150	71033 4-4 151 151 154	71749 4-4 153 153 155	72422 4-4 153 153 156
58.0	68176 4-4 145 145 147	69342 4-4 148 148 150	70429 4-4 151 151 153	71135 4-4 152 152 155	71800 4-4 153 153 155
59.0	67646 4-4 145 145 147	68750 4-4 147 147 150	69829 4-4 151 151 153	70526 4-4 152 152 154	71180 4-4 152 152 155
61.0	66514 4-4 145 145 147	67580 4-4 147 147 149	68642 4-4 150 150 152	69315 4-4 150 150 153	69948 4-4 151 151 153
62.0	65948 4-4 144 144 146	67002 4-4 146 146 148	68053 4-4 149 149 151	68714 4-4 150 150 152	69336 4-4 151 151 153
64.0	64827 4-4 143 143 145	65858 4-4 146 146 148	66884 4-4 148 148 150	67518 4-4 149 149 151	68121 4-4 150 150 152
65.0	64271 4-4 143 143 144	65293 4-4 146 146 148	66302 4-4 147 147 149	66923 4-4 148 148 150	67519 4-4 150 150 152
67.0	63168 4-4 142 142 143	64172 4-4 145 145 147	65143 4-4 146 146 148	65737 4-4 147 147 149	66322 4-4 150 150 151
68.0	62582 4-4 142 142 143	63574 4-4 144 144 146	64530 4-4 146 146 147	65114 4-4 147 147 149	65694 4-4 149 149 151
69.0	62001 4-4 141 141 143	62983 4-4 144 144 145	63920 4-4 145 145 146	64496 4-4 147 147 148	65071 4-4 149 149 150

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2558.(FT) QNH ALT. : 2834.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS ORLY (LFPO) - RWY 08 - CONF 3

CONF 3	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3320.0(M) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 200 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

WEIGHT 1000KG	-10		-5		0		10		20		TGA
77.0	.1	7 4-4 150 150 153	.1	32 4-4 149 149 152	.2	47 4-4 152 152 154	.5	48 4-4 156 156 158	.4	49 4-8 153 153 154	51
76.0	.0	21 4-4 146 148 150	.0	45 4-4 146 147 150	.2	49 4-4 153 153 155	.4	50 4-4 155 155 157	.7	50 4-8 152 152 153	53
74.0	.1	45 4-4 140 142 144	.2	50 4-4 148 148 150	.5	52 4-4 153 153 155	.5	53 4-8 152 152 153	.5	53 4-8 148 148 150	54
72.0	.3	50 4-4 142 143 146	.2	54 4-4 150 150 152	.1	56 4-4 151 151 152	.2	57 4-4 152 152 153	.2	58 4-4 154 154 155	54
70.0	.3	55 4-4 144 144 146	.4	57 4-4 149 149 150	.3	59 4-4 149 149 150	.3	60 4-4 150 150 151	.3	61 4-4 152 152 153	54
68.0	.1	59 4-4 145 145 147	.0	61 4-4 146 146 148	.4	62 4-4 147 147 148	.5	63 4-4 149 149 150	.5	64 4-4 150 150 151	54
66.0	.4	62 4-4 144 144 146	.3	64 4-4 144 144 146	.1	66 4-4 146 146 147	.1	67 4-4 147 147 148	.0	68 4-4 147 147 148	54
64.0	.1	66 4-4 142 142 143	.5	67 4-4 143 143 144	.2	69 4-4 145 145 146	.8	69 4-4 146 146 147	1.4	69 4-4 147 147 148	54
62.0	.4	69 4-4 140 140 141	1.3	69 4-4 142 142 143	.0	69 4 129 129 131	.0	69 2 127 129 130	.0	69 2 125 129 130	54
60.0	.0	69 4 126 126 128	.0	69 2 123 123 125	.0	69 2 119 123 125	.0	69 2 119 123 125	.0	69 2 119 123 125	54
58.0	.0	69 118 121 122	.0	69 118 121 122	.0	69 118 121 122	.0	69 118 121 122	.0	69 118 121 122	54
56.0	.0	69 118 120 122	.0	69 118 120 122	.0	69 118 120 122	.0	69 118 120 122	.0	69 118 120 122	54
54.0	.0	69 117 120 122	.0	69 117 120 122	.0	69 117 120 122	.0	69 117 120 122	.0	69 117 120 122	54
52.0	.0	69 117 120 122	.0	69 117 120 122	.0	69 117 120 122	.0	69 117 120 122	.0	69 117 120 122	54
50.0	.0	69 117 120 122	.0	69 117 120 122	.0	69 117 120 122	.0	69 117 120 122	.0	69 117 120 122	54
45.0	.0	69 117 120 122	.0	69 117 120 122	.0	69 117 120 122	.0	69 117 120 122	.0	69 117 120 122	54
40.0											54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2341.(FT) QNH ALT. : 2617.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3320.0(M) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

OAT DC	-10		-5		0		10		20	
.0	77544	4-4 152 152 154	78990	4-4 157 157 159	80105	4-4 160 160 162	80830	4-4 162 162 164	81539	4-4 164 164 165
15.0	76498	4-4 148 149 151	78305	4-4 154 154 156	79554	4-4 158 158 160	80289	4-4 159 159 161	81002	4-4 162 162 163
30.0	75325	4-4 144 146 149	77227	4-4 149 150 152	78932	4-4 155 155 157	79756	4-4 159 159 160	80496	4-4 160 160 161
45.1	74105	4-4 140 141 144	76030	4-4 146 147 150	77885	4-4 151 151 153	79022	4-4 155 155 157	79839	4-4 159 159 160
47.0	73452	4-4 141 143 146	75376	4-4 146 147 150	77189	4-4 152 152 154	78116	4-4 157 157 158	78813	4-8 156 156 158
48.0	73070	4-4 141 143 146	74983	4-4 147 147 149	76730	4-4 153 153 154	77546	4-4 156 156 158	78099	4-8 154 154 155
49.0	72689	4-4 141 143 146	74575	4-4 147 147 149	76189	4-4 153 153 155	76971	4-4 156 156 157	77384	4-8 153 153 154
51.0	71930	4-4 142 143 146	73748	4-4 148 148 150	75076	4-4 154 154 155	75816	4-4 155 155 156	75953	4-8 151 151 152
52.0	71550	4-4 143 143 145	73319	4-4 149 149 151	74507	4-4 153 153 155	75238	4-8 154 154 155	75238	4-8 149 149 151
54.0	70757	4-4 144 144 146	72219	4-4 150 150 152	73345	4-4 152 152 154	73807	4-8 149 149 151	73807	4-8 147 147 149
55.0	70319	4-4 144 144 146	71627	4-4 150 150 152	72738	4-4 151 151 153	73432	4-4 152 152 154	73481	4-8 148 148 150
57.0	69283	4-4 146 146 148	70410	4-4 149 149 150	71495	4-4 150 150 152	72171	4-4 152 152 153	72831	4-4 154 154 155
58.0	68690	4-4 145 145 147	69808	4-4 148 148 150	70877	4-4 149 149 151	71546	4-4 151 151 152	72201	4-4 154 154 155
59.0	68103	4-4 145 145 147	69210	4-4 147 147 149	70263	4-4 149 149 150	70924	4-4 151 151 152	71575	4-4 153 153 154
61.0	66943	4-4 144 144 146	68024	4-4 146 146 148	69044	4-4 148 148 149	69692	4-4 150 150 151	70333	4-4 152 152 153
62.0	66370	4-4 144 144 146	67436	4-4 146 146 147	68440	4-4 147 147 148	69080	4-4 150 150 151	69715	4-4 151 151 153
64.0	65236	4-4 143 143 145	66268	4-4 144 144 146	67239	4-4 147 147 148	67870	4-4 149 149 150	68485	4-4 150 150 151
65.0	64673	4-4 142 142 144	65687	4-4 144 144 145	66644	4-4 146 146 148	67270	4-4 149 149 150	67873	4-4 149 149 150
67.0	63554	4-4 141 141 143	64528	4-4 143 143 144	65463	4-4 146 146 147	66074	4-4 147 147 148	66649	4-4 148 148 149
68.0	62958	4-4 141 141 142	63916	4-4 142 142 143	64842	4-4 145 145 147	65445	4-4 147 147 148	66008	4-4 147 147 148
69.0	62368	4-4 140 140 141	63310	4-4 142 142 143	64226	4-4 145 145 146	64818	4-4 146 146 147	65371	4-4 147 147 148

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2341.(FT) QNH ALT. : 2617.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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PARIS ORLY (LFPO) - RWY 25 - CONF 1 + F

CONF1+F	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. = 3650.0(M) A.S.D.A. = 3650.0(M) T.O.D.A. = 3710.0(M) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 31 4-4 140 153 153	.0 47 4-4 143 154 154	.4 49 4-8 150 155 155	.4 49 8-8 152 153 153	.4 49 8-8 147 153 153	51 51
76.0	.1 44 4-4 137 152 152	.1 49 4-4 144 154 154	.6 50 4-8 151 154 154	.6 50 8-8 151 153 153	.6 50 8-8 145 153 153	52 53
74.0	2.0 45 4-4 137 152 152	.3 53 4-4 146 154 154	.5 53 4-8 151 151 151	.5 53 8-8 147 151 151	.5 53 8-8 141 151 151	54 54
72.0	.2 54 4-4 140 151 151	.5 57 4-4 148 155 155	.0 61 4-4 156 159 159	.5 62 4-4 160 161 161	.1 64 4-4 163 163 163	54 54
70.0	.3 58 4-4 142 151 151	.5 61 4-4 150 155 155	.5 64 4-4 157 159 159	.2 66 4-4 161 161 161	.2 67 4-4 162 162 162	54 54
68.0	.4 62 4-4 144 151 151	.5 65 4-4 152 155 155	.3 68 4-4 159 159 159	.2 69 4-4 160 160 160	.8 69 4-4 161 161 161	54 54
66.0	.0 67 4-4 147 151 151	.4 69 4-4 154 155 155	1.6 69 4-4 159 159 159	.0 69 4 147 147 147	.0 69 4 146 146 146	54 54
64.0	1.0 69 4-4 148 152 152	.0 69 4 143 143 143	.0 69 4 141 141 141	.0 69 138 140 140	.0 69 132 140 140	54 54
62.0	.0 69 136 137 137	.0 69 127 137 137	.0 69 127 137 137	.0 69 127 137 137	.0 69 127 137 137	54 54
60.0	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	54 54
58.0	.0 69 125 133 133	.0 69 125 133 133	.0 69 125 133 133	.0 69 125 133 133	.0 69 125 133 133	54 54
56.0	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	54 54
54.0	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	54 54
52.0	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	54 54
50.0	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	54 54

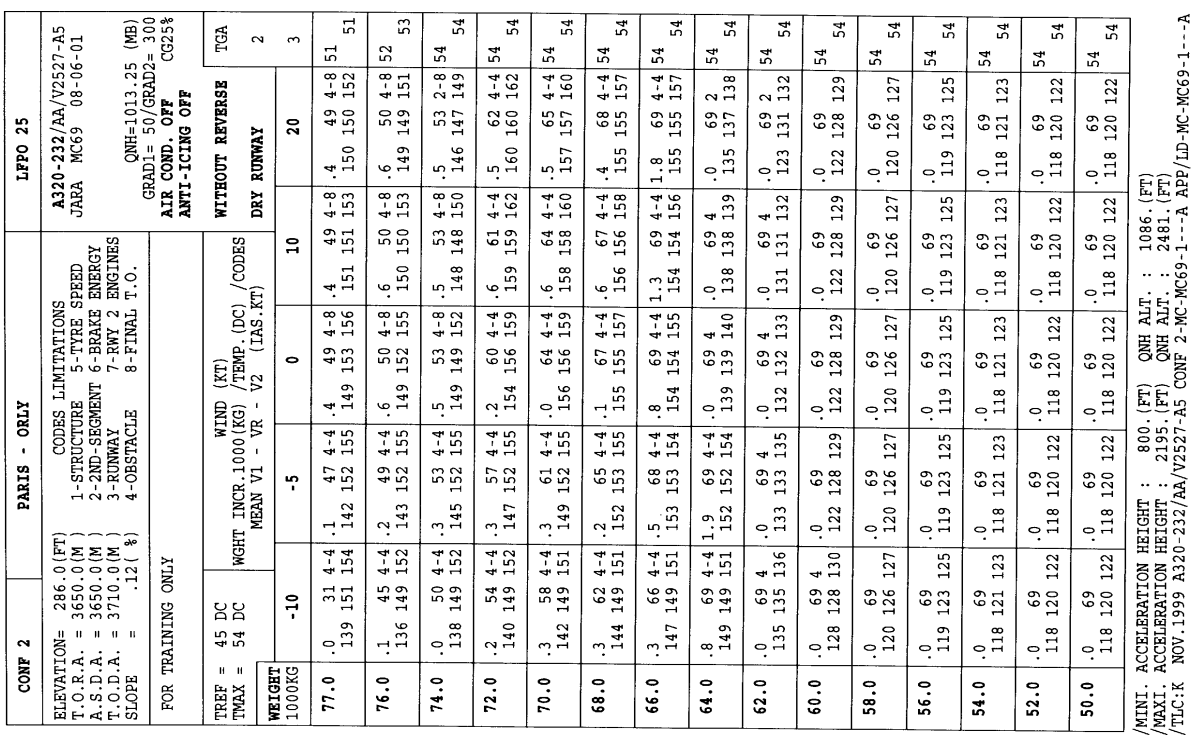
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2344.(FT) QNH ALT. : 2630.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. = 3650.0(M) A.S.D.A. = 3650.0(M) T.O.D.A. = 3710.0(M) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 45 DC TMAX = 54 DC	MTOW (KG) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
.0	79201 4-4 147 159 160	80862 4-4 153 163 163	82435 4-4 158 166 166	83461 4-4 161 168 168	84419 4-4 164 171 171
15.0	78079 4-4 143 156 156	79792 4-4 149 159 160	81466 4-4 154 163 163	82519 4-4 157 165 165	83523 4-4 160 167 167
30.0	77092 4-4 140 153 153	78819 4-4 145 156 157	80516 4-4 151 160 160	81622 4-4 154 162 162	82693 4-4 157 165 165
45.1	75982 4-4 137 152 152	77756 4-4 142 154 154	79479 4-4 148 157 157	80160 4-8 152 157 157	80160 8-8 152 156 156
47.0	75250 4-4 137 151 152	77011 4-4 143 154 154	78729 4-4 148 157 157	78792 4-8 153 155 155	78792 8-8 149 155 155
48.0	74823 4-4 138 151 151	76570 4-4 143 154 154	78078 4-8 149 157 157	78078 8-8 153 154 154	78078 8-8 148 154 154
49.0	74393 4-4 138 151 151	76128 4-4 144 154 154	77363 4-8 150 155 155	77363 8-8 152 153 153	77363 8-8 146 153 153
51.0	73512 4-4 139 151 151	75240 4-4 145 154 154	75933 4-8 152 153 153	75933 8-8 150 152 152	75933 8-8 144 152 152
52.0	73070 4-4 139 151 151	74797 4-4 145 154 154	75218 4-8 152 152 152	75218 8-8 148 151 151	75218 8-8 142 151 151
54.0	72178 4-4 140 151 151	73787 4-8 146 154 154	73787 4-8 150 150 150	73787 8-8 146 150 150	73787 8-8 140 150 150
55.0	71715 4-4 141 151 151	73424 4-4 147 155 155	73476 4-8 151 151 151	73476 8-8 149 150 150	73476 8-8 144 150 150
57.0	70763 4-4 142 151 151	72451 4-4 148 155 155	73475 4-8 154 155 155	73475 4-8 153 153 153	73475 4-8 152 152 152
58.0	70294 4-4 142 151 151	71952 4-4 148 155 155	73474 4-8 154 158 158	73474 4-8 155 155 155	73474 4-8 153 153 153
59.0	69829 4-4 143 151 151	71456 4-4 149 155 155	73047 4-4 154 159 159	73473 4-8 157 157 157	73473 4-8 155 155 155
61.0	68888 4-4 144 151 151	70471 4-4 150 155 155	72002 4-4 156 159 159	73005 4-4 160 161 161	73472 4-8 161 161 161
62.0	68409 4-4 144 151 151	69980 4-4 150 155 155	71487 4-4 156 159 159	72480 4-4 160 161 161	73402 4-4 164 164 164
64.0	67456 4-4 145 151 151	68974 4-4 151 155 155	70469 4-4 157 159 159	71397 4-4 161 162 162	72130 4-4 163 163 163
65.0	66984 4-4 146 151 151	68473 4-4 152 155 155	69933 4-4 158 159 159	70841 4-4 162 162 162	71491 4-4 163 163 163
67.0	66020 4-4 147 151 151	67473 4-4 153 155 155	68871 4-4 159 159 159	69577 4-4 161 161 161	70202 4-4 162 162 162
68.0	65514 4-4 148 151 151	66954 4-4 154 155 155	68275 4-4 159 159 159	68915 4-4 161 161 161	69522 4-4 162 162 162
69.0	65016 4-4 148 152 152	66420 4-4 154 155 155	67622 4-4 159 159 159	68248 4-4 160 160 160	68847 4-4 161 161 161

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2344.(FT) QNH ALT. : 2630.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

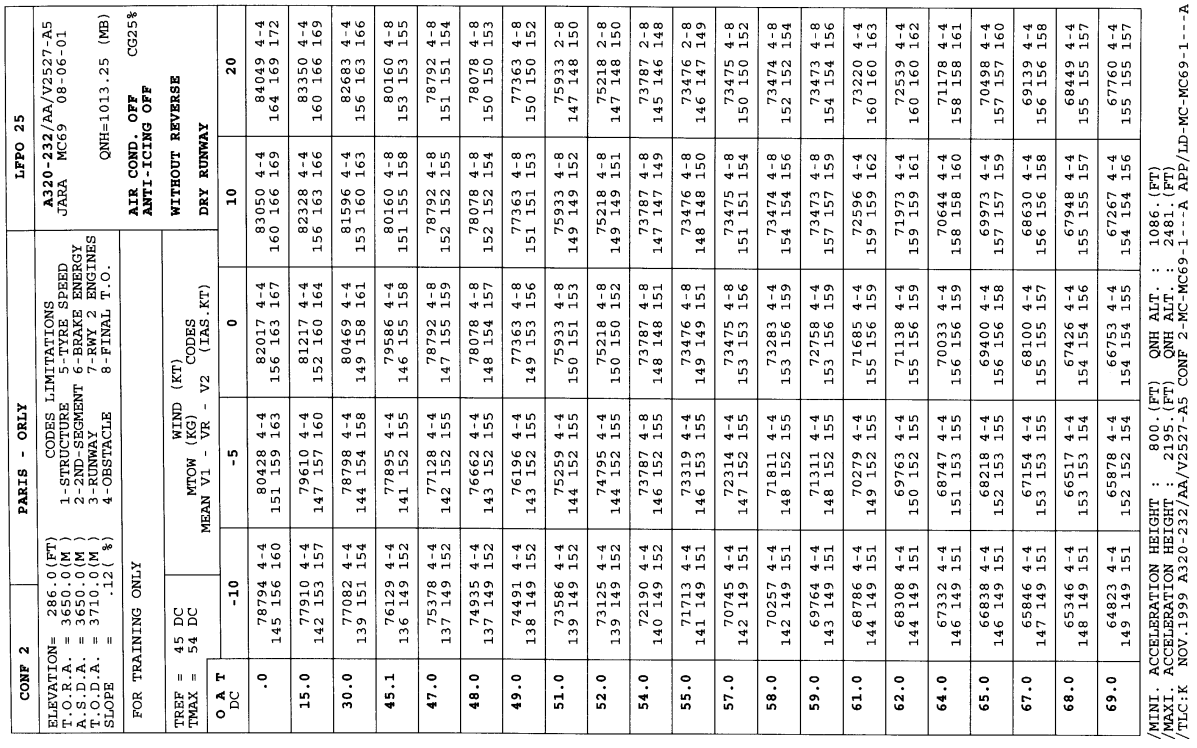
PARIS ORLY (LFPO) - RWY 25 - CONF 2



CONF 2	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. = 3650.0(M) A.S.D.A. = 3650.0(M) T.O.D.A. = 3710.0(M) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 45 DC TMAX = 54 DC	WIND (KT) WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA **DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 31 4-4 139 151 154	.1 47 4-4 142 152 155	.4 49 4-8 149 153 156	.4 49 4-8 151 151 153	.4 49 4-8 150 150 152	51 51
76.0	.1 45 4-4 136 149 152	.2 49 4-4 143 152 155	.6 50 4-8 149 152 155	.6 50 4-8 150 150 153	.6 50 4-8 149 149 151	52 53
74.0	.0 50 4-4 138 149 152	.3 53 4-4 145 152 155	.5 53 4-8 149 149 152	.5 53 4-8 148 148 150	.5 53 2-8 146 147 149	54 54
72.0	.2 54 4-4 140 149 152	.3 57 4-4 147 152 155	.2 60 4-4 154 156 159	.6 61 4-4 159 159 162	.5 62 4-4 160 160 162	54 54
70.0	.3 58 4-4 142 149 151	.3 61 4-4 149 152 155	.0 64 4-4 156 156 159	.6 64 4-4 158 158 160	.5 65 4-4 157 157 160	54 54
68.0	.3 62 4-4 144 149 151	.2 65 4-4 152 153 155	.1 67 4-4 155 155 157	.6 67 4-4 156 156 158	.4 68 4-4 155 155 157	54 54
66.0	.3 66 4-4 147 149 151	.5 68 4-4 153 153 154	.8 69 4-4 154 154 155	1.3 69 4-4 154 154 156	1.8 69 4-4 155 155 157	54 54
64.0	.8 69 4-4 149 149 151	1.9 69 4-4 152 152 154	.0 69 4 139 139 140	.0 69 4 138 138 139	.0 69 2 135 137 138	54 54
62.0	.0 69 4 135 135 136	.0 69 4 133 133 135	.0 69 4 132 132 133	.0 69 4 131 131 132	.0 69 2 123 131 132	54 54
60.0	.0 69 4 128 128 130	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	54 54
58.0	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	54 54
56.0	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	54 54
54.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54 54
52.0	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	54 54
50.0	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2195.(FT) QNH ALT. : 2481.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

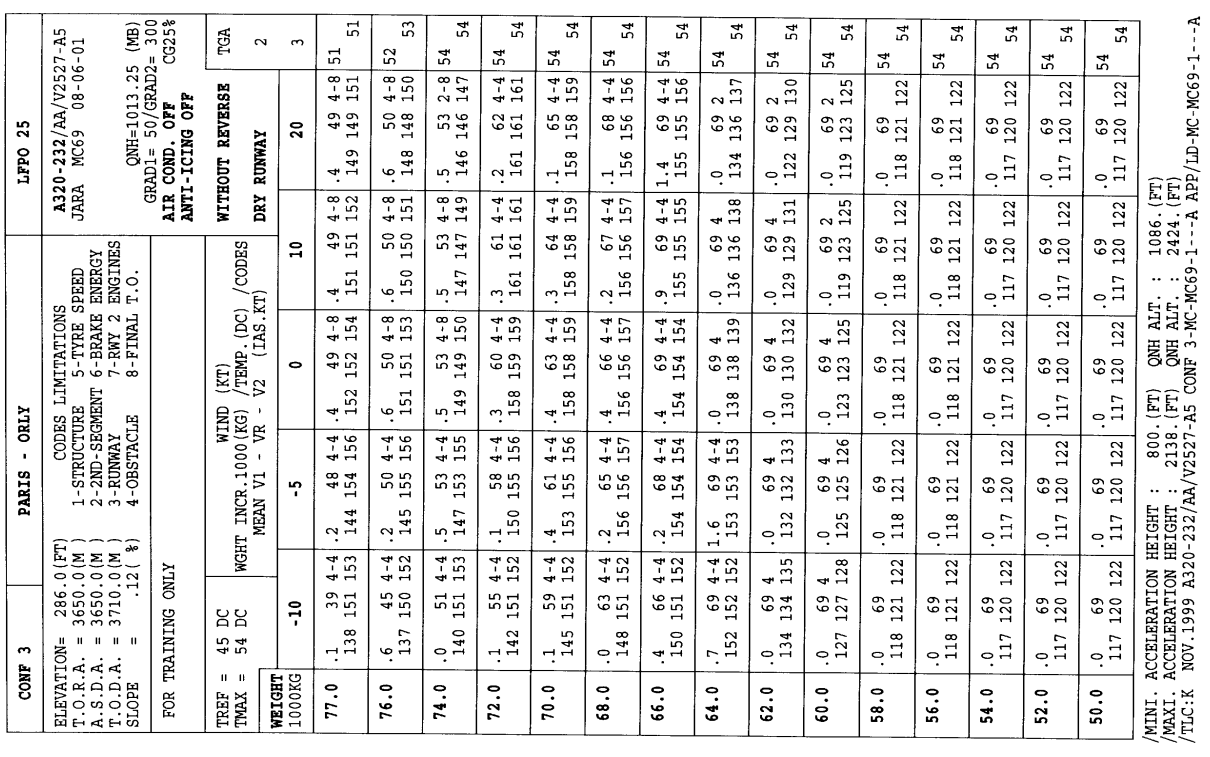


CONF 2	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. = 3650.0(M) A.S.D.A. = 3650.0(M) T.O.D.A. = 3710.0(M) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 45 DC TMAX = 54 DC	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

O A T DC	-10	-5	0	10	20
.0	78794 4-4 145 156 160	80428 4-4 151 159 163	82017 4-4 156 166 167	83050 4-4 160 166 169	84049 4-4 164 169 172
15.0	77910 4-4 142 153 157	79610 4-4 147 157 160	81217 4-4 152 160 164	82328 4-4 156 163 166	83350 4-4 160 166 169
30.0	77082 4-4 139 151 154	78798 4-4 144 154 158	80469 4-4 149 158 161	81596 4-4 153 160 163	82683 4-4 156 163 166
45.1	76129 4-4 136 149 152	77895 4-4 141 152 155	79586 4-4 146 155 158	80160 4-8 151 155 158	80160 4-8 153 153 155
47.0	75378 4-4 137 149 152	77128 4-4 142 152 155	78792 4-8 147 155 159	78792 4-8 152 152 155	78792 4-8 151 151 154
48.0	74935 4-4 137 149 152	76662 4-4 143 152 155	78078 4-8 148 154 157	78078 4-8 152 152 154	78078 4-8 150 150 153
49.0	74491 4-4 138 149 152	76196 4-4 143 152 155	77363 4-8 149 153 156	77363 4-8 151 151 153	77363 4-8 150 150 152
51.0	73586 4-4 139 149 152	75259 4-4 144 152 155	75933 4-8 150 151 153	75933 4-8 149 149 152	75933 2-8 147 148 150
52.0	73125 4-4 139 149 152	74795 4-4 144 152 155	75218 4-8 150 150 152	75218 4-8 149 149 151	75218 2-8 147 148 150
54.0	72190 4-4 140 149 152	73787 4-8 146 152 155	73787 4-8 148 148 151	73787 4-8 147 147 149	73787 2-8 145 146 148
55.0	71713 4-4 141 149 151	73319 4-4 146 153 155	73476 4-8 149 149 151	73476 4-8 148 148 150	73476 2-8 146 147 149
57.0	70745 4-4 142 149 151	72314 4-4 147 152 155	73475 4-8 153 153 156	73475 4-8 151 151 154	73475 4-8 150 150 152
58.0	70257 4-4 142 149 151	71811 4-4 148 152 155	73283 4-4 153 156 159	73474 4-8 154 154 156	73474 4-8 152 152 154
59.0	69764 4-4 143 149 151	71311 4-4 148 152 155	72758 4-4 153 156 159	73473 4-8 157 157 159	73473 4-8 154 154 156
61.0	68786 4-4 144 149 151	70279 4-4 149 152 155	71685 4-4 155 156 159	72596 4-4 159 159 162	73220 4-4 160 160 163
62.0	68308 4-4 144 149 151	69763 4-4 150 152 155	71138 4-4 155 156 159	71973 4-4 159 159 161	72539 4-4 160 160 162
64.0	67332 4-4 146 149 151	68747 4-4 151 153 155	70033 4-4 156 156 159	70644 4-4 158 158 160	71178 4-4 158 158 161
65.0	66838 4-4 146 149 151	68218 4-4 152 153 155	69400 4-4 156 156 158	69973 4-4 157 157 159	70498 4-4 157 157 160
67.0	65846 4-4 147 149 151	67154 4-4 153 153 155	68100 4-4 155 155 157	68630 4-4 156 156 158	69139 4-4 156 156 158
68.0	65346 4-4 148 149 151	66517 4-4 153 153 154	67426 4-4 154 154 156	67948 4-4 155 155 157	68449 4-4 155 155 157
69.0	64823 4-4 149 149 151	65878 4-4 152 152 154	66753 4-4 154 154 155	67267 4-4 154 154 156	67760 4-4 155 155 157

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2195.(FT) QNH ALT. : 2481.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

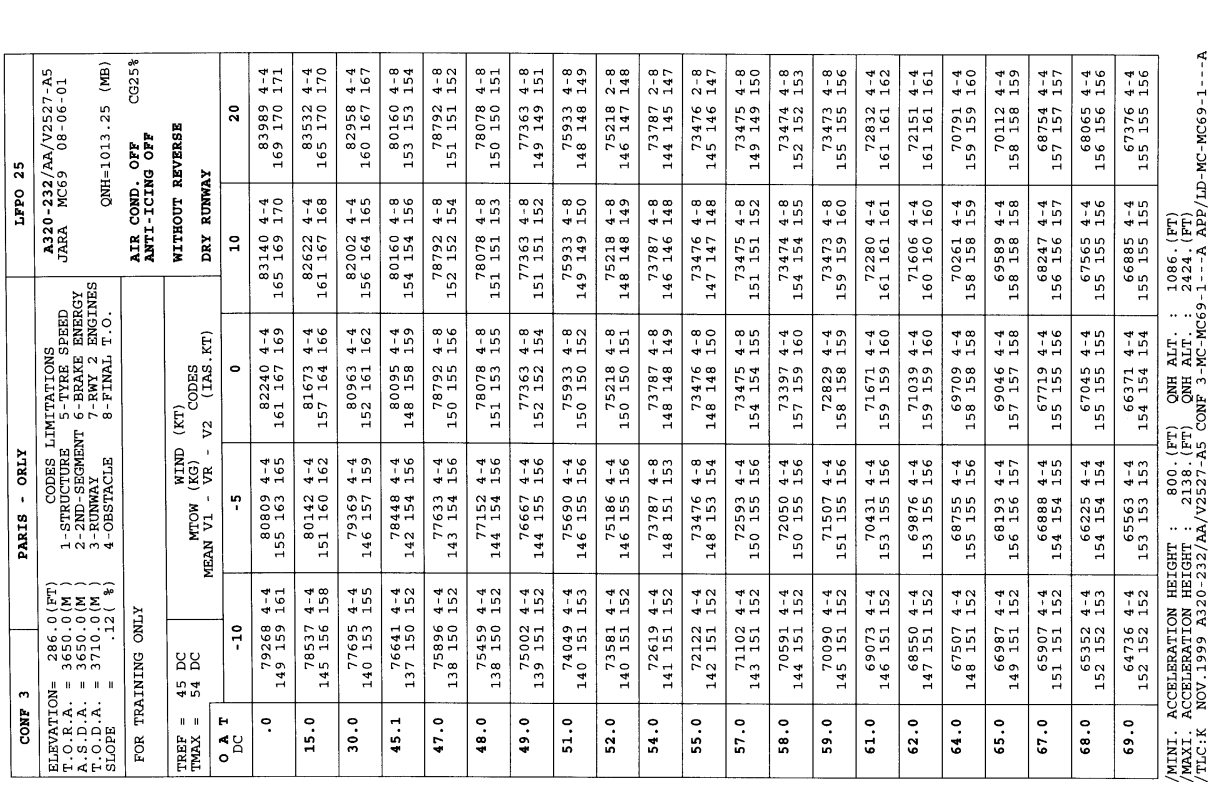
PARIS ORLY (LFPO) - RWY 25 - CONF 3



CONF 3	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. = 3650.0(M) A.S.D.A. = 3650.0(M) T.O.D.A. = 3710.0(M) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA DRY RUNWAY 2

WEIGHT 1000KG	-10	-5	0	10	20	3
77.0	.1 39 4-4 138 151 153	.2 48 4-4 144 154 156	.4 49 4-8 152 152 154	.4 49 4-8 151 151 152	.4 49 4-8 149 149 151	51 51
76.0	.6 45 4-4 137 150 152	.2 50 4-4 145 155 156	.6 50 4-8 151 151 153	.6 50 4-8 150 150 151	.6 50 4-8 148 148 150	52 53
74.0	.0 51 4-4 140 151 153	.5 53 4-4 147 153 155	.5 53 4-8 149 149 150	.5 53 4-8 147 147 149	.5 53 2-8 146 146 147	54 54
72.0	.1 55 4-4 142 151 152	.1 58 4-4 150 155 156	.3 60 4-4 158 159 159	.3 61 4-4 161 161 161	.2 62 4-4 161 161 161	54 54
70.0	.1 59 4-4 145 151 152	.4 61 4-4 153 155 156	.4 63 4-4 158 158 159	.3 64 4-4 158 158 159	.1 65 4-4 158 158 159	54 54
68.0	.0 63 4-4 148 151 152	.2 65 4-4 156 156 157	.4 66 4-4 156 156 157	.2 67 4-4 156 156 157	.1 68 4-4 156 156 156	54 54
66.0	.4 66 4-4 150 151 152	.2 68 4-4 154 154 154	.4 69 4-4 154 154 154	.9 69 4-4 155 155 155	1.4 69 4-4 155 155 156	54 54
64.0	.7 69 4-4 152 152 152	1.6 69 4-4 153 153 153	.0 69 4 138 138 139	.0 69 4 136 136 138	.0 69 2 134 136 137	54 54
62.0	.0 69 4 134 134 135	.0 69 4 132 132 133	.0 69 4 130 130 132	.0 69 4 129 129 131	.0 69 2 122 129 130	54 54
60.0	.0 69 4 127 127 128	.0 69 4 125 125 126	.0 69 4 123 123 125	.0 69 2 119 123 125	.0 69 2 119 123 125	54 54
58.0	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	54 54
56.0	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	54 54
54.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54 54
52.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54 54
50.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2138.(FT) QNH ALT. : 2424.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A



CONF 3	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. = 3650.0(M) A.S.D.A. = 3650.0(M) T.O.D.A. = 3710.0(M) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		
TREF = 45 DC TMAX = 54 DC	MTOW (KG) CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE DRY RUNWAY

OAT DC	-10	-5	0	10	20
.0	79268 4-4 149 159 161	80809 4-4 155 163 165	82240 4-4 161 167 169	83140 4-4 165 169 170	83989 4-4 169 170 171
15.0	78537 4-4 145 156 158	80142 4-4 151 160 162	81673 4-4 157 164 166	82622 4-4 161 167 168	83532 4-4 165 170 170
30.0	77695 4-4 140 153 155	79369 4-4 146 157 159	80963 4-4 152 161 162	82002 4-4 156 164 165	82958 4-4 160 167 167
45.1	76641 4-4 137 150 152	78448 4-4 142 154 156	80095 4-4 148 158 159	80160 4-8 154 154 156	80160 4-8 153 153 154
47.0	75896 4-4 138 150 152	77633 4-4 143 154 156	78792 4-8 150 155 156	78792 4-8 152 152 154	78792 4-8 151 151 152
48.0	75459 4-4 138 150 152	77152 4-4 144 154 156	78078 4-8 151 153 155	78078 4-8 151 151 153	78078 4-8 150 150 151
49.0	75002 4-4 139 151 152	76667 4-4 144 155 156	77363 4-8 152 152 154	77363 4-8 151 151 152	77363 4-8 149 149 151
51.0	74049 4-4 140 151 153	75690 4-4 146 155 156	75933 4-8 150 150 152	75933 4-8 149 149 150	75933 4-8 148 148 149
52.0	73581 4-4 140 151 152	75186 4-4 146 155 156	75218 4-8 150 150 151	75218 4-8 148 148 149	75218 2-8 146 147 148
54.0	72619 4-4 141 151 152	73787 4-8 148 151 153	73787 4-8 148 148 149	73787 4-8 146 146 148	73787 2-8 144 145 147
55.0	72122 4-4 142 151 152	73476 4-8 148 153 154	73476 4-8 148 148 150	73476 4-8 147 147 148	73476 2-8 145 146 147
57.0	71102 4-4 143 151 152	72593 4-4 150 155 156	73475 4-8 154 154 155	73475 4-8 151 151 152	73475 4-8 149 149 150
58.0	70591 4-4 144 151 152	72050 4-4 150 155 156	73397 4-4 157 159 160	73474 4-8 154 154 155	73474 4-8 152 152 153
59.0	70090 4-4 145 151 152	71507 4-4 151 155 156	72829 4-4 158 158 159	73473 4-8 159 159 160	73473 4-8 155 155 156
61.0	69073 4-4 146 151 152	70431 4-4 153 155 156	71671 4-4 159 159 160	72280 4-4 161 161 161	72832 4-4 161 161 162
62.0	68550 4-4 147 151 152	69876 4-4 153 155 156	71039 4-4 159 159 160	71606 4-4 160 160 160	72151 4-4 161 161 161
64.0	67507 4-4 148 151 152	68755 4-4 155 155 156	69709 4-4 158 158 158	70261 4-4 158 158 159	70791 4-4 159 159 160
65.0	66987 4-4 149 151 152	68193 4-4 156 156 157	69046 4-4 157 157 158	69589 4-4 158 158 158	70112 4-4 158 158 159
67.0	65907 4-4 151 151 152	66888 4-4 154 154 155	67719 4-4 155 155 156	68247 4-4 156 156 157	68754 4-4 157 157 157
68.0	65352 4-4 152 152 153	66225 4-4 154 154 154	67045 4-4 155 155 155	67565 4-4 155 155 156	68065 4-4 156 156 156
69.0	64736 4-4 152 152 152	65563 4-4 153 153 153	66371 4-4 154 154 154	66885 4-4 155 155 155	67376 4-4 155 155 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2138.(FT) QNH ALT. : 2424.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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PARIS ORLY (LFPO) - RWY 26 - CONF 1 + F

CONF1+F	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3640.0(M) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA 2 **DRY RUNWAY** 3

TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)																							
WEIGHT 1000KG	**-10**			**-5**			**0**			**10**			**20**											
77.0	.0 140	26 153	4-4 154	.3 142	45 153	4-4 154	.4 148	49 153	8-8 153	.4 148	49 153	8-8 153	.4 146	49 153	8-8 153	51								51
76.0	.0 137	40 152	4-4 152	.2 143	48 152	4-4 152	.6 148	50 152	8-8 152	.6 147	50 152	8-8 152	.6 145	50 152	8-8 152	53								53
74.0	1.6 136	45 151	4-4 152	.2 145	53 150	4-4 150	.5 146	53 150	8-8 150	.5 144	53 150	8-8 150	.5 142	53 150	8-8 150	54								54
72.0	.3 140	53 148	4-4 148	.4 147	57 149	4-4 149	.2 155	61 155	4-4 155	.4 158	62 158	4-4 158	.5 158	63 158	2-4 158	54								54
70.0	.2 142	58 146	4-4 146	.1 149	62 149	4-4 149	.4 156	64 156	4-4 156	.5 156	65 156	4-4 156	.6 157	66 157	2-4 157	54								54
68.0	.0 144	63 145	4-4 145	.1 152	66 152	4-4 152	.6 154	67 154	4-4 154	.6 154	68 154	4-4 154	.7 156	69 156	2-4 156	54								54
66.0	.2 146	67 146	4-4 146	.3 151	69 151	4-4 151	1.3 152	69 152	4-4 152	2.0 154	69 154	4-4 154	.0 140	69 146	2 146	54								54
64.0	1.2 148	69 148	4-4 148	.0 136	69 140	4-4 140	.0 133	69 140	4-4 140	.0 130	69 140	4-4 140	.0 129	69 140	4-4 140	54								54
62.0	.0 130	69 137	4-4 137	.0 127	69 137	4-4 137	.0 127	69 137	4-4 137	.0 127	69 137	4-4 137	.0 127	69 137	4-4 137	54								54
60.0	.0 126	69 135	4-4 135	.0 126	69 135	4-4 135	.0 126	69 135	4-4 135	.0 126	69 135	4-4 135	.0 126	69 135	4-4 135	54								54
58.0	.0 125	69 132	4-4 132	.0 125	69 132	4-4 132	.0 125	69 132	4-4 132	.0 125	69 132	4-4 132	.0 125	69 132	4-4 132	54								54
56.0	.0 123	69 130	4-4 130	.0 123	69 130	4-4 130	.0 123	69 130	4-4 130	.0 123	69 130	4-4 130	.0 123	69 130	4-4 130	54								54
54.0	.0 122	69 127	4-4 128	.0 122	69 127	4-4 128	.0 122	69 127	4-4 128	.0 122	69 127	4-4 128	.0 122	69 127	4-4 128	54								54
52.0	.0 121	69 125	4-4 125	.0 121	69 125	4-4 125	.0 121	69 125	4-4 125	.0 121	69 125	4-4 125	.0 121	69 125	4-4 125	54								54
50.0	.0 119	69 122	4-4 123	.0 119	69 122	4-4 123	.0 119	69 122	4-4 123	.0 119	69 122	4-4 123	.0 119	69 122	4-4 123	54								54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2330.(FT) QNH ALT. : 2616.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3640.0(M) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** **DRY RUNWAY**

TREF = 45 DC TMAX = 54 DC	MTOW (KG) CODES MEAN V1 - VR - V2 (IAS.KT)																							
O A T DC	**-10**			**-5**			**0**			**10**			**20**											
.0	78989 147	4-4 154	4-4 155	80783 152	4-4 157	4-4 157	82443 157	2-4 161	2-4 161	83471 160	2-4 164	2-4 164	84430 163	2-4 167	2-4 167									
15.0	77789 143	4-4 155	4-4 155	79563 148	4-4 155	4-4 155	81354 153	2-4 157	2-4 157	82418 156	2-4 161	2-4 161	83417 160	2-4 164	2-4 164									
30.0	76777 140	4-4 153	4-4 153	78448 145	4-4 154	4-4 154	80296 150	4-4 156	4-4 156	81477 154	2-4 158	2-4 158	82495 157	2-4 161	2-4 161									
45.1	75631 136	4-4 151	4-4 152	77332 142	4-4 153	4-4 154	79115 147	4-4 155	4-4 155	80160 150	8-8 156	8-8 156	80160 151	8-8 156	8-8 156									
47.0	74918 137	4-4 151	4-4 151	76601 143	4-4 153	4-4 153	78446 148	4-4 154	4-4 154	78792 149	8-8 155	8-8 155	78792 149	8-8 155	8-8 155									
48.0	74501 137	4-4 151	4-4 151	76162 143	4-4 152	4-4 152	78053 149	4-4 154	4-4 154	78078 149	8-8 154	8-8 154	78078 147	8-8 154	8-8 154									
49.0	74079 138	4-4 150	4-4 150	75772 144	4-4 151	4-4 151	77363 148	8-8 153	8-8 153	77363 148	8-8 153	8-8 153	77363 146	8-8 153	8-8 153									
51.0	73221 139	4-4 149	4-4 150	74976 144	4-4 151	4-4 151	75933 148	8-8 152	8-8 152	75933 146	8-8 152	8-8 152	75933 144	8-8 152	8-8 152									
52.0	72790 139	4-4 149	4-4 149	74573 145	4-4 150	4-4 150	75218 147	8-8 151	8-8 151	75218 145	8-8 151	8-8 151	75218 143	8-8 151	8-8 151									
54.0	71883 140	4-4 147	4-4 147	73754 146	4-4 150	4-4 150	73787 145	8-8 150	8-8 150	73787 143	8-8 150	8-8 150	73787 140	8-8 150	8-8 150									
55.0	71448 140	4-4 150	4-4 150	73321 146	4-4 149	4-4 149	73476 145	8-8 149	8-8 149	73476 143	8-8 149	8-8 149	73476 141	8-8 149	8-8 149									
57.0	70586 141	4-4 146	4-4 146	72438 147	4-4 149	4-4 149	73475 149	2-8 151	2-8 151	73475 148	2-8 151	2-8 151	73475 146	2-8 151	2-8 151									
58.0	70158 142	4-4 146	4-4 146	71999 147	4-4 149	4-4 149	73474 152	2-8 153	2-8 153	73474 151	2-8 153	2-8 153	73474 149	2-8 153	2-8 153									
59.0	69729 142	4-4 145	4-4 145	71561 148	4-4 148	4-4 148	73225 154	2-4 154	2-8 154	73473 153	2-8 154	2-8 154	73473 151	2-8 154	2-8 154									
61.0	68881 143	4-4 145	4-4 145	70632 149	4-4 149	4-4 149	72194 155	4-4 155	4-4 155	73005 158	4-4 158	4-4 158	73472 157	2-8 158	2-8 158									
62.0	68460 144	4-4 145	4-4 145	70147 149	4-4 149	4-4 149	71621 155	4-4 155	4-4 155	72385 158	4-4 158	4-4 158	73093 159	2-4 159	2-4 159									
64.0	67615 145	4-4 145	4-4 145	69197 150	4-4 150	4-4 150	70446 156	4-4 156	4-4 156	71149 157	4-4 157	4-4 157	71836 158	2-4 158	2-4 158									
65.0	67150 145	4-4 145	4-4 145	68684 151	4-4 151	4-4 151	69838 155	4-4 155	4-4 155	70533 156	4-4 156	4-4 156	71212 158	2-4 158	2-4 158									
67.0	66239 146	4-4 146	4-4 146	67574 152	4-4 152	4-4 152	68624 154	4-4 154	4-4 154	69302 155	4-4 155	4-4 155	69968 157	2-4 157	2-4 157									
68.0	65752 147	4-4 147	4-4 147	66945 152	4-4 152	4-4 152	67978 153	4-4 153	4-4 153	68648 154	4-4 154	4-4 154	69309 157	2-4 157	2-4 157									
69.0	65212 148	4-4 148	4-4 148	66315 151	4-4 151	4-4 151	67336 152	4-4 152	4-4 152	67998 154	4-4 154	4-4 154	68656 156	2-4 156	2-4 156									

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2330.(FT) QNH ALT. : 2616.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS ORLY (LFPO) - RWY 26 - CONF 2

CONF 2	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3640.0(M) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA 2 **DRY RUNWAY** 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 26 4-4 139 148 151	.3 46 4-4 141 148 151	.4 49 2-8 146 150 152	.4 49 2-8 145 150 152	.4 49 2-8 143 150 152	51 51
76.0	.0 41 4-4 137 145 148	.0 49 4-4 143 148 151	.6 50 2-8 146 149 151	.6 50 2-8 144 149 151	.6 50 2-8 141 149 151	52 53
74.0	1.7 45 4-4 136 145 148	.3 53 4-4 144 147 149	.5 53 2-8 143 147 149	.5 53 2-8 141 147 149	.5 53 2-8 138 147 149	54 54
72.0	.1 54 4-4 140 144 147	.0 58 4-4 147 147 149	.4 60 4-4 153 153 155	.5 61 4-4 154 154 156	.5 62 2-4 155 155 158	54 54
70.0	.3 58 4-4 142 143 145	.5 61 4-4 148 148 150	.5 63 4-4 152 152 154	.6 64 4-4 152 152 154	.6 65 2-4 154 154 156	54 54
68.0	.0 63 4-4 144 144 146	.2 65 4-4 149 149 151	.0 67 4-4 149 149 151	.1 68 2-4 150 150 152	.0 69 2-4 152 152 154	54 54
66.0	.5 66 4-4 146 146 148	.3 68 4-4 148 148 149	.7 69 4-4 148 148 150	1.4 69 2-4 150 150 151	.0 69 2 139 144 145	54 54
64.0	.7 69 4-4 146 146 147	1.7 69 4-4 147 147 148	.0 69 2 131 137 138	.0 69 2 128 137 138	.0 69 2 127 137 138	54 54
62.0	.0 69 2 128 131 132	.0 69 2 124 131 132	.0 69 2 123 131 132	.0 69 2 123 131 132	.0 69 2 123 131 132	54 54
60.0	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	54 54
58.0	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	54 54
56.0	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	54 54
54.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54 54
52.0	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	54 54
50.0	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2180.(FT) QNH ALT. : 2466.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3640.0(M) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 45 DC TMAX = 54 DC	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

O A T DC	-10	-5	0	10	20
.0	78735 4-4 145 150 153	80552 2-4 155 158 161	82260 2-4 159 162 165	83323 2-4 163 165 168	84274 2-4 166 168 170
15.0	77707 4-4 142 149 152	79545 4-4 146 151 154	81305 2-4 151 155 158	82427 2-4 155 159 162	83449 2-4 159 162 165
30.0	76754 4-4 139 147 150	78613 4-4 144 150 153	80410 2-4 148 153 156	81612 2-4 152 156 159	82676 2-4 156 160 163
45.1	75739 4-4 136 145 148	77597 4-4 141 148 151	79424 4-4 146 151 154	80160 2-8 148 152 155	80160 2-8 147 152 155
47.0	75023 4-4 137 145 148	76882 4-4 142 148 151	78709 2-4 146 151 153	78792 2-8 147 151 153	78792 2-8 145 151 153
48.0	74604 4-4 137 145 147	76459 4-4 142 148 151	78078 2-8 146 150 153	78078 2-8 146 150 153	78078 2-8 143 150 153
49.0	74185 4-4 137 145 147	76036 4-4 143 148 151	77363 2-8 146 150 152	77363 2-8 145 150 152	77363 2-8 143 150 152
51.0	73346 4-4 138 145 147	75188 4-4 143 147 150	75933 2-8 145 148 150	75933 2-8 143 148 150	75933 2-8 140 148 150
52.0	72927 4-4 139 145 147	74759 4-4 144 147 149	75218 2-8 144 147 150	75218 2-8 141 147 150	75218 2-8 139 147 150
54.0	72074 4-4 140 144 147	73787 2-8 144 146 148	73787 2-8 142 146 148	73787 2-8 139 146 148	73787 2-8 137 146 148
55.0	71634 4-4 140 144 146	73425 2-4 145 146 148	73476 2-8 143 146 149	73476 2-8 140 146 149	73476 2-8 138 146 149
57.0	70738 4-4 141 143 145	72504 2-4 146 146 148	73475 2-8 148 149 151	73475 2-8 146 149 151	73475 2-8 144 149 151
58.0	70296 4-4 142 143 145	72044 4-4 147 147 149	73474 8-4 151 151 153	73474 8-8 149 151 153	73474 8-8 147 151 153
59.0	69851 4-4 142 143 145	71578 4-4 147 147 149	72998 4-4 153 153 155	73473 2-8 152 153 155	73473 2-8 150 153 155
61.0	68970 4-4 143 143 145	70533 4-4 148 148 150	71760 4-4 153 153 155	72504 4-4 154 154 156	73195 2-4 156 156 158
62.0	68525 4-4 144 144 145	69976 4-4 149 149 151	71134 4-4 152 152 155	71869 4-4 153 153 155	72547 2-4 155 155 158
64.0	67540 4-4 145 145 146	68782 4-4 150 150 152	69891 4-4 151 151 153	70605 4-4 152 152 154	71261 2-4 155 155 157
65.0	67036 4-4 145 145 147	68179 4-4 149 149 151	69272 4-4 151 151 153	69976 4-4 151 151 153	70623 2-4 154 154 156
67.0	65899 4-4 147 147 148	66977 4-4 148 148 150	68036 4-4 149 149 151	68712 2-4 151 151 152	69349 2-4 153 153 155
68.0	65279 4-4 146 146 148	66341 4-4 148 148 149	67385 4-4 149 149 150	68052 2-4 150 150 152	68683 2-4 153 153 155
69.0	64663 4-4 146 146 147	65709 4-4 147 147 148	66738 4-4 148 148 150	67392 2-4 150 150 151	68011 2-4 152 152 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2180.(FT) QNH ALT. : 2466.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS ORLY (LFPO) - RWY 26 - CONF 3

CONF 3	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3640.0(M) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY	WIND (KT) /TEMP.(DC) /CODES WGHT INCR.1000(KG) MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA DRY RUNWAY 2 3

TREF = 45 DC TMAX = 54 DC	-10	-5	0	10	20		
WEIGHT 1000KG	-10	-5	0	10	20		
77.0	.0 36 4-4 139 146 149	.1 48 4-4 143 149 151	.4 49 2-8 145 149 151	.4 49 2-8 143 149 151	.4 49 2-8 141 149 151	51	51
76.0	.3 45 4-4 137 144 146	.3 50 4-4 144 149 150	.6 50 2-8 144 148 150	.6 50 2-8 142 148 150	.6 50 2-8 139 148 150	52	53
74.0	.4 50 4-4 139 146 148	.5 53 2-8 144 146 147	.5 53 2-8 141 146 147	.5 53 2-8 139 146 147	.5 53 2-8 136 146 147	54	54
72.0	.3 55 4-4 141 145 146	.2 59 4-4 149 149 151	.1 61 2-4 152 152 153	.1 62 2-4 155 155 156	.6 62 2-4 158 158 159	54	54
70.0	.1 60 4-4 144 144 145	.4 62 4-4 149 149 150	.2 64 2-4 151 151 152	.2 65 2-4 154 154 155	.6 65 2-4 157 157 158	54	54
68.0	.1 64 4-4 147 147 148	.5 65 4-4 147 147 148	.3 67 4-4 150 150 151	.2 68 2-4 152 152 153	.6 68 2-4 156 156 156	54	54
66.0	.3 67 4-4 145 145 146	.0 69 4-4 145 145 146	1.0 69 2-4 149 149 149	1.5 69 2-4 152 152 153	1.9 69 2-4 155 155 155	54	54
64.0	1.0 69 4-4 143 143 144	.0 69 2 132 135 137	.0 69 2 129 135 137	.0 69 2 126 135 137	.0 69 2 125 135 137	54	54
62.0	.0 69 2 126 129 130	.0 69 2 122 129 130	.0 69 2 122 129 130	.0 69 2 122 129 130	.0 69 2 122 129 130	54	54
60.0	.0 69 2 119 123 125	.0 69 2 119 123 125	.0 69 2 119 123 125	.0 69 2 119 123 125	.0 69 2 119 123 125	54	54
58.0	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	54	54
56.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54	54
54.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54	54
52.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54	54
50.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2124.(FT) QNH ALT. : 2410.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. = 3320.0(M) A.S.D.A. = 3320.0(M) T.O.D.A. = 3640.0(M) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 08-06-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY	MTOW (KG) CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE DRY RUNWAY

TREF = 45 DC TMAX = 54 DC	-5	0	10	20
O A T DC	-10	-5	0	10	20
.0	79584 4-4 148 152 154	81417 2-4 153 156 157	82940 2-4 159 162 163	83794 2-4 163 165 166	84505 2-4 167 169 170
15.0	78577 4-4 144 151 153	80456 4-4 150 153 155	82176 2-4 155 159 160	83114 2-4 159 163 163	83921 2-4 163 166 167
30.0	77461 4-4 140 148 150	79383 4-4 146 152 153	81220 2-4 151 155 157	82309 2-4 155 159 160	83209 2-4 159 163 164
45.1	76306 4-4 137 144 146	78224 4-4 142 149 151	80129 2-4 147 153 154	80160 2-8 147 152 154	80160 2-8 145 152 154
47.0	75587 4-4 137 144 146	77521 4-4 143 149 151	78792 2-8 146 150 152	78792 2-8 145 150 152	78792 2-8 142 150 152
48.0	75179 4-4 138 145 148	77108 4-4 143 149 151	78078 2-8 146 150 151	78078 2-8 144 150 151	78078 2-8 142 150 151
49.0	74770 4-4 138 145 148	76697 4-4 144 149 151	77363 2-8 145 149 151	77363 2-8 143 149 151	77363 2-8 140 149 151
51.0	73950 4-4 139 146 148	75866 4-4 145 148 150	75933 2-8 143 147 149	75933 2-8 140 147 149	75933 2-8 138 147 149
52.0	73541 4-4 139 146 148	75218 2-8 145 147 148	75218 2-8 142 147 148	75218 2-8 140 147 148	75218 2-8 137 147 148
54.0	72711 4-4 140 145 147	73787 2-8 143 145 147	73787 2-8 140 145 147	73787 2-8 137 145 147	73787 2-8 135 145 147
55.0	72281 4-4 141 145 146	73476 2-8 144 145 147	73476 2-8 140 145 147	73476 2-8 138 145 147	73476 2-8 135 145 147
57.0	71410 4-4 142 144 146	73239 2-4 148 148 150	73475 2-8 146 149 150	73475 2-8 144 149 150	73475 2-8 142 149 150
58.0	70976 4-4 143 143 145	72792 4-4 149 149 150	73474 2-8 150 151 152	73474 2-8 148 151 152	73474 2-8 146 151 152
59.0	70541 4-4 143 143 145	72220 4-4 149 149 151	73419 2-4 153 153 154	73473 2-8 152 154 155	73473 2-8 150 154 155
61.0	69672 4-4 144 144 146	71028 4-4 150 150 151	72132 2-4 152 152 153	72782 2-4 156 156 157	73314 2-4 159 159 160
62.0	69193 4-4 145 145 147	70403 4-4 149 149 150	71493 2-4 152 152 153	72125 2-4 155 155 156	72641 2-4 158 158 159
64.0	68068 4-4 147 147 148	69161 4-4 148 148 149	70224 2-4 151 151 152	70823 2-4 154 154 155	71297 2-4 157 157 158
65.0	67465 4-4 146 146 147	68542 4-4 147 147 148	69595 2-4 151 151 152	70173 2-4 154 154 155	70635 2-4 157 157 158
67.0	66262 4-4 145 145 146	67308 4-4 146 146 147	68340 4-4 150 150 151	68876 2-4 153 153 154	69299 2-4 156 156 157
68.0	65629 4-4 144 144 145	66660 4-4 145 145 147	67683 4-4 149 149 150	68215 2-4 152 152 153	68621 2-4 156 156 156
69.0	64999 4-4 143 143 144	66017 4-4 145 145 146	67030 2-4 149 149 149	67539 2-4 152 152 153	67943 2-4 155 155 155

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2124.(FT) QNH ALT. : 2410.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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TOULOUSE (LFBO) - RWY 15R - CONF 1 + F

CONF1+F	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =11680.0(FT) T.O.D.A. =11483.0(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING PURPOSE ONLY		WITHOUT REVERSE TGA
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.1 22 4-4 142 154 155	.1 44 4-4 143 153 154	.5 48 4-4 149 153 153	.7 48 8-8 150 154 154	.7 48 8-8 148 154 154	50 50
76.0	.1 36 4-4 139 152 153	.1 47 4-4 143 152 152	.2 50 8-8 149 152 152	.2 50 8-8 148 152 152	.2 50 8-8 146 152 152	51 52
74.0	1.5 44 4-4 137 151 152	.1 52 4-4 145 150 150	.1 56 2-4 153 153 153	.1 57 2-8 154 155 155	.1 59 2-8 158 158 158	54 54
72.0	.3 52 4-4 140 150 150	.3 56 4-4 147 149 149	.1 60 4-4 155 155 155	.3 61 4-4 158 158 158	.4 62 4-4 159 159 159	54 54
70.0	.1 57 4-4 142 146 146	.1 61 4-4 150 150 150	.4 63 4-4 156 156 156	.4 64 4-4 156 156 156	.5 65 4-4 158 158 158	54 54
68.0	.4 61 4-4 144 145 145	.1 65 4-4 152 152 152	.5 66 4-4 154 154 154	.6 67 4-4 155 155 155	.6 68 4-4 157 157 157	54 54
66.0	.1 66 4-4 146 146 146	.3 68 4-4 151 151 151	.6 69 4-4 153 153 153	1.3 69 4-4 155 155 155	2.0 69 4-4 156 156 156	54 54
64.0	.6 69 4-4 148 148 148	1.6 69 4-4 151 151 151	.0 69 2 135 140 140	.0 69 2 133 140 140	.0 69 2 130 140 140	54 54
62.0	.0 69 133 137 137	.0 69 129 137 137	.0 69 127 137 137	.0 69 127 137 137	.0 69 127 137 137	54 54
60.0	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	54 54
58.0	.0 69 125 133 133	.0 69 125 133 133	.0 69 125 133 133	.0 69 125 133 133	.0 69 125 133 133	54 54
56.0	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	54 54
54.0	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	54 54
52.0	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	54 54
50.0	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	54 54
45.0	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	54 54
40.0	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2316.(FT) QNH ALT. : 2802.(FT)
TLC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =11680.0(FT) T.O.D.A. =11483.0(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 10-DEC-98 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING PURPOSE ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-1.0	78771 4-4 148 155 155	80546 4-4 153 157 157	82232 2-4 158 160 160	83282 2-4 161 164 164	84257 2-4 164 167 167
14.0	77592 4-4 143 156 157	79349 4-4 149 155 156	81132 2-4 154 158 158	82218 2-4 157 160 160	83240 2-4 160 164 164
29.0	76586 4-4 140 153 153	78265 4-4 146 154 154	80095 4-4 151 156 156	81280 2-4 154 158 158	82320 2-4 157 161 161
44.4	75441 4-4 137 151 152	77108 4-4 142 153 154	78897 4-4 148 155 155	80117 4-4 151 156 156	80188 8-8 152 156 156
46.0	74883 4-4 137 151 151	76536 4-4 143 154 154	78370 4-4 148 154 154	79082 8-8 150 155 155	79082 8-8 150 155 155
47.0	74453 4-4 138 151 151	76094 4-4 143 152 152	77969 4-4 149 154 154	78371 8-8 150 154 154	78371 8-8 149 154 154
49.0	73578 4-4 138 150 150	75290 4-4 144 151 151	76948 8-8 149 153 153	76948 8-8 149 153 153	76948 8-8 147 153 153
50.0	73142 4-4 139 150 150	74884 4-4 145 151 151	76236 8-8 149 152 152	76236 8-8 147 152 152	76236 8-8 145 152 152
52.0	72273 4-4 140 150 150	74065 4-4 145 150 150	74813 8-8 147 151 151	74813 8-8 145 151 151	74813 8-8 143 151 151
53.0	71833 4-4 140 150 150	73648 4-4 146 150 150	74100 8-8 146 150 150	74100 8-8 144 150 150	74100 8-8 142 150 150
55.0	70925 4-4 141 151 151	72778 4-4 147 150 150	74099 2-8 151 152 152	74099 2-8 149 152 152	74099 2-8 147 152 152
56.0	70509 4-4 141 146 146	72335 4-4 147 149 149	74086 2-4 153 153 153	74098 2-8 151 153 153	74098 2-8 149 153 153
57.0	70074 4-4 142 146 146	71892 4-4 148 149 149	73616 4-4 153 153 153	74097 2-8 154 155 155	74097 2-8 152 155 155
59.0	69210 4-4 143 146 146	70987 4-4 149 149 149	72623 4-4 154 154 154	73516 4-4 158 158 158	74096 2-8 158 158 158
60.0	68784 4-4 143 145 145	70518 4-4 149 149 149	72094 4-4 155 155 155	72915 4-4 158 158 158	73623 4-4 159 159 159
62.0	67934 4-4 144 145 145	69582 4-4 150 150 150	70965 4-4 156 156 156	71674 4-4 157 157 157	72366 4-4 159 159 159
63.0	67502 4-4 145 145 145	69099 4-4 151 151 151	70361 4-4 156 156 156	71057 4-4 157 157 157	71742 4-4 158 158 158
65.0	66606 4-4 146 146 146	68051 4-4 152 152 152	69147 4-4 154 154 154	69826 4-4 156 156 156	70501 4-4 158 158 158
66.0	66143 4-4 146 146 146	67503 4-4 152 152 152	68541 4-4 154 154 154	69215 4-4 156 156 156	69885 4-4 157 157 157
68.0	65151 4-4 148 148 148	66267 4-4 151 151 151	67280 4-4 153 153 153	67943 4-4 155 155 155	68603 4-4 157 157 157
69.0	64598 4-4 148 148 148	65641 4-4 151 151 151	66646 4-4 153 153 153	67303 4-4 155 155 155	67957 4-4 156 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2316.(FT) QNH ALT. : 2802.(FT)
TLC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

TOULOUSE (LFBO) - RWY 15R - CONF 2

CONF 2	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =11680.0(FT) T.O.D.A. =11483.0(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING PURPOSE ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY TGA

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 21 4-4 141 148 152	.1 45 4-4 142 149 151	.5 48 4-4 147 150 152	.7 48 2-8 147 150 153	.7 48 2-8 145 150 153	50 50
76.0	.0 36 4-4 138 147 149	.3 47 4-4 143 148 151	.2 50 2-8 147 149 151	.2 50 2-8 145 149 151	.2 50 2-8 143 149 151	51 52
74.0	1.5 44 4-4 137 145 148	.2 52 4-4 145 147 149	.1 55 2-8 149 150 152	.1 57 2-8 153 153 155	.1 57 2-8 151 153 155	54 54
72.0	.4 52 4-4 140 145 147	.4 56 4-4 147 147 149	.2 59 4-4 154 154 156	.4 60 4-4 154 154 156	.4 61 2-4 154 154 157	54 54
70.0	.2 57 4-4 142 143 145	.4 60 4-4 149 149 151	.4 62 4-4 152 152 154	.5 63 4-4 152 152 154	.5 64 2-4 153 153 155	54 54
68.0	.4 61 4-4 144 144 145	.1 64 4-4 149 149 151	.5 65 4-4 150 150 152	.6 66 4-4 150 150 152	.6 67 2-4 152 152 154	54 54
66.0	.4 65 4-4 146 146 148	.2 67 4-4 148 148 149	.6 68 4-4 148 148 150	.6 69 4-4 149 149 150	1.3 69 2-4 151 151 152	54 54
64.0	.6 68 4-4 146 146 147	1.0 69 4-4 146 146 148	2.0 69 4-4 148 148 149	.0 69 2 132 138 139	.0 69 2 129 138 139	54 54
62.0	2.0 69 4-4 145 145 146	.0 69 2 130 132 133	.0 69 2 123 132 133	.0 69 2 123 132 133	.0 69 2 123 132 133	54 54
60.0	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	54 54
58.0	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	54 54
56.0	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	54 54
54.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54 54
52.0	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	54 54
50.0	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	54 54
45.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54 54
40.0						54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2202.(FT) QNH ALT. : 2688.(FT)
TLC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =11680.0(FT) T.O.D.A. =11483.0(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 10-DEC-98 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING PURPOSE ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-1.0	78431 4-4 145 151 154	80244 4-4 150 154 157	81985 2-4 155 157 161	83090 2-4 159 161 164	84060 2-4 164 165 168
14.0	77442 4-4 142 149 152	79252 4-4 147 151 154	81022 4-4 152 155 158	82186 2-4 156 158 161	83239 2-4 159 162 165
29.0	76508 4-4 139 148 151	78354 4-4 144 150 153	80137 4-4 149 152 155	81367 2-4 153 156 159	82465 2-4 156 159 162
44.4	75457 4-4 137 145 148	77314 4-4 142 149 151	79132 4-4 146 151 154	80188 2-8 149 153 155	80188 2-8 149 153 155
46.0	74910 4-4 137 145 148	76766 4-4 142 149 151	78577 4-4 147 151 153	79082 2-8 148 152 154	79082 2-8 147 152 154
47.0	74487 4-4 137 145 148	76340 4-4 143 148 151	78138 4-4 147 150 153	78371 2-8 148 151 153	78371 2-8 146 151 153
49.0	73645 4-4 138 145 148	75478 4-4 143 148 150	76948 2-8 147 150 152	76948 2-8 146 150 152	76948 2-8 144 150 152
50.0	73226 4-4 139 145 148	75046 4-4 144 147 150	76236 2-8 147 149 151	76236 2-8 145 149 151	76236 2-8 142 149 151
52.0	72376 4-4 140 145 147	74168 4-4 145 147 149	74813 2-8 145 147 150	74813 2-8 142 147 150	74813 2-8 140 147 150
53.0	71946 4-4 140 144 147	73724 4-4 145 147 149	74100 2-8 144 147 149	74100 2-8 142 147 149	74100 2-8 139 147 149
55.0	71058 4-4 141 144 146	72821 4-4 146 147 149	74099 2-8 149 150 152	74099 2-8 147 150 152	74099 2-8 145 150 152
56.0	70608 4-4 141 143 145	72363 4-4 147 147 149	73990 4-4 152 152 154	74098 2-8 150 151 153	74098 2-8 148 151 153
57.0	70161 4-4 142 143 145	71914 4-4 147 147 149	73445 4-4 152 152 155	74097 2-8 152 153 155	74097 2-8 151 153 155
59.0	69273 4-4 143 143 145	70924 4-4 148 148 150	72246 4-4 154 154 156	72991 4-4 154 154 157	73721 2-4 155 155 158
60.0	68832 4-4 143 143 145	70409 4-4 149 149 151	71621 4-4 153 153 155	72355 4-4 154 154 156	73071 2-4 155 155 157
62.0	67912 4-4 144 144 146	69259 4-4 150 150 152	70376 4-4 152 152 154	71092 4-4 153 153 155	71784 2-4 154 154 156
63.0	67427 4-4 145 145 147	68663 4-4 150 150 152	69757 4-4 151 151 153	70462 4-4 152 152 154	71147 2-4 154 154 156
65.0	66360 4-4 146 146 148	67462 4-4 149 149 150	68525 4-4 150 150 152	69209 4-4 151 151 152	69876 2-4 153 153 155
66.0	65798 4-4 147 147 149	66865 4-4 148 148 150	67912 4-4 149 149 151	68584 4-4 150 150 152	69245 2-4 152 152 154
68.0	64589 4-4 146 146 147	65624 4-4 147 147 148	66640 4-4 148 148 150	67293 4-4 149 149 151	67943 2-4 151 151 153
69.0	63980 4-4 145 145 146	64998 4-4 146 146 148	65999 4-4 148 148 149	66644 4-4 149 149 150	67286 2-4 151 151 152

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2202.(FT) QNH ALT. : 2688.(FT)
TLC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

TOULOUSE (LFBO) - RWY 15R - CONF 3

CONF 3	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0 (FT) T.O.R.A. =11483.0 (FT) A.S.D.A. =11680.0 (FT) T.O.D.A. =11483.0 (FT) SLOPE = .10 (%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING PURPOSE ONLY		
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA **DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.1 31 4-4 140 148 151	.4 46 4-4 143 150 152	.7 48 2-8 147 150 151	.7 48 2-8 145 150 151	.7 48 2-8 50 143 150 151	50
76.0	.0 44 4-4 137 146 149	.1 49 4-4 145 149 150	.2 50 2-8 145 148 150	.2 50 2-8 143 148 150	.2 50 2-8 51 141 148 150	52
74.0	.2 49 4-4 139 146 148	.1 53 4-8 146 146 148	.1 56 2-8 151 151 152	.1 57 2-8 152 154 154	.0 58 2-8 54 154 156 157	54
72.0	.1 54 4-4 141 145 146	.1 58 4-4 150 150 151	.6 59 4-4 152 152 153	.0 61 2-4 154 154 155	.6 61 2-4 54 157 157 158	54
70.0	.4 58 4-4 143 144 146	.2 61 4-4 149 149 150	.1 63 4-4 151 151 152	.1 64 2-4 153 153 153	.6 64 2-4 54 156 156 157	54
68.0	.5 62 4-4 146 146 147	.4 64 4-4 148 148 149	.2 66 4-4 150 150 151	.2 67 2-4 151 151 152	.7 67 2-4 54 155 155 155	54
66.0	.1 66 4-4 145 145 146	.5 67 4-4 147 147 148	.3 69 4-4 148 148 149	.8 69 2-4 150 150 151	1.3 69 2-4 54 153 153 154	54
64.0	.3 69 4-4 143 143 144	1.3 69 4-4 146 146 147	.0 69 2 132 137 138	.0 69 2 129 137 138	.0 69 2 54 127 137 138	54
62.0	.0 69 4 132 132 133	.0 69 4 130 130 131	.0 69 2 122 130 131	.0 69 2 122 130 131	.0 69 2 54 122 130 131	54
60.0	.0 69 4 125 125 126	.0 69 2 119 124 125	.0 69 2 119 124 125	.0 69 2 119 124 125	.0 69 2 54 119 124 125	54
58.0	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	.0 69 54 118 121 122	54
56.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 54 117 120 122	54
54.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 54 117 120 122	54
52.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 54 117 120 122	54
50.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 54 117 120 122	54
45.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 54 117 120 122	54
40.0						54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2154.(FT) QNH ALT. : 2640.(FT)
TLC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0 (FT) T.O.R.A. =11483.0 (FT) A.S.D.A. =11680.0 (FT) T.O.D.A. =11483.0 (FT) SLOPE = .10 (%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 10-DEC-98 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING PURPOSE ONLY		
TREF = 44 DC TMAX = 54 DC	MTOW (KG) CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-1.0	79305 4-4 148 153 155	81143 4-4 154 157 158	82729 2-4 159 161 162	83601 2-4 163 165 166	84346 2-4 168 169 169
14.0	78303 4-4 145 150 153	80165 4-4 150 154 156	81945 2-4 156 158 159	82916 2-4 160 162 163	83738 2-4 164 166 167
29.0	77217 4-4 141 149 151	79128 4-4 146 152 153	80961 2-4 152 155 156	82110 2-4 156 159 160	83033 2-4 160 163 163
44.4	75999 4-4 137 146 149	77932 4-4 143 150 152	79828 4-4 148 153 154	80188 2-8 149 153 154	80188 2-8 147 153 154
46.0	75460 4-4 138 146 149	77394 4-4 143 150 152	79082 2-8 148 151 153	79082 2-8 147 151 153	79082 2-8 144 151 153
47.0	75049 4-4 138 146 148	76976 4-4 144 149 151	78371 2-8 148 150 152	78371 2-8 146 150 152	78371 2-8 143 150 152
49.0	74227 4-4 139 146 148	76130 4-4 145 149 150	76948 2-8 146 149 150	76948 2-8 144 149 150	76948 2-8 141 149 150
50.0	73816 4-4 139 146 148	75705 4-4 145 148 150	76236 2-8 145 148 150	76236 2-8 143 148 150	76236 2-8 140 148 150
52.0	72986 4-4 140 145 147	74813 4-8 146 147 149	74813 2-8 143 147 148	74813 2-8 141 147 148	74813 2-8 138 147 148
53.0	72565 4-4 141 145 147	74100 4-8 146 146 148	74100 2-8 142 146 147	74100 2-8 140 146 147	74100 2-8 137 146 147
55.0	71698 4-4 142 144 146	73536 4-4 148 149 150	74099 2-8 147 149 151	74099 2-8 145 149 151	74099 2-8 143 149 151
56.0	71260 4-4 142 144 146	73090 4-4 148 148 150	74098 2-8 150 151 152	74098 2-8 148 151 152	74098 2-8 146 151 152
57.0	70825 4-4 143 144 146	72612 4-4 149 149 150	73885 4-4 153 153 154	74097 2-8 152 154 154	74097 2-8 150 154 154
59.0	69962 4-4 144 144 146	71488 4-4 150 150 152	72602 4-4 152 152 153	73327 2-4 155 155 156	73913 2-4 158 158 159
60.0	69536 4-4 145 145 146	70863 4-4 150 150 151	71964 4-4 152 152 153	72690 2-4 155 155 155	73257 2-4 158 158 158
62.0	68491 4-4 146 146 147	69620 4-4 148 148 150	70699 4-4 151 151 152	71408 2-4 154 154 154	71949 2-4 157 157 157
63.0	67922 4-4 146 146 148	69002 4-4 148 148 149	70071 4-4 151 151 152	70759 2-4 153 153 154	71294 2-4 156 156 157
65.0	66722 4-4 145 145 146	67775 4-4 147 147 148	68824 4-4 151 151 151	69467 2-4 152 152 153	69990 2-4 156 156 156
66.0	66124 4-4 145 145 146	67166 4-4 147 147 148	68205 4-4 150 150 151	68828 2-4 152 152 153	69322 2-4 155 155 156
68.0	64888 4-4 144 144 145	65908 4-4 147 147 147	66923 4-4 149 149 149	67510 2-4 151 151 151	67978 2-4 154 154 154
69.0	64268 4-4 143 143 144	65276 4-4 146 146 147	66278 4-4 148 148 149	66849 2-4 150 150 151	67306 2-4 153 153 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2154.(FT) QNH ALT. : 2640.(FT)
TLC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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TOULOUSE (LFBO) - RWY 15L - CONF 1 + F

CONF1+F	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT)	CODES LIMITATIONS	A320-232/AA/V2527-A5
T.O.R.A. = 3000.0(M)	1-STRUCTURE 5-TYRE SPEED	JARA MC69 10-DEC-98
A.S.D.A. = 3000.0(M)	2-2ND-SEGMENT 6-BRAKE ENERGY	
T.O.D.A. = 3000.0(M)	3-RUNWAY 7-RWY 2 ENGINES	QNH=1013.25 (MB)
SLOPE = .06(%)	4-OBSTACLE 8-FINAL T.O.	GRAD1= 60/GRAD2= 200
FOR TRAINING ONLY		AIR COND. OFF CG25%
		ANTI-ICING OFF

TREF = 44 DC / TMAX = 54 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)																				TGA
	WITHOUT REVERSE																				2
WEIGHT 1000KG	DRY RUNWAY																				3
	-10			-5			0			10			20								
77.0				.1 157	1 157	4-4 158	.0 155	27 155	4-4 156	.0 155	43 155	4-4 156	.3 159	46 159	4-4 159						50
76.0	- .5 152	-1 152	4-4 153	.0 152	16 152	4-4 153	.1 152	41 152	4-4 152	1.0 155	44 155	4-4 155	.2 158	48 158	4-4 158						51
74.0	.1 147	16 149	4-4 150	.1 147	41 149	4-4 150	1.9 151	44 151	4-4 152	.3 156	50 156	4-4 156	.5 157	51 157	4-4 157						54
72.0	.1 141	41 147	4-4 147	1.8 146	44 149	4-4 149	.3 154	52 154	4-4 154	.0 155	54 155	4-4 155	.2 156	55 156	4-4 156						54
70.0	1.8 141	44 147	4-4 147	.4 149	53 149	4-4 149	.0 153	56 153	4-4 153	.2 154	57 154	4-4 154	.4 155	58 155	4-4 155						54
68.0	.3 144	54 144	4-4 144	.2 150	57 150	4-4 150	.3 152	59 152	4-4 152	.5 153	60 153	4-4 153	.1 153	62 153	4-4 153						54
66.0	.4 146	58 146	4-4 146	.5 149	60 149	4-4 149	.6 151	62 151	4-4 151	.2 151	64 151	4-4 151	.3 151	65 151	4-4 151						54
64.0	.3 145	62 145	4-4 145	.3 149	64 149	4-4 149	.3 148	66 148	4-4 148	.4 149	67 149	4-4 149	.6 149	68 149	4-4 149						54
62.0	.1 145	66 145	4-4 145	.0 146	68 146	4-4 146	.5 147	69 147	4-4 147	1.3 147	69 147	4-4 147	1.9 148	69 148	4-4 148						54
60.0	.5 144	69 144	4-4 144	1.5 145	69 145	4-4 145	.0 130	69 135	4-4 135	.0 128	69 135	4-4 135	.0 126	69 135	4-4 135						54
58.0	.0 128	69 133	4-4 133	.0 125	69 133	4-4 133	.0 125	69 133	4-4 133	.0 125	69 133	4-4 133	.0 125	69 133	4-4 133						54
56.0	.0 123	69 130	4-4 130	.0 123	69 130	4-4 130	.0 123	69 130	4-4 130	.0 123	69 130	4-4 130	.0 123	69 130	4-4 130						54
54.0	.0 122	69 127	4-4 128	.0 122	69 127	4-4 128	.0 122	69 127	4-4 128	.0 122	69 127	4-4 128	.0 122	69 127	4-4 128						54
52.0	.0 121	69 125	4-4 125	.0 121	69 125	4-4 125	.0 121	69 125	4-4 125	.0 121	69 125	4-4 125	.0 121	69 125	4-4 125						54
50.0	.0 119	69 122	4-4 123	.0 119	69 122	4-4 123	.0 119	69 122	4-4 123	.0 119	69 122	4-4 123	.0 119	69 122	4-4 123						54
45.0	.0 119	69 121	4-4 123	.0 119	69 121	4-4 123	.0 119	69 121	4-4 123	.0 119	69 121	4-4 123	.0 119	69 121	4-4 123						54
40.0	.0 119	69 121	4-4 124	.0 119	69 121	4-4 124	.0 119	69 121	4-4 124	.0 119	69 121	4-4 124	.0 119	69 121	4-4 124						54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 3057.(FT) QNH ALT. : 3546.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT)	CODES LIMITATIONS	A320-232/AA/V2527-A5
T.O.R.A. = 3000.0(M)	1-STRUCTURE 5-TYRE SPEED	JARA MC69 10-DEC-98
A.S.D.A. = 3000.0(M)	2-2ND-SEGMENT 6-BRAKE ENERGY	
T.O.D.A. = 3000.0(M)	3-RUNWAY 7-RWY 2 ENGINES	QNH=1013.25 (MB)
SLOPE = .06(%)	4-OBSTACLE 8-FINAL T.O.	AIR COND. OFF CG25%
FOR TRAINING ONLY		ANTI-ICING OFF

TREF = 44 DC / TMAX = 54 DC	MTOW (KG) / MEAN V1 - VR - V2	WIND (KT) CODES (IAS.KT)																			
	WITHOUT REVERSE																				
O A T DC	DRY RUNWAY																				
	-10			-5			0			10			20								
-1.0	75488 152	4-4 153		77193 157	4-4 158		78563 163	4-4 164		79410 164	4-4 164		80245 165	4-4 165							
14.0	74215 147	4-4 150		76142 153	4-4 153		77793 158	4-4 159		78674 161	4-4 162		79514 163	4-4 163							
29.0	73033 144	4-4 149		75089 149	4-4 150		76891 155	4-4 155		77940 158	4-4 159		78823 160	4-4 161							
44.4	71784 140	4-4 147		73780 146	4-4 149		75831 151	4-4 152		76931 155	4-4 155		77947 159	4-4 159							
46.0	71262 141	4-4 146		73292 146	4-4 148		75258 152	4-4 152		76302 156	4-4 156		77273 159	4-4 159							
47.0	70872 141	4-4 146		72923 147	4-4 148		74781 152	4-4 152		75820 156	4-4 156		76723 158	4-4 158							
49.0	70141 142	4-4 145		72174 147	4-4 148		73831 153	4-4 153		74796 156	4-4 156		75617 157	4-4 157							
50.0	69779 142	4-4 145		71767 148	4-4 148		73357 154	4-4 154		74251 156	4-4 156		75066 157	4-4 157							
52.0	69059 143	4-4 144		70847 149	4-4 149		72339 154	4-4 154		73157 155	4-4 155		73962 157	4-4 157							
53.0	68691 144	4-4 144		70380 149	4-4 149		71788 153	4-4 153		72600 155	4-4 155		73402 157	4-4 157							
55.0	67844 145	4-4 145		69396 150	4-4 150		70638 153	4-4 153		71441 154	4-4 154		72234 156	4-4 156							
56.0	67359 145	4-4 145		68824 150	4-4 150		70040 153	4-4 153		70838 154	4-4 154		71626 156	4-4 156							
57.0	66872 146	4-4 146		68240 150	4-4 150		69447 152	4-4 152		70241 154	4-4 154		71023 156	4-4 156							
59.0	65835 146	4-4 146		67086 149	4-4 149		68277 152	4-4 152		69058 153	4-4 153		69830 155	4-4 155							
60.0	65305 146	4-4 146		66517 149	4-4 149		67699 151	4-4 151		68475 153	4-4 153		69240 154	4-4 154							
62.0	64250 145	4-4 145		65417 150	4-4 150		66556 151	4-4 151		67319 152	4-4 152		68068 153	4-4 153							
63.0	63718 145	4-4 145		64856 150	4-4 150		65991 150	4-4 150		66745 151	4-4 151		67486 152	4-4 152							
65.0	62658 145	4-4 145		63734 148	4-4 148		64867 149	4-4 149		65605 150	4-4 150		66330 151	4-4 151							
66.0	62135 145	4-4 145		63188 147	4-4 147		64309 148	4-4 148		65038 149	4-4 149		65756 150	4-4 150							
68.0	61045 145	4-4 145		62042 146	4-4 146		63139 147	4-4 147		63851 148	4-4 148		64552 149	4-4 149							
69.0	60479 144	4-4 144		61465 145	4-4 145		62549 147	4-4 147		63252 147	4-4 147		63945 148	4-4 148							

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 3057.(FT) QNH ALT. : 3546.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

TOULOUSE (LFBO) - RWY 15L - CONF 2

CONF 2	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0 (FT) T.O.R.A. = 3000.0 (M) A.S.D.A. = 3000.0 (M) T.O.D.A. = 3000.0 (M) SLOPE = .06 (%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

WEIGHT 1000KG	-10	-5	0	10	20	TGA
77.0		-.5 -1 4-4 .0 19 4-4 .0 40 4-4 .4 45 4-4 50 153 153 157 154 154 158 154 154 158 155 155 158				50
76.0	-1.0 -1 4-4 .0 9 4-4 .0 40 4-4 .8 44 4-4 .4 47 4-4 51 150 150 153 152 152 156 151 151 154 154 154 157					52
74.0	.0 15 4-4 .1 44 4-4 1.8 44 4-4 .4 49 4-4 .1 51 4-4 54 146 146 149 145 145 148 150 150 153 152 152 155					54
72.0	.1 44 4-4 .1 49 4-4 .4 51 4-4 .1 53 4-4 .4 54 4-4 54 140 141 144 147 147 150 150 150 153 150 150 153 151 151 154					54
70.0	.4 49 4-4 .0 53 4-4 .1 55 4-4 .4 56 4-4 .6 57 4-4 54 142 142 144 148 148 150 148 148 151 148 148 151 150 150 152					54
68.0	.1 54 4-4 .3 56 4-4 .4 58 4-4 .6 59 4-4 .2 61 4-4 54 144 144 146 146 146 149 146 146 149 147 147 149 148 148 150					54
66.0	.5 57 4-4 .0 60 4-4 .1 62 4-4 .2 63 4-4 .4 64 4-4 54 144 144 146 144 144 146 145 145 146 146 146 148 147 147 149					54
64.0	.3 61 4-4 .3 63 4-4 .4 65 4-4 .5 66 4-4 .1 68 4-4 54 142 142 144 142 142 144 144 144 145 146 146 147 145 145 147					54
62.0	.1 65 4-4 .1 67 4-4 .1 69 4-4 .8 69 4-4 1.5 69 4-4 54 143 143 144 141 141 142 143 143 144 144 144 145 145 145 146					54
60.0	.5 68 4-4 1.0 69 4-4 .0 69 .0 69 .0 69 .0 69 54 138 138 139 140 140 141 128 128 129 125 128 129 122 128 129					54
58.0	1.9 69 4-4 .0 69 .0 69 .0 69 .0 69 .0 69 54 142 142 143 121 126 127 120 126 127 120 126 127 120 126 127					54
56.0	.0 69 .0 69 .0 69 .0 69 .0 69 .0 69 54 119 123 125 119 123 125 119 123 125 119 123 125 119 123 125					54
54.0	.0 69 .0 69 .0 69 .0 69 .0 69 .0 69 54 118 121 123 118 121 123 118 121 123 118 121 123 118 121 123					54
52.0	.0 69 .0 69 .0 69 .0 69 .0 69 .0 69 54 118 120 122 118 120 122 118 120 122 118 120 122 118 120 122					54
50.0	.0 69 .0 69 .0 69 .0 69 .0 69 .0 69 54 118 120 122 118 120 122 118 120 122 118 120 122 118 120 122					54
45.0	.0 69 .0 69 .0 69 .0 69 .0 69 .0 69 54 117 120 122 117 120 122 117 120 122 117 120 122 117 120 122					54
40.0						54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 3001.(FT) QNH ALT. : 3490.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0 (FT) T.O.R.A. = 3000.0 (M) A.S.D.A. = 3000.0 (M) T.O.D.A. = 3000.0 (M) SLOPE = .06 (%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 10-DEC-98 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-1.0	74988 4-4 150 150 153	76468 4-4 153 153 157	77809 4-4 156 156 160	78683 4-4 157 157 161	79551 4-4 159 159 163
14.0	74080 4-4 146 146 149	75790 4-4 151 151 155	77223 4-4 154 154 158	78104 4-4 155 155 159	78972 4-4 157 157 161
29.0	73150 4-4 143 143 146	75009 4-4 148 148 151	76622 4-4 153 153 157	77536 4-4 155 155 158	78422 4-4 156 156 159
44.4	72094 4-4 140 141 144	74034 4-4 145 145 148	75788 4-4 150 150 153	76793 4-4 154 154 158	77690 4-4 155 155 159
46.0	71583 4-4 141 141 143	73480 4-4 146 146 148	75138 4-4 151 151 154	76080 4-4 153 153 157	76965 4-4 155 155 158
47.0	71187 4-4 141 141 144	73029 4-4 146 146 149	74612 4-4 151 151 154	75521 4-4 153 153 156	76399 4-4 154 154 157
49.0	70383 4-4 142 142 144	72114 4-4 147 147 150	73526 4-4 151 151 154	74400 4-4 152 152 155	75261 4-4 153 153 156
50.0	69978 4-4 142 142 145	71605 4-4 148 148 150	72976 4-4 151 151 154	73841 4-4 152 152 155	74694 4-4 153 153 155
52.0	69100 4-4 143 143 146	70568 4-4 148 148 151	71871 4-4 150 150 152	72717 4-4 151 151 153	73550 4-4 152 152 155
53.0	68646 4-4 144 144 146	70019 4-4 148 148 150	71310 4-4 149 149 152	72146 4-4 150 150 153	72970 4-4 152 152 154
55.0	67575 4-4 144 144 146	68885 4-4 147 147 149	70149 4-4 148 148 151	70968 4-4 149 149 152	71777 4-4 151 151 153
56.0	67016 4-4 144 144 146	68300 4-4 146 146 149	69553 4-4 148 148 150	70362 4-4 148 148 151	71165 4-4 150 150 153
57.0	66461 4-4 144 144 146	67721 4-4 146 146 148	68960 4-4 147 147 149	69762 4-4 148 148 150	70557 4-4 150 150 152
59.0	65353 4-4 143 143 145	66574 4-4 145 145 147	67787 4-4 146 146 148	68571 4-4 147 147 149	69352 4-4 149 149 151
60.0	64800 4-4 143 143 145	66007 4-4 144 144 146	67206 4-4 145 145 147	67982 4-4 147 147 149	68756 4-4 149 149 151
62.0	63707 4-4 142 142 143	64883 4-4 143 143 145	66054 4-4 145 145 146	66816 4-4 147 147 148	67575 4-4 148 148 150
63.0	63165 4-4 141 141 143	64327 4-4 142 142 144	65484 4-4 144 144 146	66238 4-4 146 146 148	66990 4-4 148 148 150
65.0	62096 4-4 143 143 144	63224 4-4 141 141 143	64355 4-4 144 144 145	65095 4-4 146 146 147	65830 4-4 147 147 149
66.0	61560 4-4 139 139 141	62677 4-4 141 141 143	63797 4-4 144 144 145	64529 4-4 146 146 147	65254 4-4 146 146 148
68.0	60450 4-4 138 138 139	61541 4-4 141 141 142	62636 4-4 143 143 144	63351 4-4 144 144 146	64055 4-4 145 145 147
69.0	59893 4-4 142 142 143	60971 4-4 140 140 141	62053 4-4 143 143 144	62758 4-4 144 144 145	63451 4-4 145 145 146

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 3001.(FT) QNH ALT. : 3490.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

TOULOUSE (LFBO) - RWY 15L - CONF 3

CONF 3	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 3000.0(M) A.S.D.A. = 3000.0(M) T.O.D.A. = 3000.0(M) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(KG) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

WEIGHT 1000KG	-10	-5	0	10	20	TGA
77.0		-.1 -1 4-4 155 155 157	.0 31 4-4 154 154 156	.0 45 4-4 153 153 155	.5 46 4-4 155 155 157	2 3
76.0	-.4 -1 4-4 153 153 156	.0 22 4-4 152 152 154	.4 44 4-4 152 152 154	.0 47 4-4 153 153 154	.3 48 4-4 155 155 156	50 51 52
74.0	.0 28 4-4 145 145 148	.8 44 4-4 147 147 149	.6 48 4-4 151 151 153	.3 50 4-4 152 152 154	.0 52 4-4 153 153 154	54
72.0	.8 44 4-4 141 141 144	.1 50 4-4 147 147 149	.3 52 4-4 150 150 152	.0 54 4-4 150 150 152	.2 55 4-4 151 151 152	54
70.0	.1 51 4-4 144 144 146	.5 53 4-4 147 147 149	.6 55 4-4 149 149 151	.2 57 4-4 149 149 150	.4 58 4-4 149 149 150	54
68.0	.0 55 4-4 143 143 145	.1 57 4-4 145 145 147	.2 59 4-4 146 146 148	.4 60 4-4 147 147 148	.5 61 4-4 147 147 148	54
66.0	.3 58 4-4 142 142 144	.4 60 4-4 144 144 146	.4 62 4-4 144 144 146	.0 64 4-4 144 144 146	.1 65 4-4 144 144 146	54
64.0	.1 62 4-4 141 141 143	.1 64 4-4 142 142 143	.1 66 4-4 142 142 143	.3 67 4-4 142 142 143	.3 68 4-4 143 143 144	54
62.0	.4 65 4-4 140 140 141	.5 67 4-4 140 140 141	.4 69 4-4 140 140 141	1.0 69 4-4 141 141 142	1.7 69 4-4 142 142 144	54
60.0	.2 69 4-4 137 137 139	1.3 69 4-4 139 139 140	.0 69 4 125 125 126	.0 69 2 123 124 125	.0 69 2 120 124 125	54
58.0	.0 69 4 122 122 123	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	.0 69 118 121 122	54
56.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54
54.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54
52.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54
50.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54
45.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54
40.0						54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 2862.(FT) QNH ALT. : 3351.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 3000.0(M) A.S.D.A. = 3000.0(M) T.O.D.A. = 3000.0(M) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 10-DEC-98 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 54 DC	MTOW (KG) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-1.0	75572 4-4 153 153 156	76937 4-4 155 155 157	78279 4-4 156 156 159	79146 4-4 158 158 160	79988 4-4 159 159 160
14.0	74956 4-4 150 150 152	76335 4-4 153 153 156	77699 4-4 156 156 158	78588 4-4 157 157 159	79448 4-4 158 158 160
29.0	73960 4-4 145 145 148	75764 4-4 151 151 153	77128 4-4 154 154 156	78025 4-4 156 156 157	78908 4-4 157 157 159
44.4	72754 4-4 141 141 144	74731 4-4 147 147 149	76414 4-4 152 152 154	77312 4-4 153 153 155	78192 4-4 156 156 157
46.0	72233 4-4 142 142 144	74156 4-4 147 147 150	75691 4-4 151 151 153	76580 4-4 153 153 155	77455 4-4 155 155 157
47.0	71840 4-4 142 142 145	73706 4-4 148 148 150	75126 4-4 151 151 153	76009 4-4 153 153 154	76880 4-4 155 155 157
49.0	71040 4-4 143 143 146	72674 4-4 148 148 150	73999 4-4 151 151 153	74870 4-4 152 152 154	75728 4-4 154 154 156
50.0	70610 4-4 144 144 146	72124 4-4 147 147 149	73439 4-4 151 151 152	74304 4-4 152 152 154	75154 4-4 154 154 155
52.0	69637 4-4 144 144 146	71022 4-4 147 147 149	72320 4-4 150 150 152	73172 4-4 152 152 153	74001 4-4 153 153 154
53.0	69136 4-4 144 144 146	70465 4-4 147 147 149	71753 4-4 150 150 152	72597 4-4 151 151 153	73415 4-4 152 152 154
55.0	68045 4-4 143 143 145	69314 4-4 146 146 148	70582 4-4 149 149 151	71409 4-4 150 150 151	72207 4-4 151 151 152
56.0	67464 4-4 143 143 145	68722 4-4 146 146 148	69978 4-4 148 148 150	70797 4-4 149 149 151	71587 4-4 150 150 152
57.0	66888 4-4 143 143 145	68134 4-4 145 145 147	69378 4-4 148 148 149	70189 4-4 149 149 150	70971 4-4 150 150 151
59.0	65749 4-4 142 142 144	66973 4-4 145 145 146	68191 4-4 146 146 148	68983 4-4 147 147 149	69747 4-4 148 148 150
60.0	65186 4-4 142 142 143	66399 4-4 144 144 146	67603 4-4 146 146 147	68386 4-4 147 147 148	69140 4-4 148 148 149
62.0	64074 4-4 141 141 143	65262 4-4 143 143 145	66437 4-4 144 144 146	67199 4-4 145 145 147	67934 4-4 146 146 148
63.0	63525 4-4 141 141 142	64698 4-4 142 142 144	65859 4-4 144 144 145	66610 4-4 145 145 146	67335 4-4 146 146 147
65.0	62436 4-4 140 140 141	63580 4-4 141 141 143	64711 4-4 143 143 144	65439 4-4 144 144 145	66144 4-4 144 144 146
66.0	61897 4-4 139 139 141	63026 4-4 140 140 142	64141 4-4 142 142 143	64857 4-4 143 143 144	65551 4-4 144 144 145
68.0	60773 4-4 138 138 139	61873 4-4 139 139 141	62956 4-4 141 141 142	63651 4-4 142 142 143	64325 4-4 143 143 144
69.0	60208 4-4 137 137 139	61293 4-4 139 139 140	62361 4-4 140 140 141	63045 4-4 141 141 142	63710 4-4 142 142 144

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 2862.(FT) QNH ALT. : 3351.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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TOULOUSE (LFBO) - RWY 33R - CONF 1 + F

CONF1+F	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0(FT)	CODES LIMITATIONS	A320-232/AA/V2527-A5
T.O.R.A. = 9843.0(FT)	1-STRUCTURE 5-TYRE SPEED	JARA MC69 10-DEC-98
A.S.D.A. = 9843.0(FT)	2-2ND-SEGMENT 6-BRAKE ENERGY	
T.O.D.A. =10171.0(FT)	3-RUNWAY 7-RWY 2 ENGINES	
SLOPE = -.06(%)	4-OBSTACLE 8-FINAL T.O.	QNH=1013.25 (MB)
FOR TRAINING PURPOSE ONLY		GRAD1= 60/GRAD2= 200
		AIR COND. OFF CG25%
		ANTI-ICING OFF

TREF = 44 DC
TMAX = 54 DC

WIND (KT)
WGHT INCR.1000(KG) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE — TGA
DRY RUNWAY — 2 / 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 5 4-4 147 152 153	.0 28 4-4 147 152 153	.3 45 4-4 149 153 153	.3 48 4-4 154 154 154	.6 48 8-8 153 154 154	50 50
76.0	.0 17 4-4 144 151 152	.0 40 4-4 144 151 152	.2 48 4-4 150 153 153	.2 50 4-8 154 154 154	.2 50 8-8 151 152 152	51 52
74.0	.1 41 4-4 139 149 150	1.7 44 4-4 144 151 151	.0 53 4-4 153 153 153	.1 55 4-4 157 157 157	.1 56 4-8 158 158 158	54 54
72.0	1.8 44 4-4 138 149 149	.4 53 4-4 147 149 149	.1 57 4-4 153 153 153	.3 58 4-4 156 156 156	.4 59 4-4 159 159 159	54 54
70.0	.2 54 4-4 141 146 146	.1 58 4-4 149 149 149	.3 60 4-4 153 153 153	.5 61 4-4 156 156 156	.5 62 4-4 159 159 159	54 54
68.0	.1 59 4-4 144 144 144	.5 61 4-4 148 148 148	.1 64 4-4 153 153 153	.1 65 4-4 156 156 156	.1 66 4-4 156 156 156	54 54
66.0	.1 63 4-4 144 144 144	.4 65 4-4 148 148 148	.3 67 4-4 152 152 152	.3 68 4-4 154 154 154	.2 69 4-4 154 154 154	54 54
64.0	.0 67 4-4 143 143 143	.1 69 4-4 147 147 147	1.1 69 4-4 152 152 152	1.7 69 4-4 153 153 153	.0 69 2 137 140 140	54 54
62.0	.9 69 4-4 143 143 143	.0 69 135 137 137	.0 69 132 137 137	.0 69 129 137 137	.0 69 127 137 137	54 54
60.0	.0 69 128 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	54 54
58.0	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	54 54
56.0	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	54 54
54.0	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	54 54
52.0	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	54 54
50.0	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	54 54
45.0	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	54 54
40.0	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2303.(FT) QNH ALT. : 2798.(FT)
TIC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0(FT)	CODES LIMITATIONS	A320-232/AA/V2527-A5
T.O.R.A. = 9843.0(FT)	1-STRUCTURE 5-TYRE SPEED	JARA MC69 10-DEC-98
A.S.D.A. = 9843.0(FT)	2-2ND-SEGMENT 6-BRAKE ENERGY	
T.O.D.A. =10171.0(FT)	3-RUNWAY 7-RWY 2 ENGINES	
SLOPE = -.06(%)	4-OBSTACLE 8-FINAL T.O.	QNH=1013.25 (MB)
FOR TRAINING PURPOSE ONLY		AIR COND. OFF CG25%
		ANTI-ICING OFF

TREF = 44 DC
TMAX = 54 DC

MTOW (KG) CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE
DRY RUNWAY

O A T DC	-10	-5	0	10	20
-1.0	77525 4-4 149 153 154	79208 4-4 154 156 157	80838 4-4 159 160 161	81889 4-4 163 163 163	82796 4-4 166 166 166
14.0	76262 4-4 144 151 152	78038 4-4 150 154 154	79708 4-4 155 157 157	80783 4-4 159 159 159	81817 4-4 162 162 162
29.0	75099 4-4 141 150 151	76948 4-4 147 152 153	78712 4-4 152 155 155	79819 4-4 156 156 156	80883 4-4 159 159 159
44.4	73765 4-4 138 149 149	75686 4-4 144 151 151	77530 4-4 149 153 153	78693 4-4 152 155 155	79803 4-4 156 156 156
46.0	73264 4-4 138 148 149	75168 4-4 144 150 151	76989 4-4 149 153 153	78147 4-4 153 155 155	79063 4-8 155 155 155
47.0	72890 4-4 139 148 148	74776 4-4 144 150 150	76580 4-4 150 153 153	77723 4-4 153 154 154	78352 8-8 154 154 154
49.0	72132 4-4 139 147 148	73981 4-4 145 149 149	75750 4-4 151 152 152	76866 4-4 154 154 154	76930 8-8 152 153 153
50.0	71753 4-4 140 147 147	73580 4-4 146 149 149	75330 4-4 151 152 152	76218 4-8 154 154 154	76218 8-8 151 152 152
52.0	70981 4-4 141 146 146	72770 4-4 146 149 149	74468 4-4 152 152 152	74794 8-8 151 151 151	74794 8-8 149 151 151
53.0	70587 4-4 141 146 146	72359 4-4 147 149 149	74044 4-4 153 153 153	74082 8-8 149 150 150	74082 8-8 148 150 150
55.0	69764 4-4 142 146 146	71492 4-4 148 148 148	73126 4-4 153 153 153	74051 4-4 157 157 157	74081 4-8 153 153 153
56.0	69339 4-4 142 145 145	71046 4-4 148 148 148	72612 4-4 154 154 154	73456 4-4 157 157 157	74080 4-8 158 158 158
57.0	68916 4-4 143 145 145	70591 4-4 149 149 149	72056 4-4 153 153 153	72864 4-4 156 156 156	73600 4-4 159 159 159
59.0	68076 4-4 144 144 144	69577 4-4 149 149 149	70923 4-4 153 153 153	71691 4-4 156 156 156	72368 4-4 159 159 159
60.0	67650 4-4 144 144 144	69035 4-4 149 149 149	70346 4-4 153 153 153	71106 4-4 156 156 156	71758 4-4 159 159 159
62.0	66625 4-4 144 144 144	67963 4-4 148 148 148	69198 4-4 153 153 153	69908 4-4 156 156 156	70544 4-4 159 159 159
63.0	66102 4-4 144 144 144	67431 4-4 148 148 148	68628 4-4 153 153 153	69310 4-4 156 156 156	69936 4-4 158 158 158
65.0	65060 4-4 144 144 144	66368 4-4 148 148 148	67488 4-4 152 152 152	68130 4-4 156 156 156	68720 4-4 157 157 157
66.0	64542 4-4 143 144 144	65814 4-4 148 148 148	66907 4-4 152 152 152	67542 4-4 156 156 156	68113 4-4 156 156 156
68.0	63460 4-4 143 143 143	64660 4-4 147 147 147	65697 4-4 152 152 152	66298 4-4 154 154 154	66848 4-4 155 155 155
69.0	62913 4-4 143 143 143	64078 4-4 147 147 147	65087 4-4 152 152 152	65668 4-4 153 153 153	66209 4-4 154 154 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2303.(FT) QNH ALT. : 2798.(FT)
TIC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

TOULOUSE (LFBO) - RWY 33R - CONF 2

CONF 2	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0 (FT) T.O.R.A. = 9843.0 (FT) A.S.D.A. = 9843.0 (FT) T.O.D.A. =10171.0 (FT) SLOPE = -.06 (%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING PURPOSE ONLY		
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA
WEIGHT 1000KG	-10 -5 0 10 20	DRY RUNWAY 2 3
77.0	.1 -.1 4-4 .0 .26 4-4 .1 .46 4-4 .3 .48 4-4 .6 .48 4-8 50 50 147 151 155 146 150 154 148 148 151 153 153 156 150 150 153	
76.0	.1 .14 4-4 .0 .42 4-4 .1 .48 4-4 .2 .50 4-8 .2 .50 2-8 51 52 143 149 152 143 148 151 149 151 154 154 154 156 148 149 151	
74.0	.1 .44 4-4 1.9 .44 4-4 .3 .52 4-4 .1 .53 4-8 .1 .55 4-8 54 54 138 145 148 143 148 151 151 151 154 148 148 150 155 155 158	
72.0	.3 .49 4-4 .3 .53 4-4 .1 .56 4-4 .2 .57 4-4 .2 .58 4-4 54 54 139 144 147 146 147 150 151 151 153 154 154 156 156 156 159	
70.0	.2 .54 4-4 .2 .57 4-4 .3 .59 4-4 .4 .60 4-4 .4 .61 4-4 54 54 141 144 146 146 146 149 151 151 153 154 154 156 154 154 157	
68.0	.3 .58 4-4 .0 .61 4-4 .6 .62 4-4 .6 .63 4-4 .5 .64 4-4 54 54 142 143 145 146 146 148 150 150 153 152 152 155 153 153 155	
66.0	.2 .62 4-4 .3 .64 4-4 .2 .66 4-4 .1 .67 4-4 .0 .68 4-4 54 54 142 142 143 146 146 147 150 150 152 150 150 152 150 150 152	
64.0	.1 .66 4-4 .1 .68 4-4 .3 .69 4-4 .9 .69 4-4 1.3 .69 4-4 54 54 141 141 143 145 145 147 148 148 150 149 149 150 145 145 147	
62.0	.4 .69 4-4 1.5 .69 4-4 .0 .69 2 .0 .69 2 .0 .69 2 54 54 141 141 142 145 145 146 130 132 133 127 132 133 125 132 133	
60.0	.0 .69 .0 .69 .0 .69 .0 .69 .0 .69 54 54 127 128 129 122 128 129 122 128 129 122 128 129 122 128 129	
58.0	.0 .69 .0 .69 .0 .69 .0 .69 .0 .69 54 54 120 126 127 120 126 127 120 126 127 120 126 127 120 126 127	
56.0	.0 .69 .0 .69 .0 .69 .0 .69 .0 .69 54 54 119 123 125 119 123 125 119 123 125 119 123 125 119 123 125	
54.0	.0 .69 .0 .69 .0 .69 .0 .69 .0 .69 54 54 118 121 123 118 121 123 118 121 123 118 121 123 118 121 123	
52.0	.0 .69 .0 .69 .0 .69 .0 .69 .0 .69 54 54 118 120 122 118 120 122 118 120 122 118 120 122 118 120 122	
50.0	.0 .69 .0 .69 .0 .69 .0 .69 .0 .69 54 54 117 120 122 117 120 122 117 120 122 117 120 122 117 120 122	
45.0	.0 .69 .0 .69 .0 .69 .0 .69 .0 .69 54 54 117 120 122 117 120 122 117 120 122 117 120 122 117 120 122	
40.0		54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2200.(FT) QNH ALT. : 2695.(FT)
TLC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0 (FT) T.O.R.A. = 9843.0 (FT) A.S.D.A. = 9843.0 (FT) T.O.D.A. =10171.0 (FT) SLOPE = -.06 (%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 10-DEC-98 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING PURPOSE ONLY		
TREF = 44 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE
O A T DC	-10 -5 0 10 20	DRY RUNWAY
-1.0	77067 4-4 78701 4-4 80272 4-4 81242 4-4 81978 4-4 147 151 155 152 153 157 157 157 161 161 161 165 159 159 163	
14.0	76054 4-4 77765 4-4 79497 4-4 80488 4-4 81397 4-4 143 149 152 148 152 155 153 153 157 157 157 161 161 161 165	
29.0	75143 4-4 76861 4-4 78658 4-4 79811 4-4 80757 4-4 140 147 150 145 150 153 150 150 153 154 154 157 158 158 161	
44.4	74080 4-4 75851 4-4 77634 4-4 78883 4-4 79974 4-4 138 145 148 143 148 151 148 148 150 151 151 154 155 155 158	
46.0	73541 4-4 75287 4-4 77065 4-4 78250 4-4 79063 4-8 138 145 148 143 148 151 148 148 151 152 152 155 152 152 155	
47.0	73133 4-4 74860 4-4 76534 4-4 77764 4-4 78352 4-8 138 145 148 144 148 150 149 151 154 152 152 155 151 151 153	
49.0	72304 4-4 74003 4-4 75654 4-4 76745 4-4 76930 2-8 139 144 147 145 148 151 150 151 153 154 154 157 149 150 152	
50.0	71890 4-4 73579 4-4 75203 4-4 76218 4-8 76218 2-8 140 144 147 145 148 151 150 150 153 154 154 156 148 149 151	
52.0	71053 4-4 72728 4-4 74287 4-4 74794 4-8 74794 2-8 141 144 146 146 148 150 151 151 154 149 149 152 146 147 150	
53.0	70630 4-4 72292 4-4 73772 4-4 74082 4-8 74082 2-8 141 144 147 146 147 150 151 151 154 148 148 150 145 147 149	
55.0	69772 4-4 71315 4-4 72654 4-4 73444 4-4 74081 4-8 142 144 146 147 147 149 151 151 154 154 154 157 155 155 158	
56.0	69338 4-4 70758 4-4 72070 4-4 72841 4-4 73493 4-4 142 144 146 147 147 149 151 151 153 154 154 157 157 157 160	
57.0	68827 4-4 70206 4-4 71484 4-4 72224 4-4 72865 4-4 142 144 146 146 146 149 151 151 153 154 154 156 157 157 159	
59.0	67775 4-4 69103 4-4 70322 4-4 70996 4-4 71611 4-4 142 143 145 146 146 148 151 151 153 154 154 156 155 155 158	
60.0	67249 4-4 68554 4-4 69741 4-4 70386 4-4 70987 4-4 142 143 144 146 146 148 151 151 153 154 154 156 155 155 157	
62.0	66197 4-4 67454 4-4 68554 4-4 69169 4-4 69747 4-4 142 142 143 146 146 148 150 150 153 153 153 155 154 154 156	
63.0	65664 4-4 66895 4-4 67959 4-4 68561 4-4 69128 4-4 142 142 143 146 146 148 150 150 152 152 152 155 153 153 155	
65.0	64607 4-4 65778 4-4 66778 4-4 67352 4-4 67896 4-4 141 141 143 146 146 147 150 150 152 151 151 153 152 152 154	
66.0	64082 4-4 65228 4-4 66190 4-4 66749 4-4 67281 4-4 141 141 143 146 146 147 150 150 152 151 151 153 151 151 153	
68.0	62991 4-4 64073 4-4 64963 4-4 65502 4-4 66014 4-4 141 141 142 145 145 147 149 149 150 150 150 151 150 150 152	
69.0	62433 4-4 63473 4-4 64346 4-4 64875 4-4 65345 4-4 141 141 142 145 145 146 148 148 150 149 149 150 145 145 147	

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2200.(FT) QNH ALT. : 2695.(FT)
TLC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

TOULOUSE (LFBO) - RWY 33R - CONF 3

CONF 3	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = -.06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 10-DEC-98 QNH=1013.25 (MB)
FOR TRAINING PURPOSE ONLY		AIR COND. OFF CG25% ANTI-ICING OFF
TREF = 44 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE DRY RUNWAY

O A T DC	-10	-5	0	10	20
-1.0	78034 4-4 150 153 155	79694 4-4 156 156 158	80997 4-4 161 161 163	81732 4-4 164 164 165	82562 4-4 162 162 163
14.0	76999 4-4 146 151 153	78788 4-4 152 154 156	80338 4-4 158 158 159	81180 4-4 161 161 162	81974 4-4 159 159 160
29.0	75896 4-4 142 148 150	77710 4-4 148 152 154	79495 4-4 153 153 155	80545 4-4 156 156 158	81387 4-4 161 161 162
44.4	74664 4-4 138 146 148	76517 4-4 144 149 151	78362 4-4 150 150 151	79602 4-4 153 153 155	80189 2-8 152 153 154
46.0	74136 4-4 139 146 148	75967 4-4 144 149 151	77753 4-4 150 153 155	78983 4-4 154 154 156	79063 2-8 150 151 153
47.0	73736 4-4 139 146 148	75553 4-4 145 149 151	77355 4-4 151 151 152	78352 4-8 153 153 155	78352 2-8 149 150 152
49.0	72929 4-4 140 145 147	74721 4-4 146 149 151	76426 4-4 151 152 154	76930 4-8 150 150 151	76930 2-8 147 149 150
50.0	72524 4-4 140 145 147	74310 4-4 146 149 151	75912 4-4 151 152 153	76218 4-8 148 148 150	76218 2-8 146 148 150
52.0	71715 4-4 141 145 147	73378 4-4 147 149 151	74794 4-8 151 151 153	74794 2-8 146 146 148	74794 2-8 144 146 148
53.0	71306 4-4 142 145 147	72873 4-4 147 148 150	74082 4-8 149 149 151	74082 2-8 145 146 147	74082 2-8 143 146 147
55.0	70316 4-4 142 145 147	71814 4-4 146 147 149	73117 4-4 151 151 153	73855 4-4 155 155 156	74081 2-8 148 149 151
56.0	69783 4-4 142 144 146	71264 4-4 146 147 148	72531 4-4 151 151 153	73236 4-4 155 155 156	73888 4-4 152 152 153
57.0	69253 4-4 142 144 146	70704 4-4 146 146 148	71919 4-4 151 151 153	72615 4-4 155 155 156	73254 4-4 151 151 152
59.0	68203 4-4 141 143 145	69562 4-4 146 146 148	70708 4-4 151 151 152	71352 4-4 153 153 154	71996 4-4 150 150 152
60.0	67680 4-4 141 143 144	68994 4-4 146 146 147	70106 4-4 151 151 152	70724 4-4 153 153 154	71373 4-4 150 150 151
62.0	66635 4-4 141 142 143	67863 4-4 146 146 147	68898 4-4 150 150 152	69474 4-4 151 151 152	70136 4-4 149 149 150
63.0	66113 4-4 141 141 143	67298 4-4 146 146 147	68286 4-4 150 150 151	68852 4-4 150 150 152	69521 4-4 148 148 149
65.0	65031 4-4 141 141 142	66138 4-4 145 145 147	67067 4-4 148 148 150	67611 4-4 149 149 150	68298 4-4 147 147 148
66.0	64484 4-4 140 140 142	65559 4-4 145 145 147	66459 4-4 148 148 149	66992 4-4 148 148 149	67690 2-4 146 146 147
68.0	63352 4-4 140 140 141	64365 4-4 145 145 146	65204 4-4 146 146 147	65731 4-4 144 144 145	66424 4-4 145 145 146
69.0	62783 4-4 140 140 141	63759 4-4 145 145 146	64574 4-4 146 146 147	65105 4-4 143 143 144	65785 2-4 144 144 145

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2143.(FT) QNH ALT. : 2638.(FT)
TLC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = -.06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKS ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 300
FOR TRAINING PURPOSE ONLY		AIR COND. OFF CG25% ANTI-ICING OFF
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20
77.0	.1 13 4-4 146 151 153	.0 38 4-4 146 150 152	.4 47 4-4 151 151 152	.6 48 4-8 151 151 153	.6 48 2-8 50 148 150 151 50
76.0	.0 27 4-4 142 148 151	.5 44 4-4 144 149 151	.4 49 4-4 151 152 154	.2 50 4-8 148 148 150	.2 50 2-8 51 146 148 150 52
74.0	.7 44 4-4 138 146 148	.3 50 4-4 146 149 151	.1 53 4-8 149 149 151	.1 53 2-8 145 146 147	.1 55 2-8 54 148 149 151 54
72.0	.1 51 4-4 141 145 147	.3 54 4-4 147 148 149	.5 56 4-4 151 151 153	.6 57 4-4 155 155 156	.6 58 4-4 54 151 151 152 54
70.0	.3 55 4-4 142 145 147	.1 58 4-4 146 146 148	.1 60 4-4 151 151 152	.1 61 4-4 152 152 153	.1 62 4-4 54 149 149 150 54
68.0	.2 59 4-4 141 143 145	.4 61 4-4 146 146 147	.3 63 4-4 150 150 151	.2 64 4-4 150 150 151	.3 65 4-4 54 147 147 148 54
66.0	.1 63 4-4 141 141 143	.1 65 4-4 145 145 147	.5 66 4-4 148 148 149	.4 67 4-4 146 146 147	.4 68 4-4 54 145 145 146 54
64.0	.5 66 4-4 140 140 142	.4 68 4-4 145 145 146	.6 69 4-4 146 146 147	1.1 69 4-4 143 143 144	1.8 69 2-4 54 144 144 145 54
62.0	.8 69 4-4 140 140 141	1.8 69 4-4 145 145 146	.0 69 2 127 130 131	.0 69 2 125 130 131	.0 69 2 54 122 130 131 54
60.0	.0 69 2 123 124 125	.0 69 2 120 124 125	.0 69 2 119 124 125	.0 69 2 119 124 125	.0 69 2 54 119 124 125 54
58.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 54 117 120 122 54
56.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 54 117 120 122 54
54.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 54 117 120 122 54
52.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 54 117 120 122 54
50.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 54 117 120 122 54
45.0	.0 69 117 119 122	.0 69 117 119 122	.0 69 117 119 122	.0 69 117 119 122	.0 69 54 117 119 122 54
40.0					54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2143.(FT) QNH ALT. : 2638.(FT)
TLC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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TOULOUSE (LFBO) - RWY 33L - CONF 1 + F

CONF1+F	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =12467.0(FT) T.O.D.A. =11483.0(FT) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 10-DEC-98
FOR TRAINING PURPOSE ONLY		QNH=1013.25 (MB) GRAD1= 60/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.1 21 4-4 141 152 153	.1 44 4-4 142 153 153	.4 48 4-4 149 153 153	.6 48 8-8 149 153 153	.6 48 8-8 148 153 153	50 50
76.0	.1 35 4-4 138 152 152	.1 47 4-4 143 152 152	.2 50 8-8 149 152 152	.2 50 8-8 148 152 152	.2 50 8-8 146 152 152	51 52
74.0	1.4 44 4-4 136 151 152	.1 52 4-4 145 150 150	.1 55 2-8 151 151 151	.1 57 2-8 154 155 155	.1 59 4-8 159 159 159	54 54
72.0	.2 52 4-4 139 149 149	.3 56 4-4 147 150 150	.1 60 4-4 154 154 154	.4 61 4-4 158 158 158	.4 62 4-4 161 161 161	54 54
70.0	.1 57 4-4 141 146 146	.0 61 4-4 149 150 150	.5 63 4-4 156 156 156	.5 64 4-4 158 158 158	.5 65 4-4 160 160 160	54 54
68.0	.4 61 4-4 143 145 145	.1 65 4-4 151 151 151	.0 67 4-4 154 154 154	.0 68 4-4 156 156 156	.6 68 4-4 159 159 159	54 54
66.0	.2 66 4-4 146 146 146	.4 68 4-4 151 151 151	.8 69 4-4 153 153 153	1.4 69 4-4 156 156 156	1.9 69 4-4 159 159 159	54 54
64.0	.7 69 4-4 148 148 148	1.8 69 4-4 151 151 151	.0 69 2 136 140 140	.0 69 2 134 140 140	.0 69 2 131 140 140	54 54
62.0	.0 69 132 137 137	.0 69 129 137 137	.0 69 127 137 137	.0 69 127 137 137	.0 69 127 137 137	54 54
60.0	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	.0 69 126 135 135	54 54
58.0	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	.0 69 125 132 132	54 54
56.0	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	.0 69 123 130 130	54 54
54.0	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	.0 69 122 127 128	54 54
52.0	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	.0 69 121 125 125	54 54
50.0	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	.0 69 119 122 123	54 54
45.0	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	.0 69 119 121 123	54 54
40.0	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	.0 69 119 121 124	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2300.(FT) QNH ALT. : 2797.(FT)
TIC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =12467.0(FT) T.O.D.A. =11483.0(FT) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 10-DEC-98
FOR TRAINING PURPOSE ONLY		QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
TREF = 44 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE DRY RUNWAY

O A T DC	-10	-5	0	10	20
-1.0	78796 4-4 147 154 155	80559 4-4 152 157 158	82153 4-4 157 162 162	83157 4-4 160 165 165	84095 2-4 163 166 166
14.0	77524 4-4 143 153 153	79365 4-4 148 155 155	81046 4-4 153 159 159	82081 4-4 157 162 162	83076 4-4 160 165 165
29.0	76534 4-4 139 152 153	78250 4-4 145 154 154	80078 4-4 150 156 156	81129 4-4 154 159 159	82144 4-4 157 161 161
44.4	75352 4-4 136 151 152	77054 4-4 142 153 153	78879 4-4 147 154 154	80041 4-4 151 157 157	80189 8-8 151 156 156
46.0	74787 4-4 137 151 151	76454 4-4 142 152 152	78349 4-4 148 154 154	79059 8-8 150 155 155	79059 8-8 150 155 155
47.0	74368 4-4 137 150 151	76061 4-4 143 152 152	77940 4-4 148 154 154	78348 8-8 150 154 154	78348 8-8 149 154 154
49.0	73515 4-4 138 150 150	75268 4-4 144 151 151	76925 8-8 148 153 153	76925 8-8 149 153 153	76925 8-8 147 153 153
50.0	73087 4-4 138 149 149	74870 4-4 144 151 151	76214 8-8 148 152 152	76214 8-8 147 152 152	76214 8-8 145 152 152
52.0	72222 4-4 139 149 149	74065 4-4 145 150 150	74790 8-8 147 151 151	74790 8-8 145 151 151	74790 8-8 143 151 151
53.0	71783 4-4 140 147 147	73656 4-4 145 150 150	74078 8-8 146 150 150	74078 8-8 144 150 150	74078 8-8 142 150 150
55.0	70946 4-4 140 147 147	72787 4-4 146 150 150	74077 2-8 150 151 151	74077 2-8 149 151 151	74077 2-8 147 151 151
56.0	70510 4-4 141 146 146	72322 4-4 147 150 150	73967 2-4 152 153 153	74076 2-8 151 153 153	74076 2-8 150 153 153
57.0	70083 4-4 141 146 146	71860 4-4 147 150 150	73485 4-4 153 155 155	74075 2-8 154 155 155	74075 2-8 153 155 155
59.0	69230 4-4 142 145 145	70945 4-4 148 148 148	72556 4-4 154 155 155	73495 4-4 158 158 158	74074 4-8 159 159 159
60.0	68811 4-4 143 145 145	70495 4-4 148 150 150	72084 4-4 154 154 154	72973 4-4 158 158 158	73667 4-4 162 162 162
62.0	67974 4-4 144 145 145	69592 4-4 149 150 150	71053 4-4 155 155 155	71766 4-4 158 158 158	72417 4-4 161 161 161
63.0	67541 4-4 144 145 145	69148 4-4 150 150 150	70471 4-4 156 156 156	71148 4-4 158 158 158	71778 4-4 160 160 160
65.0	66662 4-4 145 145 145	68137 4-4 151 151 151	69264 4-4 154 154 154	69922 4-4 157 157 157	70503 4-4 160 160 160
66.0	66212 4-4 146 146 146	67592 4-4 152 152 152	68660 4-4 154 154 154	69313 4-4 157 157 157	69869 4-4 160 160 160
68.0	65243 4-4 147 147 147	66379 4-4 151 151 151	67398 4-4 153 153 153	68044 4-4 156 156 156	68559 4-4 159 159 159
69.0	64686 4-4 148 148 148	65757 4-4 151 151 151	66763 4-4 153 153 153	67395 4-4 156 156 156	67901 4-4 159 159 159

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2300.(FT) QNH ALT. : 2797.(FT)
TIC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

TOULOUSE (LFBO) - RWY 33L - CONF 2

CONF 2	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0 (FT) T.O.R.A. =11483.0 (FT) A.S.D.A. =12467.0 (FT) T.O.D.A. =11483.0 (FT) SLOPE = -.10 (%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232/AA/V2527-A5** JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 50/GRAD2= 300 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING PURPOSE ONLY		**WITHOUT REVERSE** TGA
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 22 4-4 140 148 151	.1 45 4-4 141 149 152	.5 48 2-4 147 150 152	.6 48 2-8 147 150 153	.6 48 2-8 145 150 153	50 50
76.0	.0 37 4-4 137 146 149	.3 47 4-4 142 149 152	.2 50 2-8 147 149 151	.2 50 2-8 145 149 151	.2 50 2-8 143 149 151	51 52
74.0	1.5 44 4-4 136 145 147	.1 52 4-4 144 149 152	.1 55 2-8 149 149 152	.1 57 2-8 153 153 155	.1 57 2-8 151 153 155	54 54
72.0	.4 52 4-4 139 145 147	.4 56 4-4 146 146 148	.2 59 4-4 153 153 156	.2 60 4-4 156 156 159	.3 61 2-4 154 154 156	54 54
70.0	.1 57 4-4 141 142 143	.3 60 4-4 148 149 151	.4 62 4-4 154 154 157	.3 63 2-4 150 150 152	.4 64 2-4 153 153 155	54 54
68.0	.4 61 4-4 143 145 146	.2 64 4-4 149 149 151	.5 65 4-4 153 153 155	.5 66 4-4 149 149 151	.5 67 2-4 151 151 153	54 54
66.0	.5 65 4-4 145 145 147	.4 67 4-4 148 148 150	.6 68 4-4 152 152 153	.6 69 2-4 148 148 149	1.2 69 2-4 150 150 152	54 54
64.0	.1 69 4-4 145 145 147	1.1 69 4-4 147 147 149	2.0 69 4-4 151 151 153	.0 69 2 132 138 139	.0 69 2 130 138 139	54 54
62.0	.0 69 2 130 132 133	.0 69 2 127 132 133	.0 69 2 123 132 133	.0 69 2 123 132 133	.0 69 2 123 132 133	54 54
60.0	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	.0 69 122 128 129	54 54
58.0	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	.0 69 120 126 127	54 54
56.0	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	.0 69 119 123 125	54 54
54.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54 54
52.0	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	.0 69 118 120 122	54 54
50.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54 54
45.0	.0 69 117 119 122	.0 69 117 119 122	.0 69 117 119 122	.0 69 117 119 122	.0 69 117 119 122	54 54
40.0						54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2184.(FT) QNH ALT. : 2681.(FT)
TLC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0 (FT) T.O.R.A. =11483.0 (FT) A.S.D.A. =12467.0 (FT) T.O.D.A. =11483.0 (FT) SLOPE = -.10 (%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232/AA/V2527-A5** JARA MC69 10-DEC-98 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING PURPOSE ONLY		**WITHOUT REVERSE**
TREF = 44 DC TMAX = 54 DC	MTOW (KG) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
-1.0	78509 4-4 145 151 155	80149 4-4 150 156 160	81926 2-4 155 157 160	82985 2-4 159 161 164	83916 2-4 163 164 167
14.0	77515 4-4 141 149 152	79203 4-4 146 150 153	80952 2-4 151 154 157	82075 2-4 155 158 161	83099 2-4 159 161 164
29.0	76564 4-4 138 147 150	78347 4-4 144 151 154	80065 2-4 148 152 155	81241 2-4 152 155 158	82304 2-4 156 159 162
44.4	75512 4-4 136 145 147	77347 4-4 141 149 152	79024 2-4 146 150 152	80189 2-8 149 153 156	80189 2-8 149 153 156
46.0	74950 4-4 136 145 148	76764 4-4 142 149 152	78406 4-4 146 153 156	79059 2-8 148 151 154	79059 2-8 147 151 154
47.0	74527 4-4 137 145 147	76327 4-4 142 149 152	78044 2-4 147 150 152	78348 2-8 148 151 153	78348 2-8 146 151 153
49.0	73687 4-4 138 145 147	75442 4-4 143 149 152	76925 2-8 147 149 152	76925 2-8 146 149 152	76925 2-8 144 149 152
50.0	73268 4-4 138 145 147	74966 2-4 143 145 148	76214 2-8 147 149 151	76214 2-8 145 149 151	76214 2-8 143 149 151
52.0	72429 4-4 139 145 147	74115 4-4 144 149 152	74790 2-8 145 147 150	74790 2-8 143 147 150	74790 2-8 140 147 150
53.0	71989 4-4 139 145 147	73703 2-4 145 146 148	74078 2-8 144 147 149	74078 2-8 142 147 149	74078 2-8 140 147 149
55.0	71095 4-4 140 145 147	72827 2-4 145 146 148	74077 2-8 148 149 152	74077 2-8 147 149 152	74077 2-8 145 149 152
56.0	70644 4-4 141 145 147	72363 4-4 146 146 148	73895 4-4 151 151 154	74076 2-8 150 151 153	74076 2-8 148 151 153
57.0	70136 4-4 141 142 143	71873 4-4 146 146 149	73301 4-4 152 152 154	74075 2-8 153 153 155	74075 2-8 151 153 155
59.0	69298 4-4 142 145 146	70795 4-4 148 149 151	72153 4-4 153 153 156	72871 4-4 157 157 160	73551 2-4 155 155 157
60.0	68850 4-4 143 145 146	70320 4-4 148 149 151	71597 4-4 154 154 156	72229 4-4 156 156 159	72922 2-4 154 154 156
62.0	67934 4-4 144 145 146	69335 4-4 149 149 151	70413 4-4 154 154 157	70927 2-4 151 151 153	71637 2-4 153 153 156
63.0	67478 4-4 144 145 146	68814 4-4 150 150 152	69792 4-4 154 154 156	70306 2-4 150 150 152	71000 2-4 153 153 155
65.0	66503 4-4 145 145 147	67613 4-4 149 149 151	68542 4-4 153 153 155	69072 2-4 149 149 151	69736 2-4 152 152 154
66.0	65936 4-4 146 146 148	67010 4-4 149 149 150	67919 4-4 153 153 155	68461 4-4 149 149 151	69109 2-4 152 152 154
68.0	64731 4-4 146 146 147	65761 4-4 148 148 149	66637 4-4 152 152 153	67190 4-4 148 148 150	67805 2-4 151 151 153
69.0	64123 4-4 145 145 147	65132 4-4 147 147 149	65994 4-4 151 151 153	66550 2-4 148 148 149	67154 2-4 150 150 152

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2184.(FT) QNH ALT. : 2681.(FT)
TLC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

TOULOUSE (LFBO) - RWY 33L - CONF 3

CONF 3	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0 (FT) T.O.R.A. =11483.0 (FT) A.S.D.A. =12467.0 (FT) T.O.D.A. =11483.0 (FT) SLOPE = -.10 (%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 10-DEC-98 QNH=1013.25 (MB) GRAD1= 60/GRAD2= 300 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING PURPOSE ONLY		WITHOUT REVERSE TGA
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(KG) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000KG	-10	-5	0	10	20	
77.0	.0 32 4-4 139 148 150	.4 46 4-4 142 150 152	.6 48 2-8 147 150 151	.6 48 2-8 145 150 151	.6 48 2-8 143 150 151	50 50
76.0	.1 44 4-4 136 145 148	.1 49 4-4 144 150 152	.2 50 2-8 145 148 150	.2 50 2-8 143 148 150	.2 50 2-8 141 148 150	51 52
74.0	.3 49 4-4 138 145 147	.1 53 2-8 145 146 147	.1 56 2-8 150 151 152	.1 57 2-8 152 153 154	.1 57 2-8 151 153 154	54 54
72.0	.2 54 4-4 141 145 147	.1 58 4-4 149 149 150	.6 59 4-4 155 155 156	.6 60 2-4 154 154 155	.5 61 2-4 157 157 157	54 54
70.0	.4 58 4-4 143 145 147	.4 61 4-4 150 150 151	.0 63 4-4 154 154 155	.0 64 2-4 152 152 153	.5 64 2-4 155 155 156	54 54
68.0	.1 63 4-4 146 146 147	.5 64 4-4 149 149 150	.1 66 4-4 153 153 154	.1 67 2-4 151 151 152	.6 67 2-4 154 154 154	54 54
66.0	.3 66 4-4 145 145 146	.1 68 4-4 147 147 148	.3 69 2-4 147 147 148	.8 69 2-4 150 150 151	1.2 69 2-4 153 153 153	54 54
64.0	.4 69 4-4 143 143 144	1.4 69 4-4 147 147 148	.0 69 2 132 137 138	.0 69 2 130 137 138	.0 69 2 127 137 138	54 54
62.0	.0 69 2 128 130 131	.0 69 2 124 130 131	.0 69 2 122 130 131	.0 69 2 122 130 131	.0 69 2 122 130 131	54 54
60.0	.0 69 2 119 124 125	.0 69 2 119 124 125	.0 69 2 119 124 125	.0 69 2 119 124 125	.0 69 2 119 124 125	54 54
58.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54 54
56.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54 54
54.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54 54
52.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54 54
50.0	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	.0 69 117 120 122	54 54
45.0	.0 69 117 119 122	.0 69 117 119 122	.0 69 117 119 122	.0 69 117 119 122	.0 69 117 119 122	54 54
40.0						54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2139.(FT) QNH ALT. : 2636.(FT)
TIC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

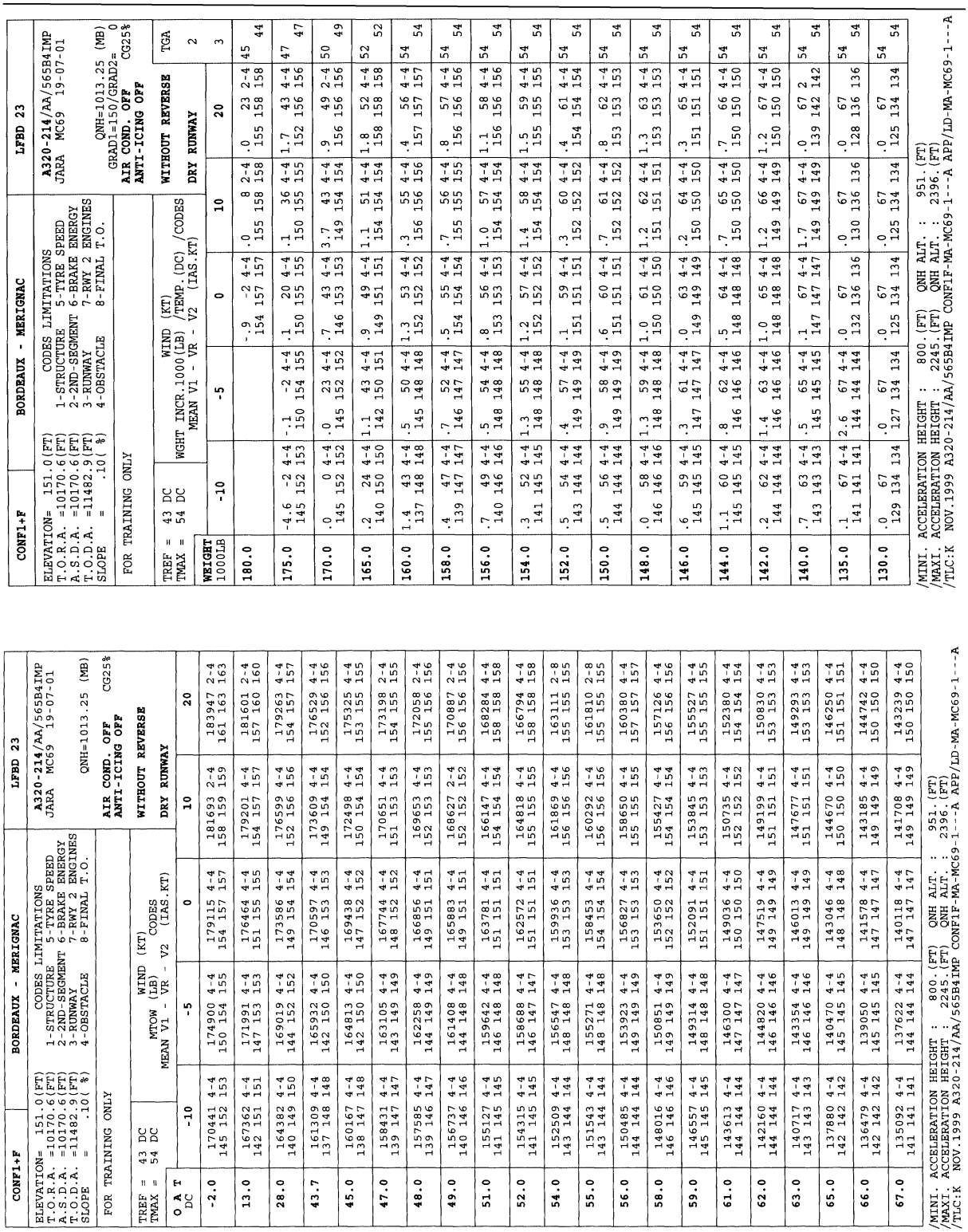
CONF 3	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0 (FT) T.O.R.A. =11483.0 (FT) A.S.D.A. =12467.0 (FT) T.O.D.A. =11483.0 (FT) SLOPE = -.10 (%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 10-DEC-98 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING PURPOSE ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 54 DC	MTOW (KG) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-1.0	79378 4-4 147 153 155	81154 2-4 153 155 157	82668 2-4 159 161 162	83511 2-4 163 165 166	84233 2-4 167 168 169
14.0	78370 4-4 144 151 153	80176 4-4 150 156 157	81881 2-4 155 158 159	82801 2-4 159 162 163	83621 2-4 163 165 166
29.0	77263 4-4 140 148 150	79127 4-4 146 153 155	80888 2-4 151 155 156	81980 2-4 155 159 160	82882 2-4 159 162 163
44.4	76046 4-4 136 145 148	77964 4-4 142 150 152	79726 4-4 147 155 157	80189 2-8 149 153 154	80189 2-8 147 153 154
46.0	75493 4-4 137 145 148	77396 4-4 142 150 152	79059 2-8 147 151 153	79059 2-8 147 151 153	79059 2-8 145 151 153
47.0	75083 4-4 137 145 147	76968 4-4 143 150 152	78348 2-8 147 150 152	78348 2-8 146 150 152	78348 2-8 144 150 152
49.0	74259 4-4 138 145 147	76108 4-4 144 150 152	76925 2-8 146 149 150	76925 2-8 144 149 150	76925 2-8 142 149 150
50.0	73851 4-4 139 145 147	75642 2-4 144 146 148	76214 2-8 145 148 150	76214 2-8 143 148 150	76214 2-8 141 148 150
52.0	73031 4-4 140 145 147	74790 4-8 145 150 151	74790 2-8 143 147 148	74790 2-8 141 147 148	74790 2-8 139 147 148
53.0	72609 4-4 140 145 147	74078 2-8 145 146 147	74078 2-8 142 146 147	74078 2-8 140 146 147	74078 2-8 138 146 147
55.0	71739 4-4 141 145 147	73541 2-4 147 147 149	74077 2-8 147 149 151	74077 2-8 145 149 151	74077 2-8 143 149 151
56.0	71298 4-4 142 145 147	73077 4-4 148 148 149	74076 2-8 150 151 152	74076 2-8 148 151 152	74076 2-8 146 151 152
57.0	70860 4-4 142 145 147	72610 4-4 148 148 150	73830 2-4 152 152 154	74075 2-8 152 153 154	74075 2-8 150 153 154
59.0	69998 4-4 143 145 147	71491 4-4 150 150 151	72600 4-4 155 155 156	73232 2-4 155 155 156	73780 2-4 158 158 158
60.0	69572 4-4 144 145 147	70976 4-4 150 150 152	71954 4-4 154 154 155	72582 2-4 154 154 155	73129 2-4 157 157 158
62.0	68639 4-4 145 145 147	69774 4-4 150 150 151	70670 4-4 154 154 155	71306 2-4 153 153 154	71816 2-4 156 156 157
63.0	68084 4-4 146 146 147	69158 4-4 150 150 151	70032 4-4 154 154 155	70673 2-4 153 153 154	71170 2-4 156 156 156
65.0	66898 4-4 145 145 147	67933 4-4 149 149 150	68765 4-4 153 153 154	69390 2-4 152 152 153	69872 2-4 155 155 155
66.0	66303 4-4 145 145 146	67326 4-4 149 149 150	68136 4-4 153 153 154	68748 2-4 151 151 152	69222 2-4 154 154 155
68.0	65066 4-4 143 143 144	66069 4-4 147 147 148	66890 2-4 147 147 148	67431 2-4 150 150 151	67883 2-4 153 153 154
69.0	64444 4-4 143 143 144	65425 4-4 147 147 148	66253 2-4 147 147 148	66777 2-4 150 150 151	67212 2-4 153 153 153

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2139.(FT) QNH ALT. : 2636.(FT)
TIC:H4 JAN.1997 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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BORDEAUX (LFBD) - RWY 23 - CONF 1 + F



CONF1+F	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. =10170.6(FT) A.S.D.A. =10170.6(FT) T.O.D.A. =11482.9(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=150/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	WIND (KT) WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY TGA 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0			-.9 -2 4-4 154 157 157	.0 8 2-4 155 158 158	.0 23 2-4 45 155 158 158 44
175.0	-4.6 -2 4-4 145 152 153	-.1 -2 4-4 150 154 155	.1 20 4-4 150 155 155	.1 36 4-4 150 155 155	1.7 43 4-4 47 152 156 156 47
170.0	.0 0 4-4 145 152 152	.0 23 4-4 145 152 152	.7 43 4-4 146 153 153	3.7 43 4-4 149 154 154	.9 49 2-4 50 156 156 156 49
165.0	.2 24 4-4 140 150 150	1.1 43 4-4 142 150 151	.9 49 4-4 149 151 151	1.1 51 4-4 154 154 154	1.8 52 4-4 52 158 158 158 52
160.0	1.4 43 4-4 137 148 148	.5 50 4-4 145 148 148	1.3 53 4-4 152 152 152	.3 55 4-4 156 156 156	.4 56 4-4 54 157 157 157 54
158.0	.4 47 4-4 139 147 147	.7 52 4-4 146 147 147	.5 55 4-4 154 154 154	.7 56 4-4 155 155 155	.8 57 4-4 54 156 156 156 54
156.0	.7 49 4-4 140 146 146	.5 54 4-4 148 148 148	.8 56 4-4 153 153 153	1.0 57 4-4 154 154 154	1.1 58 4-4 54 156 156 156 54
154.0	.3 52 4-4 141 145 145	1.3 55 4-4 148 148 148	1.2 57 4-4 152 152 152	1.4 58 4-4 154 154 154	1.5 59 4-4 54 155 155 155 54
152.0	.5 54 4-4 143 144 144	.4 57 4-4 149 149 149	.1 59 4-4 151 151 151	.3 60 4-4 152 152 152	.4 61 4-4 54 154 154 154 54
150.0	.5 56 4-4 144 144 144	.9 58 4-4 149 149 149	.6 60 4-4 151 151 151	.7 61 4-4 152 152 152	.8 62 4-4 54 153 153 153 54
148.0	.0 58 4-4 146 146 146	1.3 59 4-4 148 148 148	1.0 61 4-4 150 150 150	1.2 62 4-4 151 151 151	1.3 63 4-4 54 153 153 153 54
146.0	.6 59 4-4 145 145 145	.3 61 4-4 147 147 147	.0 63 4-4 149 149 149	.2 64 4-4 150 150 150	.3 65 4-4 54 151 151 151 54
144.0	1.1 60 4-4 145 145 145	.8 62 4-4 146 146 146	.5 64 4-4 148 148 148	.7 65 4-4 150 150 150	.7 66 4-4 54 150 150 150 54
142.0	.2 62 4-4 144 144 144	1.4 63 4-4 146 146 146	1.0 65 4-4 148 148 148	1.2 66 4-4 149 149 149	1.2 67 4-4 54 150 150 150 54
140.0	.7 63 4-4 143 143 143	.5 65 4-4 145 145 145	.1 67 4-4 147 147 147	1.7 67 4-4 149 149 149	.0 67 2 54 139 142 142 54
135.0	.1 67 4-4 141 141 141	2.6 67 4-4 144 144 144	.0 67 4-4 132 136 136	.0 67 130 136 136	.0 67 54 128 136 136 54
130.0	.0 67 129 134 134	.0 67 127 134 134	.0 67 125 134 134	.0 67 125 134 134	.0 67 54 125 134 134 54

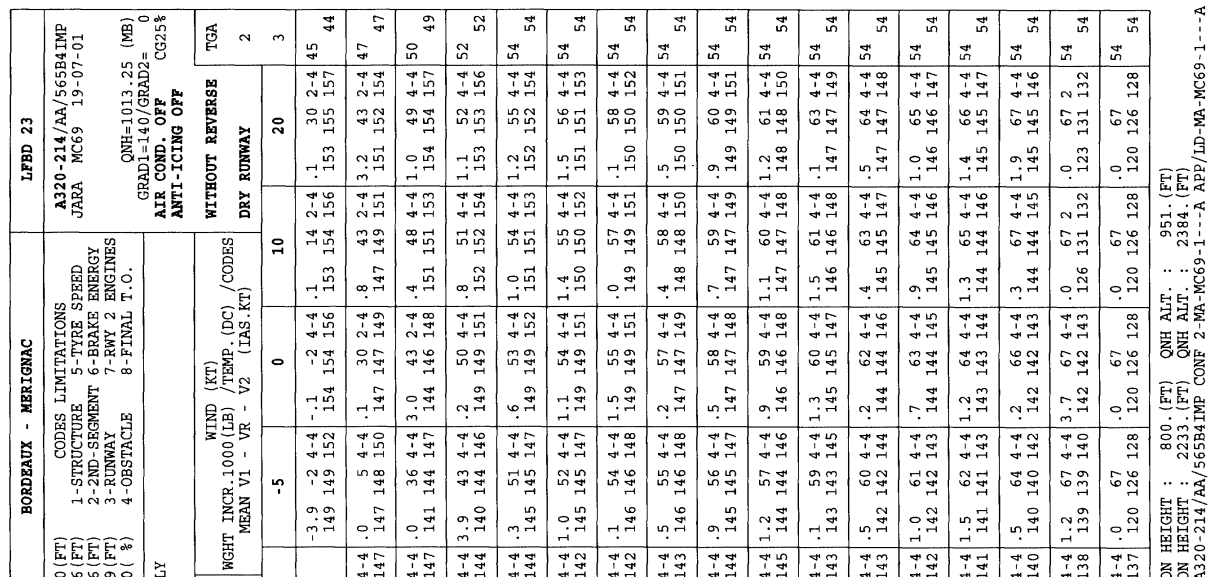
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2245.(FT) QNH ALT. : 2396.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. =10170.6(FT) A.S.D.A. =10170.6(FT) T.O.D.A. =11482.9(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	WIND (KT) MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	170441 4-4 145 152 153	174900 4-4 150 154 155	179115 4-4 154 157 157	181693 2-4 158 159 159	183947 2-4 161 163 163
13.0	167362 4-4 142 151 151	171991 4-4 147 153 153	176464 4-4 151 155 155	179201 4-4 154 157 157	181601 2-4 157 160 160
28.0	164382 4-4 140 149 150	169019 4-4 144 152 152	173586 4-4 149 154 154	176599 4-4 152 156 156	179263 4-4 154 157 157
43.7	161309 4-4 137 148 148	165932 4-4 142 150 150	170597 4-4 146 153 153	173609 4-4 149 154 154	176529 4-4 152 156 156
45.0	160167 4-4 138 147 148	164813 4-4 142 150 150	169438 4-4 147 152 152	172498 4-4 150 154 154	175325 4-4 153 155 155
47.0	158431 4-4 139 147 147	163105 4-4 143 149 149	167744 4-4 148 152 152	170651 4-4 151 153 153	173198 2-4 154 155 155
48.0	157585 4-4 139 146 147	162258 4-4 144 149 149	166856 4-4 149 151 151	169653 4-4 152 153 153	172058 2-4 155 156 156
49.0	156737 4-4 140 146 146	161408 4-4 144 148 148	165883 4-4 149 151 151	168627 2-4 152 152 152	170887 2-4 156 156 156
51.0	155127 4-4 141 145 145	159642 4-4 146 148 148	163781 4-4 151 151 151	166147 4-4 154 154 154	168284 4-4 158 158 158
52.0	154315 4-4 141 145 145	158688 4-4 146 147 147	162572 4-4 151 151 151	164818 4-4 155 155 155	166794 4-4 158 158 158
54.0	152509 4-4 143 144 144	156547 4-4 148 148 148	159936 4-4 153 153 153	161869 4-4 156 156 156	163111 2-8 155 155 155
55.0	151543 4-4 143 144 144	155271 4-4 148 148 148	158453 4-4 154 154 154	160292 4-4 156 156 156	161810 2-8 155 155 155
56.0	150485 4-4 144 144 144	153923 4-4 149 149 149	156827 4-4 153 153 153	158650 4-4 155 155 155	160380 4-4 157 157 157
58.0	148016 4-4 146 146 146	150851 4-4 149 149 149	153650 4-4 152 152 152	155427 4-4 154 154 154	157126 4-4 156 156 156
59.0	146557 4-4 145 145 145	149314 4-4 148 148 148	152091 4-4 151 151 151	153845 4-4 153 153 153	155527 4-4 155 155 155
61.0	143613 4-4 144 144 144	146300 4-4 147 147 147	149036 4-4 150 150 150	150735 4-4 152 152 152	152380 4-4 154 154 154
62.0	142160 4-4 144 144 144	144820 4-4 146 146 146	147519 4-4 149 149 149	149199 4-4 151 151 151	150830 4-4 153 153 153
63.0	140717 4-4 143 143 143	143354 4-4 146 146 146	146013 4-4 149 149 149	147677 4-4 151 151 151	149293 4-4 153 153 153
65.0	137880 4-4 142 142 142	140470 4-4 145 145 145	143046 4-4 148 148 148	144670 4-4 150 150 150	146250 4-4 151 151 151
66.0	136479 4-4 142 142 142	139050 4-4 145 145 145	141578 4-4 147 147 147	143185 4-4 149 149 149	144742 4-4 150 150 150
67.0	135092 4-4 141 141 141	137622 4-4 144 144 144	140118 4-4 147 147 147	141708 4-4 149 149 149	143239 4-4 150 150 150

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2245.(FT) QNH ALT. : 2396.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

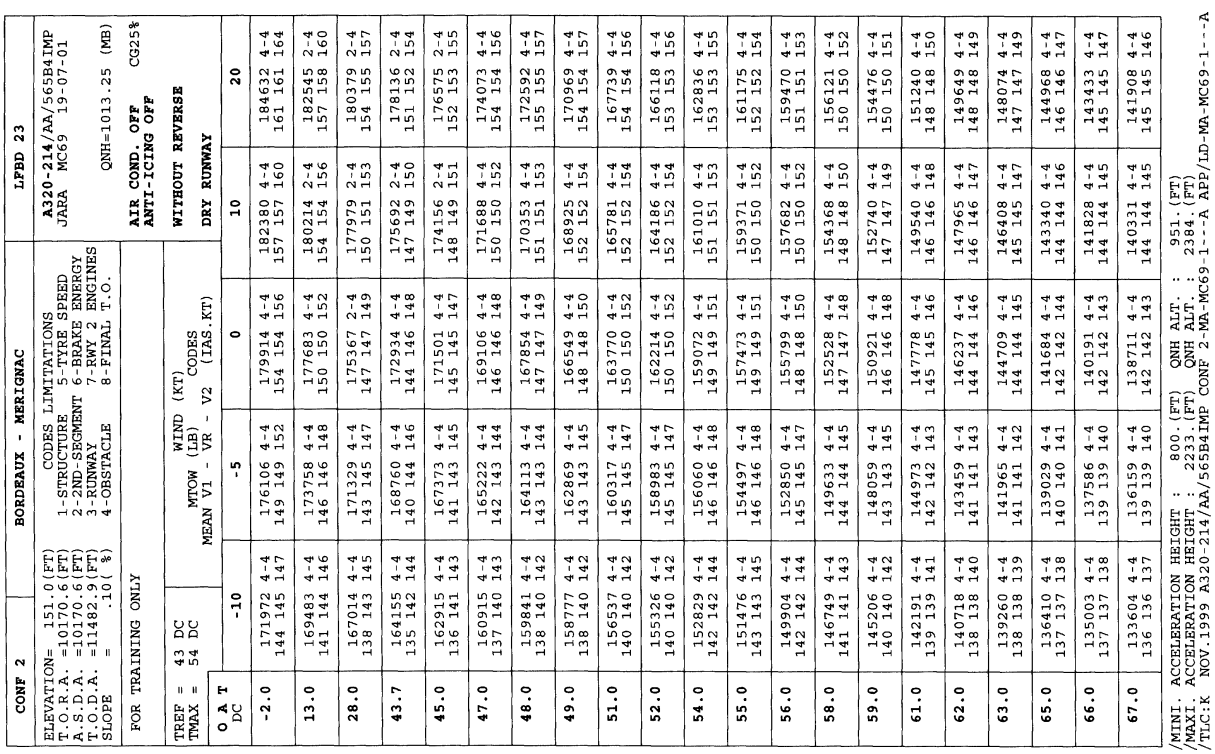
BORDEAUX (LFBD) - RWY 23 - CONF 2



CONF 2	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. =10170.6(FT) A.S.D.A. =10170.6(FT) T.O.D.A. =11482.9(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=140/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0		-3.9 -2 4-4 149 149 152	-.1 -2 4-4 154 154 156	.1 14 2-4 153 154 156	.1 30 2-4 153 155 157	45 44
175.0	-3.0 -2 4-4 144 145 147	.0 5 4-4 147 148 150	.1 30 2-4 147 147 149	.8 43 2-4 147 149 151	3.2 43 2-4 151 152 154	47 47
170.0	.1 9 4-4 142 144 147	.0 36 4-4 141 144 147	3.0 43 2-4 144 146 148	.4 48 4-4 151 151 153	1.0 49 4-4 154 154 157	50 49
165.0	.0 39 4-4 136 142 144	3.9 43 4-4 140 144 146	.2 50 4-4 149 149 151	.8 51 4-4 152 152 154	1.1 52 4-4 153 153 156	52 52
160.0	4.3 43 4-4 135 142 144	.3 51 4-4 145 145 147	.6 53 4-4 149 149 152	1.0 54 4-4 151 151 153	1.2 55 4-4 152 152 154	54 54
158.0	.8 49 4-4 138 140 142	1.0 52 4-4 145 145 147	1.1 54 4-4 149 149 151	1.4 55 4-4 150 150 152	1.5 56 4-4 151 151 153	54 54
156.0	.5 51 4-4 140 140 142	.1 54 4-4 146 146 148	1.5 55 4-4 149 149 151	.0 57 4-4 149 149 151	.1 58 4-4 150 150 152	54 54
154.0	.1 53 4-4 141 141 143	.5 55 4-4 146 146 148	.2 57 4-4 147 147 149	.4 58 4-4 148 148 150	.5 59 4-4 150 150 151	54 54
152.0	.8 54 4-4 142 142 144	.9 56 4-4 145 145 147	.5 58 4-4 147 147 148	.7 59 4-4 147 147 149	.9 60 4-4 149 149 151	54 54
150.0	1.5 55 4-4 143 143 145	1.2 57 4-4 144 144 146	.9 59 4-4 146 146 148	1.1 60 4-4 147 147 148	1.2 61 4-4 148 148 150	54 54
148.0	.3 57 4-4 142 142 143	.1 59 4-4 143 143 145	1.3 60 4-4 145 145 147	1.5 61 4-4 146 146 148	.1 63 4-4 147 147 149	54 54
146.0	.7 58 4-4 141 141 143	.5 60 4-4 142 142 144	.2 62 4-4 144 144 146	.4 63 4-4 145 145 147	.5 64 4-4 147 147 148	54 54
144.0	1.2 59 4-4 140 140 142	1.0 61 4-4 142 142 143	.7 63 4-4 144 144 145	.9 64 4-4 145 145 146	1.0 65 4-4 146 146 147	54 54
142.0	.2 61 4-4 139 139 141	1.5 62 4-4 141 141 143	1.2 64 4-4 143 143 144	1.3 65 4-4 144 144 146	1.4 66 4-4 145 145 147	54 54
140.0	.7 62 4-4 138 138 140	.5 64 4-4 140 140 142	.2 66 4-4 142 142 143	.3 67 4-4 144 144 145	1.9 67 4-4 145 145 146	54 54
135.0	.0 66 4-4 137 137 138	1.2 67 4-4 139 139 140	3.7 67 4-4 142 142 143	.0 67 2 126 131 132	.0 67 2 123 131 132	54 54
130.0	3.6 67 4-4 136 136 137	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2233.(FT) QNH ALT. : 2384.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

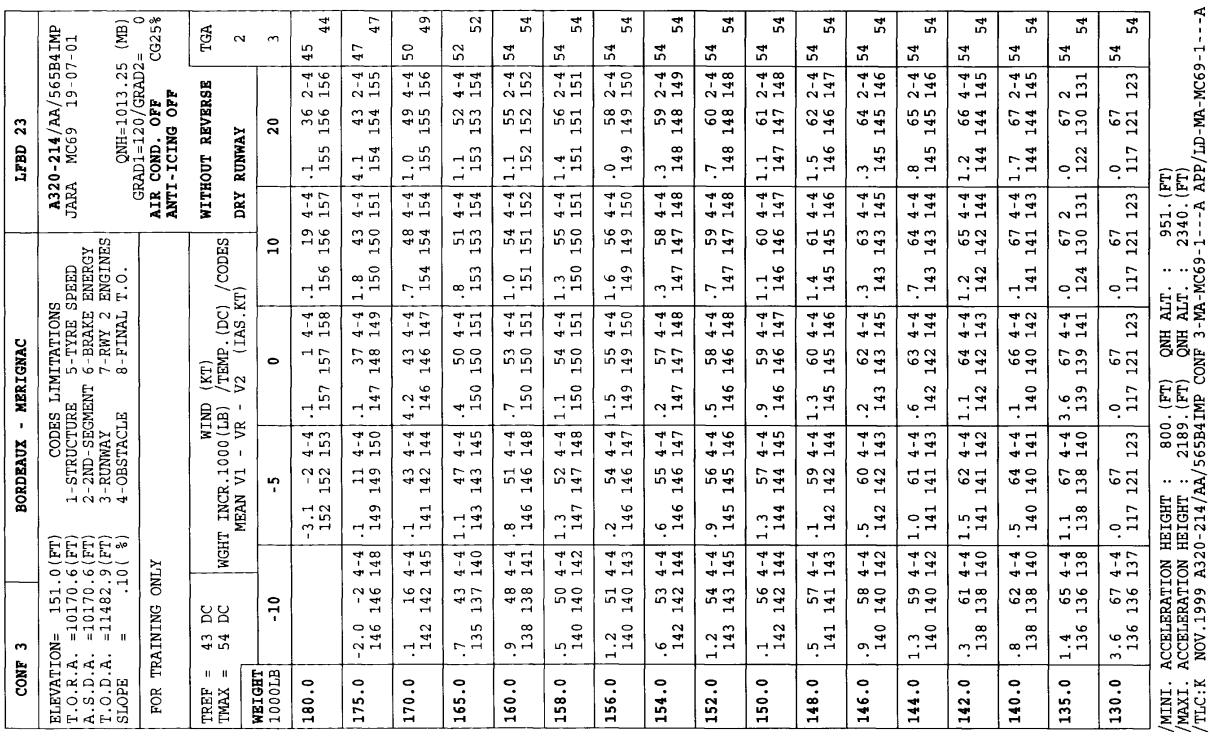


CONF 2	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. =10170.6(FT) A.S.D.A. =10170.6(FT) T.O.D.A. =11482.9(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	171972 4-4 144 145 147	176106 4-4 149 149 152	179914 4-4 154 154 156	182380 4-4 157 157 160	184632 4-4 161 161 164
13.0	169483 4-4 141 144 146	173758 4-4 146 146 148	177683 4-4 150 150 152	180214 2-4 154 154 156	182545 2-4 157 158 160
28.0	167014 4-4 138 143 145	171329 4-4 143 145 147	175367 2-4 147 147 149	177979 2-4 150 151 153	180379 2-4 154 155 157
43.7	164155 4-4 135 142 144	168760 4-4 140 144 146	172934 4-4 144 146 148	175692 2-4 147 149 150	178136 2-4 151 152 154
45.0	162915 4-4 136 141 143	167373 4-4 141 143 145	171501 4-4 145 145 147	174156 2-4 148 149 151	176575 2-4 152 153 155
47.0	160915 4-4 137 140 143	165222 4-4 142 143 144	169106 4-4 146 146 148	171688 4-4 150 150 152	174073 4-4 154 154 156
48.0	159841 4-4 138 140 142	164113 4-4 143 143 144	167854 4-4 147 147 149	170353 4-4 151 151 153	172592 4-4 155 155 157
49.0	158777 4-4 138 140 142	162869 4-4 143 143 145	166549 4-4 148 148 150	168925 4-4 152 152 154	170969 4-4 154 154 157
51.0	156537 4-4 140 140 142	160317 4-4 145 145 147	163770 4-4 150 150 152	165781 4-4 152 152 154	167739 4-4 154 154 156
52.0	155326 4-4 140 140 142	158983 4-4 145 145 147	162214 4-4 150 150 152	164186 4-4 152 152 154	166118 4-4 153 153 156
54.0	152829 4-4 142 142 144	156060 4-4 146 146 148	159072 4-4 149 149 151	161010 4-4 151 151 153	162836 4-4 153 153 155
55.0	151476 4-4 143 143 145	154497 4-4 146 146 148	157473 4-4 149 149 151	159371 4-4 150 150 152	161175 4-4 152 152 154
56.0	149904 4-4 142 142 144	152850 4-4 145 145 147	155799 4-4 148 148 150	157682 4-4 150 150 152	159470 4-4 151 151 153
58.0	146749 4-4 141 141 143	149633 4-4 144 144 145	152528 4-4 147 147 148	154368 4-4 148 148 150	156121 4-4 150 150 152
59.0	145206 4-4 140 140 142	148059 4-4 143 143 145	150921 4-4 146 146 148	152740 4-4 147 147 149	154476 4-4 150 150 151
61.0	142191 4-4 139 139 141	144973 4-4 142 142 143	147778 4-4 145 145 146	149540 4-4 146 146 148	151240 4-4 148 148 150
62.0	140718 4-4 138 138 140	143459 4-4 141 141 143	146237 4-4 144 144 146	147965 4-4 146 146 147	149649 4-4 148 148 149
63.0	139260 4-4 138 138 139	141965 4-4 141 141 142	144709 4-4 144 144 145	146408 4-4 145 145 147	148074 4-4 147 147 149
65.0	136410 4-4 137 137 138	139029 4-4 140 140 141	141684 4-4 142 142 144	143340 4-4 144 144 146	144968 4-4 146 146 147
66.0	135003 4-4 137 137 138	137586 4-4 139 139 140	140191 4-4 142 142 143	141828 4-4 144 144 145	143433 4-4 145 145 147
67.0	133604 4-4 136 136 137	136159 4-4 139 139 140	138711 4-4 142 142 143	140331 4-4 144 144 145	141908 4-4 145 145 146

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2233.(FT) QNH ALT. : 2384.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

BORDEAUX (LFBD) - RWY 23 - CONF 3



CONF 3	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. =10170.6(FT) A.S.D.A. =10170.6(FT) T.O.D.A. =11482.9(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF

FOR TRAINING ONLY

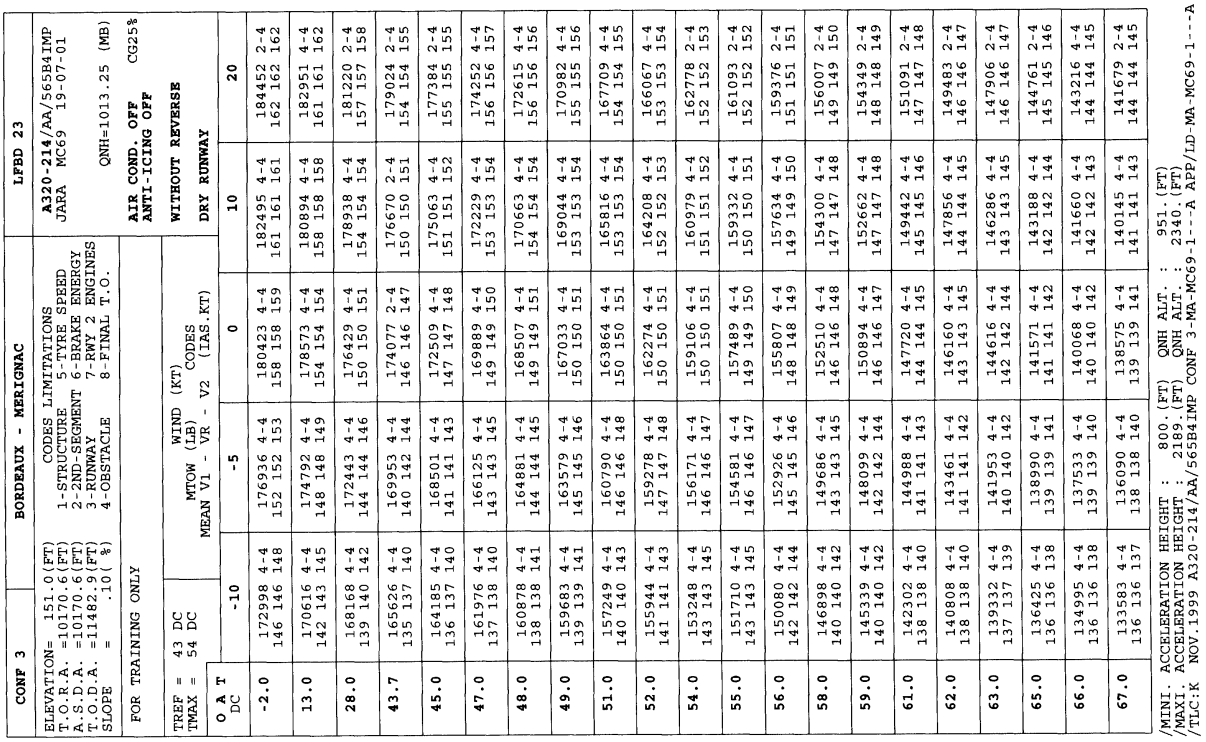
TREF = 43 DC
TMAX = 54 DC

WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE TGA
DRY RUNWAY 2

WEIGHT 1000LB	-10	-5	0	10	20	3
180.0		-3.1 -2 4-4 152 152 153	.1 1 4-4 157 157 158	.1 19 4-4 156 156 157	.1 36 2-4 155 156 156	45 44
175.0	-2.0 -2 4-4 146 146 148	.1 11 4-4 149 149 150	.1 37 4-4 147 148 149	1.8 43 4-4 150 150 151	4.1 43 2-4 154 154 155	47 47
170.0	.1 16 4-4 142 142 145	.1 43 4-4 141 142 144	4.2 43 4-4 146 146 147	.7 48 4-4 154 154 154	1.0 49 4-4 155 155 156	50 49
165.0	.7 43 4-4 135 137 140	1.1 47 4-4 143 143 145	.4 50 4-4 150 150 151	.8 51 4-4 153 153 154	1.1 52 4-4 153 153 154	52 52
160.0	.9 48 4-4 138 138 141	.8 51 4-4 146 146 148	.7 53 4-4 150 150 151	1.0 54 4-4 151 151 152	1.1 55 2-4 152 152 152	54 54
158.0	.5 50 4-4 140 140 142	1.3 52 4-4 147 147 148	1.1 54 4-4 150 150 151	1.3 55 4-4 150 150 151	1.4 56 2-4 151 151 151	54 54
156.0	1.2 51 4-4 140 140 143	.2 54 4-4 146 146 147	1.5 55 4-4 149 149 150	1.6 56 4-4 149 149 150	.0 58 2-4 149 149 150	54 54
154.0	.6 53 4-4 142 142 144	.6 55 4-4 146 146 147	.2 57 4-4 147 147 148	.3 58 4-4 147 147 148	.3 59 2-4 148 148 149	54 54
152.0	1.2 54 4-4 143 143 145	.9 56 4-4 145 145 146	.5 58 4-4 146 146 148	.7 59 4-4 147 147 148	.7 60 2-4 148 148 148	54 54
150.0	.1 56 4-4 142 142 144	1.3 57 4-4 144 144 145	.9 59 4-4 146 146 147	1.1 60 4-4 146 146 147	1.1 61 2-4 147 147 148	54 54
148.0	.5 57 4-4 141 141 143	.1 59 4-4 142 142 144	1.3 60 4-4 145 145 146	1.4 61 4-4 145 145 146	1.5 62 2-4 146 146 147	54 54
146.0	.9 58 4-4 140 140 142	.5 60 4-4 142 142 143	.2 62 4-4 143 143 145	.3 63 4-4 143 143 145	.3 64 2-4 145 145 146	54 54
144.0	1.3 59 4-4 140 140 142	1.0 61 4-4 141 141 143	.6 63 4-4 142 142 144	.7 64 4-4 143 143 144	.8 65 2-4 145 145 146	54 54
142.0	.3 61 4-4 138 138 140	1.5 62 4-4 141 141 142	1.1 64 4-4 142 142 143	1.2 65 4-4 142 142 144	1.2 66 4-4 144 144 145	54 54
140.0	.8 62 4-4 138 138 140	.5 64 4-4 140 140 141	.1 66 4-4 140 140 142	.1 67 4-4 141 141 143	1.7 67 2-4 144 144 145	54 54
135.0	1.4 65 4-4 136 136 138	1.1 67 4-4 138 138 140	3.6 67 4-4 139 139 141	.0 67 2 124 130 131	.0 67 2 122 130 131	54 54
130.0	3.6 67 4-4 136 136 137	.0 67 117 121 123	.0 67 117 121 123	.0 67 117 121 123	.0 67 117 121 123	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2189.(FT) QNH ALT. : 2340.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF 3	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. =10170.6(FT) A.S.D.A. =10170.6(FT) T.O.D.A. =11482.9(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

MTOW (LB) WIND (KT)
MEAN V1 - VR - V2 CODES (IAS.KT)

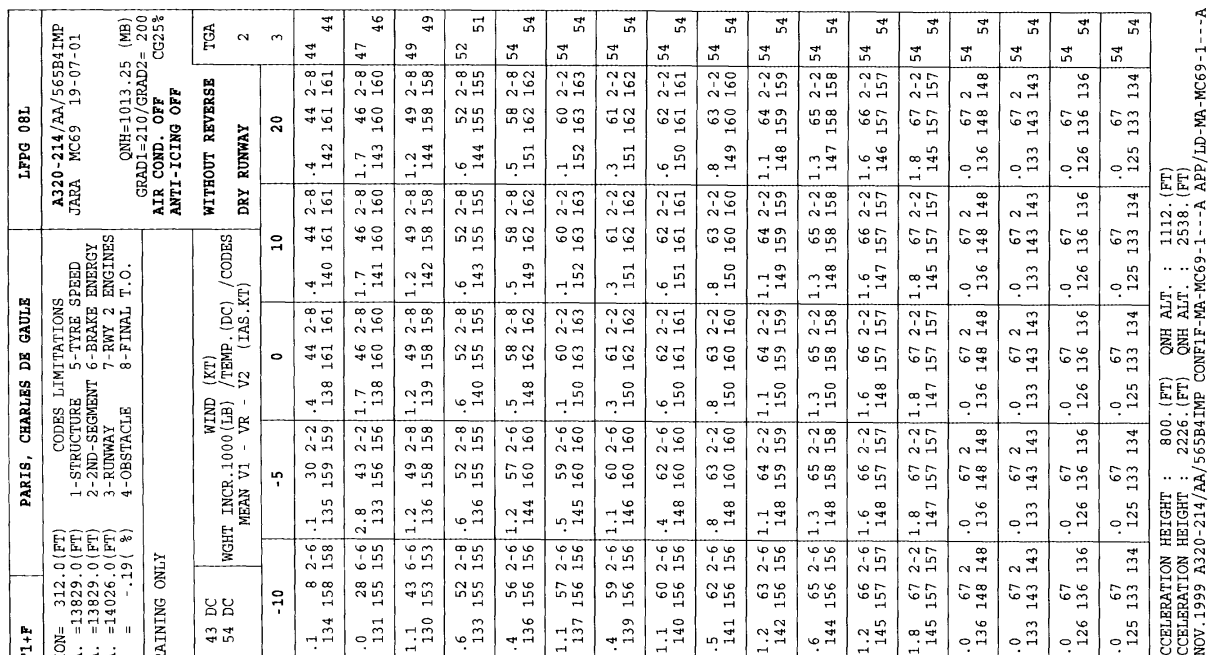
WITHOUT REVERSE
DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	172398 4-4 146 146 148	176936 4-4 152 152 153	180423 4-4 158 158 159	182495 4-4 161 161 161	184452 2-4 162 162 162
13.0	170616 4-4 142 143 145	174792 4-4 148 148 149	178573 4-4 154 154 154	180894 4-4 158 158 158	182951 4-4 161 161 162
28.0	168168 4-4 139 140 142	172443 4-4 144 144 146	176429 4-4 150 150 151	178938 4-4 154 154 154	181220 2-4 157 157 158
43.7	165626 4-4 135 137 140	169953 4-4 140 142 144	174077 2-4 146 146 147	176670 2-4 150 150 151	179024 2-4 154 154 155
45.0	164185 4-4 136 137 140	168501 4-4 141 141 143	172509 4-4 147 147 148	175063 4-4 151 151 152	177384 2-4 155 155 155
47.0	161976 4-4 137 138 140	166125 4-4 143 143 145	169889 4-4 149 149 150	172229 4-4 153 153 154	174252 4-4 156 156 157
48.0	160878 4-4 138 138 141	164881 4-4 144 144 145	168507 4-4 149 149 151	170663 4-4 154 154 154	172615 4-4 156 156 156
49.0	159683 4-4 139 139 141	163579 4-4 145 145 146	167033 4-4 150 150 151	169044 4-4 153 153 154	170982 4-4 155 155 156
51.0	157249 4-4 140 140 143	160790 4-4 146 146 148	163864 4-4 150 150 151	165816 4-4 153 153 154	167709 4-4 154 154 155
52.0	155944 4-4 141 141 143	159278 4-4 147 147 148	162274 4-4 150 150 151	164208 4-4 152 152 153	166067 4-4 153 153 154
54.0	153248 4-4 143 143 145	156171 4-4 146 146 147	159106 4-4 150 150 151	160979 4-4 151 151 152	162778 2-4 152 152 153
55.0	151710 4-4 143 143 145	154581 4-4 146 146 147	157489 4-4 149 149 150	159332 4-4 150 150 151	161093 2-4 152 152 152
56.0	150080 4-4 142 142 144	152926 4-4 145 145 146	155807 4-4 148 148 149	157634 4-4 149 149 150	159376 2-4 151 151 151
58.0	146898 4-4 140 140 142	149686 4-4 143 143 145	152510 4-4 146 146 148	154300 4-4 147 147 148	156007 2-4 149 149 150
59.0	145339 4-4 140 140 142	148099 4-4 142 142 144	150894 4-4 146 146 147	152662 4-4 147 147 148	154349 2-4 148 148 149
61.0	142302 4-4 138 138 140	144988 4-4 141 141 143	147720 4-4 144 144 145	149442 4-4 145 145 146	151091 2-4 147 147 148
62.0	140808 4-4 138 138 140	143461 4-4 141 141 142	146160 4-4 143 143 145	147856 4-4 144 144 145	149483 2-4 146 146 147
63.0	139332 4-4 137 137 139	141953 4-4 140 140 142	144616 4-4 142 142 144	146286 4-4 143 143 145	147906 2-4 146 146 147
65.0	136425 4-4 136 136 138	138990 4-4 139 139 141	141571 4-4 141 141 142	143188 4-4 142 142 144	144761 2-4 145 145 146
66.0	134995 4-4 136 136 138	137533 4-4 139 139 140	140068 4-4 140 140 142	141660 4-4 142 142 143	143216 4-4 144 144 145
67.0	133583 4-4 136 136 137	136090 4-4 138 138 140	138575 4-4 139 139 141	140145 4-4 141 141 143	141679 2-4 144 144 145

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2189.(FT) QNH ALT. : 2340.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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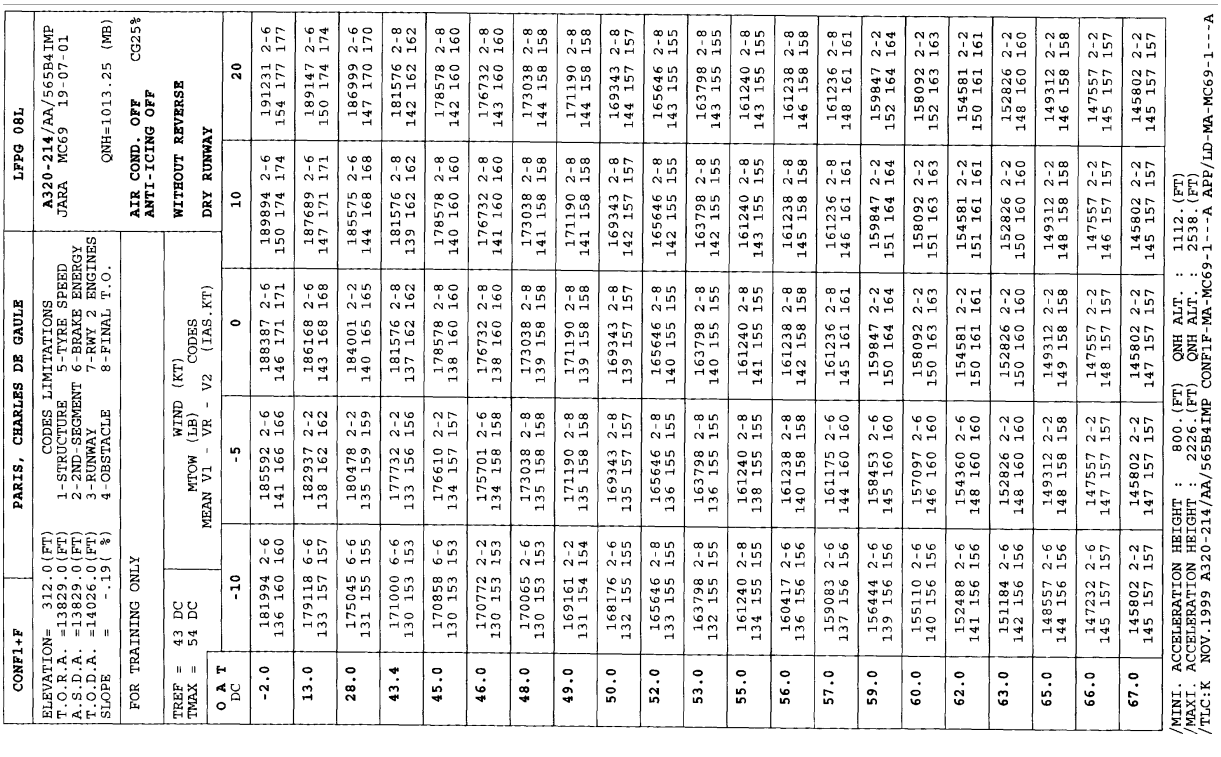
PARIS CHARLES DE GAULLE (LFPG) - RWY 08L - CONF 1 + F



CONF1+F	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =13829.0(FT) T.O.D.A. =14026.0(FT) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=210/GRAD2= 200 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0	.1 8 2-6 134 158 158	.1 30 2-2 135 159 159	.4 44 2-8 138 161 161	.4 44 2-8 140 161 161	.4 44 2-8 44 142 161 161 44
175.0	.0 28 6-6 131 155 155	2.8 43 2-2 133 156 156	1.7 46 2-8 138 160 160	1.7 46 2-8 141 160 160	1.7 46 2-8 47 143 160 160 46
170.0	1.1 43 6-6 130 153 153	1.2 49 2-8 136 158 158	1.2 49 2-8 139 158 158	1.2 49 2-8 142 158 158	1.2 49 2-8 49 144 158 158 49
165.0	.6 52 2-8 133 155 155	.6 52 2-8 136 155 155	.6 52 2-8 140 155 155	.6 52 2-8 143 155 155	.6 52 2-8 52 144 155 155 51
160.0	.4 56 2-6 136 156 156	1.2 57 2-6 144 160 160	.5 58 2-8 148 162 162	.5 58 2-8 149 162 162	.5 58 2-8 54 151 162 162 54
158.0	1.1 57 2-6 137 156 156	.5 59 2-6 145 160 160	.1 60 2-2 150 163 163	.1 60 2-2 152 163 163	.1 60 2-2 54 152 163 163 54
156.0	.4 59 2-6 139 156 156	1.1 60 2-6 146 160 160	.3 61 2-2 150 162 162	.3 61 2-2 151 162 162	.3 61 2-2 54 151 162 162 54
154.0	1.1 60 2-6 140 156 156	.4 62 2-6 148 160 160	.6 62 2-2 150 161 161	.6 62 2-2 151 161 161	.6 62 2-2 54 150 161 161 54
152.0	.5 62 2-6 141 156 156	.8 63 2-2 148 160 160	.8 63 2-2 150 160 160	.8 63 2-2 150 160 160	.8 63 2-2 54 149 160 160 54
150.0	1.2 63 2-6 142 156 156	1.1 64 2-2 148 159 159	1.1 64 2-2 150 159 159	1.1 64 2-2 149 159 159	1.1 64 2-2 54 148 159 159 54
148.0	.6 65 2-6 144 156 156	1.3 65 2-2 148 158 158	1.3 65 2-2 150 158 158	1.3 65 2-2 148 158 158	1.3 65 2-2 54 147 158 158 54
146.0	1.2 66 2-6 145 157 157	1.6 66 2-2 148 157 157	1.6 66 2-2 148 157 157	1.6 66 2-2 147 157 157	1.6 66 2-2 54 146 157 157 54
144.0	1.8 67 2-2 145 157 157	1.8 67 2-2 147 157 157	1.8 67 2-2 147 157 157	1.8 67 2-2 145 157 157	1.8 67 2-2 54 145 157 157 54
142.0	.0 67 2 136 148 148	.0 67 2 136 148 148	.0 67 2 136 148 148	.0 67 2 136 148 148	.0 67 2 54 136 148 148 54
140.0	.0 67 2 133 143 143	.0 67 2 133 143 143	.0 67 2 133 143 143	.0 67 2 133 143 143	.0 67 2 54 133 143 143 54
135.0	.0 67 126 136 136	.0 67 126 136 136	.0 67 126 136 136	.0 67 126 136 136	.0 67 54 126 136 136 54
130.0	.0 67 125 133 134	.0 67 125 133 134	.0 67 125 133 134	.0 67 125 133 134	.0 67 54 125 133 134 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2226.(FT) QNH ALT. : 2538.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF1+F	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =13829.0(FT) T.O.D.A. =14026.0(FT) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2

OAT DC	-10	-5	0	10	20
-2.0	181994 2-6 136 160 160	185592 2-6 141 166 166	188387 2-6 146 171 171	189894 2-6 150 174 174	191231 2-6 154 177 177
13.0	179118 6-6 133 157 157	182937 2-2 138 162 162	186168 2-6 143 168 168	187689 2-6 147 171 171	189147 2-6 150 174 174
28.0	175045 6-6 131 155 155	180478 2-2 135 159 159	184001 2-2 140 165 165	185575 2-6 144 168 168	186999 2-6 147 170 170
43.4	171000 6-6 130 153 153	177732 2-2 133 156 156	181576 2-8 137 162 162	181576 2-8 139 162 162	181576 2-8 142 162 162
45.0	170858 6-6 130 153 153	176610 2-2 134 157 157	178578 2-8 138 160 160	178578 2-8 140 160 160	178578 2-8 142 160 160
46.0	170772 2-2 130 153 153	175701 2-6 134 158 158	176732 2-8 138 160 160	176732 2-8 141 160 160	176732 2-8 143 160 160
48.0	170065 2-6 130 153 153	173038 2-8 135 158 158	173038 2-8 139 158 158	173038 2-8 141 158 158	173038 2-8 144 158 158
49.0	169161 2-2 131 154 154	171190 2-8 135 158 158	171190 2-8 139 158 158	171190 2-8 141 158 158	171190 2-8 144 158 158
50.0	168176 2-6 132 155 155	169343 2-8 135 157 157	169343 2-8 139 157 157	169343 2-8 142 157 157	169343 2-8 144 157 157
52.0	165646 2-8 133 155 155	165646 2-8 136 155 155	165646 2-8 140 155 155	165646 2-8 142 155 155	165646 2-8 143 155 155
53.0	163798 2-8 132 155 155	163798 2-8 136 155 155	163798 2-8 140 155 155	163798 2-8 142 155 155	163798 2-8 143 155 155
55.0	161240 2-8 134 155 155	161240 2-8 138 155 155	161240 2-8 141 155 155	161240 2-8 143 155 155	161240 2-8 143 155 155
56.0	160417 2-6 136 156 156	161238 2-8 140 158 158	161238 2-8 142 158 158	161238 2-8 145 158 158	161238 2-8 146 158 158
57.0	159083 2-6 137 156 156	161175 2-6 144 160 160	161236 2-8 145 161 161	161236 2-8 146 161 161	161236 2-8 148 161 161
59.0	156444 2-6 139 156 156	158453 2-6 145 160 160	159847 2-2 150 164 164	159847 2-2 151 164 164	159847 2-2 152 164 164
60.0	155110 2-6 140 156 156	157097 2-6 146 160 160	158092 2-2 150 163 163	158092 2-2 151 163 163	158092 2-2 152 163 163
62.0	152488 2-6 141 156 156	154360 2-6 148 160 160	154581 2-2 150 161 161	154581 2-2 151 161 161	154581 2-2 150 161 161
63.0	151184 2-6 142 156 156	152826 2-2 148 160 160	152826 2-2 150 160 160	152826 2-2 150 160 160	152826 2-2 148 160 160
65.0	148557 2-6 144 156 156	149312 2-2 148 158 158	149312 2-2 149 158 158	149312 2-2 148 158 158	149312 2-2 146 158 158
66.0	147232 2-6 145 157 157	147557 2-2 147 157 157	147557 2-2 148 157 157	147557 2-2 146 157 157	147557 2-2 145 157 157
67.0	145802 2-2 145 157 157	145802 2-2 147 157 157	145802 2-2 147 157 157	145802 2-2 145 157 157	145802 2-2 145 157 157

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2226.(FT) QNH ALT. : 2538.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 08L - CONF 2

CONF 2	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =13829.0(FT) T.O.D.A. =14026.0(FT) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 700 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WIND (KT) WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0	.0 18 2-6 132 154 157	.1 38 2-6 133 155 158	.4 44 2-8 136 157 160	.4 44 2-8 139 157 160	.4 44 2-8 141 157 160	44 44
175.0	.9 43 2-6 127 149 151	4.3 43 2-6 132 154 156	1.7 46 2-8 137 156 159	1.7 46 2-8 139 156 159	1.7 46 2-8 142 156 159	47 46
170.0	.4 49 2-2 131 153 155	1.2 49 2-8 134 154 157	1.2 49 2-8 138 154 157	1.2 49 2-8 140 154 157	1.2 49 2-8 143 154 157	49 49
165.0	.6 52 2-8 132 152 155	.6 52 2-8 135 152 155	.6 52 2-8 139 152 155	.6 52 2-8 141 152 155	.6 52 2-8 141 152 155	52 51
160.0	.9 56 2-6 136 154 157	1.2 57 2-8 142 158 160	.1 58 2-8 145 159 161	.1 58 2-8 147 159 161	.1 58 2-8 147 159 161	54 54
158.0	.1 58 2-6 138 154 156	.5 59 2-6 145 158 161	.9 59 2-2 147 159 162	.9 59 2-2 148 159 162	.9 59 2-2 148 159 162	54 54
156.0	.7 59 2-6 138 154 156	1.1 60 2-6 145 158 160	1.2 60 2-2 147 158 161	1.2 60 2-2 148 158 161	1.2 60 2-2 147 158 161	54 54
154.0	1.3 60 2-6 139 154 156	1.4 61 2-6 146 157 160	1.4 61 2-2 147 158 160	1.4 61 2-2 147 158 160	1.4 61 2-2 146 158 160	54 54
152.0	.5 62 2-6 141 154 156	1.7 62 2-2 146 157 159	1.7 62 2-2 147 157 159	1.7 62 2-2 147 157 159	1.7 62 2-2 145 157 159	54 54
150.0	1.1 63 2-6 142 154 156	.2 64 2-2 145 155 157	.2 64 2-2 146 155 157	.2 64 2-2 144 155 157	.2 64 2-2 144 155 157	54 54
148.0	.3 65 2-6 143 154 156	.4 65 2-2 145 154 156	.4 65 2-2 145 154 156	.4 65 2-2 143 154 156	.4 65 2-2 143 154 156	54 54
146.0	.7 66 2-2 144 154 155	.7 66 2-2 145 154 155	.7 66 2-2 144 154 155	.7 66 2-2 142 154 155	.7 66 2-2 142 154 155	54 54
144.0	.9 67 2-2 143 153 154	.9 67 2-2 145 153 154	.9 67 2-2 143 153 154	.9 67 2-2 142 153 154	.9 67 2-2 142 153 154	54 54
142.0	.0 67 2 135 146 147	.0 67 2 135 146 147	.0 67 2 135 146 147	.0 67 2 135 146 147	.0 67 2 135 146 147	54 54
140.0	.0 67 2 131 141 142	.0 67 2 131 141 142	.0 67 2 131 141 142	.0 67 2 131 141 142	.0 67 2 131 141 142	54 54
135.0	.0 67 2 123 132 133	.0 67 2 123 132 133	.0 67 2 123 132 133	.0 67 2 123 132 133	.0 67 2 123 132 133	54 54
130.0	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2215.(FT) QNH ALT. : 2527.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =13829.0(FT) T.O.D.A. =14026.0(FT) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	WIND (LB) (KT) MTOW CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	183545 2-6 136 159 162	186759 2-2 141 165 168	189099 2-6 146 170 172	190461 2-6 150 174 176	190989 2-2 152 175 177
13.0	180877 2-6 133 155 158	184139 2-6 137 161 163	187046 2-6 142 167 169	188537 2-6 146 170 172	189300 2-6 150 173 175
28.0	178349 2-6 130 152 154	181645 2-6 134 157 160	184670 2-2 139 163 165	186557 2-6 143 167 169	188019 2-6 147 170 172
43.4	175854 2-6 127 149 151	179210 2-6 132 154 156	181576 2-8 136 158 160	181576 2-8 138 158 160	181576 2-8 141 158 160
45.0	174347 2-6 128 150 152	177667 2-2 133 155 158	178578 2-8 136 157 159	178578 2-8 139 157 159	178578 2-8 141 157 159
46.0	173391 2-6 129 151 153	176661 2-8 133 156 158	176732 2-8 136 156 159	176732 2-8 139 156 159	176732 2-8 141 156 159
48.0	171414 2-2 130 152 154	173038 2-8 134 155 157	173038 2-8 137 155 157	173038 2-8 140 155 157	173038 2-8 142 155 157
49.0	170390 2-2 131 153 155	171190 2-8 134 154 157	171190 2-8 138 154 157	171190 2-8 140 154 157	171190 2-8 143 154 157
50.0	169313 2-8 131 153 156	169343 2-8 134 154 156	169343 2-8 138 154 156	169343 2-8 140 154 156	169343 2-8 142 154 156
52.0	165646 2-8 131 152 155	165646 2-8 135 152 155	165646 2-8 138 152 155	165646 2-8 141 152 155	165646 2-8 141 152 155
53.0	163798 2-8 131 152 154	163798 2-8 135 152 154	163798 2-8 138 152 154	163798 2-8 140 152 154	163798 2-8 140 152 154
55.0	161240 2-8 133 152 154	161240 2-8 136 152 154	161240 2-8 140 152 154	161240 2-8 141 152 154	161240 2-8 141 152 154
56.0	160943 2-6 136 154 157	161238 2-8 137 155 157	161238 2-8 141 155 157	161238 2-8 143 155 157	161238 2-8 143 155 157
57.0	159535 2-6 137 154 156	161236 2-8 142 158 160	161236 2-8 143 158 160	161236 2-8 145 158 160	161236 2-8 146 158 160
59.0	156705 2-6 138 154 156	158501 2-6 145 158 161	158943 2-2 147 159 162	158943 2-2 148 159 162	158943 2-2 147 159 162
60.0	155291 2-6 139 154 156	157052 2-6 145 158 160	157191 2-2 147 158 161	157191 2-2 148 158 161	157191 2-2 147 158 161
62.0	152503 2-6 141 154 156	153689 2-2 145 157 159	153689 2-2 147 157 159	153689 2-2 146 157 159	153689 2-2 145 157 159
63.0	151091 2-6 142 154 156	151939 2-2 145 156 158	151939 2-2 146 156 158	151939 2-2 145 156 158	151939 2-2 144 156 158
65.0	148302 2-6 143 154 156	148437 2-2 145 154 156	148437 2-2 145 154 156	148437 2-2 143 154 156	148437 2-2 143 154 156
66.0	146685 2-2 143 154 155	146685 2-2 145 154 155	146685 2-2 144 154 155	146685 2-2 142 154 155	146685 2-2 142 154 155
67.0	144934 2-2 143 153 154	144934 2-2 145 153 154	144934 2-2 142 153 154	144934 2-2 141 153 154	144934 2-2 141 153 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2215.(FT) QNH ALT. : 2527.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 08L - CONF 3

CONF 3	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =13829.0(FT) T.O.D.A. =14026.0(FT) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214/AA/565B4IMP** JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 43 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-2.0	184333 2-2 137 162 163	186842 2-6 143 168 168	188720 2-6 149 173 173	189862 2-6 154 176 176	190602 2-2 157 178 178
13.0	181910 2-6 134 158 159	185045 2-6 139 165 165	187013 2-6 145 169 169	188271 2-6 150 173 173	189367 2-6 155 176 176
28.0	179390 2-6 130 154 155	182853 2-2 136 161 161	185246 2-6 141 166 166	186586 2-6 146 169 169	187780 2-6 150 173 173
43.4	176785 2-6 128 151 151	180399 2-2 133 157 158	181576 2-8 136 159 160	181576 2-8 139 159 160	181576 2-8 142 159 160
45.0	175192 2-6 128 152 153	178578 2-8 133 158 159	178578 2-8 137 158 159	178578 2-8 140 158 159	178578 2-8 142 158 159
46.0	174205 2-2 129 152 153	176732 2-8 134 158 158	176732 2-8 138 158 158	176732 2-8 140 158 158	176732 2-8 143 158 158
48.0	172108 2-6 130 154 155	173038 2-8 134 156 157	173038 2-8 138 156 157	173038 2-8 141 156 157	173038 2-8 144 156 157
49.0	170913 2-6 131 155 155	171190 2-8 134 155 156	171190 2-8 138 155 156	171190 2-8 141 155 156	171190 2-8 143 155 156
50.0	169343 2-8 131 155 155	169343 2-8 135 155 155	169343 2-8 139 155 155	169343 2-8 142 155 155	169343 2-8 143 155 155
52.0	165646 2-8 132 153 154	165646 2-8 136 153 154	165646 2-8 140 153 154	165646 2-8 141 153 154	165646 2-8 141 153 154
53.0	163798 2-8 132 153 153	163798 2-8 136 153 153	163798 2-8 140 153 153	163798 2-8 141 153 153	163798 2-8 141 153 153
55.0	161240 2-8 133 153 154	161240 2-8 137 153 154	161240 2-8 141 153 154	161240 2-8 141 153 154	161240 2-8 141 153 154
56.0	160801 2-6 137 156 156	161238 2-8 140 157 158	161238 2-8 143 157 158	161238 2-8 145 157 158	161238 2-8 145 157 158
57.0	159350 2-6 138 156 156	161000 2-6 145 160 161	161236 8-8 147 161 162	161236 8-8 148 161 162	161236 8-8 148 161 162
59.0	156427 2-6 139 155 156	158018 2-6 147 160 161	158546 2-2 150 162 162	158546 2-2 151 162 162	158546 2-2 150 162 162
60.0	155010 2-6 140 155 156	156523 2-6 148 160 161	156798 2-2 150 161 161	156798 2-2 151 161 161	156798 2-2 149 161 161
62.0	152131 2-6 142 155 156	153303 2-2 148 159 160	153303 2-2 150 159 160	153303 2-2 149 159 160	153303 2-2 147 159 160
63.0	150703 2-6 143 155 156	151555 2-2 148 159 159	151555 2-2 150 159 159	151555 2-2 148 159 159	151555 2-2 147 159 159
65.0	147822 2-6 145 156 156	148060 2-2 148 157 157	148060 2-2 148 157 157	148060 2-2 146 157 157	148060 2-2 144 157 157
66.0	146312 2-2 146 156 156	146312 2-2 148 156 156	146312 2-2 146 156 156	146312 2-2 145 156 156	146312 2-2 144 156 156
67.0	144564 2-2 146 155 155	144564 2-2 147 155 155	144564 2-2 145 155 155	144564 2-2 143 155 155	144564 2-2 143 155 155

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2202.(FT) QNH ALT. : 2514.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =13829.0(FT) T.O.D.A. =14026.0(FT) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214/AA/565B4IMP** JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=130/GRAD2= 800 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20	TGA
180.0	.1 24 2-6 131 155 156	.5 43 2-6 133 157 158	.4 44 2-8 137 159 159	.4 44 2-8 140 159 159	.4 44 2-8 143 159 159	44 44
175.0	1.8 43 2-6 128 151 152	1.7 46 2-8 134 158 158	1.7 46 2-8 138 158 158	1.7 46 2-8 141 158 158	1.7 46 2-8 143 158 158	47 46
170.0	.9 49 2-6 131 155 155	1.2 49 2-8 135 155 156	1.2 49 2-8 139 155 156	1.2 49 2-8 142 155 156	1.2 49 2-8 143 155 156	49 49
165.0	.6 52 2-8 132 153 154	.6 52 2-8 136 153 154	.6 52 2-8 140 153 154	.6 52 2-8 141 153 154	.6 52 2-8 141 153 154	52 51
160.0	.8 56 2-6 137 156 156	1.0 57 2-6 145 160 161	1.2 57 8-8 147 161 162	1.2 57 8-8 148 161 162	1.2 57 8-8 149 161 162	54 54
158.0	1.4 57 2-6 138 156 156	.0 59 2-6 147 160 161	.5 59 2-2 151 162 162	.5 59 2-2 152 162 162	.5 59 2-2 151 162 162	54 54
156.0	.4 59 2-6 139 155 156	.5 60 2-6 148 160 161	.8 60 2-2 151 161 161	.8 60 2-2 152 161 161	.8 60 2-2 150 161 161	54 54
154.0	1.0 60 2-6 140 155 156	.9 61 2-6 148 160 160	1.1 61 2-2 151 160 161	1.1 61 2-2 151 160 161	1.1 61 2-2 149 160 161	54 54
152.0	.1 62 2-6 142 155 156	1.3 62 2-2 149 159 160	1.3 62 2-2 151 159 160	1.3 62 2-2 150 159 160	1.3 62 2-2 148 159 160	54 54
150.0	.7 63 2-6 143 155 156	1.6 63 2-2 149 159 159	1.6 63 2-2 150 159 159	1.6 63 2-2 148 159 159	1.6 63 2-2 147 159 159	54 54
148.0	1.3 64 2-6 144 156 156	.1 65 2-2 149 157 157	.1 65 2-2 148 157 157	.1 65 2-2 146 157 157	.1 65 2-2 144 157 157	54 54
146.0	.3 66 2-2 146 156 156	.3 66 2-2 149 156 156	.3 66 2-2 147 156 156	.3 66 2-2 145 156 156	.3 66 2-2 144 156 156	54 54
144.0	.6 67 2-2 146 155 155	.6 67 2-2 148 155 155	.6 67 2-2 145 155 155	.6 67 2-2 144 155 155	.6 67 2-2 143 155 155	54 54
142.0	.0 67 2 136 146 147	.0 67 2 135 146 147	.0 67 2 135 146 147	.0 67 2 135 146 147	.0 67 2 135 146 147	54 54
140.0	.0 67 2 130 141 142	.0 67 2 130 141 142	.0 67 2 130 141 142	.0 67 2 130 141 142	.0 67 2 130 141 142	54 54
135.0	.0 67 2 122 130 132	.0 67 2 122 130 132	.0 67 2 122 130 132	.0 67 2 122 130 132	.0 67 2 122 130 132	54 54
130.0	.0 67 2 118 122 124	.0 67 2 118 122 124	.0 67 2 118 122 124	.0 67 2 118 122 124	.0 67 2 118 122 124	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2202.(FT) QNH ALT. : 2514.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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PARIS CHARLES DE GAULLE (LFPG) - RWY 26R - CONF 1 + F

CONF1+F	PARIS, CHARLES DE GAULE	LFPG 26R
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =14026.0(FT) T.O.D.A. =14026.0(FT) SLOPE = .19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=140/GRAD2= 700 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 43 DC TMAX = 54 DC	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

OAT DC	-10	-5	0	10	20
-2.0	179394 4-4 139 157 157	182698 2-4 144 161 161	185569 2-4 150 166 166	187304 2-4 153 169 169	188948 2-4 157 173 173
13.0	176415 4-4 136 155 155	180332 2-4 141 158 158	183325 2-4 146 163 163	185118 2-4 150 166 166	186805 2-4 153 169 169
28.0	173346 4-4 134 154 154	177644 4-4 138 156 156	181087 2-4 143 160 160	182972 2-4 147 163 163	184713 2-4 150 166 166
43.4	170476 4-4 131 153 153	174693 4-4 136 155 155	178781 2-4 141 157 157	180745 2-4 144 161 161	181576 2-8 145 162 162
45.0	168746 4-4 132 152 152	173129 4-4 137 154 154	176803 2-4 142 158 158	178578 2-8 145 161 161	178578 2-8 145 161 161
46.0	167815 4-4 133 152 152	172172 4-4 138 154 154	175572 2-4 143 158 158	176732 2-8 145 160 160	176732 2-8 146 160 160
48.0	165961 4-4 134 151 151	170049 2-4 139 154 154	173038 8-4 145 158 158	173038 2-8 145 158 158	173038 2-8 145 158 158
49.0	165030 4-4 135 151 151	168820 2-4 140 154 154	171190 2-8 144 158 158	171190 2-8 145 158 158	171190 2-8 145 158 158
50.0	164093 4-4 135 150 150	167630 2-4 141 154 154	169343 2-8 144 157 157	169343 2-8 145 157 157	169343 2-8 145 157 157
52.0	162079 2-4 137 150 150	165123 2-4 142 155 155	165646 2-8 144 156 156	165646 2-8 144 156 156	165646 2-8 144 156 156
53.0	160892 2-4 137 150 150	163798 8-4 143 155 155	163798 2-8 144 155 155	163798 2-8 144 155 155	163798 2-8 143 155 155
55.0	158427 2-4 139 150 150	161240 2-8 145 155 155	161240 2-8 145 155 155	161240 2-8 145 155 155	161240 2-8 143 155 155
56.0	157206 2-4 140 150 150	159996 2-4 145 155 155	161238 2-8 149 158 158	161238 2-8 150 158 158	161238 2-8 148 158 158
57.0	155975 2-4 140 150 150	158707 2-4 146 155 155	161096 2-4 152 160 160	161236 2-8 153 161 161	161236 2-8 154 161 161
59.0	153551 2-4 142 150 150	156142 2-4 148 156 156	158453 2-4 154 160 160	159790 2-4 158 164 164	159847 2-2 159 164 164
60.0	152320 2-4 143 151 151	154871 2-4 149 156 156	157097 2-4 155 161 161	158092 2-2 158 163 163	158092 2-2 159 163 163
62.0	149920 2-4 144 151 151	152323 2-4 150 156 156	154427 2-4 157 161 161	154581 2-2 158 161 161	154581 2-2 156 161 161
63.0	148721 2-4 145 151 151	151036 2-4 151 156 156	152826 2-2 157 160 160	152826 2-2 156 160 160	152826 2-2 155 160 160
65.0	146281 2-4 147 151 151	148477 2-4 153 156 156	149312 2-2 156 159 159	149312 2-2 155 159 159	149312 2-2 153 159 159
66.0	145059 2-4 148 152 152	147170 2-4 154 157 157	147557 2-2 155 158 158	147557 2-2 153 158 158	147557 2-2 152 158 158
67.0	143822 2-4 148 152 152	145802 2-2 154 157 157	145802 2-2 154 157 157	145802 2-2 152 157 157	145802 2-2 151 157 157

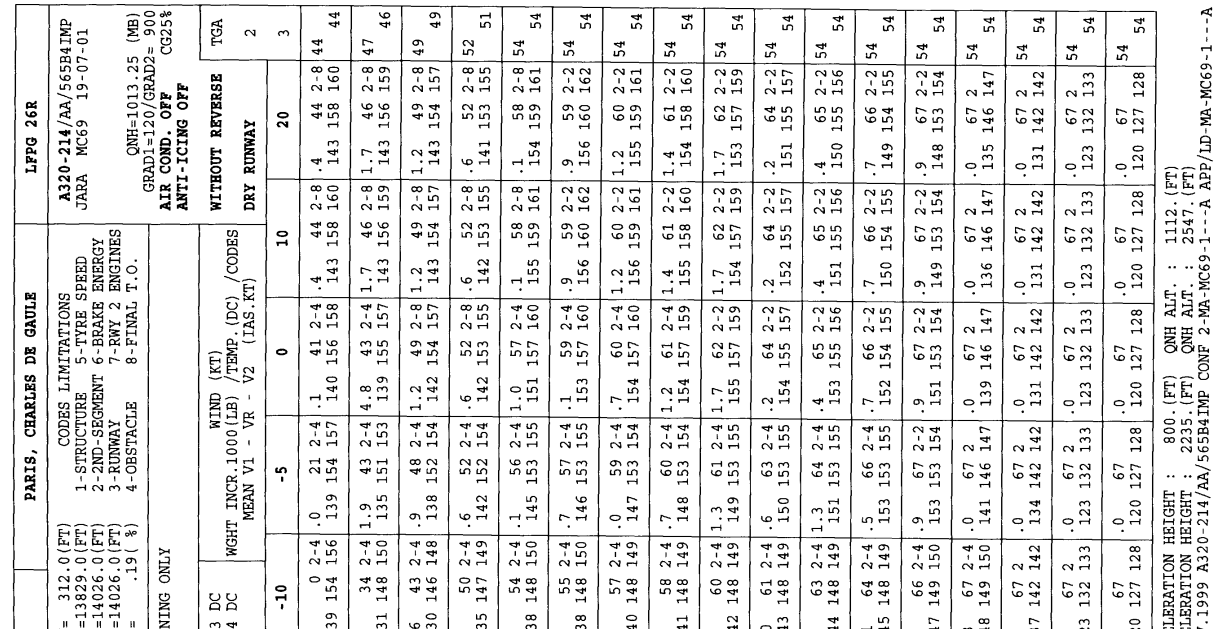
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2238.(FT) QNH ALT. : 2550.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	PARIS, CHARLES DE GAULE	LFPG 26R
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =14026.0(FT) T.O.D.A. =14026.0(FT) SLOPE = .19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=140/GRAD2= 700 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 43 DC TMAX = 54 DC	WIND (KT) /TEMP.(DC) /CODES WGHT INCR.1000(LB) MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0	-.6 -2 4-4 139 157 157	.2 14 2-4 141 158 158	.0 35 2-4 142 159 159	.8 43 2-4 144 161 161	.4 44 2-8 44 146 161 161 44
175.0	.2 19 4-4 135 155 155	.1 41 4-4 136 155 155	3.8 43 2-4 141 157 157	1.7 46 2-8 145 160 160	1.7 46 2-8 47 146 160 160 46
170.0	.5 43 4-4 131 153 153	4.8 43 4-4 136 155 155	1.2 49 2-8 144 158 158	1.2 49 2-8 145 158 158	1.2 49 2-8 49 145 158 158 49
165.0	.0 49 4-4 135 151 151	.1 52 2-4 142 155 155	.6 52 2-8 144 156 156	.6 52 2-8 144 156 156	.6 52 2-8 52 144 156 156 51
160.0	.9 53 2-4 137 150 150	1.2 55 2-8 145 155 155	1.1 57 2-4 152 160 160	.5 58 2-8 156 162 162	.5 58 2-8 54 157 162 162 54
158.0	.4 55 2-4 139 150 150	.7 57 2-4 146 155 155	.5 59 2-4 154 160 160	.1 60 2-2 158 163 163	.1 60 2-2 54 159 163 163 54
156.0	1.2 56 2-4 140 150 150	.1 59 2-4 148 156 156	1.1 60 2-4 155 161 161	.3 61 2-2 158 162 162	.3 61 2-2 54 158 162 162 54
154.0	.8 58 2-4 141 150 150	.9 60 2-4 149 156 156	.4 62 2-4 157 161 161	.6 62 2-2 158 161 161	.6 62 2-2 54 157 161 161 54
152.0	.3 60 2-4 143 151 151	.3 62 2-4 150 156 156	.8 63 2-2 157 160 160	.8 63 2-2 157 160 160	.8 63 2-2 54 156 160 160 54
150.0	1.1 61 2-4 143 151 151	1.0 63 2-4 151 156 156	1.1 64 2-2 156 159 159	1.1 64 2-2 156 159 159	1.1 64 2-2 54 154 159 159 54
148.0	.7 63 2-4 145 151 151	.5 65 2-4 153 156 156	1.3 65 2-2 156 159 159	1.3 65 2-2 155 159 159	1.3 65 2-2 54 153 159 159 54
146.0	.3 65 2-4 147 151 151	1.2 66 2-4 154 157 157	1.6 66 2-2 155 158 158	1.6 66 2-2 154 158 158	1.6 66 2-2 54 152 158 158 54
144.0	1.1 66 2-4 148 152 152	1.8 67 2-2 155 157 157	1.8 67 2-2 154 157 157	1.8 67 2-2 152 157 157	1.8 67 2-2 54 151 157 157 54
142.0	1.8 67 2-4 148 152 152	.0 67 2 142 148 148	.0 67 2 139 148 148	.0 67 2 137 148 148	.0 67 2 54 137 148 148 54
140.0	.0 67 2 138 144 144	.0 67 2 135 144 144	.0 67 2 133 144 144	.0 67 2 133 144 144	.0 67 2 54 133 144 144 54
135.0	.0 67 126 136 136	.0 67 126 136 136	.0 67 126 136 136	.0 67 126 136 136	.0 67 54 126 136 136 54
130.0	.0 67 125 134 134	.0 67 134 125 134 134	.0 67 125 134 134	.0 67 125 134 134	.0 67 54 125 134 134 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2238.(FT) QNH ALT. : 2550.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

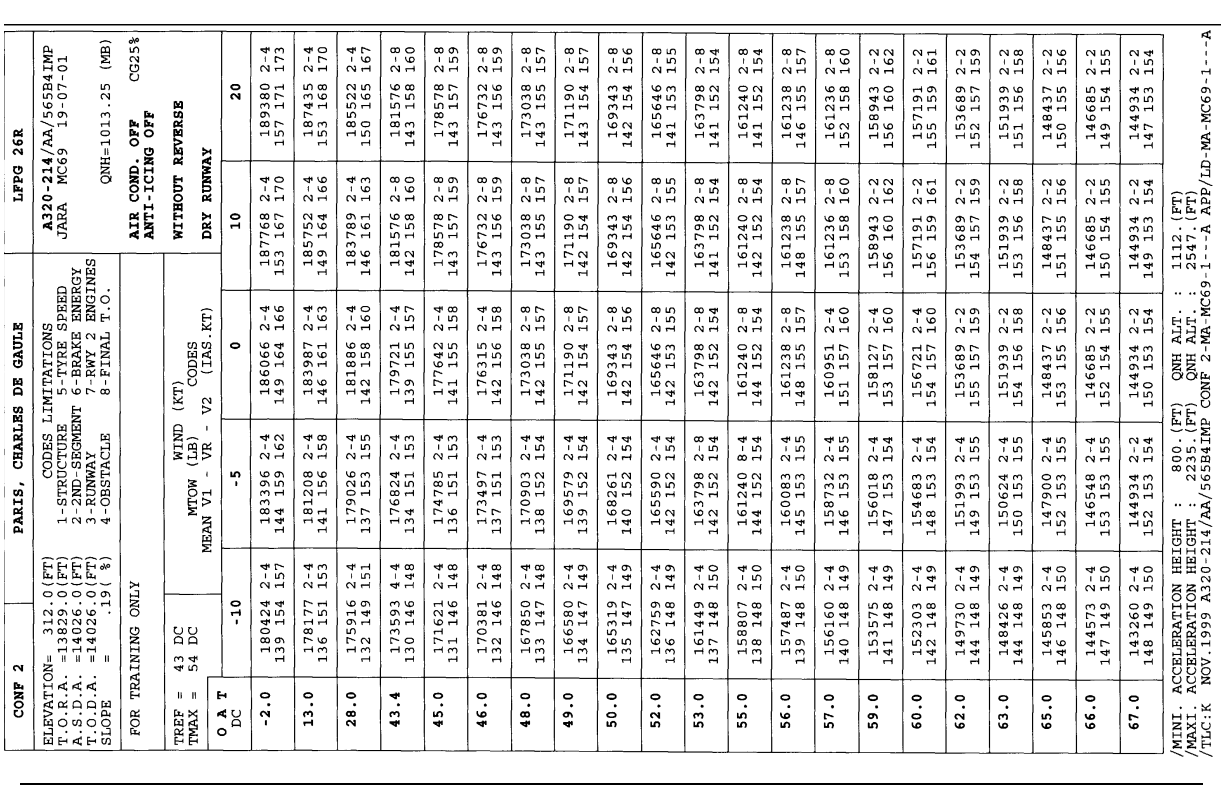
PARIS CHARLES DE GAULLE (LFPG) - RWY 26R - CONF 2



CONF 2	PARIS, CHARLES DE GAULE	LFPG 26R
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =14026.0(FT) T.O.D.A. =14026.0(FT) SLOPE = .19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 900 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0	.1 0 2-4 139 154 156	.0 21 2-4 139 154 157	.1 41 2-4 140 156 158	.4 44 2-8 143 158 160	.4 44 2-8 143 158 160	44 44
175.0	.0 34 2-4 131 148 150	1.9 43 2-4 135 151 153	4.8 43 2-4 139 155 157	1.7 46 2-8 143 156 159	1.7 46 2-8 143 156 159	47 46
170.0	3.6 43 2-4 130 146 148	.9 48 2-4 138 152 154	1.2 49 2-8 142 154 157	1.2 49 2-8 143 154 157	1.2 49 2-8 143 154 157	49 49
165.0	.3 50 2-4 135 147 149	.6 52 2-8 142 152 154	.6 52 2-8 142 153 155	.6 52 2-8 142 153 155	.6 52 2-8 141 153 155	52 51
160.0	.1 54 2-4 138 148 150	.1 56 2-4 145 153 155	1.0 57 2-4 151 157 160	.1 58 2-8 155 159 161	.1 58 2-8 154 159 161	54 54
158.0	.8 55 2-4 138 148 150	.7 57 2-4 146 153 155	.1 59 2-4 153 157 160	.9 59 2-2 156 160 162	.9 59 2-2 156 160 162	54 54
156.0	.2 57 2-4 140 148 149	.0 59 2-4 147 153 154	.7 60 2-4 154 157 160	1.2 60 2-2 156 159 161	1.2 60 2-2 155 159 161	54 54
154.0	.9 58 2-4 141 148 149	.7 60 2-4 148 153 154	1.2 61 2-4 154 157 159	1.4 61 2-2 155 158 160	1.4 61 2-2 154 158 160	54 54
152.0	.3 60 2-4 142 148 149	1.3 61 2-4 149 153 155	1.7 62 2-2 155 157 159	1.7 62 2-2 154 157 159	1.7 62 2-2 153 157 159	54 54
150.0	1.0 61 2-4 143 148 149	.6 63 2-4 150 153 155	.2 64 2-2 154 155 157	.2 64 2-2 152 155 157	.2 64 2-2 151 155 157	54 54
148.0	.4 63 2-4 144 148 149	1.3 64 2-4 151 153 155	.4 65 2-2 153 155 156	.4 65 2-2 151 155 156	.4 65 2-2 150 155 156	54 54
146.0	1.1 64 2-4 145 148 149	.5 66 2-4 153 153 155	.7 66 2-2 152 154 155	.7 66 2-2 150 154 155	.7 66 2-2 149 154 155	54 54
144.0	.6 66 2-4 147 149 150	.9 67 2-2 153 153 154	.9 67 2-2 151 153 154	.9 67 2-2 149 153 154	.9 67 2-2 148 153 154	54 54
142.0	1.3 67 2-4 148 149 150	.0 67 2 141 146 147	.0 67 2 139 146 147	.0 67 2 136 146 147	.0 67 2 135 146 147	54 54
140.0	.0 67 2 137 142 142	.0 67 2 134 142 142	.0 67 2 131 142 142	.0 67 2 131 142 142	.0 67 2 131 142 142	54 54
135.0	.0 67 2 123 132 133	.0 67 2 123 132 133	.0 67 2 123 132 133	.0 67 2 123 132 133	.0 67 2 123 132 133	54 54
130.0	.0 67 120 127 128	.0 67 120 127 128	.0 67 120 127 128	.0 67 120 127 128	.0 67 120 127 128	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2235.(FT) QNH ALT. : 2547.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

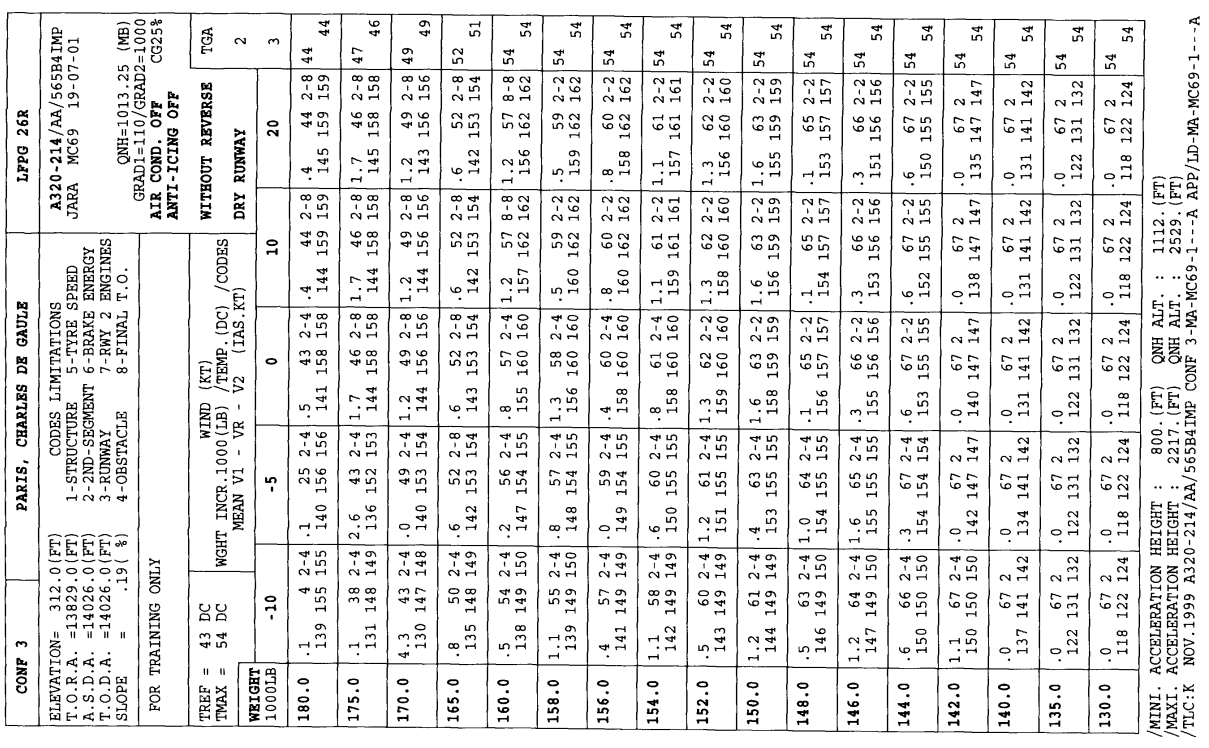


CONF 2	PARIS, CHARLES DE GAULE	LFPG 26R
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =14026.0(FT) T.O.D.A. =14026.0(FT) SLOPE = .19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 43 DC TMAX = 54 DC	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-2.0	180424 2-4 139 154 157	183396 2-4 144 159 162	186066 2-4 149 164 166	187768 2-4 153 167 170	189380 2-4 157 171 173
13.0	178177 2-4 136 151 153	181208 2-4 141 156 158	183987 2-4 146 161 163	185752 2-4 149 164 166	187435 2-4 153 168 170
28.0	175916 2-4 132 149 151	179026 2-4 137 153 155	181886 2-4 142 158 160	183789 2-4 146 161 163	185522 2-4 150 165 167
43.4	173593 4-4 130 146 148	176824 2-4 134 151 153	179721 2-4 139 155 157	181576 2-8 142 158 160	181576 2-8 143 158 160
45.0	171621 2-4 131 146 148	174785 2-4 136 151 153	177642 2-4 141 155 158	178578 2-8 143 157 159	178578 2-8 143 157 159
46.0	170381 2-4 132 146 148	173497 2-4 137 151 153	176315 2-4 142 156 158	176732 2-8 143 156 159	176732 2-8 143 156 159
48.0	167850 2-4 133 147 148	170903 2-4 138 152 154	173038 2-8 142 155 157	173038 2-8 143 155 157	173038 2-8 143 155 157
49.0	166580 2-4 134 147 149	169579 2-4 139 152 154	171190 2-8 142 154 157	171190 2-8 142 154 157	171190 2-8 143 154 157
50.0	165319 2-4 135 147 149	168261 2-4 140 152 154	169343 2-8 142 154 156	169343 2-8 142 154 156	169343 2-8 142 154 156
52.0	162759 2-4 136 148 149	165590 2-4 142 152 154	165646 2-8 142 153 155	165646 2-8 142 153 155	165646 2-8 141 153 155
53.0	161449 2-4 137 148 150	163798 2-8 142 152 154	163798 2-8 142 152 154	163798 2-8 141 152 154	163798 2-8 141 152 154
55.0	158807 2-4 138 148 150	161240 8-4 144 152 154	161240 2-8 144 152 154	161240 2-8 142 152 154	161240 2-8 141 152 154
56.0	157487 2-4 139 148 150	160083 2-4 145 153 155	161238 2-8 148 155 157	161238 2-8 148 155 157	161238 2-8 146 155 157
57.0	156160 2-4 140 148 149	158732 2-4 146 153 155	160951 2-4 151 157 160	161236 2-8 153 158 160	161236 2-8 152 158 160
59.0	153575 2-4 141 148 149	156018 2-4 147 153 154	158127 2-4 153 157 160	158943 2-2 156 160 162	158943 2-2 156 160 162
60.0	152303 2-4 142 148 149	154683 2-4 148 153 154	156721 2-4 154 157 160	157191 2-2 156 159 161	157191 2-2 155 159 161
62.0	149730 2-4 144 148 149	151993 2-4 149 153 155	153689 2-2 155 157 159	153689 2-2 154 157 159	153689 2-2 152 157 159
63.0	148426 2-4 144 148 149	150624 2-4 150 153 155	151939 2-2 154 156 158	151939 2-2 153 156 158	151939 2-2 151 156 158
65.0	145853 2-4 146 148 150	147900 2-4 152 153 155	148437 2-2 153 155 156	148437 2-2 151 155 156	148437 2-2 150 155 156
66.0	144573 2-4 147 149 150	146548 2-4 153 153 155	146685 2-2 152 154 155	146685 2-2 150 154 155	146685 2-2 149 154 155
67.0	143260 2-4 148 149 150	144934 2-2 152 153 154	144934 2-2 150 153 154	144934 2-2 149 153 154	144934 2-2 147 153 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2235.(FT) QNH ALT. : 2547.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

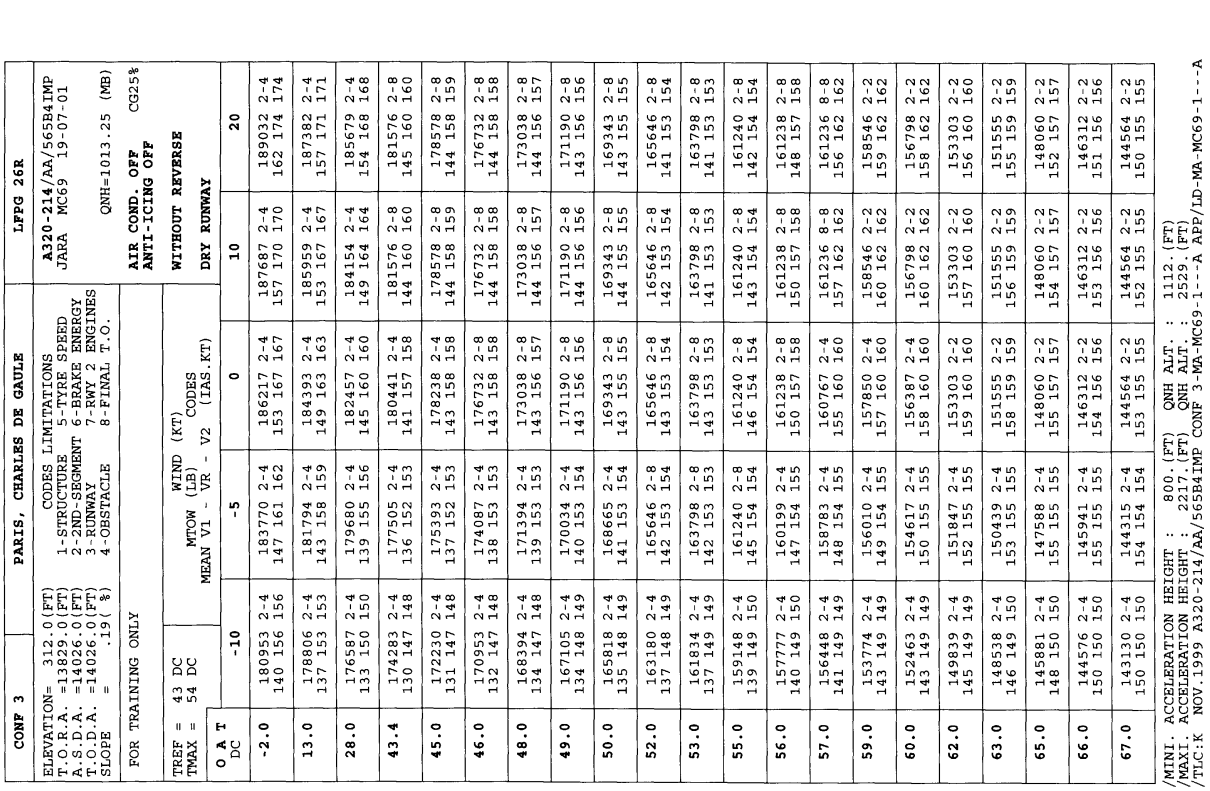
PARIS CHARLES DE GAULLE (LFPG) - RWY 26R - CONF 3



CONF 3	PARIS, CHARLES DE GAULE	LFPG 26R
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =14026.0(FT) T.O.D.A. =14026.0(FT) SLOPE = .19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=110/GRAD2=1000 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3 TGA

WEIGHT 1000LB	-10	-5	0	10	20
180.0	.1 4 2-4 139 155 155	.1 25 2-4 140 156 156	.5 43 2-4 141 158 158	.4 44 2-8 144 159 159	.4 44 2-8 44 145 159 159 44
175.0	.1 38 2-4 131 148 149	2.6 43 2-4 136 152 153	1.7 46 2-8 144 158 158	1.7 46 2-8 145 158 158	1.7 46 2-8 47 145 158 158 46
170.0	4.3 43 2-4 130 147 148	.0 49 2-4 140 153 154	1.2 49 2-8 144 156 156	1.2 49 2-8 143 156 156	1.2 49 2-8 49 143 156 156 49
165.0	.8 50 2-4 135 148 149	.6 52 2-8 142 153 154	.6 52 2-8 143 153 154	.6 52 2-8 142 153 154	.6 52 2-8 52 142 153 154 51
160.0	.5 54 2-4 138 149 150	.2 56 2-4 147 154 155	.8 57 2-4 155 160 160	1.2 57 8-8 157 162 162	1.2 57 8-8 54 156 162 162 54
158.0	1.1 55 2-4 139 149 150	.8 57 2-4 148 154 155	1.3 58 2-4 156 160 160	.5 59 2-2 160 162 162	.5 59 2-2 54 159 162 162 54
156.0	.4 57 2-4 141 149 149	.0 59 2-4 149 154 155	.4 60 2-4 158 160 160	.8 60 2-2 160 162 162	.8 60 2-2 54 158 162 162 54
154.0	1.1 58 2-4 142 149 149	.6 60 2-4 150 155 155	.8 61 2-4 158 160 160	1.1 61 2-2 159 161 161	1.1 61 2-2 54 157 161 161 54
152.0	.5 60 2-4 143 149 149	1.2 61 2-4 151 155 155	1.3 62 2-2 159 160 160	1.3 62 2-2 158 160 160	1.3 62 2-2 54 156 160 160 54
150.0	1.2 61 2-4 144 149 149	.4 63 2-4 153 155 155	1.6 63 2-2 158 159 159	1.6 63 2-2 156 159 159	1.6 63 2-2 54 155 159 159 54
148.0	.5 63 2-4 146 149 150	1.0 64 2-4 154 155 155	.1 65 2-2 156 157 157	.1 65 2-2 154 157 157	.1 65 2-2 54 153 157 157 54
146.0	1.2 64 2-4 147 149 150	1.6 65 2-4 155 155 155	.3 66 2-2 155 156 156	.3 66 2-2 153 156 156	.3 66 2-2 54 151 156 156 54
144.0	.6 66 2-4 150 150 150	.3 67 2-4 154 154 154	.6 67 2-2 153 155 155	.6 67 2-2 152 155 155	.6 67 2-2 54 150 155 155 54
142.0	1.1 67 2-4 150 150 150	.0 67 2 142 147 147	.0 67 2 140 147 147	.0 67 2 138 147 147	.0 67 2 54 135 147 147 54
140.0	.0 67 2 137 141 142	.0 67 2 134 141 142	.0 67 2 131 141 142	.0 67 2 131 141 142	.0 67 2 54 131 141 142 54
135.0	.0 67 2 122 131 132	.0 67 2 122 131 132	.0 67 2 122 131 132	.0 67 2 122 131 132	.0 67 2 54 122 131 132 54
130.0	.0 67 2 118 122 124	.0 67 2 118 122 124	.0 67 2 118 122 124	.0 67 2 118 122 124	.0 67 2 54 118 122 124 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2217.(FT) QNH ALT. : 2529.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF 3	PARIS, CHARLES DE GAULE	LFPG 26R
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =14026.0(FT) T.O.D.A. =14026.0(FT) SLOPE = .19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	180953 2-4 140 156 156	183770 2-4 147 161 162	186217 2-4 153 167 167	187687 2-4 157 170 170	189032 2-4 162 174 174
13.0	178806 2-4 137 153 153	181794 2-4 143 158 159	184393 2-4 149 163 163	185959 2-4 153 167 167	187382 2-4 157 171 171
28.0	176587 2-4 133 150 150	179680 2-4 139 155 156	182457 2-4 145 160 160	184154 2-4 149 164 164	185679 2-4 154 168 168
43.4	174283 2-4 130 147 148	177505 2-4 136 152 153	180441 2-4 141 157 158	181576 2-8 144 160 160	181576 2-8 145 160 160
45.0	172230 2-4 131 147 148	175393 2-4 137 152 153	178238 2-4 143 158 158	178578 2-8 144 158 159	178578 2-8 144 158 159
46.0	170953 2-4 132 147 148	174087 2-4 138 153 153	176732 2-8 143 158 158	176732 2-8 144 158 158	176732 2-8 144 158 158
48.0	168394 2-4 134 147 148	171394 2-4 139 153 153	173038 2-8 143 156 157	173038 2-8 144 156 157	173038 2-8 144 156 157
49.0	167105 2-4 134 148 149	170034 2-4 140 153 154	171190 2-8 143 156 156	171190 2-8 144 156 156	171190 2-8 143 156 156
50.0	165818 2-4 135 148 149	168665 2-4 141 153 154	169343 2-8 143 155 155	169343 2-8 144 155 155	169343 2-8 143 155 155
52.0	163180 2-4 137 148 149	165646 2-8 142 153 154	165646 2-8 143 153 154	165646 2-8 142 153 154	165646 2-8 141 153 154
53.0	161834 2-4 137 149 149	163798 2-8 142 153 153	163798 2-8 143 153 153	163798 2-8 141 153 153	163798 2-8 141 153 153
55.0	159148 2-4 139 149 150	161240 2-8 145 154 154	161240 2-8 146 154 154	161240 2-8 143 154 154	161240 2-8 142 154 154
56.0	157777 2-4 140 149 150	160199 2-4 147 154 155	161238 2-8 150 157 158	161238 2-8 150 157 158	161238 2-8 148 157 158
57.0	156448 2-4 141 149 149	158783 2-4 148 154 155	160767 2-4 155 160 160	161236 8-8 157 162 162	161236 8-8 156 162 162
59.0	153774 2-4 143 149 149	156010 2-4 149 154 155	157850 2-4 157 160 160	158546 2-2 160 162 162	158546 2-2 159 162 162
60.0	152463 2-4 143 149 149	154617 2-4 150 155 155	156387 2-4 158 160 160	156798 2-2 160 162 162	156798 2-2 158 162 162
62.0	149839 2-4 145 149 149	151847 2-4 152 155 155	153303 2-2 159 160 160	153303 2-2 157 160 160	153303 2-2 156 160 160
63.0	148538 2-4 146 149 150	150439 2-4 153 155 155	151555 2-2 158 159 159	151555 2-2 156 159 159	151555 2-2 155 159 159
65.0	145881 2-4 148 150 150	147588 2-4 155 155 155	148060 2-2 155 157 157	148060 2-2 154 157 157	148060 2-2 152 157 157
66.0	144576 2-4 150 150 150	145941 2-4 155 155 155	146312 2-2 154 156 156	146312 2-2 153 156 156	146312 2-2 151 156 156
67.0	143130 2-4 150 150 150	144315 2-4 154 154 154	144564 2-2 153 155 155	144564 2-2 152 155 155	144564 2-2 150 155 155

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2217.(FT) QNH ALT. : 2529.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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PARIS CHARLES DE GAULLE (LFPG) - RWY 27 - CONF 1 + F

CONF1+F | **PARIS CHARLES DE GAULLE** | **LFPG 27**

ELEVATION= 388.0(FT)
T.O.R.A. =11811.0(FT)
A.S.D.A. =12007.9(FT)
T.O.D.A. =12385.2(FT)
SLOPE = -.14(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 19-07-01

QNH=1013.25 (MB)
GRAD1=150/GRAD2= 0
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE TGA
DRY RUNWAY

WEIGHT 1000LB	-10	-5	0	10	20
					2 / 3
180.0	-4.6 -2 4-4 140 155 155	-.1 -2 2-4 145 157 157	.1 16 2-4 146 158 158	.1 29 2-4 147 159 159	.1 42 2-4 44 43 148 159 159
175.0	.0 0 4-4 140 154 155	.1 21 4-4 141 155 155	.2 42 4-4 142 155 155	2.9 43 2-4 145 156 156	5.0 43 2-4 46 46 148 159 159
170.0	.2 25 4-4 135 152 152	.9 43 4-4 137 153 153	5.0 43 4-4 142 155 155	.6 49 2-8 149 157 157	.6 49 2-8 49 48 150 157 157
165.0	1.7 43 4-4 132 150 151	.5 49 4-4 141 151 151	.1 52 2-8 148 155 155	.1 52 2-8 149 155 155	.1 52 2-8 51 51 148 155 155
160.0	.2 50 4-4 136 148 148	.1 54 2-4 144 151 151	.3 56 2-4 152 157 157	.6 57 2-4 156 160 160	.2 58 2-8 54 54 160 162 162
158.0	.5 52 4-4 138 147 147	.9 55 2-4 145 151 151	1.1 57 2-4 152 157 157	.0 59 2-4 158 160 160	1.4 59 2-4 54 54 162 163 163
156.0	.8 54 4-4 139 147 147	.5 57 2-4 146 151 151	.6 59 2-4 154 157 157	.7 60 2-4 159 160 160	1.7 60 2-2 54 54 162 163 163
154.0	.8 56 2-4 140 146 146	.1 59 2-4 148 152 152	.0 61 2-4 156 157 157	.1 62 2-4 161 161 161	.1 62 2-2 54 54 160 161 161
152.0	.5 58 2-4 141 147 147	.9 60 2-4 149 152 152	.8 62 2-4 156 157 157	.4 63 2-2 160 160 160	.4 63 2-2 54 54 159 160 160
150.0	.2 60 2-4 143 147 147	.5 62 2-4 150 152 152	.1 64 2-4 158 158 158	.6 64 2-2 159 159 159	.6 64 2-2 54 54 158 159 159
148.0	1.1 61 2-4 144 147 147	.1 64 2-4 152 153 153	.5 65 2-4 157 157 157	.9 65 2-2 158 158 158	.9 65 2-2 54 54 157 158 158
146.0	.8 63 2-4 145 147 147	.8 65 2-4 153 153 153	1.0 66 2-4 157 157 157	1.1 66 2-2 156 157 157	1.1 66 2-2 54 54 155 157 157
144.0	.5 65 2-4 147 148 148	1.5 66 2-4 153 153 153	1.4 67 2-4 156 156 156	1.4 67 2-2 155 156 156	1.4 67 2-2 54 54 154 156 156
142.0	.2 67 2-4 148 149 149	2.0 67 2-4 153 153 153	.0 67 2 145 148 148	.0 67 2 143 148 148	.0 67 2 54 54 142 148 148
140.0	.0 67 2 142 144 144	.0 67 2 140 144 144	.0 67 2 138 144 144	.0 67 2 136 144 144	.0 67 2 54 54 134 144 144
135.0	.0 67 130 136 136	.0 67 127 136 136	.0 67 126 136 136	.0 67 126 136 136	.0 67 54 54 126 136 136
130.0	.0 67 125 133 134	.0 67 125 133 134	.0 67 125 133 134	.0 67 125 133 134	.0 67 54 54 125 133 134

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2218.(FT) QNH ALT. : 2606.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F | **PARIS CHARLES DE GAULLE** | **LFPG 27**

ELEVATION= 388.0(FT)
T.O.R.A. =11811.0(FT)
A.S.D.A. =12007.9(FT)
T.O.D.A. =12385.2(FT)
SLOPE = -.14(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 19-07-01

QNH=1013.25 (MB)

AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

MTOW (LB) WIND (KT)
MEAN V1 - VR - V2 CODES (IAS.KT)

WITHOUT REVERSE
DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	175398 4-4 140 155 155	179875 2-4 145 157 157	182932 2-4 150 162 162	184811 2-4 154 165 165	186552 2-4 157 168 168
13.0	172492 4-4 137 153 153	176687 4-4 142 155 155	180570 2-4 147 159 159	182519 2-4 150 162 162	184339 2-4 154 165 165
28.0	169595 4-4 135 152 152	173642 4-4 140 154 154	177988 4-4 144 156 156	180264 2-4 147 159 159	182151 2-4 151 162 162
43.2	166654 4-4 132 150 151	170810 4-4 137 153 153	174906 4-4 142 155 155	177852 4-4 145 156 156	179932 2-4 148 159 159
45.0	164967 4-4 133 150 150	169077 4-4 138 152 152	173411 4-4 143 154 154	175888 2-4 146 157 157	177753 2-4 150 160 160
46.0	164024 4-4 134 149 150	168122 4-4 139 152 152	172579 4-4 144 154 154	174676 2-4 147 157 157	176169 2-8 150 159 159
47.0	163070 4-4 135 149 149	167149 4-4 140 151 151	171487 2-4 144 154 154	173483 2-4 148 157 157	174324 8-4 152 159 159
49.0	161156 4-4 136 148 148	165534 4-4 141 151 151	169122 2-4 146 155 155	170633 2-8 149 157 157	170633 2-8 150 157 157
50.0	160226 4-4 136 148 148	164724 4-4 141 150 150	167897 2-4 147 155 155	168787 2-8 149 157 157	168787 2-8 150 157 157
52.0	158524 4-4 138 147 147	162515 2-4 143 151 151	165095 2-8 148 155 155	165095 2-8 148 155 155	165095 2-8 148 155 155
53.0	157747 4-4 138 147 147	161319 2-4 143 151 151	163248 2-8 148 154 154	163248 2-8 148 154 154	163248 2-8 147 154 154
55.0	155922 2-4 139 146 146	158909 2-4 145 151 151	160972 2-8 149 155 155	160972 2-8 150 155 155	160972 2-8 149 155 155
56.0	154790 2-4 140 146 146	157707 2-4 146 151 151	160331 2-4 152 157 157	160969 2-8 154 158 158	160969 2-8 153 158 158
57.0	153646 2-4 141 146 146	156468 2-4 146 151 151	159072 2-4 152 157 157	160642 2-4 156 160 160	160967 2-8 158 161 161
59.0	151347 2-4 142 147 147	154092 2-4 148 152 152	156560 2-4 154 157 157	158021 2-4 158 160 160	159397 2-4 162 163 163
60.0	150201 2-4 143 147 147	152904 2-4 149 152 152	155263 2-4 155 157 157	156730 2-4 159 160 160	157656 2-2 162 163 163
62.0	147955 2-4 144 147 147	150493 2-4 150 152 152	152757 2-4 156 157 157	154105 2-4 161 161 161	154145 2-2 160 161 161
63.0	146789 2-4 145 147 147	149285 2-4 151 153 153	151451 2-4 157 158 158	152390 2-2 159 160 160	152390 2-2 158 160 160
64.0	145651 2-4 146 148 148	148071 2-4 152 153 153	150074 2-4 158 158 158	150630 2-2 158 159 159	150630 2-2 157 159 159
66.0	143353 2-4 148 148 148	145496 2-4 153 153 153	146959 2-4 157 157 157	147119 2-2 156 157 157	147119 2-2 155 157 157
67.0	142218 2-4 148 149 149	143984 2-4 153 153 153	145364 2-4 156 156 156	145364 2-2 155 156 156	145364 2-2 154 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2218.(FT) QNH ALT. : 2606.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 27 - CONF 2

CONF 2 | **PARIS CHARLES DE GAULLE** | **LFPG 27**

ELEVATION= 388.0(FT)
T.O.R.A. =11811.0(FT)
A.S.D.A. =12007.9(FT)
T.O.D.A. =12385.2(FT)
SLOPE = -.14(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 19-07-01

QNH=1013.25 (MB)
GRADI=160/GRADZ= 0
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

WGHT INCR.1000(LB) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE TGA

WEIGHT 1000LB	-10	-5	0	10	20	DRY RUNWAY 2	3
180.0	-2.2 -2 2-4 139 150 153	.1 3 2-4 144 154 156	.0 23 2-4 144 155 157	.1 37 2-4 145 155 158	1.2 43 2-4 147 157 160	44	43
175.0	.1 15 2-4 136 147 149	.0 37 2-4 136 148 150	2.1 43 2-4 140 151 153	4.2 43 2-4 144 154 157	1.2 46 2-8 148 156 158	46	46
170.0	.1 41 4-4 131 144 147	4.1 43 2-4 135 147 149	1.1 48 2-4 144 152 154	.6 49 2-8 147 154 156	.6 49 2-8 148 154 156	49	48
165.0	4.7 43 4-4 131 144 146	.7 50 2-4 140 148 150	.1 52 2-8 146 152 154	.1 52 2-8 147 152 154	.1 52 2-8 145 152 154	51	51
160.0	.2 52 2-4 136 144 146	.6 54 2-4 143 149 151	.4 56 2-4 150 154 156	.6 57 2-4 155 157 160	1.0 57 2-8 156 158 161	54	54
158.0	1.0 53 2-4 137 144 146	1.2 55 2-4 144 149 151	1.1 57 2-4 151 154 156	1.2 58 2-4 156 157 160	.5 59 2-2 159 159 162	54	54
156.0	.5 55 2-4 139 144 146	.7 57 2-4 146 149 151	.4 59 2-4 153 154 156	.2 60 2-4 157 157 159	.8 60 2-2 158 158 161	54	54
154.0	1.2 56 2-4 139 144 146	.1 59 2-4 147 149 151	1.0 60 2-4 154 154 156	.6 61 2-4 156 156 158	1.0 61 2-2 157 157 160	54	54
152.0	.7 58 2-4 141 144 146	.8 60 2-4 148 149 151	1.5 61 2-4 153 154 156	.9 62 2-4 156 156 158	1.3 62 2-2 156 157 159	54	54
150.0	.3 60 2-4 142 144 146	.2 62 2-4 149 149 151	.3 63 2-4 153 153 155	1.2 63 2-4 155 155 157	1.5 63 2-2 155 156 158	54	54
148.0	1.1 61 2-4 143 145 146	.8 63 2-4 149 149 151	.7 64 2-4 152 152 154	1.6 64 2-4 155 155 157	.0 65 2-2 153 154 156	54	54
146.0	.6 63 2-4 144 145 146	1.2 64 2-4 149 149 150	1.1 65 2-4 152 152 154	.3 66 2-2 153 153 155	.3 66 2-2 152 153 155	54	54
144.0	1.4 64 2-4 145 145 146	.0 66 2-4 148 148 149	1.5 66 2-4 151 151 153	.5 67 2-2 152 153 154	.5 67 2-2 151 153 154	54	54
142.0	.3 66 2-4 144 144 145	.5 67 2-4 147 147 149	1.9 67 2-4 151 151 152	.0 67 2 143 146 148	.0 67 2 141 146 148	54	54
140.0	.8 67 2-4 144 144 145	.0 67 2 139 142 143	.0 67 2 137 142 143	.0 67 2 135 142 143	.0 67 2 133 142 143	54	54
135.0	.0 67 2 126 132 134	.0 67 2 123 132 134	.0 67 2 123 132 134	.0 67 2 123 132 134	.0 67 2 123 132 134	54	54
130.0	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	54	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2179.(FT) QNH ALT. : 2567.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2 | **PARIS CHARLES DE GAULLE** | **LFPG 27**

ELEVATION= 388.0(FT)
T.O.R.A. =11811.0(FT)
A.S.D.A. =12007.9(FT)
T.O.D.A. =12385.2(FT)
SLOPE = -.14(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 19-07-01

QNH=1013.25 (MB)
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

MTOW (LB) CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE

OAT DC	-10	-5	0	10	20	DRY RUNWAY
-2.0	177791 2-4 139 150 153	180884 2-4 145 155 157	183702 2-4 150 159 162	185556 2-4 154 163 166	187271 2-4 157 166 169	
13.0	175467 2-4 136 147 150	178587 2-4 141 152 154	181501 2-4 146 156 159	183447 2-4 150 160 162	185246 2-4 154 163 166	
28.0	172702 4-4 133 145 148	176338 2-4 138 149 151	179307 2-4 143 154 156	181320 2-4 147 157 159	183187 2-4 150 160 163	
43.2	169627 4-4 131 144 146	174092 2-4 135 147 149	177097 2-4 140 151 153	179179 2-4 144 154 157	181156 2-4 147 157 160	
45.0	168020 4-4 132 144 146	171917 2-4 137 147 149	174887 2-4 142 151 154	176925 2-4 145 155 157	178014 2-8 148 157 159	
46.0	167099 4-4 132 143 145	170685 2-4 137 147 149	173665 2-4 142 152 154	175658 2-4 146 155 157	176169 2-8 148 156 158	
47.0	166173 4-4 133 143 145	169459 2-4 138 147 149	172372 2-4 143 152 154	174324 8-4 147 155 158	174324 2-8 148 155 158	
49.0	163887 2-4 134 143 145	166955 2-4 140 148 150	169806 2-4 145 152 155	170633 2-8 147 154 156	170633 2-8 147 154 156	
50.0	162670 2-4 135 143 145	165734 2-4 140 148 150	168519 2-4 146 153 155	168787 2-8 147 153 156	168787 2-8 146 153 156	
52.0	160217 2-4 136 144 146	163161 2-4 142 149 151	165095 2-8 146 152 154	165095 2-8 146 152 154	165095 2-8 145 152 154	
53.0	158973 2-4 137 144 146	161864 2-4 143 149 151	163248 2-8 146 151 153	163248 2-8 145 151 153	163248 2-8 143 151 153	
55.0	156465 2-4 139 144 146	159243 2-4 144 149 151	160972 2-8 148 152 155	160972 2-8 148 152 155	160972 2-8 146 152 155	
56.0	155231 2-4 139 144 146	157947 2-4 145 149 151	160398 2-4 150 154 156	160969 2-8 152 155 157	160969 2-8 151 155 157	
57.0	153972 2-4 140 144 146	156677 2-4 146 149 151	159050 2-4 151 154 156	160599 2-4 155 157 160	160967 2-8 156 158 161	
59.0	151495 2-4 141 144 146	154094 2-4 147 149 151	156368 2-4 153 154 156	157809 2-4 157 157 160	158516 2-2 158 159 162	
60.0	150288 2-4 142 144 146	152810 2-4 148 149 151	155044 2-4 154 154 156	156218 2-4 157 157 159	156764 2-2 157 158 161	
62.0	147838 2-4 144 145 146	150230 2-4 149 149 151	151969 2-4 153 153 155	152888 2-4 156 156 158	153260 2-2 156 157 159	
63.0	146634 2-4 144 145 146	148757 2-4 149 149 151	150341 2-4 153 153 155	151241 2-4 155 155 157	151509 2-2 155 156 158	
64.0	145357 2-4 145 145 146	147155 2-4 149 149 150	148711 2-4 152 152 154	149623 2-4 155 155 157	149757 2-2 154 155 157	
66.0	142320 2-4 144 144 145	144024 2-4 148 148 149	145520 2-4 151 151 153	146252 2-2 153 153 155	146252 2-2 152 153 155	
67.0	140804 2-4 144 144 145	142469 2-4 147 147 149	143919 2-4 151 151 152	144500 2-2 152 153 154	144500 2-2 151 153 154	

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2179.(FT) QNH ALT. : 2567.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 27 - CONF 3

CONF 3		PARIS CHARLES DE GAULLE			LFPG 27	
ELEVATION= 388.0(FT)		CODES LIMITATIONS			A320-214/AA/565B4IMP	
T.O.R.A. =11811.0(FT)		1-STRUCTURE 5-TYRE SPEED			JARA MC69 19-07-01	
A.S.D.A. =12007.9(FT)		2-2ND-SEGMENT 6-BRAKE ENERGY				
T.O.D.A. =12385.2(FT)		3-RUNWAY 7-RWY 2 ENGINES			QNH=1013.25 (MB)	
SLOPE = -.14(%)		4-OBSTACLE 8-FINAL T.O.			GRADI=120/GRAD2= 0	
FOR TRAINING ONLY					AIR COND. OFF CG25%	
					ANTI-ICING OFF	
TREF = 43 DC	WGHT	WIND (KT)			WITHOUT REVERSE	TGA
TMAX = 54 DC	INCR.1000(LB)	/TEMP.(DC) /CODES			DRY RUNWAY	2
	WEIGHT	MEAN V1 - VR - V2 (IAS.KT)				3
	1000LB	-10	-5	0	10	20
180.0		-1.5 -2 2-4	.1 8 2-4	.1 28 2-4	.1 42 2-4	1.3 43 2-4 44
		141 152 153	144 155 156	145 156 156	146 157 157	149 159 159 43
175.0		.2 20 2-4	.1 42 2-4	3.0 43 2-4	5.0 43 2-4	1.2 46 2-8 46
		136 147 148	136 148 149	142 153 154	146 157 157	149 157 158 46
170.0		1.6 43 2-4	4.9 43 2-4	.4 49 2-4	.6 49 2-8	.6 49 2-8 49
		131 143 144	136 148 149	147 154 155	149 155 156	148 155 156 48
165.0		.7 48 2-4	1.3 50 2-4	.1 52 2-8	.1 52 2-8	.1 52 2-8 51
		134 143 145	141 149 150	147 153 154	147 153 154	145 153 154 51
160.0		.8 52 2-4	1.0 54 2-4	.5 56 2-4	.4 57 2-4	1.0 57 2-8 54
		137 144 146	145 150 151	153 156 157	159 160 160	161 162 162 54
158.0		.2 54 2-4	.3 56 2-4	1.1 57 2-4	.8 58 2-4	1.4 58 2-8 54
		138 145 146	147 150 151	154 156 157	159 159 160	161 161 162 54
156.0		1.0 55 2-4	1.0 57 2-4	.4 59 2-4	1.2 59 2-4	.2 60 2-4 54
		139 145 146	147 150 151	156 156 157	159 159 159	161 161 161 54
154.0		.4 57 2-4	.3 59 2-4	.7 60 2-4	1.5 60 2-4	.5 61 2-4 54
		141 145 146	149 151 151	155 155 156	158 158 158	160 160 160 54
152.0		1.2 58 2-4	1.0 60 2-4	1.0 61 2-4	.1 62 2-4	.8 62 2-4 54
		142 145 146	150 151 151	155 155 155	157 157 157	159 159 159 54
150.0		.7 60 2-4	1.5 61 2-4	1.4 62 2-4	.5 63 2-4	1.1 63 2-2 54
		143 145 146	150 150 151	154 154 154	156 156 156	158 158 158 54
148.0		.2 62 2-4	.3 63 2-4	.1 64 2-4	.8 64 2-4	1.4 64 2-2 54
		145 145 147	149 149 150	153 153 153	155 155 156	157 157 157 54
146.0		.7 63 2-4	.7 64 2-4	.5 65 2-4	1.2 65 2-4	1.6 65 2-2 54
		145 145 146	149 149 149	152 152 153	155 155 155	156 157 157 54
144.0		1.2 64 2-4	1.1 65 2-4	.8 66 2-4	1.5 66 2-4	.1 67 2-2 54
		145 145 146	148 148 149	152 152 152	154 154 154	154 155 155 54
142.0		.0 66 2-4	1.6 66 2-4	1.2 67 2-4	1.9 67 2-4	.0 67 2 54
		144 144 145	148 148 148	151 151 151	154 154 154	142 147 148 54
140.0		.5 67 2-4	2.0 67 2-4	.0 67 2	.0 67 2	.0 67 2 54
		143 143 144	147 147 148	137 142 143	135 142 143	133 142 143 54
135.0		.0 67 2	.0 67 2	.0 67 2	.0 67 2	.0 67 2 54
		125 131 133	122 131 133	122 131 133	122 131 133	122 131 133 54
130.0		.0 67 2	.0 67 2	.0 67 2	.0 67 2	.0 67 2 54
		118 122 124	118 122 124	118 122 124	118 122 124	118 122 124 54

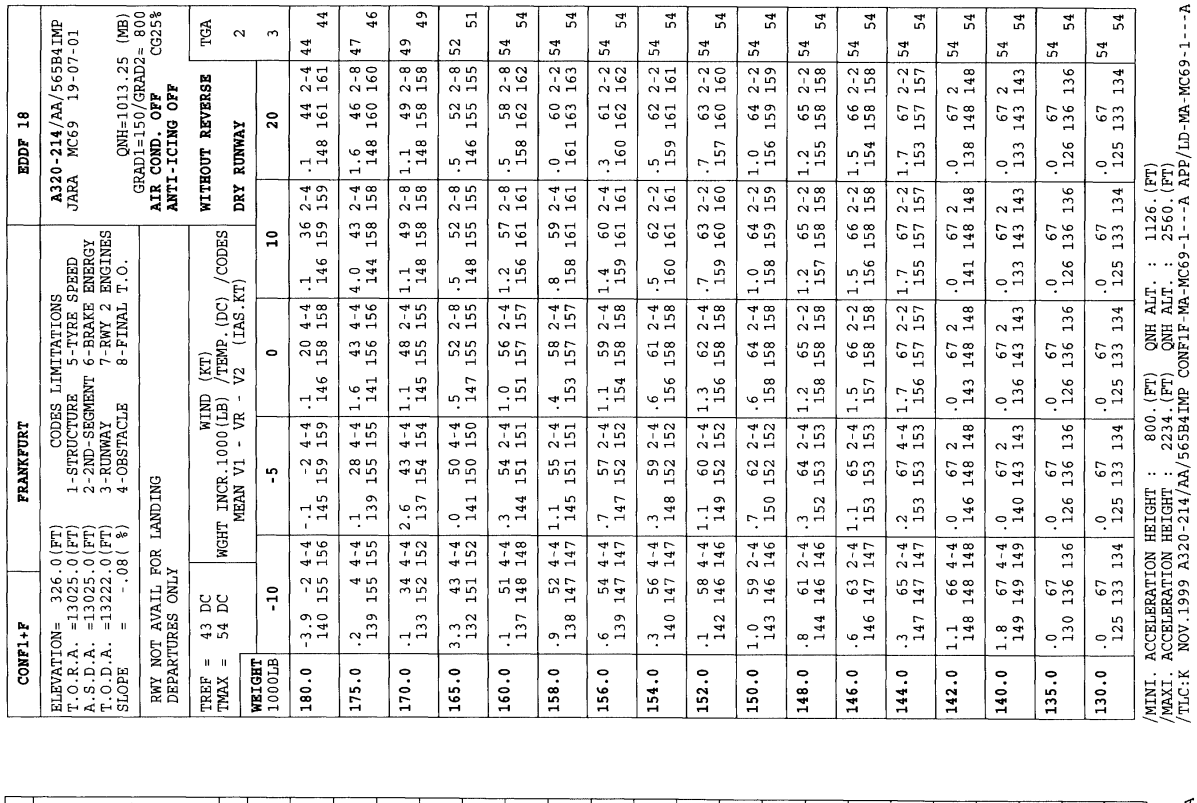
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2141.(FT) QNH ALT. : 2529.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3		PARIS CHARLES DE GAULLE			LFPG 27	
ELEVATION= 388.0(FT)		CODES LIMITATIONS			A320-214/AA/565B4IMP	
T.O.R.A. =11811.0(FT)		1-STRUCTURE 5-TYRE SPEED			JARA MC69 19-07-01	
A.S.D.A. =12007.9(FT)		2-2ND-SEGMENT 6-BRAKE ENERGY				
T.O.D.A. =12385.2(FT)		3-RUNWAY 7-RWY 2 ENGINES			QNH=1013.25 (MB)	
SLOPE = -.14(%)		4-OBSTACLE 8-FINAL T.O.			AIR COND. OFF CG25%	
FOR TRAINING ONLY					ANTI-ICING OFF	
TREF = 43 DC	MTOW	WIND (KT)			WITHOUT REVERSE	
TMAX = 54 DC	(LB)	CODES			DRY RUNWAY	
	MEAN V1 - VR - V2	(IAS.KT)				
O A T DC	-10	-5	0	10	20	
-2.0	178536 2-4	181504 2-4	184167 2-4	185819 2-4	187271 2-4	
	141 152 153	147 157 158	153 162 163	157 166 166	162 169 169	
13.0	176246 2-4	179396 2-4	182175 2-4	183920 2-4	185499 2-4	
	137 148 150	143 154 155	149 159 159	153 163 163	158 166 166	
28.0	173902 2-4	177154 2-4	180096 2-4	181956 2-4	183673 2-4	
	134 145 147	139 151 152	145 156 156	150 159 160	154 163 163	
43.2	171530 2-4	174898 2-4	177954 2-4	179930 2-4	181289 2-8	
	131 142 144	136 148 149	142 153 153	146 156 157	149 159 159	
45.0	169413 2-4	172676 2-4	175700 2-4	177575 2-4	178014 2-8	
	132 143 144	137 148 149	143 153 154	148 157 157	149 158 158	
46.0	168191 2-4	171436 2-4	174375 2-4	176169 2-8	176169 2-8	
	132 143 145	138 148 149	144 154 154	148 157 158	149 157 158	
47.0	166982 2-4	170132 2-4	173076 2-4	174324 2-8	174324 2-8	
	133 143 145	139 148 149	145 154 154	148 156 157	149 156 157	
49.0	164508 2-4	167606 2-4	170366 2-4	170633 2-8	170633 2-8	
	135 143 145	141 149 150	147 154 155	148 155 156	148 155 156	
50.0	163297 2-4	166277 2-4	168787 2-8	168787 2-8	168787 2-8	
	135 144 145	141 149 150	147 154 155	148 154 155	147 154 155	
52.0	160801 2-4	163647 2-4	165095 2-8	165095 2-8	165095 2-8	
	137 144 146	143 150 151	147 153 154	147 153 154	145 153 154	
53.0	159525 2-4	162302 2-4	163248 2-8	163248 2-8	163248 2-8	
	138 144 146	144 150 151	147 152 153	146 152 153	144 152 153	
55.0	156954 2-4	159613 2-4	160972 2-8	160972 2-8	160972 2-8	
	139 145 146	146 150 151	150 154 154	149 154 154	147 154 154	
56.0	155689 2-4	158269 2-4	160530 2-4	160969 2-8	160969 2-8	
	140 145 146	147 150 151	153 156 157	155 157 158	153 157 158	
57.0	154428 2-4	156950 2-4	159145 2-4	160405 2-4	160967 2-8	
	141 145 146	147 150 151	154 156 157	159 160 160	161 162 162	
59.0	151924 2-4	154299 2-4	156370 2-4	157193 2-4	157923 2-4	
	143 145 146	149 151 151	156 156 157	159 159 159	161 161 161	
60.0	150667 2-4	152984 2-4	154683 2-4	155498 2-4	156216 2-4	
	143 145 146	150 151 151	155 155 156	158 158 158	161 161 161	
62.0	148184 2-4	149949 2-4	151351 2-4	152144 2-4	152837 2-4	
	145 145 147	150 150 151	154 154 154	157 157 157	159 159 159	
63.0	146706 2-4	148341 2-4	149705 2-4	150479 2-4	151127 2-2	
	145 145 146	149 149 150	153 153 154	156 156 156	158 158 158	
64.0	145151 2-4	146723 2-4	148058 2-4	148828 2-4	149379 2-2	
	145 145 146	149 149 149	153 153 153	155 155 156	157 157 157	
66.0	142042 2-4	143569 2-4	144843 2-4	145548 2-4	145882 2-2	
	144 144 145	148 148 148	152 152 152	154 154 154	155 156 156	
67.0	140504 2-4	141988 2-4	143232 2-4	143913 2-4	144134 2-2	
	143 143 144	147 147 148	151 151 151	154 154 154	154 155 155	

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2141.(FT) QNH ALT. : 2529.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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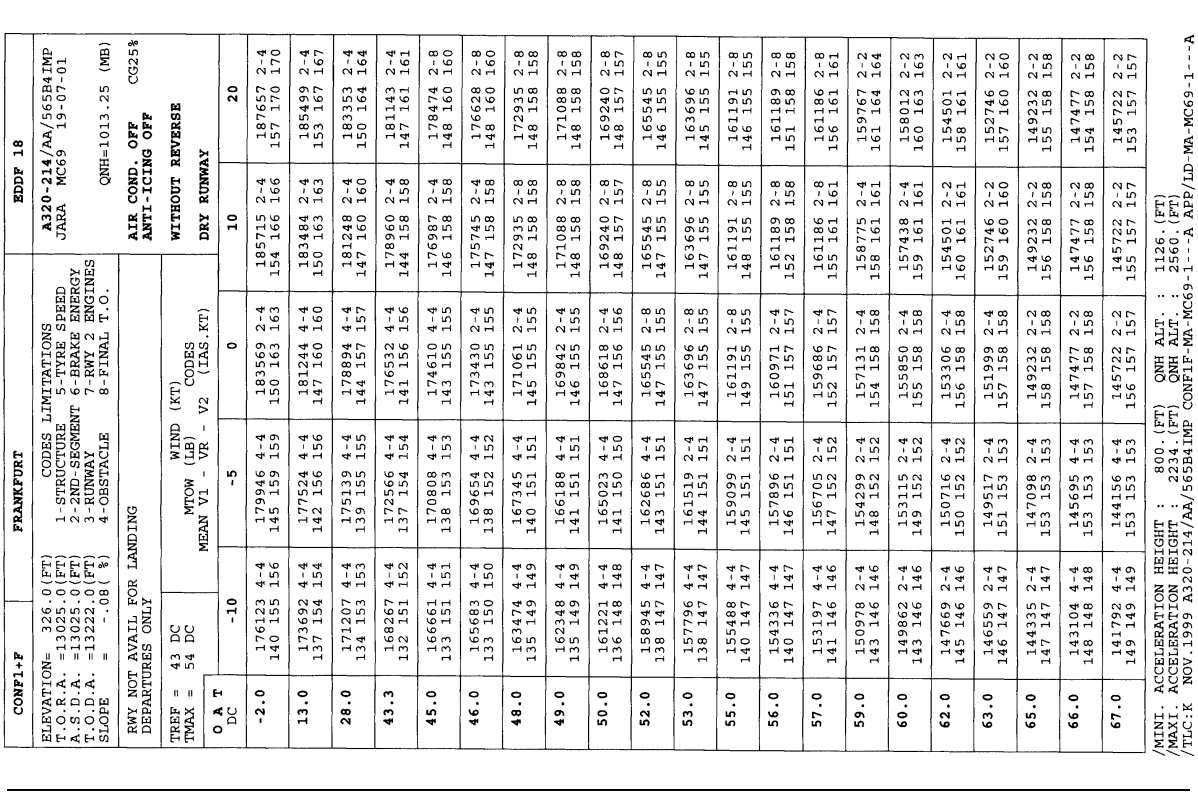
FRANKFURT (EDDF) - RWY 18 - CONF 1 + F



CONF1+F	FRANKFURT	EDDF 18
ELEVATION= 326.0(FT) T.O.R.A. =13025.0(FT) A.S.D.A. =13025.0(FT) T.O.D.A. =13222.0(FT) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=150/GRAD2= 800 AIR COND. OFF CG25% ANTI-ICING OFF
RWY NOT AVAIL FOR LANDING DEPARTURES ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0	-3.9 -2 4-4 140 155 156	-.1 -2 4-4 145 159 159	.1 20 4-4 146 158 158	.1 36 2-4 146 159 159	.1 44 2-4 44 148 161 161 44
175.0	.2 4 4-4 139 155 155	.1 28 4-4 139 155 155	1.6 43 4-4 141 156 156	4.0 43 2-4 144 158 158	1.6 46 2-8 47 148 160 160 46
170.0	.1 34 4-4 133 152 152	2.6 43 4-4 137 154 154	1.1 48 2-4 145 155 155	1.1 49 2-8 148 158 158	1.1 49 2-8 49 148 158 158 49
165.0	3.3 43 4-4 132 151 152	.0 50 4-4 141 150 150	.5 52 2-8 147 155 155	.5 52 2-8 148 155 155	.5 52 2-8 52 146 155 155 51
160.0	.1 51 4-4 137 148 148	.3 54 2-4 144 151 151	1.0 56 2-4 151 157 157	1.2 57 2-8 156 161 161	.5 58 2-8 54 158 162 162 54
158.0	.9 52 4-4 138 147 147	1.1 55 2-4 145 151 151	.4 58 2-4 153 157 157	.8 59 2-4 158 161 161	.0 60 2-2 54 161 163 163 54
156.0	.6 54 4-4 139 147 147	.7 57 2-4 147 152 152	1.1 59 2-4 154 158 158	1.4 60 2-4 159 161 161	.3 61 2-2 54 160 162 162 54
154.0	.3 56 4-4 140 147 147	.3 59 2-4 148 152 152	.6 61 2-4 156 158 158	.5 62 2-2 160 161 161	.5 62 2-2 54 159 161 161 54
152.0	.1 58 4-4 142 146 146	1.1 60 2-4 149 152 152	1.3 62 2-4 156 158 158	.7 63 2-2 159 160 160	.7 63 2-2 54 157 160 160 54
150.0	1.0 59 2-4 143 146 146	.7 62 2-4 150 152 152	.6 64 2-4 158 158 158	1.0 64 2-2 158 159 159	1.0 64 2-2 54 156 159 159 54
148.0	.8 61 2-4 144 146 146	.3 64 2-4 152 153 153	1.2 65 2-2 158 158 158	1.2 65 2-2 157 158 158	1.2 65 2-2 54 155 158 158 54
146.0	.6 63 2-4 146 147 147	1.1 65 2-4 153 153 153	1.5 66 2-2 157 158 158	1.5 66 2-2 156 158 158	1.5 66 2-2 54 154 158 158 54
144.0	.3 65 2-4 147 147 147	.2 67 4-4 153 153 153	1.7 67 2-2 156 157 157	1.7 67 2-2 155 157 157	1.7 67 2-2 54 153 157 157 54
142.0	1.1 66 4-4 148 148 148	.0 67 2 146 148 148	.0 67 2 143 148 148	.0 67 2 141 148 148	.0 67 2 54 138 148 148
140.0	1.8 67 4-4 149 149 149	.0 67 2 140 143 143	.0 67 2 136 143 143	.0 67 2 133 143 143	.0 67 2 54 133 143 143 54
135.0	.0 67 130 136 136	.0 67 126 136 136	.0 67 126 136 136	.0 67 126 136 136	.0 67 54 126 136 136 54
130.0	.0 67 125 133 134	.0 67 125 133 134	.0 67 125 133 134	.0 67 125 133 134	.0 67 54 125 133 134 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1126.(FT)
/MAXI. ACCELERATION HEIGHT : 2234.(FT) QNH ALT. : 2560.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

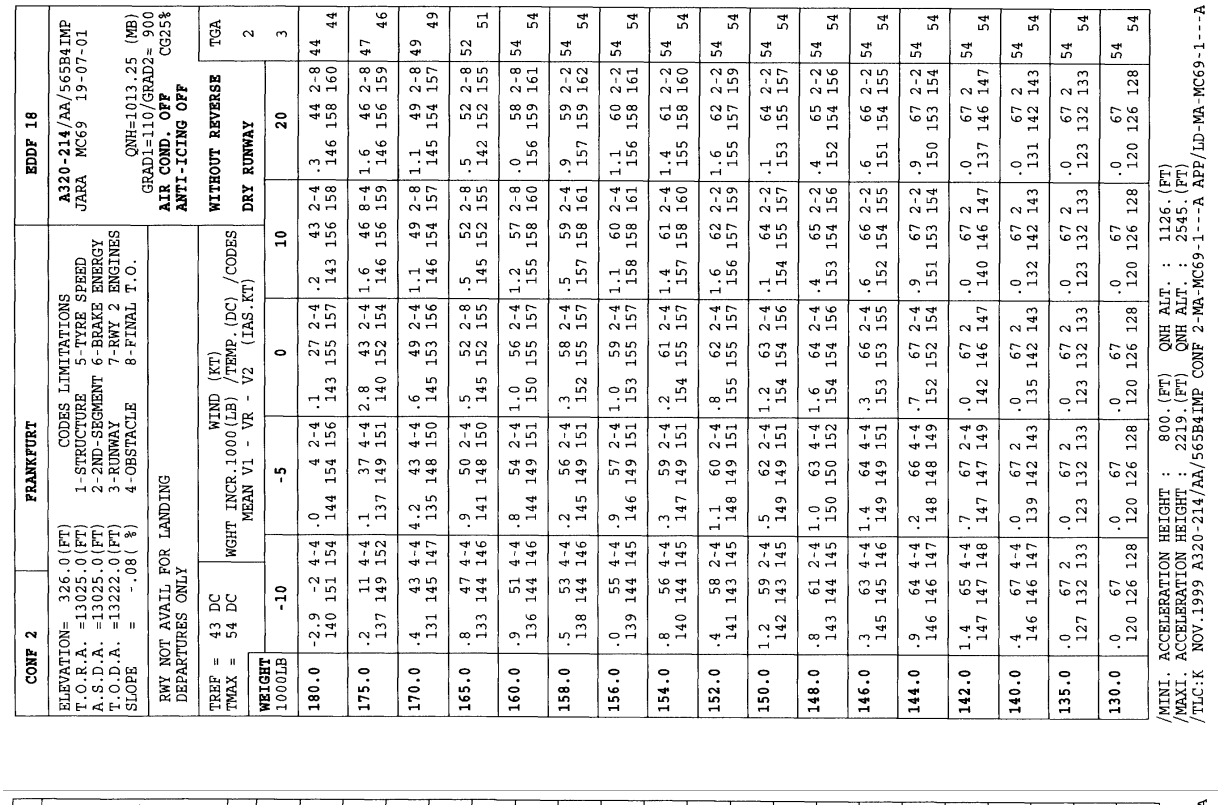


CONF1+F	FRANKFURT	EDDF 18
ELEVATION= 326.0(FT) T.O.R.A. =13025.0(FT) A.S.D.A. =13025.0(FT) T.O.D.A. =13222.0(FT) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
RWY NOT AVAIL FOR LANDING DEPARTURES ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	176123 4-4 140 155 156	179946 4-4 145 159 159	183569 2-4 150 163 163	185715 2-4 154 166 166	187657 2-4 157 170 170
13.0	173692 4-4 137 154 154	177524 4-4 142 156 156	181244 4-4 147 160 160	183484 2-4 150 163 163	185499 2-4 153 167 167
28.0	171207 4-4 134 153 153	175139 4-4 139 155 155	178894 4-4 144 157 157	181248 2-4 147 160 160	183353 2-4 150 164 164
43.3	168267 4-4 132 151 152	172566 4-4 137 154 154	176532 4-4 141 156 156	178960 2-4 144 158 158	181143 2-4 147 161 161
45.0	166661 4-4 133 151 151	170808 4-4 138 153 153	174610 4-4 143 155 155	176987 2-4 146 158 158	178474 2-8 148 160 160
46.0	165683 4-4 133 150 150	169654 4-4 138 152 152	173430 2-4 143 155 155	175745 2-4 147 158 158	176628 2-8 148 160 160
48.0	163474 4-4 135 149 149	167345 4-4 140 151 151	171061 2-4 145 155 155	172935 2-8 148 158 158	172935 2-8 148 158 158
49.0	162348 4-4 135 149 149	166188 4-4 141 151 151	169842 2-4 146 155 155	171088 2-8 148 158 158	171088 2-8 148 158 158
50.0	161221 4-4 136 148 148	165023 4-4 141 150 150	168618 2-4 147 156 156	169240 2-8 148 157 157	169240 2-8 148 157 157
52.0	158945 4-4 138 147 147	162686 4-4 143 151 151	165545 2-8 147 155 155	165545 2-8 147 155 155	165545 2-8 146 155 155
53.0	157796 4-4 138 147 147	161519 2-4 144 151 151	163696 2-8 147 155 155	163696 2-8 147 155 155	163696 2-8 145 155 155
55.0	155488 4-4 140 147 147	159099 2-4 145 151 151	161191 2-8 149 155 155	161191 2-8 148 155 155	161191 2-8 146 155 155
56.0	154336 4-4 140 147 147	157896 2-4 146 151 151	160971 2-4 151 157 157	161189 2-8 152 158 158	161189 2-8 151 158 158
57.0	153197 4-4 141 146 146	156705 2-4 147 152 152	159686 2-4 152 157 157	161186 2-8 155 161 161	161186 2-8 156 161 161
59.0	150978 2-4 143 146 146	154299 2-4 148 152 152	157131 2-4 154 158 158	158775 2-4 158 161 161	159767 2-2 161 164 164
60.0	149862 2-4 143 146 146	153115 2-4 149 152 152	155850 2-4 155 158 158	157438 2-4 159 161 161	158012 2-2 160 163 163
62.0	147669 2-4 145 146 146	150716 2-4 150 152 152	153306 2-4 156 158 158	154501 2-2 160 161 161	154501 2-2 158 161 161
63.0	146559 2-4 146 147 147	149517 2-4 151 153 153	151999 2-4 157 158 158	152746 2-2 159 160 160	152746 2-2 157 160 160
65.0	144335 2-4 147 147 147	147098 2-4 153 153 153	149232 2-2 158 158 158	149232 2-2 156 158 158	149232 2-2 155 158 158
66.0	143104 4-4 148 148 148	145695 4-4 153 153 153	147477 2-2 157 158 158	147477 2-2 156 158 158	147477 2-2 154 158 158
67.0	141792 4-4 149 149 149	144156 4-4 153 153 153	145722 2-2 156 157 157	145722 2-2 155 157 157	145722 2-2 153 157 157

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1126.(FT)
/MAXI. ACCELERATION HEIGHT : 2234.(FT) QNH ALT. : 2560.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

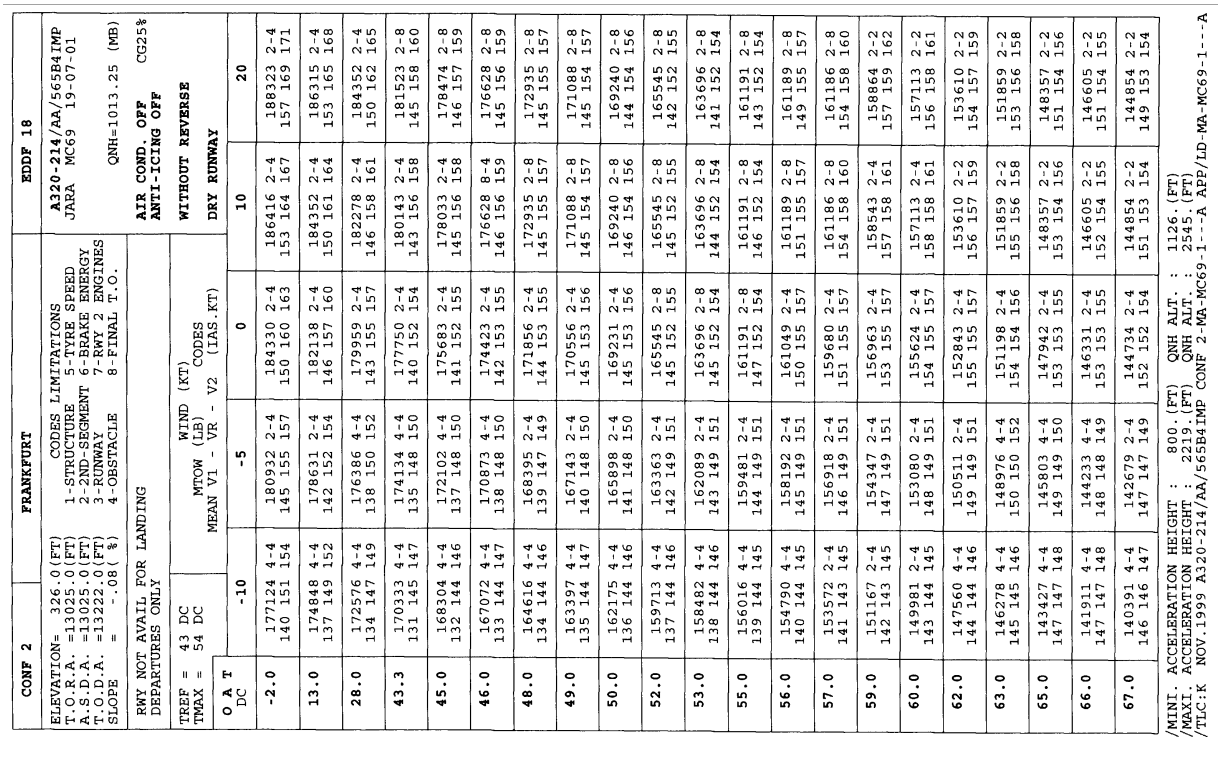
FRANKFURT (EDDF) - RWY 18 - CONF 2



CONF 2	FRANKFURT	EDDF 18
ELEVATION= 326.0(FT) T.O.R.A. =13025.0(FT) A.S.D.A. =13025.0(FT) T.O.D.A. =13222.0(FT) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=110/GRAD2= 900 AIR COND. OFF CG25% ANTI-ICING OFF
RWY NOT AVAIL FOR LANDING DEPARTURES ONLY	WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC		DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0	-2.9 -2 4-4 140 151 154	.0 4 2-4 144 154 156	.1 27 2-4 143 155 157	.2 43 2-4 143 156 158	.3 44 2-8 146 158 160	44 44
175.0	.2 11 4-4 137 149 152	.1 37 4-4 137 149 151	2.8 43 2-4 140 152 154	1.6 46 8-4 146 156 159	1.6 46 2-8 146 156 159	47 46
170.0	.4 43 4-4 131 145 147	4.2 43 4-4 135 148 150	.6 49 2-4 145 153 156	1.1 49 2-8 146 154 157	1.1 49 2-8 145 154 157	49 49
165.0	.8 47 4-4 133 144 146	.9 50 2-4 141 148 150	.5 52 2-8 145 152 155	.5 52 2-8 145 152 155	.5 52 2-8 142 152 155	52 51
160.0	.9 51 4-4 136 144 146	.8 54 2-4 144 149 151	1.0 56 2-4 150 155 157	1.2 57 2-8 155 158 160	.0 58 2-8 156 159 161	54 54
158.0	.5 53 4-4 138 144 146	.2 56 2-4 145 149 151	.3 58 2-4 152 155 157	.5 59 2-4 157 158 161	.9 59 2-2 157 159 162	54 54
156.0	.0 55 4-4 139 144 145	.9 57 2-4 146 149 151	1.0 59 2-4 153 155 157	1.1 60 2-4 158 158 161	1.1 60 2-2 156 158 161	54 54
154.0	.8 56 4-4 140 144 145	.3 59 2-4 147 149 151	.2 61 2-4 154 155 157	1.4 61 2-4 157 158 160	1.4 61 2-2 155 158 160	54 54
152.0	.4 58 2-4 141 143 145	1.1 60 2-4 148 149 151	.8 62 2-4 155 155 157	1.6 62 2-2 156 157 159	1.6 62 2-2 155 157 159	54 54
150.0	1.2 59 2-4 142 143 145	.5 62 2-4 149 149 151	1.2 63 2-4 154 154 156	.1 64 2-2 154 155 157	.1 64 2-2 153 155 157	54 54
148.0	.8 61 2-4 143 144 145	1.0 63 4-4 150 150 152	1.6 64 2-4 154 154 156	.4 65 2-2 153 154 156	.4 65 2-2 152 154 156	54 54
146.0	.3 63 4-4 145 145 146	1.4 64 4-4 149 149 151	.3 66 2-4 153 153 155	.6 66 2-2 152 154 155	.6 66 2-2 151 154 155	54 54
144.0	.9 64 4-4 146 146 147	.2 66 4-4 148 148 149	.7 67 2-4 152 152 154	.9 67 2-2 151 153 154	.9 67 2-2 150 153 154	54 54
142.0	1.4 65 4-4 147 147 148	.7 67 2-4 147 147 149	.0 67 2 142 146 147	.0 67 2 140 146 147	.0 67 2 137 146 147	54 54
140.0	.4 67 4-4 146 146 147	.0 67 2 139 142 143	.0 67 2 135 142 143	.0 67 2 132 142 143	.0 67 2 131 142 143	54 54
135.0	.0 67 2 127 132 133	.0 67 2 123 132 133	.0 67 2 123 132 133	.0 67 2 123 132 133	.0 67 2 123 132 133	54 54
130.0	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1126.(FT)
/MAXI. ACCELERATION HEIGHT : 2219.(FT) QNH ALT. : 2545.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

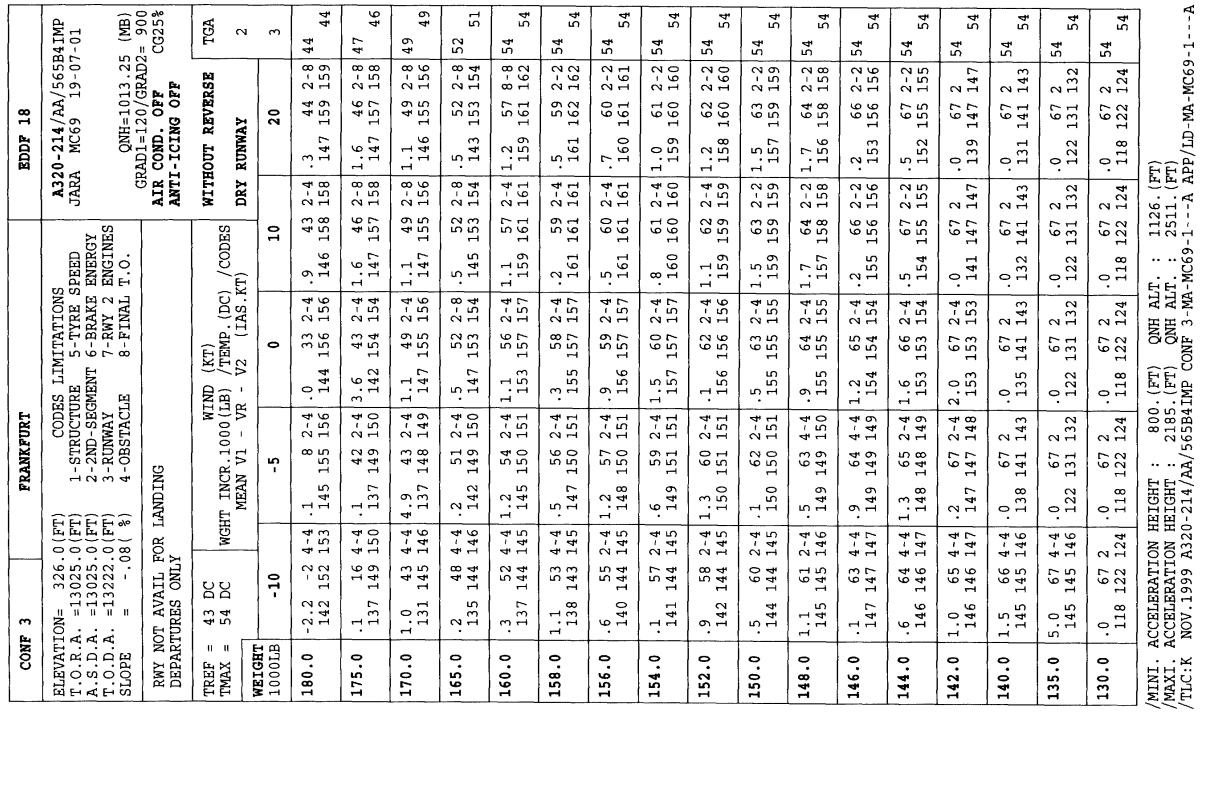


CONF 2	FRANKFURT	EDDF 18
ELEVATION= 326.0(FT) T.O.R.A. =13025.0(FT) A.S.D.A. =13025.0(FT) T.O.D.A. =13222.0(FT) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
RWY NOT AVAIL FOR LANDING DEPARTURES ONLY	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC		DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	177124 4-4 140 151 154	180932 2-4 145 155 157	184330 2-4 150 160 163	186416 2-4 153 164 167	188323 2-4 157 169 171
13.0	174848 4-4 137 149 152	178631 2-4 142 152 154	182138 2-4 146 157 160	184352 2-4 150 161 164	186315 2-4 153 165 168
28.0	172576 4-4 134 147 149	176386 4-4 138 150 152	179959 2-4 143 155 157	182278 2-4 146 158 161	184352 2-4 150 162 165
43.3	170333 4-4 131 145 147	174134 4-4 135 148 150	177750 2-4 140 152 154	180143 2-4 143 156 158	181523 2-8 145 158 160
45.0	168304 4-4 132 144 146	172102 4-4 137 148 150	175683 2-4 141 152 155	178033 2-4 145 156 158	178474 2-8 146 157 159
46.0	167072 4-4 133 144 147	170873 4-4 138 148 150	174423 2-4 142 153 155	176628 8-4 146 156 159	176628 2-8 145 156 159
48.0	164616 4-4 134 144 146	168395 2-4 139 147 149	171856 2-4 144 153 155	172935 2-8 145 155 157	172935 2-8 145 155 157
49.0	163397 4-4 135 144 147	167143 2-4 140 148 150	170556 2-4 145 153 156	171088 2-8 145 154 157	171088 2-8 145 154 157
50.0	162175 4-4 136 144 146	165898 2-4 141 148 150	169231 2-4 145 153 156	169240 2-8 146 154 156	169240 2-8 144 154 156
52.0	159713 4-4 137 144 146	163363 2-4 142 149 151	165545 2-8 145 152 155	165545 2-8 145 152 155	165545 2-8 142 152 155
53.0	158482 4-4 138 144 146	162089 2-4 143 149 151	163696 2-8 145 152 154	163696 2-8 144 152 154	163696 2-8 141 152 154
55.0	156016 4-4 139 144 145	159481 2-4 144 149 151	161191 2-8 147 152 154	161191 2-8 146 152 154	161191 2-8 143 152 154
56.0	154790 4-4 140 144 145	158192 2-4 145 149 151	161049 2-4 150 155 157	161189 2-8 151 155 157	161189 2-8 149 155 157
57.0	153572 2-4 141 143 145	156918 2-4 146 149 151	159680 2-4 151 155 157	161186 2-8 154 158 160	161186 2-8 154 158 160
59.0	151167 2-4 142 143 145	154347 2-4 147 149 151	156963 2-4 153 155 157	158543 2-4 157 158 161	158864 2-2 157 159 162
60.0	149981 2-4 143 144 145	153080 2-4 148 149 151	155624 2-4 154 155 157	157113 2-4 158 158 161	157113 2-2 156 158 161
62.0	147560 4-4 144 144 146	150511 2-4 149 149 151	152843 2-4 155 155 157	153610 2-2 156 157 159	153610 2-2 154 157 159
63.0	146278 4-4 145 145 146	148976 4-4 150 150 152	151198 2-4 154 154 156	151859 2-2 155 156 158	151859 2-2 153 156 158
65.0	143427 4-4 147 147 148	145803 4-4 149 149 150	147942 2-4 153 153 155	148357 2-2 153 154 156	148357 2-2 151 154 156
66.0	141911 4-4 147 147 148	144233 4-4 148 148 149	146331 2-4 153 153 155	146605 2-2 152 154 155	146605 2-2 151 154 155
67.0	140391 4-4 146 146 147	142679 2-4 147 147 149	144734 2-4 152 152 154	144854 2-2 151 153 154	144854 2-2 149 153 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1126.(FT)
/MAXI. ACCELERATION HEIGHT : 2219.(FT) QNH ALT. : 2545.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

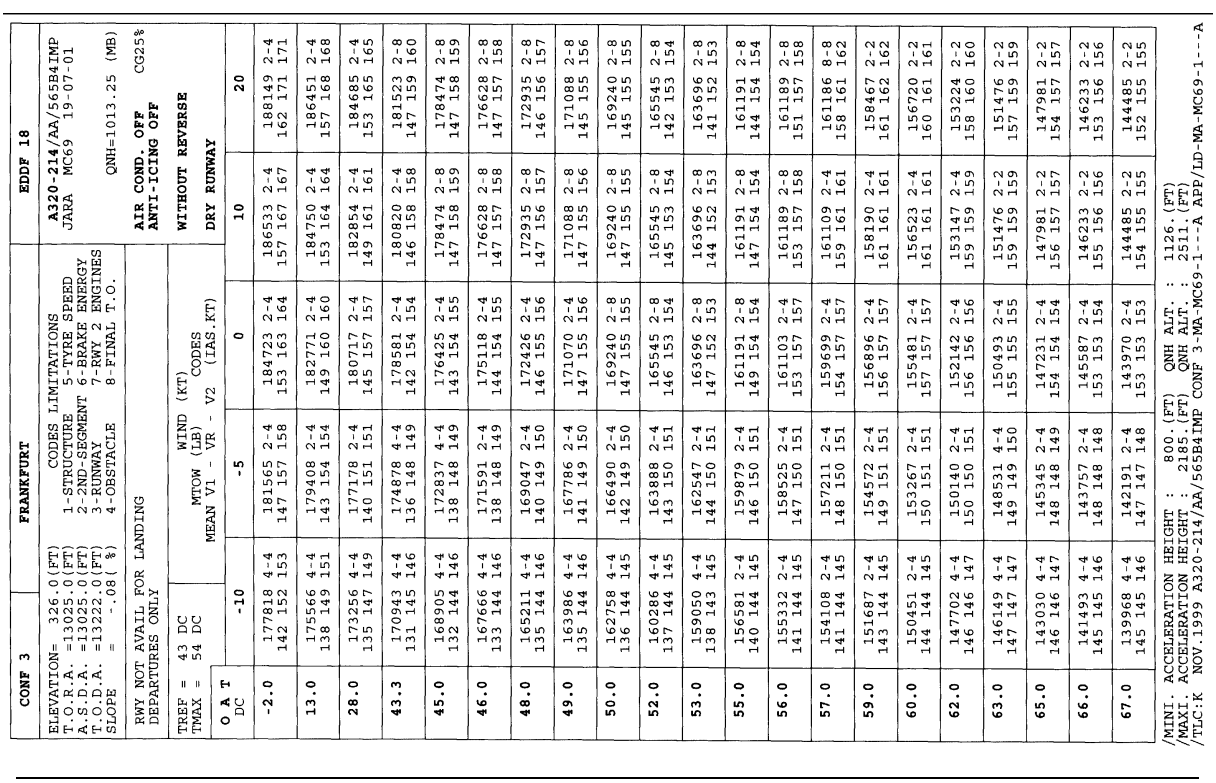
FRANKFURT (EDDF) - RWY 18 - CONF 3



CONF 3	FRANKFURT	EDDF 18
ELEVATION= 326.0(FT) T.O.R.A. =13025.0(FT) A.S.D.A. =13025.0(FT) T.O.D.A. =13222.0(FT) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 900 AIR COND. OFF CG25% ANTI-ICING OFF
RWY NOT AVAIL FOR LANDING DEPARTURES ONLY	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC		DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0	-2.2 -2 4-4 142 152 153	.1 8 2-4 145 155 156	.0 33 2-4 144 156 156	.9 43 2-4 146 158 158	.3 44 2-8 44 147 159 159
175.0	.1 16 4-4 137 149 150	.1 42 2-4 137 149 150	3.6 43 2-4 142 154 154	1.6 46 2-8 147 157 158	1.6 46 2-8 47 147 157 158
170.0	1.0 43 4-4 131 145 146	4.9 43 2-4 137 148 149	1.1 49 2-4 147 155 156	1.1 49 2-8 147 155 156	1.1 49 2-8 49 146 155 156
165.0	.2 48 4-4 135 144 146	.2 51 2-4 142 149 150	.5 52 2-8 147 153 154	.5 52 2-8 145 153 154	.5 52 2-8 52 143 153 154
160.0	.3 52 4-4 137 144 145	1.2 54 2-4 145 150 151	1.1 56 2-4 153 157 157	1.1 57 2-4 159 161 161	1.2 57 8-8 54 159 161 162
158.0	1.1 53 4-4 138 143 145	.5 56 2-4 147 150 151	.3 58 2-4 155 157 157	.2 59 2-4 161 161 161	.5 59 2-2 54 161 162 162
156.0	.6 55 2-4 140 144 145	1.2 57 2-4 148 150 151	.9 59 2-4 156 157 157	.5 60 2-4 161 161 161	.7 60 2-2 54 160 161 161
154.0	.1 57 2-4 141 144 145	.6 59 2-4 149 151 151	1.5 60 2-4 157 157 157	.8 61 2-4 160 160 160	1.0 61 2-2 54 159 160 160
152.0	.9 58 2-4 142 144 145	1.3 60 2-4 150 151 151	.1 62 2-4 156 156 156	1.1 62 2-4 159 159 159	1.2 62 2-2 54 158 160 160
150.0	.5 60 2-4 144 144 145	.1 62 2-4 150 150 151	.5 63 2-4 155 155 155	1.5 63 2-2 159 159 159	1.5 63 2-2 54 157 159 159
148.0	1.1 61 2-4 145 145 146	.5 63 4-4 149 149 150	.9 64 2-4 155 155 155	1.7 64 2-2 157 158 158	1.7 64 2-2 54 156 158 158
146.0	.1 63 4-4 147 147 147	.9 64 4-4 149 149 149	1.2 65 2-4 154 154 154	.2 66 2-2 155 156 156	.2 66 2-2 54 153 156 156
144.0	.6 64 4-4 146 146 147	1.3 65 2-4 148 148 149	1.6 66 2-4 153 153 154	.5 67 2-2 154 155 155	.5 67 2-2 54 152 155 155
142.0	1.0 65 4-4 146 146 147	.2 67 2-4 147 147 148	2.0 67 2-4 153 153 153	.0 67 2 141 147 147	.0 67 2 54 139 147 147
140.0	1.5 66 4-4 145 145 146	.0 67 2 138 141 143	.0 67 2 135 141 143	.0 67 2 132 141 143	.0 67 2 54 131 141 143
135.0	5.0 67 4-4 145 145 146	.0 67 2 122 131 132	.0 67 2 122 131 132	.0 67 2 122 131 132	.0 67 2 54 122 131 132
130.0	.0 67 2 118 122 124	.0 67 2 118 122 124	.0 67 2 118 122 124	.0 67 2 118 122 124	.0 67 2 54 118 122 124

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1126.(FT)
/MAXI. ACCELERATION HEIGHT : 2185.(FT) QNH ALT. : 2511.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A



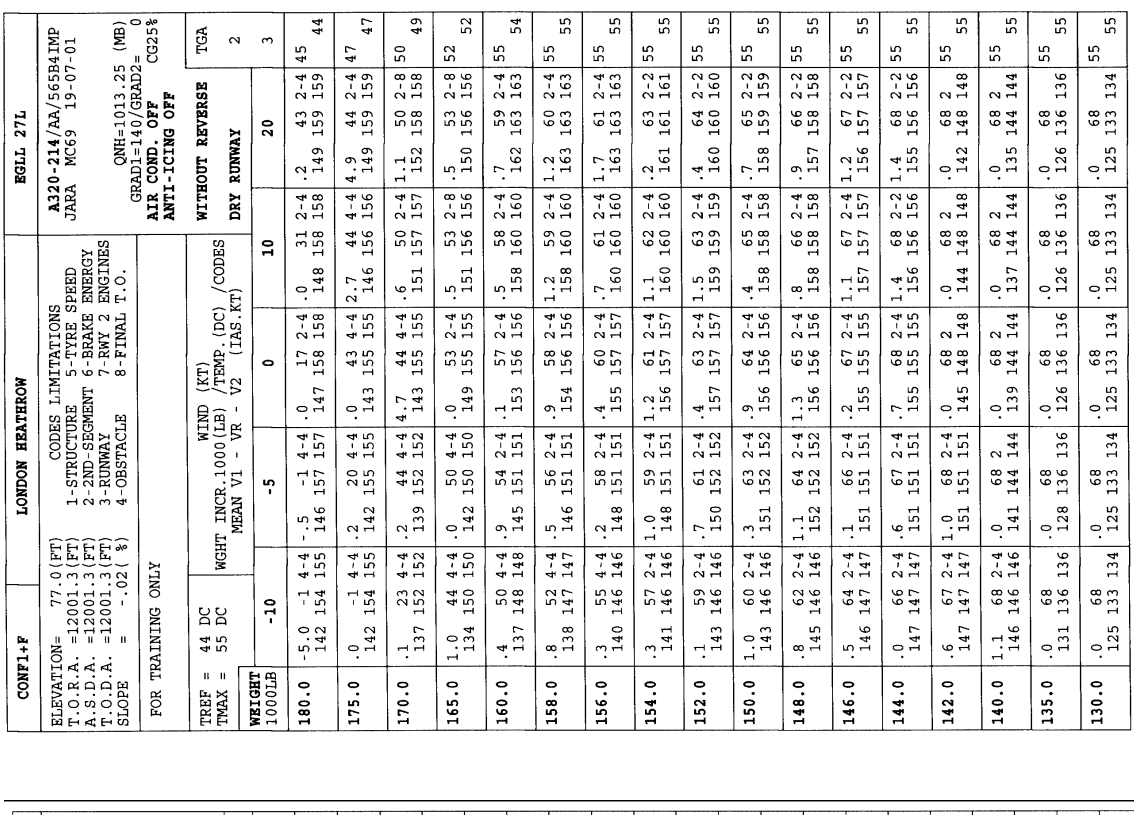
CONF 3	FRANKFURT	EDDF 18
ELEVATION= 326.0(FT) T.O.R.A. =13025.0(FT) A.S.D.A. =13025.0(FT) T.O.D.A. =13222.0(FT) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
RWY NOT AVAIL FOR LANDING DEPARTURES ONLY	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC		DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	177818 4-4 142 152 153	181565 2-4 147 157 158	184723 2-4 153 163 164	186533 2-4 157 167 167	188149 2-4 162 171 171
13.0	175566 4-4 138 149 151	179408 2-4 143 154 154	182771 2-4 149 160 160	184750 2-4 153 164 164	186451 2-4 157 168 168
28.0	173256 4-4 135 147 149	177178 2-4 140 151 151	180717 2-4 145 157 157	182854 2-4 149 161 161	184685 2-4 153 165 165
43.3	170943 4-4 131 145 146	174878 4-4 136 148 149	178581 2-4 142 154 154	180820 2-4 146 158 158	181523 2-8 147 159 160
45.0	168905 4-4 132 144 146	172837 4-4 138 148 149	176425 2-4 143 154 155	178474 2-8 147 158 159	178474 2-8 147 158 159
46.0	167666 4-4 133 144 146	171591 2-4 138 148 149	175118 2-4 144 154 155	176628 2-8 147 157 158	176628 2-8 147 157 158
48.0	165211 4-4 135 144 146	169047 2-4 140 149 150	172426 2-4 146 155 156	172935 2-8 147 156 157	172935 2-8 146 156 157
49.0	163986 4-4 135 144 146	167786 2-4 141 149 150	171070 2-4 147 155 156	171088 2-8 147 155 156	171088 2-8 145 155 156
50.0	162758 4-4 136 144 145	166490 2-4 142 149 150	169240 2-8 147 155 155	169240 2-8 147 155 155	169240 2-8 145 155 155
52.0	160286 4-4 137 144 145	163888 2-4 143 150 151	165545 2-8 146 153 154	165545 2-8 145 153 154	165545 2-8 142 153 154
53.0	159050 4-4 138 143 145	162547 2-4 144 150 151	163696 2-8 147 152 153	163696 2-8 144 152 153	163696 2-8 141 152 153
55.0	156581 2-4 140 144 145	159879 2-4 146 150 151	161191 2-8 149 154 154	161191 2-8 147 154 154	161191 2-8 144 154 154
56.0	155332 2-4 141 144 145	158525 2-4 147 150 151	161103 2-4 153 157 157	161189 2-8 153 157 158	161189 2-8 151 157 158
57.0	154108 2-4 141 144 145	157211 2-4 148 150 151	159699 2-4 154 157 157	161109 2-4 159 161 161	161186 8-8 158 161 162
59.0	151687 2-4 143 144 145	154572 2-4 149 151 151	156896 2-4 156 157 157	158190 2-4 161 161 161	158467 2-2 161 162 162
60.0	150451 2-4 144 144 145	153267 2-4 150 151 151	155481 2-4 157 157 157	156523 2-4 161 161 161	156720 2-2 160 161 161
62.0	147702 4-4 146 146 147	150140 2-4 150 150 151	152142 2-4 156 156 156	153147 2-4 159 159 159	153224 2-2 158 160 160
63.0	146149 4-4 147 147 147	148531 4-4 149 149 150	150493 2-4 155 155 155	151476 2-2 159 159 159	151476 2-2 157 159 159
65.0	143030 4-4 146 146 147	145345 2-4 148 148 149	147231 2-4 154 154 154	147981 2-2 156 157 157	147981 2-2 154 157 157
66.0	141493 4-4 145 145 146	143757 2-4 148 148 148	145587 2-4 153 153 154	146233 2-2 155 156 156	146233 2-2 153 156 156
67.0	139968 4-4 145 145 146	142191 2-4 147 147 148	143970 2-4 153 153 153	144485 2-2 154 155 155	144485 2-2 152 155 155

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1126.(FT)
/MAXI. ACCELERATION HEIGHT : 2185.(FT) QNH ALT. : 2511.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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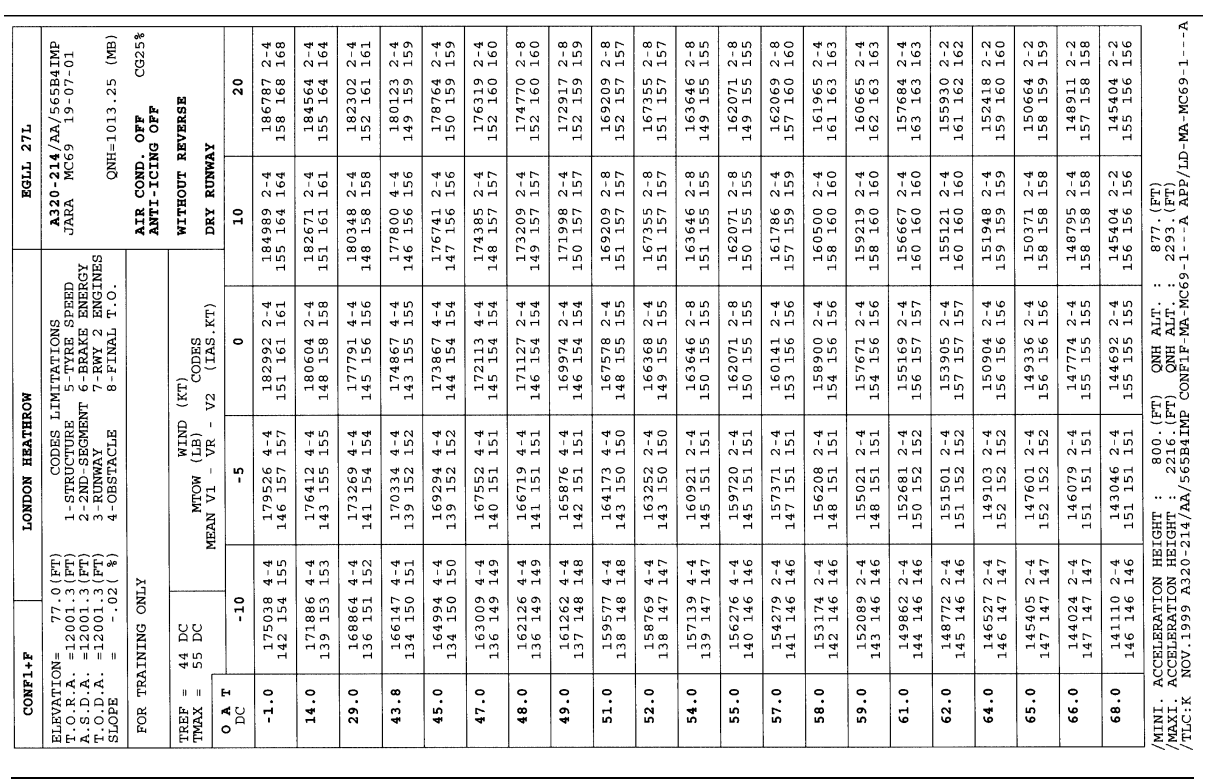
LONDON HEATHROW (EGLL) - RWY 27L - CONF 1 + F



CONF1+F	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. =12001.3(FT) A.S.D.A. =12001.3(FT) T.O.D.A. =12001.3(FT) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=140/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 44 DC TMAX = 55 DC	WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0	-5.0 -1 4-4 142 154 155	-.5 -1 4-4 146 157 157	.0 17 2-4 147 158 158	.0 31 2-4 148 158 158	.2 43 2-4 45 149 159 159 44
175.0	.0 -1 4-4 142 154 155	.2 20 4-4 142 155 155	.0 43 4-4 143 155 155	2.7 44 4-4 146 156 156	4.9 44 2-4 47 149 159 159 47
170.0	.1 23 4-4 137 152 152	.2 44 4-4 139 152 152	4.7 44 4-4 143 155 155	.6 50 2-4 151 157 157	1.1 50 2-8 50 152 158 158 49
165.0	1.0 44 4-4 134 150 150	.0 50 4-4 142 150 150	.0 53 2-4 149 155 155	.5 53 2-8 151 156 156	.5 53 2-8 52 150 156 156 52
160.0	.4 50 4-4 137 148 148	.9 54 2-4 145 151 151	.1 57 2-4 153 156 156	.5 58 2-4 158 160 160	.7 59 2-4 55 162 163 163 54
158.0	.8 52 4-4 138 147 147	.5 56 2-4 146 151 151	.9 58 2-4 154 156 156	1.2 59 2-4 158 160 160	1.2 60 2-4 55 163 163 163 55
156.0	.3 55 4-4 140 146 146	.2 58 2-4 148 151 151	.4 60 2-4 155 157 157	.7 61 2-4 160 160 160	1.7 61 2-4 55 163 163 163 55
154.0	.3 57 2-4 141 146 146	1.0 59 2-4 148 151 151	1.2 61 2-4 156 157 157	1.1 62 2-4 160 160 160	.2 63 2-2 55 161 161 161 55
152.0	.1 59 2-4 143 146 146	.7 61 2-4 150 152 152	.4 63 2-4 157 157 157	1.5 63 2-4 159 159 159	.4 64 2-2 55 160 160 160 55
150.0	1.0 60 2-4 143 146 146	.3 63 2-4 151 152 152	.9 64 2-4 156 156 156	.4 65 2-4 158 158 158	.7 65 2-2 55 158 159 159 55
148.0	.8 62 2-4 145 146 146	1.1 64 2-4 152 152 152	1.3 65 2-4 156 156 156	.8 66 2-4 158 158 158	.9 66 2-2 55 157 158 158 55
146.0	.5 64 2-4 146 147 147	.1 66 2-4 151 151 151	.2 67 2-4 155 155 155	1.1 67 2-4 157 157 157	1.2 67 2-2 55 156 157 157 55
144.0	.0 66 2-4 147 147 147	.6 67 2-4 151 151 151	.7 68 2-4 155 155 155	1.4 68 2-2 156 156 156	1.4 68 2-2 55 155 156 156 55
142.0	.6 67 2-4 147 147 147	1.0 68 2-4 151 151 151	.0 68 2 145 148 148	.0 68 2 144 148 148	.0 68 2 55 142 148 148 55
140.0	1.1 68 2-4 146 146 146	.0 68 2 141 144 144	.0 68 2 139 144 144	.0 68 2 137 144 144	.0 68 2 55 135 144 144 55
135.0	.0 68 131 136 136	.0 68 128 136 136	.0 68 126 136 136	.0 68 126 136 136	.0 68 55 126 136 136 55
130.0	.0 68 125 133 134	.0 68 125 133 134	.0 68 125 133 134	.0 68 125 133 134	.0 68 55 125 133 134 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2216.(FT) QNH ALT. : 2293.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF1+F	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. =12001.3(FT) A.S.D.A. =12001.3(FT) T.O.D.A. =12001.3(FT) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 55 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-1.0	175038 4-4 142 154 155	179526 4-4 146 157 157	182992 2-4 151 161 161	184989 2-4 155 164 164	186787 2-4 158 168 168
14.0	171886 4-4 139 153 153	176412 4-4 143 155 155	180604 2-4 148 158 158	182671 2-4 151 161 161	184564 2-4 155 164 164
29.0	168864 4-4 136 151 152	173269 4-4 141 154 154	177791 4-4 145 156 156	180348 2-4 148 158 158	182302 2-4 152 161 161
43.8	166147 4-4 134 150 151	170334 4-4 139 152 152	174867 4-4 143 155 155	177800 4-4 146 156 156	180123 2-4 149 159 159
45.0	164994 4-4 134 150 150	169294 4-4 139 152 152	173867 4-4 144 154 154	176741 2-4 150 159 159	178764 2-4 150 159 159
47.0	163009 4-4 136 149 149	167552 4-4 140 151 151	172113 4-4 145 154 154	174385 2-4 148 157 157	176319 2-4 152 160 160
48.0	162126 4-4 136 149 149	166719 4-4 141 151 151	171127 2-4 146 154 154	173209 2-4 149 157 157	174770 2-8 152 160 160
49.0	161262 4-4 137 148 148	165876 4-4 142 151 151	169974 2-4 146 154 154	171998 2-4 150 157 157	172917 2-8 152 159 159
51.0	159577 4-4 138 148 148	164173 4-4 143 150 150	167578 2-4 148 155 155	169209 2-8 151 157 157	169209 2-8 152 157 157
52.0	158769 4-4 138 147 147	163252 2-4 143 150 150	166368 2-4 149 155 155	167355 2-8 151 157 157	167355 2-8 151 157 157
54.0	157139 4-4 139 147 147	160921 2-4 145 151 151	163646 2-8 150 155 155	163646 2-8 151 155 155	163646 2-8 149 155 155
55.0	156276 4-4 140 146 146	159720 2-4 145 151 151	162071 2-8 150 155 155	162071 2-8 150 155 155	162071 2-8 149 155 155
57.0	154279 2-4 141 146 146	157371 2-4 147 151 151	160141 2-4 153 156 156	161786 2-4 157 159 159	162069 2-8 157 160 160
58.0	153174 2-4 142 146 146	156208 2-4 148 151 151	158900 2-4 154 156 156	160500 2-4 158 160 160	161965 2-4 161 163 163
59.0	152089 2-4 143 146 146	155021 2-4 148 151 151	157671 2-4 154 156 156	159219 2-4 158 160 160	160665 2-4 162 163 163
61.0	149862 2-4 144 146 146	152681 2-4 150 152 152	155169 2-4 156 157 157	156667 2-4 160 160 160	157684 2-4 163 163 163
62.0	148772 2-4 145 146 146	151501 2-4 151 152 152	153905 2-4 157 157 157	155121 2-4 160 160 160	155930 2-2 161 162 162
64.0	146527 2-4 146 147 147	149103 2-4 152 152 152	150904 2-4 156 156 156	151948 2-4 159 159 159	152418 2-2 159 160 160
65.0	145405 2-4 147 147 147	147601 2-4 152 152 152	149336 2-4 156 156 156	150371 2-4 158 158 158	150664 2-2 158 159 159
66.0	144024 2-4 147 147 147	146079 2-4 151 151 151	147774 2-4 155 155 155	148795 2-4 158 158 158	148911 2-2 157 158 158
68.0	141110 2-4 146 146 146	143046 2-4 151 151 151	144692 2-4 155 155 155	145404 2-2 156 156 156	145404 2-2 155 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2216.(FT) QNH ALT. : 2293.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

LONDON HEATHROW (EGLL) - RWY 27L - CONF 2

CONF 2	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. =12001.3(FT) A.S.D.A. =12001.3(FT) T.O.D.A. =12001.3(FT) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=150/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 44 DC TMAX = 55 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0	-2.6 -1 2-4 141 149 151	.1 3 2-4 145 153 156	.1 23 2-4 145 154 156	.1 38 2-4 146 155 157	1.1 44 2-4 45 148 157 159 44
175.0	.1 13 2-4 137 146 149	.0 36 2-4 138 147 149	1.9 44 2-4 141 150 153	4.1 44 2-4 145 154 156	1.6 47 2-8 47 150 157 159 47
170.0	.1 39 4-4 133 144 147	3.6 44 4-4 136 146 148	.7 49 2-4 145 152 154	.9 50 2-4 149 155 157	1.1 50 2-8 50 150 155 157 49
165.0	4.1 44 4-4 132 144 146	.2 51 2-4 142 147 149	.2 53 2-4 148 152 155	.5 53 2-8 149 153 155	.5 53 2-8 52 148 153 155 52
160.0	.8 52 2-4 137 143 144	.1 55 2-4 145 149 150	.2 57 2-4 152 153 156	.4 58 2-4 157 157 159	1.6 58 2-4 55 160 160 162 54
158.0	.3 54 2-4 139 143 145	.9 56 2-4 145 149 150	.8 58 2-4 152 153 156	.8 59 2-4 156 156 159	.2 60 2-4 55 158 158 161 55
156.0	1.1 55 2-4 139 143 145	.3 58 2-4 147 149 150	1.5 59 2-4 153 153 156	1.2 60 2-4 156 156 158	.5 61 2-4 55 158 158 160 55
154.0	.7 57 2-4 141 143 145	1.1 59 2-4 148 149 150	.4 61 2-4 153 153 155	1.5 61 2-4 155 155 157	.8 62 2-4 55 157 157 159 55
152.0	.3 59 2-4 142 144 145	.4 61 2-4 149 149 150	.8 62 2-4 152 152 154	.3 63 2-4 154 154 156	1.2 63 2-4 55 156 156 159 55
150.0	1.1 60 2-4 143 144 145	.8 62 2-4 148 148 150	1.2 63 2-4 152 152 153	.6 64 2-4 154 154 155	1.5 64 2-4 55 156 156 158 55
148.0	.5 62 2-4 144 144 145	1.2 63 2-4 147 147 149	1.6 64 2-4 151 151 153	1.0 65 2-4 153 153 155	.0 66 2-2 55 154 154 156 55
146.0	1.0 63 2-4 143 143 145	.1 65 2-4 147 147 148	.4 66 2-4 150 150 152	1.4 66 2-4 153 153 154	.3 67 2-2 55 153 153 155 55
144.0	1.5 64 2-4 143 143 144	.6 66 2-4 146 146 147	.8 67 2-4 150 150 151	.2 68 2-4 152 152 153	.5 68 2-2 55 152 153 154 55
142.0	.5 66 2-4 142 142 143	1.1 67 2-4 146 146 147	1.2 68 2-4 149 149 151	.0 68 2 144 146 148	.0 68 2 55 142 146 148 55
140.0	1.0 67 2-4 141 141 143	1.5 68 2-4 145 145 146	.0 68 2 138 142 143	.0 68 2 136 142 143	.0 68 2 55 134 142 143 55
135.0	4.5 68 2-4 141 141 142	.0 68 2 125 132 134	.0 68 2 123 132 134	.0 68 2 123 132 134	.0 68 2 55 123 132 134 55
130.0	.0 68 120 126 128	.0 68 120 126 128	.0 68 120 126 128	.0 68 120 126 128	.0 68 55 120 126 128 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2182.(FT) QNH ALT. : 2259.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. =12001.3(FT) A.S.D.A. =12001.3(FT) T.O.D.A. =12001.3(FT) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 44 DC TMAX = 55 DC	MTOW (LB) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
-1.0	177408 2-4 141 149 151	180704 2-4 146 154 156	183715 2-4 151 159 161	185680 2-4 154 162 165	187476 2-4 158 166 168
14.0	174978 4-4 137 146 149	178412 2-4 142 151 153	181452 2-4 147 156 158	183517 2-4 151 159 162	185383 2-4 154 163 165
29.0	172075 4-4 135 145 147	176127 2-4 139 148 150	179260 2-4 144 153 155	181373 2-4 148 156 159	183331 2-4 151 159 162
43.8	169212 4-4 132 144 146	173772 4-4 136 146 148	177092 2-4 141 150 152	179250 2-4 145 154 156	181297 2-4 148 157 159
45.0	168117 4-4 133 144 146	172527 2-4 137 146 148	175684 2-4 142 151 153	177842 2-4 146 154 156	179826 2-4 149 157 160
47.0	166215 4-4 134 143 145	170082 2-4 139 146 148	173205 2-4 144 151 153	175306 2-4 147 155 157	176623 2-8 150 157 159
48.0	165239 4-4 134 143 144	168873 2-4 139 147 149	171941 2-4 144 151 154	174022 2-4 148 155 157	174770 2-8 150 156 159
49.0	164270 4-4 135 142 144	167666 2-4 140 147 149	170669 2-4 145 152 154	172689 2-4 149 155 158	172917 2-8 150 155 158
51.0	161953 2-4 136 142 144	165197 2-4 142 147 149	168125 2-4 147 152 154	169209 2-8 149 154 157	169209 2-8 149 154 157
52.0	160759 2-4 137 143 144	163945 2-4 142 148 150	166799 2-4 148 153 155	167355 2-8 149 154 156	167355 2-8 148 154 156
54.0	158330 2-4 139 143 145	161391 2-4 144 148 150	163646 2-8 148 152 154	163646 2-8 148 152 154	163646 2-8 146 152 154
55.0	157128 2-4 139 143 145	160124 2-4 145 149 150	162071 2-8 148 152 154	162071 2-8 148 152 154	162071 2-8 146 152 154
57.0	154676 2-4 141 143 145	157586 2-4 146 148 150	160151 2-4 152 153 156	161795 2-4 156 157 159	162069 2-8 156 157 160
58.0	153462 2-4 141 143 145	156301 2-4 147 149 150	158835 2-4 152 153 156	160425 2-4 157 157 159	161562 2-4 160 160 162
59.0	152252 2-4 142 144 145	155069 2-4 148 149 150	157512 2-4 153 153 156	158849 2-4 156 156 159	159869 2-4 159 159 161
61.0	149894 2-4 143 144 145	152417 2-4 149 149 150	154388 2-4 153 153 155	155510 2-4 155 155 157	156507 2-4 158 158 160
62.0	148531 2-4 144 144 145	150816 2-4 148 148 150	152786 2-4 152 152 154	153888 2-4 155 155 157	154835 2-4 157 157 159
64.0	145460 2-4 143 143 144	147676 2-4 147 147 148	149556 2-4 151 151 153	150622 2-4 154 154 155	151518 2-4 156 156 158
65.0	143954 2-4 142 142 143	146124 2-4 147 147 148	147938 2-4 150 150 152	148981 2-4 153 153 155	149770 2-2 155 155 157
66.0	142458 2-4 142 142 143	144585 2-4 146 146 147	146372 2-4 150 150 152	147387 2-4 153 153 154	148022 2-2 153 154 156
68.0	139523 2-4 141 141 142	141516 2-4 145 145 146	143229 2-4 149 149 151	144191 2-4 152 152 153	144524 2-2 152 153 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2182.(FT) QNH ALT. : 2259.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

LONDON HEATHROW (EGLL) - RWY 27L - CONF 3

CONF 3	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. =12001.3(FT) A.S.D.A. =12001.3(FT) T.O.D.A. =12001.3(FT) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 900 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 44 DC TMAX = 55 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0	-1.8 -1 2-4 45 142 150 152	.1 8 2-4 44 146 154 155	.1 29 2-4 45 146 155 156	.2 43 2-4 45 147 156 157	.3 45 2-8 45 152 160 160	44
175.0	.1 19 2-4 47 137 146 148	.0 42 2-4 47 138 147 148	2.8 44 2-4 47 143 152 153	4.9 44 2-4 47 147 156 156	1.6 47 2-8 47 152 158 159	47
170.0	1.0 44 2-4 49 132 141 143	4.6 44 2-4 49 137 147 148	.0 50 2-4 49 148 154 155	1.1 50 2-8 49 151 156 157	1.1 50 2-8 50 151 156 157	49
165.0	.1 49 2-4 52 135 142 144	.8 51 2-4 52 143 148 150	.5 53 2-4 52 150 154 155	.5 53 2-8 52 150 154 155	.5 53 2-8 52 148 154 155	52
160.0	.2 53 2-4 54 138 143 145	.6 55 2-4 54 146 150 151	.3 57 2-4 54 155 156 156	1.7 57 2-4 54 159 159 160	.8 58 2-4 55 161 161 161	54
158.0	1.0 54 2-4 55 139 144 145	1.3 56 2-4 55 147 150 151	.9 58 2-4 55 156 156 156	.3 59 2-4 55 158 158 158	1.1 59 2-4 55 160 160 161	55
156.0	.5 56 2-4 55 141 144 145	.7 58 2-4 55 149 150 151	1.3 59 2-4 55 155 155 155	.6 60 2-4 55 157 157 157	1.4 60 2-4 55 160 160 160	55
154.0	.0 58 2-4 55 142 144 145	1.4 59 2-4 55 150 150 151	1.6 60 2-4 55 154 154 154	.9 61 2-4 55 156 156 156	.1 62 2-4 55 158 158 158	55
152.0	.8 59 2-4 55 143 144 145	.2 61 2-4 55 149 149 149	.3 62 2-4 55 153 153 153	1.2 62 2-4 55 156 156 156	.4 63 2-4 55 158 158 158	55
150.0	.1 61 2-4 55 144 144 145	.6 62 2-4 55 148 148 149	.7 63 2-4 55 152 152 152	1.6 63 2-4 55 155 155 155	.7 64 2-4 55 157 157 157	55
148.0	.5 62 2-4 55 143 143 145	1.0 63 2-4 55 148 148 148	1.0 64 2-4 55 151 151 152	.3 65 2-4 55 154 154 154	1.1 65 2-4 55 156 156 156	55
146.0	1.0 63 2-4 55 143 143 144	1.4 64 2-4 55 147 147 148	1.4 65 2-4 55 151 151 151	.7 66 2-4 55 153 153 153	1.5 66 2-4 55 156 156 156	55
144.0	1.4 64 2-4 55 142 142 144	.3 66 2-4 55 146 146 147	.2 67 2-4 55 150 150 150	1.1 67 2-4 55 153 153 153	.1 68 2-2 55 155 155 155	55
142.0	.4 66 2-4 55 141 141 143	.7 67 2-4 55 145 145 146	.7 68 2-4 55 149 149 150	1.5 68 2-4 55 152 152 152	.0 68 2 55 143 147 148	55
140.0	.9 67 2-4 55 141 141 142	1.2 68 2-4 55 145 145 146	.0 68 2 55 138 142 143	.0 68 2 55 136 142 143	.0 68 2 55 135 142 143	55
135.0	4.4 68 2-4 55 140 140 142	.0 68 2 55 124 131 133	.0 68 2 55 122 131 133	.0 68 2 55 122 131 133	.0 68 2 55 122 131 133	55
130.0	.0 68 2 55 118 122 124	.0 68 2 55 118 122 124	.0 68 2 55 118 122 124	.0 68 2 55 118 122 124	.0 68 2 55 118 122 124	55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2139.(FT) QNH ALT. : 2216.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

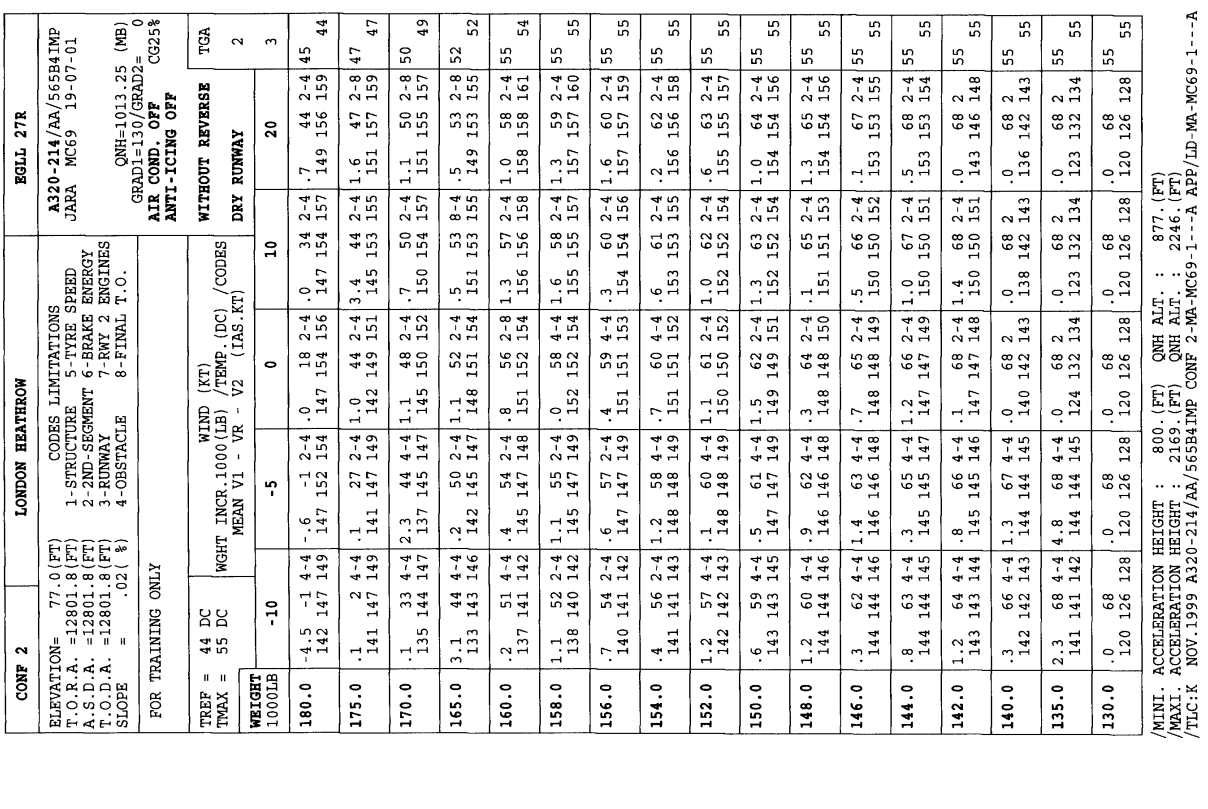
CONF 3	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. =12001.3(FT) A.S.D.A. =12001.3(FT) T.O.D.A. =12001.3(FT) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 44 DC TMAX = 55 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
-1.0	178223 2-4 142 150 152	181439 2-4 148 156 157	184275 2-4 154 161 162	185981 2-4 158 165 165	187540 2-4 163 169 169
14.0	175922 2-4 138 147 149	179244 2-4 144 153 154	182264 2-4 150 158 159	184092 2-4 154 162 162	185769 2-4 159 166 166
29.0	173524 2-4 135 144 146	176992 2-4 141 150 151	180126 2-4 146 155 156	182088 2-4 151 159 159	183879 2-4 155 162 163
43.8	171186 2-4 132 141 143	174757 2-4 137 147 148	177998 2-4 143 152 153	180060 2-4 147 156 156	181938 2-4 151 160 160
45.0	169847 2-4 133 141 143	173332 2-4 138 147 148	176544 2-4 144 152 153	178575 2-4 148 156 157	180328 2-8 152 160 160
47.0	167442 2-4 134 142 144	170898 2-4 140 147 149	173993 2-4 146 153 154	175897 2-4 150 157 157	176623 2-8 152 158 159
48.0	166257 2-4 135 142 144	169627 2-4 140 148 149	172677 2-4 147 153 154	174579 2-4 151 157 158	174770 2-8 152 158 158
49.0	165075 2-4 135 142 144	168364 2-4 141 148 149	171344 2-4 147 154 154	172917 2-8 151 157 157	172917 2-8 152 157 157
51.0	162653 2-4 137 143 144	165822 2-4 143 148 150	168685 2-4 149 154 155	169209 2-8 151 155 156	169209 2-8 150 155 156
52.0	161436 2-4 138 143 145	164551 2-4 144 149 150	167304 2-4 150 154 155	167355 2-8 151 155 155	167355 2-8 149 155 155
54.0	158952 2-4 139 144 145	161924 2-4 145 149 150	163646 2-8 150 153 154	163646 2-8 149 153 154	163646 2-8 147 153 154
55.0	157723 2-4 140 144 145	160580 2-4 146 150 151	162071 2-8 150 153 154	162071 2-8 149 153 154	162071 2-8 147 153 154
57.0	155230 2-4 141 144 145	157968 2-4 148 150 151	160339 2-4 155 156 156	161664 2-4 159 159 160	162069 2-8 160 161 161
58.0	154004 2-4 142 144 145	156672 2-4 149 150 151	158933 2-4 156 156 156	159960 2-4 158 158 159	160838 2-4 161 161 161
59.0	152807 2-4 143 144 145	155370 2-4 150 150 151	157252 2-4 155 155 155	158259 2-4 158 158 158	159139 2-4 160 160 161
61.0	150093 2-4 144 144 145	152221 2-4 149 149 149	153914 2-4 153 153 154	154905 2-4 156 156 156	155740 2-4 159 159 159
62.0	148519 2-4 143 143 145	150585 2-4 148 148 149	152294 2-4 153 153 153	153224 2-4 156 156 156	154061 2-4 158 158 158
64.0	145420 2-4 142 142 144	147395 2-4 147 147 148	149048 2-4 151 151 152	149934 2-4 154 154 155	150732 2-4 157 157 157
65.0	143906 2-4 142 142 143	145824 2-4 146 146 147	147422 2-4 151 151 151	148327 2-4 154 154 154	149084 2-4 156 156 156
66.0	142392 2-4 141 141 143	144254 2-4 146 146 147	145843 2-4 150 150 151	146699 2-4 153 153 153	147453 2-4 156 156 156
68.0	139401 2-4 140 140 142	141172 2-4 145 145 146	142656 2-4 149 149 150	143489 2-4 152 152 152	144149 2-2 154 155 155

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2139.(FT) QNH ALT. : 2216.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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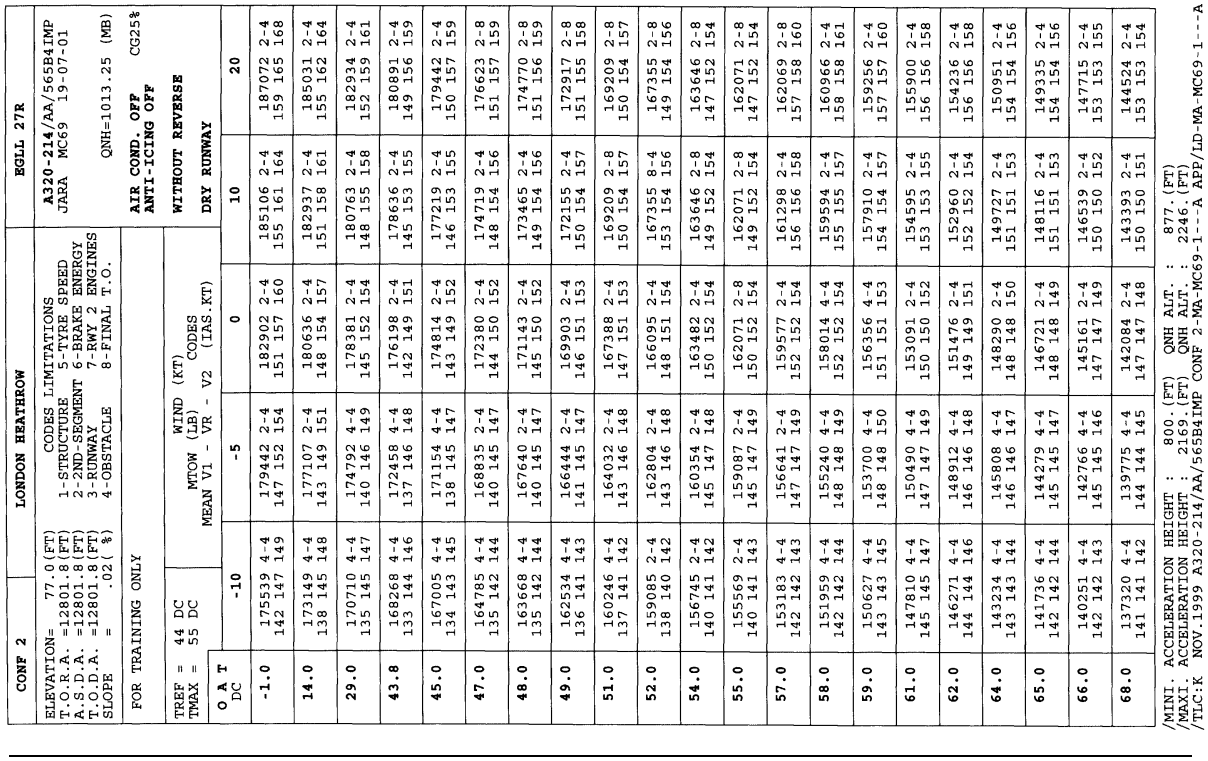
LONDON HEATHROW (EGLL) - RWY 27R - CONF 1 + F



CONF 2	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. =12801.8(FT) A.S.D.A. =12801.8(FT) T.O.D.A. =12801.8(FT) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=130/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 55 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3 TGA

WEIGHT 1000LB	-10	-5	0	10	20	
180.0	-4.5 -1 4-4 142 147 149	-.6 -1 2-4 147 152 154	.0 18 2-4 147 154 156	.0 34 2-4 147 154 157	.7 44 2-4 45 149 156 159	44
175.0	.1 2 4-4 141 147 149	.1 27 2-4 141 147 149	1.0 44 2-4 142 149 151	3.4 44 2-4 145 153 155	1.6 47 2-8 47 151 157 159	47
170.0	.1 33 4-4 135 144 147	2.3 44 4-4 137 145 147	1.1 48 2-4 145 150 152	.7 50 2-4 150 154 157	1.1 50 2-8 50 151 155 157	49
165.0	3.1 44 4-4 133 143 146	.2 50 2-4 142 145 147	1.1 52 2-4 148 151 154	.5 53 8-4 151 153 155	.5 53 2-8 52 149 153 155	52
160.0	.2 51 4-4 137 141 142	.4 54 2-4 145 147 148	.8 56 2-8 151 152 154	1.3 57 2-4 156 156 158	1.0 58 2-4 55 158 158 161	54
158.0	1.1 52 2-4 138 140 142	1.1 55 2-4 145 147 149	.0 58 4-4 152 152 154	1.6 58 2-4 155 155 157	1.3 59 2-4 55 157 157 160	55
156.0	.7 54 2-4 140 141 142	.6 57 2-4 147 147 149	.4 59 4-4 151 151 153	.3 60 2-4 154 154 156	1.6 60 2-4 55 157 157 159	55
154.0	.4 56 2-4 141 141 143	1.2 58 4-4 148 148 149	.7 60 4-4 151 151 152	.6 61 2-4 153 153 155	.2 62 2-4 55 156 156 158	55
152.0	1.2 57 4-4 142 142 143	.1 60 4-4 148 148 149	1.1 61 2-4 150 150 152	1.0 62 2-4 152 152 154	.6 63 2-4 55 155 155 157	55
150.0	.6 59 4-4 143 143 145	.5 61 4-4 147 147 149	1.5 62 2-4 149 149 151	1.3 63 2-4 152 152 154	1.0 64 2-4 55 154 154 156	55
148.0	1.2 60 4-4 144 144 146	.9 62 4-4 146 146 148	.3 64 2-4 148 148 150	.1 65 2-4 151 151 153	1.3 65 2-4 55 154 154 156	55
146.0	.3 62 4-4 144 144 146	1.4 63 4-4 146 146 148	.7 65 2-4 148 148 149	.5 66 2-4 150 150 152	.1 67 2-4 55 153 153 155	55
144.0	.8 63 4-4 144 144 145	.3 65 4-4 145 145 147	1.2 66 2-4 147 147 149	1.0 67 2-4 150 150 151	.5 68 2-4 55 153 153 154	55
142.0	1.2 64 4-4 143 143 144	.8 66 4-4 145 145 146	.1 68 2-4 147 147 148	1.4 68 2-4 150 150 151	.0 68 2 55 143 146 148	55
140.0	.3 66 4-4 142 142 143	1.3 67 4-4 144 144 145	.0 68 2 140 142 143	.0 68 2 138 142 143	.0 68 2 55 136 142 143	55
135.0	2.3 68 4-4 141 141 142	4.8 68 4-4 144 144 145	.0 68 2 124 132 134	.0 68 2 123 132 134	.0 68 2 55 123 132 134	55
130.0	.0 68 120 126 128	.0 68 120 126 128	.0 68 120 126 128	.0 68 120 126 128	.0 68 120 126 128	55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2169.(FT) QNH ALT. : 2246.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF 2	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. =12801.8(FT) A.S.D.A. =12801.8(FT) T.O.D.A. =12801.8(FT) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 55 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-1.0	175539 4-4 142 147 149	179442 2-4 147 152 154	182902 2-4 151 157 160	185106 2-4 155 161 164	187072 2-4 159 165 168
14.0	173149 4-4 138 145 148	177107 2-4 143 149 151	180636 2-4 148 154 157	182937 2-4 151 158 161	185031 2-4 155 162 164
29.0	170710 4-4 135 145 147	174792 4-4 140 146 149	178381 2-4 145 152 154	180763 2-4 148 155 158	182934 2-4 152 159 161
43.8	168268 4-4 133 144 146	172458 4-4 137 146 148	176198 2-4 142 149 151	178636 2-4 145 153 155	180891 2-4 149 156 159
45.0	167005 4-4 134 143 145	171154 4-4 138 145 147	174814 2-4 143 149 152	177219 2-4 146 153 155	179442 2-4 150 157 159
47.0	164785 4-4 135 142 144	168835 2-4 140 145 147	172380 2-4 144 150 152	174719 2-4 148 154 156	176623 2-8 151 157 159
48.0	163668 4-4 135 142 144	167640 2-4 140 145 147	171143 2-4 145 150 152	173465 2-4 149 154 156	174770 2-8 151 156 159
49.0	162534 4-4 136 141 143	166444 2-4 141 145 147	169903 2-4 146 151 153	172155 2-4 150 154 157	172917 2-8 151 155 158
51.0	160246 4-4 137 141 142	164032 2-4 143 146 148	167388 2-4 147 151 153	169209 2-8 150 154 157	169209 2-8 150 154 157
52.0	159085 2-4 138 140 142	162804 2-4 143 146 148	166095 2-4 148 151 154	167355 8-4 153 154 156	167355 2-8 149 154 156
54.0	156745 2-4 140 141 142	160354 2-4 145 147 148	163482 2-4 150 152 154	163646 2-8 149 152 154	163646 2-8 147 152 154
55.0	155569 2-4 140 141 143	159087 2-4 145 147 149	162071 2-8 150 152 154	162071 2-8 149 152 154	162071 2-8 147 152 154
57.0	153183 4-4 142 142 143	156641 2-4 147 147 149	159577 2-4 152 152 154	161298 2-4 156 156 158	162069 2-8 157 158 160
58.0	151959 4-4 142 142 144	155240 4-4 148 148 149	158014 4-4 152 152 154	159594 2-4 155 155 157	160966 2-4 158 158 161
59.0	150627 4-4 143 143 145	153700 4-4 148 148 150	156356 4-4 151 151 153	157910 2-4 154 154 157	159256 2-4 157 157 160
61.0	147810 4-4 145 145 147	150490 4-4 147 147 149	153091 2-4 150 150 152	154595 2-4 153 153 155	155900 2-4 156 156 158
62.0	146271 4-4 144 144 146	148912 4-4 146 146 148	151476 2-4 149 149 151	152960 2-4 152 152 154	154236 2-4 156 156 158
64.0	143234 4-4 143 143 144	145808 4-4 146 146 147	148290 2-4 148 148 150	149727 2-4 151 151 153	150951 2-4 154 154 156
65.0	141736 4-4 142 142 144	144279 4-4 145 145 147	146721 2-4 148 148 149	148116 2-4 151 151 153	149335 2-4 154 154 156
66.0	140251 4-4 142 142 143	142766 4-4 145 145 146	145161 2-4 147 147 149	146539 2-4 150 150 152	147715 2-4 153 153 155
68.0	137320 4-4 141 141 142	139775 4-4 144 144 145	142084 2-4 147 147 148	143393 2-4 150 150 151	144524 2-4 153 153 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2169.(FT) QNH ALT. : 2246.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

LONDON HEATHROW (EGLL) - RWY 27R - CONF 2

CONF 3	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. =12801.8(FT) A.S.D.A. =12801.8(FT) T.O.D.A. =12801.8(FT) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 900 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 44 DC TMAX = 55 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0	-3.5 -1 2-4 .1 0 2-4 .1 24 2-4 .0 40 2-4 .0 45 2-4 45 143 148 149 149 154 155 148 155 155 148 156 156 153 159 159					44
175.0	.0 8 2-4 .1 33 2-4 2.0 44 2-4 4.3 44 2-4 1.6 47 2-8 47 141 146 148 141 147 148 144 151 152 148 155 155 153 158 159					47
170.0	.1 39 4-4 3.2 44 2-4 .6 49 2-4 1.0 50 2-4 1.1 50 2-8 50 134 141 143 138 145 146 148 152 153 153 156 156 152 156 157					49
165.0	4.1 44 4-4 1.0 50 2-4 .2 53 2-4 .5 53 2-8 .5 53 2-8 52 133 141 143 143 146 148 152 153 154 151 154 155 149 154 155					52
160.0	1.0 51 4-4 1.0 54 2-4 .8 56 2-8 .8 57 2-4 .3 58 2-4 54 138 140 142 146 148 149 153 153 154 157 157 157 159 159 160					54
158.0	.7 53 2-4 .3 56 2-4 1.4 57 2-4 1.1 58 2-4 .6 59 2-4 55 139 141 143 148 148 149 153 153 154 156 156 157 159 159 159					55
156.0	.3 55 2-4 .9 57 4-4 .1 59 2-4 1.4 59 2-4 .9 60 2-4 55 141 141 143 149 149 150 152 152 152 155 155 156 158 158 158					55
154.0	1.0 56 2-4 1.2 58 4-4 .4 60 2-4 .1 61 2-4 1.2 61 2-4 55 142 142 144 148 148 149 151 151 152 154 154 154 157 157 157					55
152.0	.4 58 4-4 1.6 59 4-4 .8 61 2-4 .5 62 2-4 1.6 62 2-4 55 144 144 145 147 147 148 150 150 151 153 153 154 157 157 157					55
150.0	.9 59 4-4 .3 61 4-4 1.2 62 2-4 .8 63 2-4 .3 64 2-4 55 145 145 146 145 145 147 150 150 150 153 153 153 155 155 156					55
148.0	1.3 60 4-4 .8 62 4-4 1.6 63 2-4 1.2 64 2-4 .6 65 2-4 55 144 144 146 145 145 146 149 149 150 152 152 152 155 155 155					55
146.0	.2 62 4-4 1.2 63 4-4 .4 65 2-4 1.6 65 2-4 1.0 66 2-4 55 143 143 145 144 144 145 148 148 149 151 151 152 154 154 154					55
144.0	.6 63 4-4 .1 65 4-4 .8 66 2-4 .4 67 2-4 1.4 67 2-4 55 142 142 144 143 143 144 147 147 148 150 150 151 154 154 154					55
142.0	1.1 64 4-4 .5 66 4-4 1.2 67 2-4 .8 68 2-4 1.7 68 2-4 55 142 142 143 143 143 144 147 147 147 150 150 150 153 153 153					55
140.0	.1 66 4-4 1.0 67 4-4 1.7 68 2-4 .0 68 2 .0 68 2 55 140 140 142 143 143 144 146 146 147 138 142 143 136 142 143					55
135.0	2.1 68 4-4 4.5 68 4-4 .0 68 2 .0 68 2 .0 68 2 55 139 139 140 142 142 143 122 131 133 122 131 133 122 131 133					55
130.0	.0 68 2 .0 68 2 .0 68 2 .0 68 2 .0 68 2 55 118 122 124 118 122 124 118 122 124 118 122 124 118 122 124					55

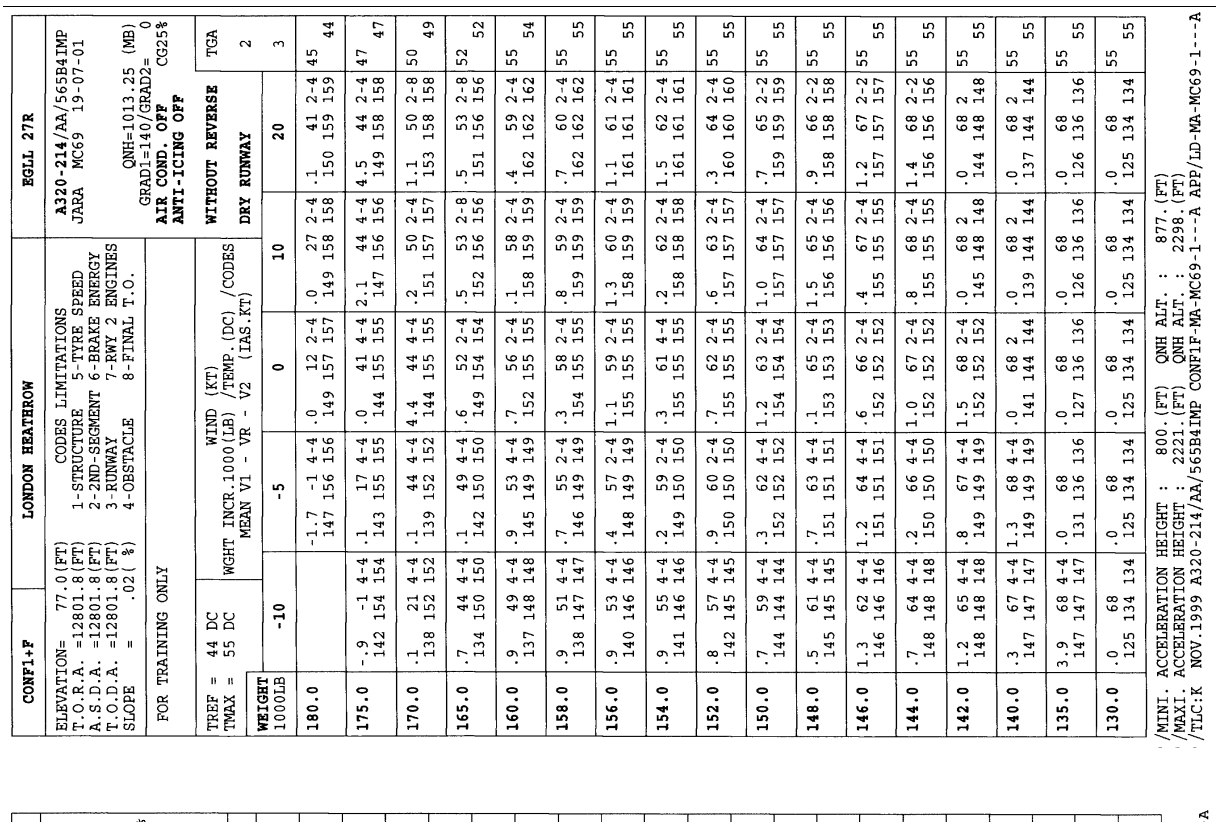
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2145.(FT) QNH ALT. : 2222.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. =12801.8(FT) A.S.D.A. =12801.8(FT) T.O.D.A. =12801.8(FT) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 44 DC TMAX = 55 DC	MTOW (LB) (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	**DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-1.0	176463 2-4 143 148 149	180292 2-4 149 154 155	183566 2-4 155 160 161	185515 2-4 159 164 164	187225 2-4 163 168 168
14.0	174073 4-4 140 146 147	178047 2-4 145 151 152	181489 2-4 151 157 157	183578 2-4 155 161 161	185411 2-4 159 165 165
29.0	171660 4-4 136 143 145	175728 2-4 142 148 149	179338 2-4 147 154 154	181541 2-4 151 158 158	183519 2-4 155 162 162
43.8	169291 4-4 133 141 143	173423 2-4 138 145 146	177176 2-4 144 151 152	179488 2-4 148 155 155	181568 2-4 152 159 159
45.0	167963 4-4 134 141 143	172060 2-4 139 145 146	175741 2-4 145 151 152	178002 2-4 149 155 156	180042 2-4 153 159 159
47.0	165641 4-4 135 140 142	169657 2-4 141 145 147	173228 2-4 146 152 152	175404 2-4 150 156 156	176623 2-8 153 158 159
48.0	164482 4-4 136 140 142	168454 2-4 141 146 147	171945 2-4 147 152 153	174064 2-4 151 156 157	174770 2-8 153 158 158
49.0	163323 4-4 137 140 142	167238 2-4 142 146 147	170643 2-4 148 152 153	172715 2-4 152 156 157	172917 2-8 153 157 157
51.0	161013 4-4 138 140 142	164755 2-4 144 147 148	168006 2-4 150 153 154	169209 2-8 153 155 156	169209 2-8 151 155 156
52.0	159845 2-4 139 140 142	163529 2-4 144 147 148	166677 2-4 151 153 154	167355 2-8 152 155 155	167355 2-8 150 155 155
54.0	157490 2-4 140 141 143	160979 2-4 146 148 149	163646 8-4 153 153 154	163646 2-8 150 153 154	163646 2-8 148 153 154
55.0	156290 2-4 141 141 143	159689 2-4 147 148 149	162071 2-8 152 153 154	162071 2-8 150 153 154	162071 2-8 148 153 154
57.0	153747 4-4 143 143 144	156880 4-4 149 149 150	159431 2-4 153 153 154	160832 2-4 157 157 157	162019 2-4 160 160 161
58.0	152366 4-4 144 144 145	155218 4-4 148 148 149	157759 2-4 152 152 153	159132 2-4 156 156 157	160286 2-4 159 159 160
59.0	150862 4-4 145 145 146	153575 4-4 147 147 148	156071 2-4 152 152 152	157441 2-4 155 155 156	158599 2-4 159 159 159
61.0	147717 4-4 144 144 145	150343 4-4 145 145 147	152778 2-4 150 150 151	154120 2-4 154 154 154	155222 2-4 157 157 157
62.0	146163 4-4 143 143 145	148751 4-4 145 145 146	151153 2-4 150 150 150	152458 2-4 153 153 154	153562 2-4 157 157 157
64.0	143105 4-4 142 142 143	145617 4-4 144 144 145	147954 2-4 148 148 149	149206 2-4 152 152 152	150266 2-4 155 155 156
65.0	141598 4-4 141 141 142	144073 4-4 143 143 144	146364 2-4 148 148 149	147606 2-4 151 151 152	148631 2-4 155 155 155
66.0	140104 4-4 140 140 142	142544 4-4 143 143 144	144800 2-4 147 147 148	145996 2-4 151 151 151	147004 2-4 154 154 154
68.0	137147 4-4 139 139 140	139528 4-4 142 142 143	141668 2-4 146 146 147	142803 2-4 150 150 150	143746 2-4 153 153 153

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2145.(FT) QNH ALT. : 2222.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

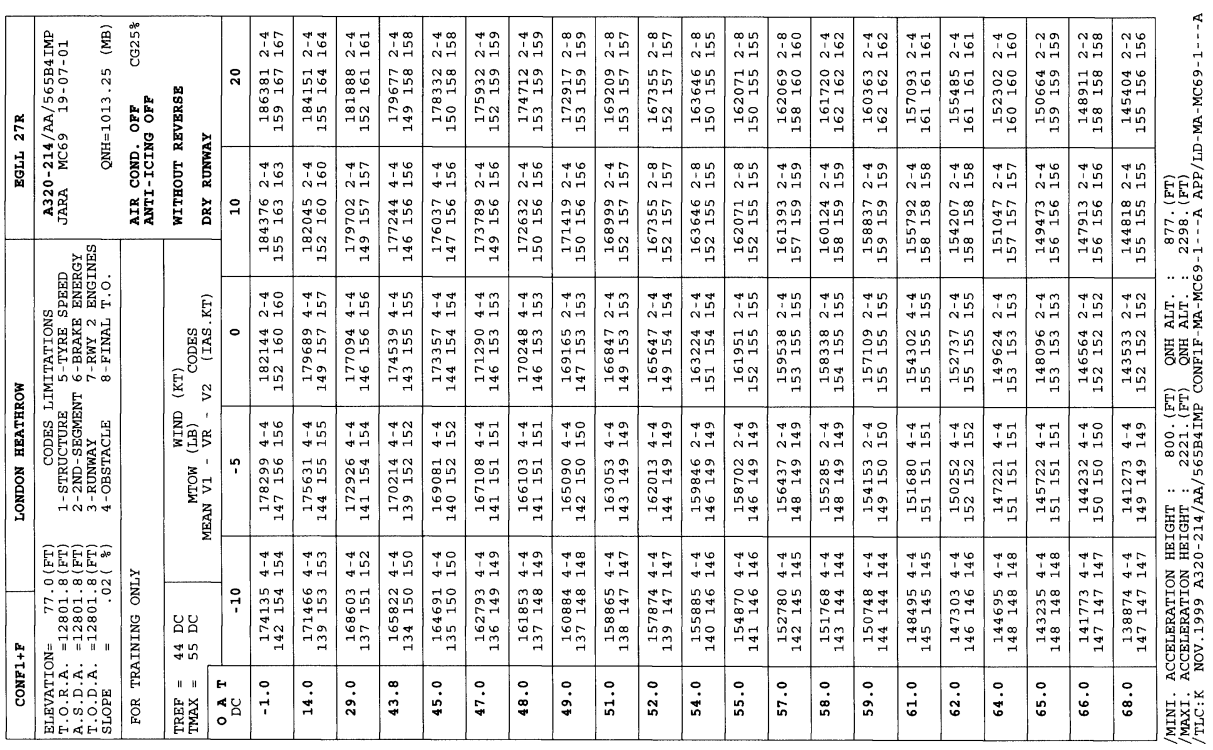
LONDON HEATHROW (EGLL) - RWY 27R - CONF 3



CONF1+F	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT)	CODES LIMITATIONS	A320-214/AA/565B4IMP
T.O.R.A. =12801.8(FT)	1-STRUCTURE 5-TYRE SPEED	JARA MC69 19-07-01
A.S.D.A. =12801.8(FT)	2-2ND-SEGMENT 6-BRAKE ENERGY	
T.O.D.A. =12801.8(FT)	3-RUNWAY 7-RWY 2 ENGINES	QNH=1013.25 (MB)
SLOPE = .02(%)	4-OBSTACLE 8-FINAL T.O.	GRAD1=140/GRAD2= 0
FOR TRAINING ONLY		AIR COND. OFF CG25%
		ANTI-ICING OFF
TREF = 44 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES	WITHOUT REVERSE TGA
TMAX = 55 DC	MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0		-1.7 -1 4-4 147 156 156	.0 12 2-4 149 157 157	.0 27 2-4 149 158 158	.1 41 2-4 45 150 159 159 44
175.0	-.9 -1 4-4 142 154 154	.1 17 4-4 143 155 155	.0 41 4-4 144 155 155	2.1 44 4-4 147 156 156	4.5 44 2-4 47 149 158 158 47
170.0	.1 21 4-4 138 152 152	.1 44 4-4 139 152 152	4.4 44 4-4 144 155 155	.2 50 2-4 151 157 157	1.1 50 2-8 50 153 158 158 49
165.0	.7 44 4-4 134 150 150	.1 49 4-4 142 150 150	.6 52 2-4 149 154 154	.5 53 2-8 152 156 156	.5 53 2-8 52 151 156 156 52
160.0	.9 49 4-4 137 148 148	.9 53 4-4 145 149 149	.7 56 2-4 152 155 155	.1 58 2-4 158 159 159	.4 59 2-4 55 162 162 162 54
158.0	.9 51 4-4 138 147 147	.7 55 2-4 146 149 149	.3 58 2-4 154 155 155	.8 59 2-4 159 159 159	.7 60 2-4 55 162 162 162 55
156.0	.9 53 4-4 140 146 146	.4 57 2-4 148 149 149	1.1 59 2-4 155 155 155	1.3 60 2-4 158 159 159	1.1 61 2-4 55 161 161 161 55
154.0	.9 55 4-4 141 146 146	.2 59 2-4 149 150 150	.3 61 4-4 155 155 155	.2 62 2-4 158 158 158	1.5 62 2-4 55 161 161 161 55
152.0	.8 57 4-4 142 145 145	.9 60 2-4 150 150 150	.7 62 2-4 155 155 155	.6 63 2-4 157 157 157	.3 64 2-4 55 160 160 160 55
150.0	.7 59 4-4 144 144 144	.3 62 4-4 152 152 152	1.2 63 2-4 154 154 154	1.0 64 2-4 157 157 157	.7 65 2-2 55 159 159 159 55
148.0	.5 61 4-4 145 145 145	.7 63 4-4 151 151 151	.1 65 2-4 153 153 153	1.5 65 2-4 156 156 156	.9 66 2-2 55 158 158 158 55
146.0	1.3 62 4-4 146 146 146	1.2 64 4-4 151 151 151	.6 66 2-4 152 152 152	.4 67 2-4 155 155 155	1.2 67 2-2 55 157 157 157 55
144.0	.7 64 4-4 148 148 148	.2 66 4-4 150 150 150	1.0 67 2-4 152 152 152	.8 68 2-4 155 155 155	1.4 68 2-2 55 156 156 156 55
142.0	1.2 65 4-4 148 148 148	.8 67 4-4 149 149 149	1.5 68 2-4 152 152 152	.0 68 2 145 148 148	.0 68 2 55 144 148 148 55
140.0	.3 67 4-4 147 147 147	1.3 68 4-4 149 149 149	.0 68 2 141 144 144	.0 68 2 139 144 144	.0 68 2 55 137 144 144 55
135.0	3.9 68 4-4 147 147 147	.0 68 131 136 136	.0 68 127 136 136	.0 68 126 136 136	.0 68 55 126 136 136 55
130.0	.0 68 125 134 134	.0 68 125 134 134	.0 68 125 134 134	.0 68 125 134 134	.0 68 55 125 134 134 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2221.(FT) QNH ALT. : 2298.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF1+F	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT)	CODES LIMITATIONS	A320-214/AA/565B4IMP
T.O.R.A. =12801.8(FT)	1-STRUCTURE 5-TYRE SPEED	JARA MC69 19-07-01
A.S.D.A. =12801.8(FT)	2-2ND-SEGMENT 6-BRAKE ENERGY	
T.O.D.A. =12801.8(FT)	3-RUNWAY 7-RWY 2 ENGINES	QNH=1013.25 (MB)
SLOPE = .02(%)	4-OBSTACLE 8-FINAL T.O.	AIR COND. OFF CG25%
FOR TRAINING ONLY		ANTI-ICING OFF
TREF = 44 DC	MTOW (LB) WIND (KT) CODES	WITHOUT REVERSE
TMAX = 55 DC	MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

OAT DC	-10	-5	0	10	20
-1.0	174135 4-4 142 154 154	178299 4-4 147 156 156	182144 2-4 152 160 160	184376 2-4 155 163 163	186381 2-4 159 167 167
14.0	171466 4-4 139 153 153	175631 4-4 144 155 155	179689 4-4 149 157 157	182045 2-4 152 160 160	184151 2-4 155 164 164
29.0	168603 4-4 137 151 152	172926 4-4 141 154 154	177094 4-4 146 156 156	179702 2-4 149 157 157	181888 2-4 152 161 161
43.8	165822 4-4 134 150 150	170214 4-4 139 152 152	174539 4-4 143 155 155	177244 4-4 146 156 156	179677 2-4 149 158 158
45.0	164691 4-4 135 150 150	169081 4-4 140 152 152	173357 4-4 144 154 154	176037 4-4 147 156 156	178332 2-4 150 158 158
47.0	162793 4-4 136 149 149	167108 4-4 141 151 151	171290 4-4 146 153 153	173789 2-4 149 156 156	175932 2-4 152 159 159
48.0	161853 4-4 137 148 149	166103 4-4 141 151 151	170248 4-4 146 153 153	172632 2-4 150 156 156	174712 2-4 153 159 159
49.0	160884 4-4 137 148 148	165090 4-4 142 150 150	169165 2-4 147 153 153	171419 2-4 150 156 156	172917 2-4 153 159 159
51.0	158865 4-4 138 147 147	163053 4-4 143 149 149	166847 2-4 149 153 153	168999 2-4 152 157 157	169209 2-8 153 157 157
52.0	157874 4-4 139 147 147	162013 4-4 144 149 149	165647 2-4 149 154 154	167355 2-8 152 157 157	167355 2-8 152 157 157
54.0	155885 4-4 140 146 146	159846 2-4 146 149 149	163224 2-4 151 154 154	163646 2-8 152 155 155	163646 2-8 150 155 155
55.0	154870 4-4 141 146 146	158702 2-4 146 149 149	161951 2-4 152 155 155	162071 2-8 150 155 155	162071 2-8 150 155 155
57.0	152780 4-4 142 145 145	156437 2-4 148 149 149	159538 2-4 153 155 155	161393 2-4 157 159 159	162069 2-8 158 160 160
58.0	151768 4-4 143 144 144	155285 2-4 148 149 149	158338 2-4 154 155 155	160124 2-4 158 159 159	161720 2-4 162 162 162
59.0	150748 4-4 144 144 144	154153 2-4 149 150 150	157109 2-4 155 155 155	158837 2-4 159 159 159	160363 2-4 162 162 162
61.0	148495 4-4 145 145 145	151680 4-4 151 151 151	154302 4-4 155 155 155	155792 2-4 158 158 158	157093 2-4 161 161 161
62.0	147303 4-4 146 146 146	150252 4-4 152 152 152	152737 2-4 155 155 155	154207 2-4 158 158 158	155485 2-4 161 161 161
64.0	144695 4-4 148 148 148	147221 4-4 151 151 151	149624 2-4 153 153 153	151047 2-4 157 157 157	152302 2-4 160 160 160
65.0	143235 4-4 148 148 148	145722 4-4 151 151 151	148096 2-4 153 153 153	149473 2-4 156 156 156	150664 2-2 159 159 159
66.0	141773 4-4 147 147 147	144232 4-4 150 150 150	146564 2-4 152 152 152	147913 2-4 156 156 156	148911 2-2 158 158 158
68.0	138874 4-4 147 147 147	141273 4-4 149 149 149	143533 2-4 152 152 152	144818 2-4 155 155 155	145404 2-2 155 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2221.(FT) QNH ALT. : 2298.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

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LYON (LFLL) - RWY 18R - CONF 1 + F

CONF1+F	LYON - St EXUPERY	LFLL 18
ELEVATION= 758.0(FT) T.O.R.A. =13123.4(FT) A.S.D.A. =13320.2(FT) T.O.D.A. =13320.2(FT) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=110/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 42 DC TMAX = 53 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2

WEIGHT 1000LB	-10	-5	0	10	20	3
180.0		-4.2 -3 4-4 149 160 160	-.6 -3 4-4 154 164 164	.1 9 4-4 154 164 164	.1 25 4-4 154 163 163	43 42
175.0	-2.9 -3 4-4 144 158 158	.1 2 4-4 148 160 160	.0 28 4-4 147 160 160	.5 42 4-4 148 159 159	2.8 42 4-4 151 161 161	45 45
170.0	.1 11 4-4 140 157 157	.1 37 4-4 140 155 155	3.1 42 4-4 144 158 158	1.0 46 4-4 150 158 158	1.6 47 2-8 154 157 157	48 47
165.0	.7 42 4-4 134 152 152	4.4 42 4-4 139 154 154	1.2 48 4-4 149 156 156	1.0 50 4-4 154 158 158	1.1 50 2-8 153 155 155	50 50
160.0	.1 47 4-4 137 151 151	.1 50 4-4 145 153 153	1.1 52 4-4 152 156 156	1.0 53 2-8 153 154 154	1.0 53 2-8 151 154 154	53 52
158.0	.8 48 4-4 138 151 151	.8 51 4-4 146 153 153	.6 54 4-4 154 155 155	.2 56 4-4 159 159 159	.5 57 4-4 164 164 164	53 53
156.0	.4 50 4-4 140 151 151	.4 53 4-4 147 153 153	.1 56 4-4 155 155 155	.8 57 4-4 160 160 160	.8 58 4-4 164 164 164	53 53
154.0	.0 52 4-4 141 150 150	1.1 54 4-4 148 152 152	.9 57 4-4 156 156 156	1.3 58 4-4 161 161 161	1.2 59 4-4 163 163 163	53 53
152.0	.8 53 4-4 142 150 150	.7 56 4-4 150 152 152	.1 59 4-4 158 158 158	.1 60 4-4 161 161 161	1.6 60 4-4 163 163 163	53 53
150.0	.4 55 4-4 143 149 149	.4 58 4-4 151 151 151	.6 60 4-4 158 158 158	.5 61 4-4 160 160 160	.3 62 4-4 161 161 161	53 53
148.0	.1 57 4-4 145 149 149	1.2 59 4-4 152 152 152	1.0 61 4-4 159 159 159	.9 62 4-4 160 160 160	.7 63 4-4 160 160 160	53 53
146.0	.9 58 4-4 146 148 148	.6 61 4-4 154 154 154	1.5 62 4-4 158 158 158	1.3 63 4-4 159 159 159	1.1 64 4-4 160 160 160	53 53
144.0	.7 60 4-4 147 148 148	1.2 62 4-4 155 155 155	.3 64 4-4 158 158 158	.2 65 4-4 158 158 158	1.5 65 4-4 159 159 159	53 53
142.0	.4 62 4-4 149 149 149	.1 64 4-4 156 156 156	.8 65 4-4 157 157 157	.6 66 4-4 157 157 157	1.9 66 4-4 158 158 158	53 53
140.0	1.1 63 4-4 150 150 150	.6 65 4-4 155 155 155	1.2 66 4-4 156 156 156	.0 66 2 144 145 145	.0 66 2 141 145 145	53 53
135.0	1.9 66 4-4 152 152 152	4.1 66 4-4 155 155 155	.0 66 133 137 137	.0 66 129 137 137	.0 66 126 137 137	53 53
130.0	.0 66 127 134 134	.0 66 125 134 134	.0 66 125 134 134	.0 66 125 134 134	.0 66 125 134 134	53 53

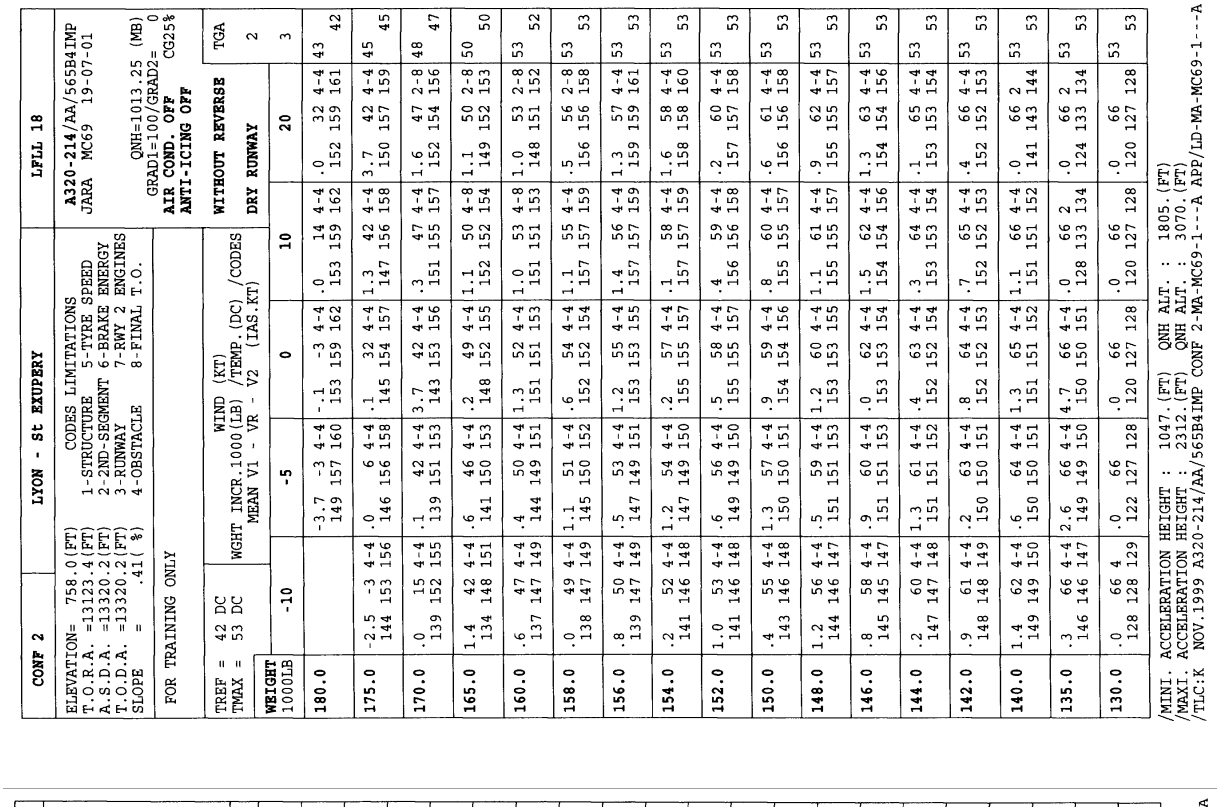
/MINI. ACCELERATION HEIGHT : 1033.(FT) QNH ALT. : 1791.(FT)
/MAXI. ACCELERATION HEIGHT : 2296.(FT) QNH ALT. : 3054.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	LYON - St EXUPERY	LFLL 18
ELEVATION= 758.0(FT) T.O.R.A. =13123.4(FT) A.S.D.A. =13320.2(FT) T.O.D.A. =13320.2(FT) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 42 DC TMAX = 53 DC	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
-3.0	172100 4-4 144 158 158	175797 4-4 149 160 160	179416 4-4 154 164 164	181784 4-4 157 166 166	184053 4-4 160 167 167
12.0	169915 4-4 140 157 157	173662 4-4 145 159 159	177270 4-4 150 161 161	179619 4-4 154 164 164	181900 4-4 157 165 165
27.0	167749 4-4 137 154 154	171509 4-4 142 157 157	175163 4-4 147 160 160	177542 4-4 150 161 161	179818 4-4 154 162 162
42.5	165589 4-4 134 152 152	169352 4-4 139 154 154	173009 4-4 144 158 158	175386 4-4 147 159 159	177704 4-4 150 161 161
44.0	163723 4-4 135 152 152	167478 4-4 140 154 154	171127 4-4 145 158 158	173518 4-4 149 159 159	175816 4-4 152 160 160
45.0	162493 4-4 136 151 151	166239 4-4 141 154 154	169883 4-4 146 157 157	172264 4-4 150 159 159	174557 4-4 153 160 160
47.0	160051 4-4 137 151 151	163772 4-4 143 154 154	167396 4-4 148 156 156	169751 4-4 151 158 158	171586 2-8 154 157 157
48.0	158841 4-4 138 151 151	162548 4-4 143 154 154	166151 4-4 149 156 156	168483 4-4 152 157 157	169751 2-8 154 157 157
50.0	156433 4-4 140 151 151	160078 4-4 145 153 153	163632 4-4 150 155 155	165953 4-4 154 158 158	166080 2-8 152 155 155
51.0	155240 4-4 140 150 150	158835 4-4 146 153 153	162375 4-4 151 156 156	164243 2-8 154 154 154	164243 2-8 151 154 154
52.0	154032 4-4 141 150 150	157587 4-4 147 153 153	161118 4-4 152 156 156	162407 2-8 153 154 154	162407 2-8 151 154 154
54.0	151610 4-4 143 149 149	155124 4-4 148 152 152	158608 4-4 154 155 155	159653 2-8 153 154 154	159653 2-8 151 154 154
55.0	150410 4-4 143 149 149	153919 4-4 149 152 152	157393 4-4 154 154 154	159578 4-4 158 158 158	159650 2-8 155 156 156
57.0	148075 4-4 145 149 149	151564 4-4 150 151 151	154878 4-4 156 156 156	156813 4-4 160 160 160	158495 4-4 164 164 164
58.0	146931 4-4 146 148 148	150395 4-4 151 151 151	153527 4-4 157 157 157	155326 4-4 161 161 161	156840 4-4 164 164 164
59.0	145804 4-4 147 148 148	149182 4-4 152 152 152	152107 4-4 158 158 158	153733 4-4 161 161 161	155193 4-4 163 163 163
61.0	143547 4-4 148 148 148	146570 4-4 154 154 154	149036 4-4 159 159 159	150502 4-4 160 160 160	151934 4-4 162 162 162
62.0	142351 4-4 149 149 149	145151 4-4 155 155 155	147451 4-4 158 158 158	148903 4-4 160 160 160	150319 4-4 161 161 161
64.0	139768 4-4 151 151 151	142131 4-4 156 156 156	144314 4-4 158 158 158	145736 4-4 159 159 159	147111 4-4 160 160 160
65.0	138370 4-4 152 152 152	140601 4-4 155 155 155	142761 4-4 157 157 157	144162 4-4 158 158 158	145515 4-4 159 159 159
66.0	136868 4-4 152 152 152	139080 4-4 155 155 155	141214 4-4 156 156 156	142593 4-4 157 157 157	143924 4-4 158 158 158

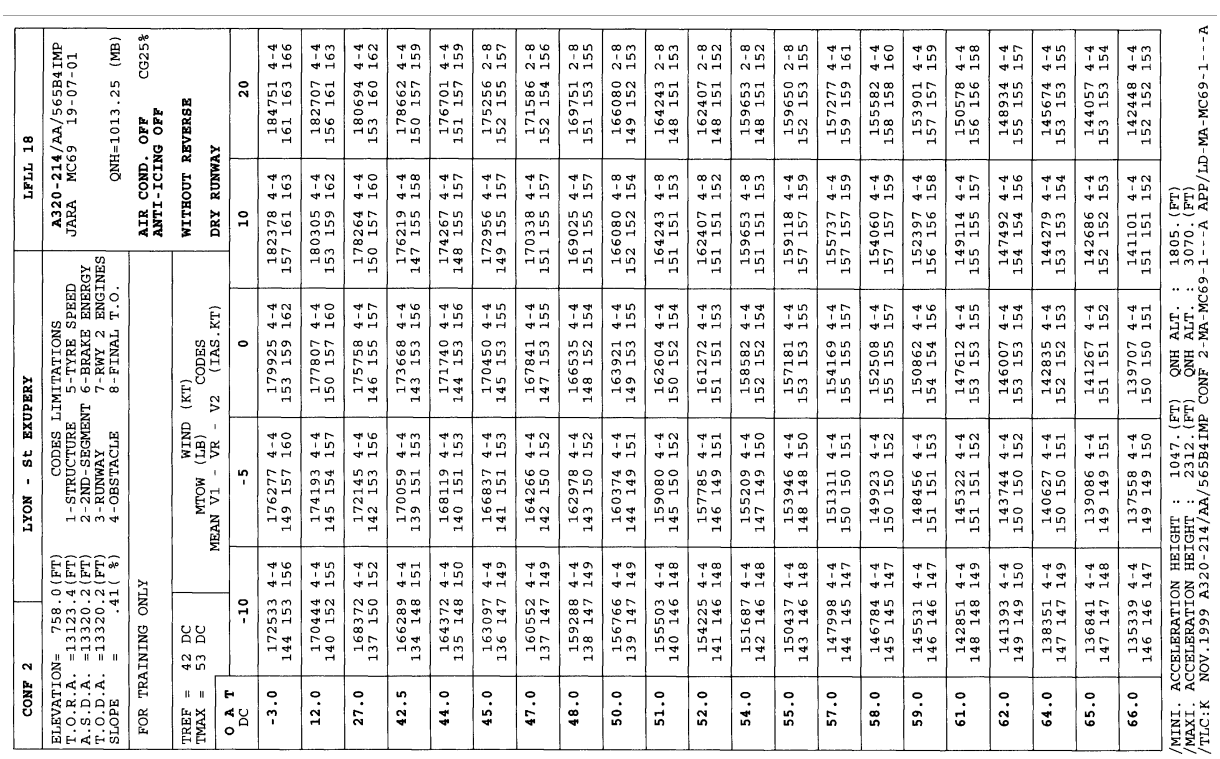
/MINI. ACCELERATION HEIGHT : 1033.(FT) QNH ALT. : 1791.(FT)
/MAXI. ACCELERATION HEIGHT : 2296.(FT) QNH ALT. : 3054.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

LYON (LFLL) - RWY 18R - CONF 2



CONF 2	LYON - St EXUPERY										LFLL 18										
ELEVATION= 758.0(FT) T.O.R.A. =13123.4(FT) A.S.D.A. =13320.2(FT) T.O.D.A. =13320.2(FT) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.										A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=100/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF										
FOR TRAINING ONLY											WITHOUT REVERSE										TGA
TREF = 42 DC TMAX = 53 DC	WGHT 1000LB	-10		-5		0		10		20	DRY RUNWAY	-10		-5		0		10		20	2 3
	180.0			-3.7 -3 4-4 149 157 160		-.1 -3 4-4 153 159 162		.0 14 4-4 153 159 162		.0 32 4-4 152 159 161											43 42
	175.0	-2.5 -3 4-4 144 153 156		.0 6 4-4 146 156 158		.1 32 4-4 145 154 157		1.3 42 4-4 147 156 158		3.7 42 4-4 150 157 159											45 45
	170.0	.0 15 4-4 139 152 155		.1 42 4-4 139 151 153		3.7 42 4-4 143 153 156		.3 47 4-4 151 155 157		1.6 47 2-8 152 154 156											48 47
	165.0	1.4 42 4-4 134 148 151		.6 46 4-4 141 150 153		.2 49 4-4 148 152 155		1.1 50 4-8 152 152 154		1.1 50 2-8 149 152 153											50 50
	160.0	.6 47 4-4 137 147 149		4 50 4-4 144 149 151		1.3 52 4-4 151 151 153		1.0 53 4-8 151 151 153		1.0 53 2-8 148 151 152											53 52
	158.0	.0 49 4-4 138 147 149		1.1 51 4-4 145 150 152		.6 54 4-4 152 152 154		1.1 55 4-4 157 157 159		.5 56 2-8 156 156 158											53 53
	156.0	.8 50 4-4 139 147 149		.5 53 4-4 147 149 151		1.2 55 4-4 153 153 155		1.4 56 4-4 157 157 159		1.3 57 4-4 159 159 161											53 53
	154.0	.2 52 4-4 141 146 148		1.2 54 4-4 147 149 150		.2 57 4-4 155 155 157		.1 58 4-4 157 157 159		1.6 58 4-4 158 158 160											53 53
	152.0	1.0 53 4-4 141 146 148		.6 56 4-4 149 149 150		.5 58 4-4 155 155 157		.4 59 4-4 156 156 158		.2 60 4-4 157 157 158											53 53
	150.0	.4 55 4-4 143 146 148		1.3 57 4-4 150 150 151		.9 59 4-4 154 154 156		.8 60 4-4 155 155 157		.6 61 4-4 156 156 158											53 53
	148.0	1.2 56 4-4 144 146 147		1.2 59 4-4 151 151 153		1.2 60 4-4 153 153 155		1.1 61 4-4 155 155 157		.9 62 4-4 155 155 157											53 53
	146.0	.8 58 4-4 145 145 147		.9 60 4-4 151 151 153		.0 62 4-4 153 153 154		1.5 62 4-4 154 154 156		1.3 63 4-4 154 154 156											53 53
	144.0	.2 60 4-4 147 147 148		1.3 61 4-4 151 151 152		.4 63 4-4 152 152 154		.3 64 4-4 153 153 154		.1 65 4-4 153 153 154											53 53
	142.0	.9 61 4-4 148 148 149		.2 63 4-4 150 150 151		.8 64 4-4 152 152 153		.7 65 4-4 152 152 153		.4 66 4-4 152 152 153											53 53
	140.0	1.4 62 4-4 149 149 150		.6 64 4-4 150 150 151		1.3 65 4-4 151 151 152		1.1 66 4-4 151 151 152		.0 66 2 141 143 144											53 53
	135.0	.3 66 4-4 146 146 147		2.6 66 4-4 149 149 150		4.7 66 4-4 150 150 151		.0 66 2 128 133 134		.0 66 2 124 133 134											53 53
	130.0	.0 66 4 128 128 129		.0 66 122 127 128		.0 66 120 127 128		.0 66 120 127 128		.0 66 120 127 128											53 53

/MINI. ACCELERATION HEIGHT : 1047.(FT) QNH ALT. : 1805.(FT)
/MAXI. ACCELERATION HEIGHT : 2312.(FT) QNH ALT. : 3070.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF 2	LYON - St EXUPERY										LFLL 18										
ELEVATION= 758.0(FT) T.O.R.A. =13123.4(FT) A.S.D.A. =13320.2(FT) T.O.D.A. =13320.2(FT) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.										A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF										
FOR TRAINING ONLY											WITHOUT REVERSE										
TREF = 42 DC TMAX = 53 DC	MTOW (LB) MEAN V1 - VR - V2 CODES (IAS.KT)	-10		-5		0		10		20	DRY RUNWAY	-10		-5		0		10		20	
O A T DC																					
-3.0	172533 4-4 144 153 156		176277 4-4 149 157 160		179925 4-4 153 159 162		182378 4-4 157 161 163		184751 4-4 161 163 166												
12.0	170444 4-4 140 152 155		174193 4-4 145 154 157		177807 4-4 150 157 160		180305 4-4 153 159 162		182707 4-4 156 161 163												
27.0	168372 4-4 137 150 152		172145 4-4 142 153 156		175758 4-4 146 155 157		178264 4-4 150 157 160		180694 4-4 153 160 162												
42.5	166289 4-4 134 148 151		170059 4-4 139 151 153		173668 4-4 143 153 156		176219 4-4 147 155 158		178662 4-4 150 157 159												
44.0	164372 4-4 135 148 150		168119 4-4 140 151 153		171740 4-4 144 153 156		174267 4-4 148 155 157		176701 4-4 151 157 159												
45.0	163097 4-4 136 147 149		166837 4-4 141 151 153		170450 4-4 145 153 155		172956 4-4 149 155 157		175256 2-8 152 155 157												
47.0	160552 4-4 137 147 149		164266 4-4 142 150 152		167841 4-4 147 153 155		170338 4-4 151 155 157		171586 2-8 152 154 156												
48.0	159288 4-4 138 147 149		162978 4-4 143 150 152		166535 4-4 148 152 154		169025 4-4 151 155 157		169751 2-8 151 153 155												
50.0	156766 4-4 139 147 149		160374 4-4 144 149 151		163921 4-4 149 153 155		166080 4-8 152 152 154		166080 2-8 149 152 153												
51.0	155503 4-4 140 146 148		159080 4-4 145 150 152		162604 4-4 150 152 154		164243 4-8 151 151 153		164243 2-8 148 151 153												
52.0	154225 4-4 141 146 148		157785 4-4 146 149 151		161272 4-4 151 151 153		162407 4-8 151 151 152		162407 2-8 148 151 152												
54.0	151687 4-4 142 146 148		155209 4-4 147 149 150		158582 4-4 152 152 154		159653 4-8 151 151 153		159653 2-8 148 151 152												
55.0	150437 4-4 143 146 148		153946 4-4 148 148 150		157181 4-4 153 153 155		159118 4-4 157 157 159		159650 2-8 152 153 155												
57.0	147998 4-4 144 145 147		151311 4-4 150 150 151		154169 4-4 155 155 157		155737 4-4 157 157 159		157277 4-4 159 159 161												
58.0	146784 4-4 145 145 147		149923 4-4 150 150 152		152508 4-4 155 155 157		154060 4-4 157 157 159		155582 4-4 158 158 160												
59.0	145531 4-4 146 146 147		148456 4-4 151 151 153		150862 4-4 154 154 156		152397 4-4 156 156 158		153901 4-4 157 157 159												
61.0	142851 4-4 148 148 149		145322 4-4 151 151 152		147612 4-4 153 153 155		149114 4-4 155 155 157		150578 4-4 156 156 158												
62.0	141393 4-4 149 149 150		143744 4-4 150 150 152		146007 4-4 153 153 154		147492 4-4 154 154 156		148934 4-4 155 155 157												
64.0	138351 4-4 147 147 149		140627 4-4 150 150 151		142835 4-4 152 152 153		144279 4-4 153 153 154		145674 4-4 153 153 155												
65.0	136841 4-4 147 147 148		139086 4-4 149 149 151		141267 4-4 151 151 152		142686 4-4 152 152 153		144057 4-4 153 153 154												
66.0	135339 4-4 146 146 147		137558 4-4 149 149 150		139707 4-4 150 150 151		141101 4-4 151 151 152		142448 4-4 152 152 153												

/MINI. ACCELERATION HEIGHT : 1047.(FT) QNH ALT. : 1805.(FT)
/MAXI. ACCELERATION HEIGHT : 2312.(FT) QNH ALT. : 3070.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

LYON (LFLL) - RWY 18R - CONF 3

CONF 3	LYON - St EXUPERY	LFLL 18
ELEVATION= 758.0(FT) T.O.R.A. =13123.4(FT) A.S.D.A. =13320.2(FT) T.O.D.A. =13320.2(FT) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=110/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 42 DC TMAX = 53 DC	WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0		-3.2 -3 4-4 .1 152 157 158	0 4-4 .1 157 160 160	18 4-4 .1 155 160 160	36 4-4 43 155 159 159 42
175.0	-2.0 -3 4-4 146 154 155	.0 10 4-4 148 155 156	37 4-4 .1 147 155 155	42 4-4 1.9 149 156 156	42 4-4 4.3 153 158 158 45
170.0	.1 18 4-4 140 151 153	.6 42 4-4 140 151 152	42 4-4 4.4 145 154 154	47 4-4 .8 153 155 156	47 2-8 48 153 155 155 47
165.0	1.8 42 4-4 134 148 149	1.0 46 4-4 142 150 151	49 4-4 .7 151 153 153	50 4-8 1.1 153 153 154	50 2-8 50 150 152 153
160.0	.9 47 4-4 138 146 148	.8 50 4-4 146 148 149	53 4-4 .1 155 155 155	53 4-8 1.0 152 152 152	53 2-8 53 149 151 152
158.0	.4 49 4-4 139 146 148	.2 52 4-4 148 149 150	54 4-4 .6 156 156 156	55 4-4 .5 158 158 158	56 2-4 53 156 156 156
156.0	1.1 50 4-4 140 146 147	.9 53 4-4 149 149 150	55 4-4 .9 157 157 157	56 4-4 .8 157 157 157	57 4-4 53 158 158 158
154.0	.6 52 4-4 142 145 147	.2 55 4-4 150 150 151	56 4-4 1.2 156 156 156	57 4-4 1.1 156 156 156	58 4-4 53 157 157 157
152.0	.0 54 4-4 143 145 146	.7 56 4-4 152 152 152	57 4-4 1.6 155 155 155	58 4-4 1.4 155 155 155	59 4-4 53 156 156 156
150.0	.8 55 4-4 144 145 146	1.2 57 4-4 153 153 153	59 4-4 .2 153 153 153	60 4-4 .1 153 153 153	60 4-4 53 156 156 156
148.0	.3 57 4-4 146 146 147	1.5 58 4-4 153 153 153	60 4-4 .6 152 152 153	61 4-4 4 153 153 153	62 4-4 53 155 155 155
146.0	.9 58 4-4 147 147 148	.3 60 4-4 151 151 151	61 4-4 1.0 152 152 152	62 4-4 .8 152 152 152	63 4-4 53 154 154 154
144.0	1.5 59 4-4 148 148 149	.7 61 4-4 150 150 150	62 4-4 1.4 151 151 151	63 4-4 1.2 152 152 152	64 4-4 53 153 153 153
142.0	.4 61 4-4 149 149 149	1.1 62 4-4 149 149 150	64 4-4 .2 149 149 149	64 4-4 1.6 151 151 151	65 4-4 53 152 152 152
140.0	.8 62 4-4 148 148 148	.0 64 4-4 148 148 148	65 4-4 .6 149 149 149	66 4-4 .4 150 150 150	66 4-4 53 151 151 151
135.0	1.3 65 4-4 146 146 146	1.9 66 4-4 146 146 146	66 4-4 4.0 148 148 148	66 2 .0 127 132 133	66 2 53 123 132 133
130.0	4.8 66 4-4 145 145 145	.0 66 4 125 125 126	66 2 .0 120 123 125	66 2 .0 118 123 125	66 2 53 118 123 125

/MINI. ACCELERATION HEIGHT : 1062.(FT) QNH ALT. : 1820.(FT)
/MAXI. ACCELERATION HEIGHT : 2305.(FT) QNH ALT. : 3063.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3	LYON - St EXUPERY	LFLL 18
ELEVATION= 758.0(FT) T.O.R.A. =13123.4(FT) A.S.D.A. =13320.2(FT) T.O.D.A. =13320.2(FT) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 42 DC TMAX = 53 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-3.0	173017 4-4 146 154 155	176788 4-4 152 157 158	180467 4-4 157 160 161	182853 4-4 161 162 162	185055 2-4 165 166 166
12.0	170947 4-4 142 152 154	174742 4-4 147 155 155	178438 4-4 153 158 159	180882 4-4 157 161 161	183199 2-4 161 163 163
27.0	168830 4-4 138 150 151	172680 4-4 143 154 154	176413 4-4 149 156 156	178875 4-4 153 158 158	181258 4-4 157 161 161
42.5	166692 4-4 134 148 149	170558 4-4 140 150 151	174307 4-4 145 154 154	176830 4-4 149 156 156	179235 4-4 153 158 158
44.0	164768 4-4 135 147 149	168597 4-4 141 151 152	172345 4-4 146 154 154	174836 4-4 151 155 156	177090 2-8 154 157 157
45.0	163490 4-4 136 147 148	167294 4-4 142 151 152	171025 4-4 147 153 154	173496 4-4 151 155 156	175256 2-8 154 156 156
47.0	160934 4-4 138 146 148	164695 4-4 143 150 151	168372 4-4 149 153 153	170820 4-4 153 155 156	171586 2-8 153 155 155
48.0	159668 4-4 138 146 148	163398 4-4 144 149 150	167043 4-4 150 152 153	169484 4-4 154 155 156	169751 2-8 152 154 154
50.0	157136 4-4 140 146 147	160791 4-4 146 148 149	164387 4-4 152 153 153	166080 4-8 153 153 154	166080 2-8 149 152 153
51.0	155862 4-4 141 146 147	159486 4-4 147 149 149	163030 4-4 153 153 153	164243 4-8 152 152 153	164243 2-8 149 152 152
52.0	154586 4-4 142 145 147	158182 4-4 148 149 150	161596 4-4 154 154 154	162407 4-8 151 151 152	162407 2-8 148 151 152
54.0	152045 4-4 143 145 146	155539 4-4 150 150 150	158557 4-4 156 156 156	159653 4-8 153 153 153	159653 2-8 149 151 152
55.0	150808 4-4 144 145 146	154155 4-4 150 150 151	156923 4-4 157 157 157	158484 4-4 158 158 158	159650 2-4 155 155 155
57.0	148295 4-4 146 146 147	151151 4-4 153 153 153	153552 4-4 155 155 155	155079 4-4 156 156 156	156556 4-4 158 158 158
58.0	146934 4-4 147 147 148	149541 4-4 153 153 153	151889 4-4 154 154 154	153398 4-4 155 155 155	154858 4-4 157 157 157
59.0	145498 4-4 148 148 149	147921 4-4 152 152 152	150241 4-4 153 153 153	151730 4-4 154 154 154	153175 4-4 156 156 156
61.0	142389 4-4 149 149 149	144723 4-4 150 150 150	146983 4-4 152 152 152	148433 4-4 153 153 153	149847 4-4 155 155 155
62.0	140844 4-4 148 148 148	143143 4-4 149 149 150	145373 4-4 151 151 151	146802 4-4 152 152 152	148201 4-4 155 155 155
64.0	137789 4-4 146 146 147	140016 4-4 148 148 148	142182 4-4 149 149 149	143578 4-4 151 151 151	144943 4-4 153 153 153
65.0	136277 4-4 146 146 146	138467 4-4 147 147 147	140602 4-4 149 149 149	141983 4-4 151 151 151	143328 4-4 152 152 152
66.0	134776 4-4 145 145 145	136926 4-4 146 146 146	139034 4-4 148 148 148	140398 4-4 150 150 150	141721 4-4 151 151 151

/MINI. ACCELERATION HEIGHT : 1062.(FT) QNH ALT. : 1820.(FT)
/MAXI. ACCELERATION HEIGHT : 2305.(FT) QNH ALT. : 3063.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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MARSEILLE (LFML) - RWY 32R - CONF 1 + F

CONF1+F	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. =11482.9(FT) A.S.D.A. =11482.9(FT) T.O.D.A. =11482.9(FT) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=180/GRAD2= 500 AIR COND. OFF CG25% ANTI-ICING OFF
for training only		

TREF = 44 DC
TMAX = 55 DC

WIND (KT)
MTOW (LB) CODES
MEAN V1 - VR - V2 (IAS.KT)

OAT DC	-10	-5	0	10	20
-1.0	180531 2-2 136 157 157	183290 2-6 142 161 161	185927 2-6 148 166 166	187543 2-6 151 169 169	189165 2-6 155 172 172
14.0	176822 6-6 134 155 155	180867 2-6 139 158 158	183608 2-6 144 162 162	185266 2-6 148 165 165	186884 2-6 151 168 168
29.0	173172 6-6 132 153 154	177733 6-6 137 156 156	181261 2-6 141 159 159	183007 2-6 145 162 162	184662 2-6 148 165 165
43.9	169764 6-6 130 152 152	174347 6-6 135 154 154	178923 6-6 139 157 157	180804 2-6 142 159 159	182495 8-6 145 162 162
45.0	168857 6-6 131 151 152	173477 6-6 135 154 154	177588 2-6 140 157 157	179377 2-6 143 160 160	180388 2-8 145 161 161
47.0	167339 6-6 132 151 151	172007 6-6 136 153 153	175175 2-6 141 157 157	176682 2-8 144 160 160	176682 2-8 145 160 160
48.0	166619 6-6 132 151 151	171175 2-6 137 153 153	173916 2-6 142 158 158	174829 2-8 145 159 159	174829 2-8 145 159 159
50.0	165234 6-6 133 150 150	168786 2-6 138 154 154	171122 2-8 143 158 158	171122 2-8 144 158 158	171122 2-8 145 158 158
51.0	164576 6-6 133 150 150	167574 2-6 139 154 154	169268 2-8 143 157 157	169268 2-8 144 157 157	169268 2-8 145 157 157
52.0	163636 2-6 134 150 150	166335 2-6 140 154 154	167413 2-8 143 156 156	167413 2-8 144 156 156	167413 2-8 144 156 156
54.0	161266 2-6 135 151 151	163704 8-6 141 155 155	163704 2-8 142 155 155	163704 2-8 143 155 155	163704 2-8 143 155 155
55.0	160045 2-6 136 151 151	162100 2-8 141 155 155	162100 2-8 143 155 155	162100 2-8 144 155 155	162100 2-8 143 155 155
57.0	157561 2-6 138 151 151	160019 2-6 144 155 155	162097 2-8 149 160 160	162097 2-8 151 160 160	162097 2-8 152 160 160
58.0	156342 2-6 138 151 151	158729 2-6 145 156 156	160925 2-6 151 160 160	162095 2-8 154 163 163	162095 2-8 156 163 163
59.0	155114 2-6 139 151 151	157480 2-6 145 156 156	159624 2-6 151 160 160	160936 2-6 156 163 163	161237 2-2 157 164 164
61.0	152721 2-6 141 151 151	154955 2-6 147 156 156	156991 2-6 153 161 161	157730 2-2 156 162 162	157730 2-2 157 162 162
62.0	151503 2-6 142 151 151	153651 2-6 148 156 156	155688 2-6 154 161 161	155976 2-2 156 162 162	155976 2-2 156 162 162
64.0	149071 2-6 143 152 152	151135 2-6 149 156 156	152464 2-2 154 160 160	152464 2-2 155 160 160	152464 2-2 154 160 160
65.0	147861 2-6 144 152 152	149830 2-6 150 157 157	150710 2-2 154 159 159	150710 2-2 154 159 159	150710 2-2 153 159 159
66.0	146610 2-6 145 152 152	148571 2-6 151 157 157	148957 2-2 154 158 158	148957 2-2 153 158 158	148957 2-2 152 158 158
68.0	144157 2-6 147 153 153	145450 2-2 151 156 156	145450 2-2 151 156 156	145450 2-2 150 156 156	145450 2-2 149 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2172.(FT) QNH ALT. : 2241.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. =11482.9(FT) A.S.D.A. =11482.9(FT) T.O.D.A. =11482.9(FT) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=180/GRAD2= 500 AIR COND. OFF CG25% ANTI-ICING OFF
for training only		

TREF = 44 DC
TMAX = 55 DC

WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE — TGA 2
DRY RUNWAY — TGA 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0	.0 1 2-2 136 157 157	.0 18 2-6 138 157 157	.0 37 2-6 140 158 158	.6 44 2-6 142 159 159	.4 45 2-8 146 161 161	45 44
175.0	.1 21 6-6 133 154 155	.2 40 6-6 135 155 155	3.8 44 6-6 139 157 157	1.7 47 2-8 145 160 160	1.7 47 2-8 146 160 160	47 47
170.0	.2 42 6-6 130 152 152	4.2 44 6-6 135 154 154	1.1 50 2-8 143 158 158	1.1 50 2-8 144 158 158	1.1 50 2-8 145 158 158	50 49
165.0	4.7 44 6-6 130 152 152	.0 53 2-6 141 155 155	.6 53 2-8 143 156 156	.6 53 2-8 144 156 156	.6 53 2-8 144 156 156	52 52
160.0	.0 55 2-6 136 151 151	.0 57 2-6 144 155 155	.9 58 2-6 151 160 160	.9 59 2-6 156 163 163	1.2 59 2-2 158 164 164	55 54
158.0	.8 56 2-6 137 151 151	.7 58 2-6 145 156 156	.3 60 2-6 152 160 160	1.3 60 2-6 156 163 163	1.5 60 2-2 158 163 163	55 55
156.0	.3 58 2-6 138 151 151	.2 60 2-6 146 156 156	1.0 61 2-6 153 161 161	1.7 61 2-2 156 162 162	1.7 61 2-2 158 162 162	55 55
154.0	1.1 59 2-6 139 151 151	1.0 61 2-6 147 156 156	.1 63 2-6 154 160 160	.2 63 2-2 156 161 161	.2 63 2-2 155 161 161	55 55
152.0	.7 61 2-6 141 151 151	.4 63 2-6 149 156 156	.5 64 2-2 155 160 160	.5 64 2-2 155 160 160	.5 64 2-2 154 160 160	55 55
150.0	.3 63 2-6 142 152 152	1.1 64 2-6 149 156 156	.7 65 2-2 154 159 159	.7 65 2-2 154 159 159	.7 65 2-2 153 159 159	55 55
148.0	1.1 64 2-6 143 152 152	.6 66 2-6 151 157 157	1.0 66 2-2 154 158 158	1.0 66 2-2 153 158 158	1.0 66 2-2 152 158 158	55 55
146.0	.6 66 2-6 145 152 152	1.0 67 2-6 151 157 157	1.2 67 2-2 153 157 157	1.2 67 2-2 152 157 157	1.2 67 2-2 151 157 157	55 55
144.0	.2 68 2-6 147 153 153	1.5 68 2-2 152 156 156	1.5 68 2-2 152 156 156	1.5 68 2-2 151 156 156	1.5 68 2-2 149 156 156	55 55
142.0	.0 68 2 142 148 148	.0 68 2 140 148 148	.0 68 2 138 148 148	.0 68 2 137 148 148	.0 68 2 137 148 148	55 55
140.0	.0 68 2 136 144 144	.0 68 2 133 144 144	.0 68 2 133 144 144	.0 68 2 133 144 144	.0 68 2 133 144 144	55 55
135.0	.0 68 126 136 136	.0 68 126 136 136	.0 68 126 136 136	.0 68 126 136 136	.0 68 126 136 136	55 55
130.0	.0 68 125 133 134	.0 68 125 133 134	.0 68 125 133 134	.0 68 125 133 134	.0 68 125 133 134	55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2172.(FT) QNH ALT. : 2241.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

MARSEILLE (LFML) - RWY 32R - CONF 2

CONF 2	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. =11482.9(FT) A.S.D.A. =11482.9(FT) T.O.D.A. =11482.9(FT) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 900 AIR COND. OFF CG25% ANTI-ICING OFF
for training only		WITHOUT REVERSE TGA
TREF = 44 DC TMAX = 55 DC	WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0	.0 12 2-6 133 153 156	.0 29 2-6 135 154 156	.3 44 2-6 137 155 158	.4 45 2-8 141 158 161	.4 45 2-8 142 158 161	45 44
175.0	.3 43 2-6 127 147 150	2.7 44 2-6 132 151 154	1.4 47 2-6 140 156 159	1.7 47 2-8 141 157 159	1.7 47 2-8 142 157 159	47 47
170.0	5.0 44 2-6 127 147 149	.1 50 2-6 137 153 155	1.1 50 2-8 140 155 157	1.1 50 2-8 141 155 157	1.1 50 2-8 143 155 157	50 49
165.0	1.2 51 2-6 133 149 151	.6 53 2-6 139 153 155	.6 53 2-8 140 153 155	.6 53 2-8 141 153 155	.6 53 2-8 142 153 155	52 52
160.0	1.0 55 2-6 136 150 152	.5 57 2-6 143 154 156	1.1 58 2-6 150 158 161	.3 59 2-2 153 160 163	.3 59 2-2 154 160 163	55 54
158.0	.3 57 2-6 137 149 152	1.2 58 2-6 144 154 156	.3 60 2-6 151 158 161	.6 60 2-2 153 159 162	.6 60 2-2 153 159 162	55 55
156.0	1.0 58 2-6 138 149 152	.5 60 2-6 145 154 156	.8 61 2-2 152 158 161	.8 61 2-2 153 158 161	.8 61 2-2 152 158 161	55 55
154.0	.3 60 2-6 139 149 152	1.1 61 2-6 146 154 156	1.1 62 2-2 152 157 160	1.1 62 2-2 153 157 160	1.1 62 2-2 151 157 160	55 55
152.0	1.1 61 2-6 140 149 152	.4 63 2-6 148 154 156	1.3 63 2-2 152 156 159	1.3 63 2-2 152 156 159	1.3 63 2-2 150 156 159	55 55
150.0	.4 63 2-6 142 150 152	1.0 64 2-6 148 154 156	1.6 64 2-2 152 156 158	1.6 64 2-2 151 156 158	1.6 64 2-2 149 156 158	55 55
148.0	1.1 64 2-6 142 150 152	.1 66 2-2 150 154 156	.1 66 2-2 150 154 156	.1 66 2-2 149 154 156	.1 66 2-2 147 154 156	55 55
146.0	.5 66 2-6 144 150 152	.3 67 2-2 149 153 155	.3 67 2-2 149 153 155	.3 67 2-2 148 153 155	.3 67 2-2 146 153 155	55 55
144.0	1.2 67 2-6 145 150 152	.6 68 2-2 149 152 154	.6 68 2-2 148 152 154	.6 68 2-2 146 152 154	.6 68 2-2 145 152 154	55 55
142.0	1.9 68 2-6 146 150 152	.0 68 2 139 146 148	.0 68 2 137 146 148	.0 68 2 135 146 148	.0 68 2 135 146 148	55 55
140.0	.0 68 2 134 142 143	.0 68 2 131 142 143	.0 68 2 131 142 143	.0 68 2 131 142 143	.0 68 2 131 142 143	55 55
135.0	.0 68 2 123 132 134	.0 68 2 123 132 134	.0 68 2 123 132 134	.0 68 2 123 132 134	.0 68 2 123 132 134	55 55
130.0	.0 68 120 126 128	.0 68 120 126 128	.0 68 120 126 128	.0 68 120 126 128	.0 68 120 126 128	55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2167.(FT) QNH ALT. : 2236.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. =11482.9(FT) A.S.D.A. =11482.9(FT) T.O.D.A. =11482.9(FT) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
for training only		WITHOUT REVERSE
TREF = 44 DC TMAX = 55 DC	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-1.0	182028 2-6 136 155 159	184529 2-6 142 160 163	186914 2-6 147 164 167	188511 2-6 151 168 170	190033 2-6 155 171 174
14.0	179721 2-6 133 153 155	182300 2-6 138 157 160	184774 2-6 143 161 164	186419 2-6 147 164 167	188013 2-6 151 168 170
29.0	177380 2-6 130 150 152	180046 2-6 135 154 156	182600 2-6 140 158 161	184350 2-6 144 161 164	185980 2-6 148 164 167
43.9	175141 2-6 127 147 149	177843 2-6 132 151 154	180451 2-6 137 155 158	182291 2-6 141 158 161	182495 2-8 142 159 161
45.0	173724 2-6 128 147 150	176414 2-6 133 152 154	178989 2-6 138 155 158	180388 2-8 141 158 161	180388 2-8 142 158 161
47.0	171265 2-6 129 148 150	173904 2-6 135 152 154	176395 2-6 140 156 159	176682 2-8 141 157 159	176682 2-8 142 157 159
48.0	169992 2-6 130 148 150	172637 2-6 136 152 155	174829 2-8 140 156 159	174829 2-8 141 156 159	174829 2-8 142 156 159
50.0	167482 2-6 132 148 151	170051 2-6 137 153 155	171122 2-8 140 155 157	171122 2-8 141 155 157	171122 2-8 143 155 157
51.0	166200 2-6 133 149 151	168690 2-6 138 153 155	169268 2-8 140 154 157	169268 2-8 141 154 157	169268 2-8 142 154 157
52.0	164921 2-6 133 149 151	167400 2-6 139 153 156	167413 2-8 140 153 156	167413 2-8 141 153 156	167413 2-8 142 153 156
54.0	162309 2-6 135 149 152	163704 2-8 138 152 154	163704 2-8 139 152 154	163704 2-8 141 152 154	163704 2-8 141 152 154
55.0	161003 2-6 136 150 152	162100 2-8 139 152 154	162100 2-8 140 152 154	162100 2-8 141 152 154	162100 2-8 141 152 154
57.0	158297 2-6 137 149 152	160532 2-6 143 154 156	162097 2-8 148 157 160	162097 2-8 149 157 160	162097 2-8 149 157 160
58.0	156958 2-6 138 149 152	159150 2-6 144 154 156	161118 2-6 150 158 161	162053 2-2 153 161 163	162053 2-2 154 161 163
59.0	155629 2-6 139 149 152	157821 2-6 144 154 156	159699 2-6 150 158 161	160304 2-2 153 160 163	160304 2-2 154 160 163
61.0	153052 2-6 140 149 152	155086 2-6 146 154 156	156807 2-2 151 158 161	156807 2-2 153 158 161	156807 2-2 152 158 161
62.0	151744 2-6 141 149 152	153727 2-6 147 154 156	155059 2-2 151 157 160	155059 2-2 152 157 160	155059 2-2 151 157 160
64.0	149126 2-6 142 150 152	150993 2-6 148 154 156	151564 2-2 151 156 158	151564 2-2 151 156 158	151564 2-2 149 156 158
65.0	147814 2-6 143 150 152	149633 2-6 149 154 156	149816 2-2 151 155 157	149816 2-2 150 155 157	149816 2-2 148 155 157
66.0	146514 2-6 144 150 152	148067 2-2 149 154 156	148067 2-2 150 154 156	148067 2-2 148 154 156	148067 2-2 147 154 156
68.0	143883 2-6 146 150 152	144570 2-2 149 152 154	144570 2-2 147 152 154	144570 2-2 146 152 154	144570 2-2 145 152 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2167.(FT) QNH ALT. : 2236.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

MARSEILLE (LFML) - RWY 32R - CONF 3

CONF 3	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. =11482.9(FT) A.S.D.A. =11482.9(FT) T.O.D.A. =11482.9(FT) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2=1000 AIR COND. OFF CG25% ANTI-ICING OFF
for training only	WIND (KT) WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA
TREF = 44 DC TMAX = 55 DC		DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0	.1 15 2-6 134 154 155	.1 33 2-6 136 155 156	1.0 44 2-6 139 158 158	.4 45 2-8 143 159 160	.4 45 2-8 144 159 160	45 44
175.0	.6 44 2-6 128 148 149	3.3 44 2-6 134 153 154	1.7 47 2-8 141 158 159	1.7 47 2-8 143 158 159	1.7 47 2-8 143 158 159	47 47
170.0	.5 48 2-6 131 149 150	.4 50 2-6 138 154 155	1.1 50 2-8 141 156 157	1.1 50 2-8 142 156 157	1.1 50 2-8 144 156 157	50 49
165.0	.3 52 2-6 134 150 151	.6 53 2-8 139 154 155	.6 53 2-8 141 154 155	.6 53 2-8 142 154 155	.6 53 2-8 142 154 155	52 52
160.0	1.2 55 2-6 136 151 152	.5 57 2-6 145 156 156	.8 58 2-6 153 161 161	1.6 58 2-2 157 164 164	1.6 58 2-2 158 164 164	55 54
158.0	.5 57 2-6 138 150 152	1.1 58 2-6 145 156 156	1.4 59 2-6 154 161 161	.2 60 2-2 157 162 162	.2 60 2-2 157 162 162	55 55
156.0	1.1 58 2-6 139 150 151	.3 60 2-6 147 156 156	.4 61 2-2 155 161 161	.4 61 2-2 157 161 161	.4 61 2-2 156 161 161	55 55
154.0	.4 60 2-6 140 151 151	.9 61 2-6 148 156 156	.7 62 2-2 155 160 160	.7 62 2-2 156 160 160	.7 62 2-2 154 160 160	55 55
152.0	1.1 61 2-6 141 151 151	.1 63 2-6 150 156 157	.9 63 2-2 155 159 159	.9 63 2-2 155 159 159	.9 63 2-2 153 159 159	55 55
150.0	.4 63 2-6 143 151 152	.7 64 2-6 151 156 157	1.2 64 2-2 155 158 158	1.2 64 2-2 154 158 158	1.2 64 2-2 152 158 158	55 55
148.0	1.0 64 2-6 144 151 152	1.2 65 2-6 152 156 157	1.4 65 2-2 154 157 157	1.4 65 2-2 152 157 157	1.4 65 2-2 151 157 157	55 55
146.0	.3 66 2-6 146 151 152	1.7 66 2-6 153 156 157	1.7 66 2-2 153 156 157	1.7 66 2-2 151 156 157	1.7 66 2-2 150 156 157	55 55
144.0	1.0 67 2-6 147 152 152	.2 68 2-6 152 154 155	.2 68 2-2 150 154 155	.2 68 2-2 149 154 155	.2 68 2-2 147 154 155	55 55
142.0	1.6 68 2-6 148 152 153	.0 68 140 147 148	.0 68 138 147 148	.0 68 137 147 148	.0 68 136 147 148	55 55
140.0	.0 68 2 134 141 143	.0 68 2 132 141 143	.0 68 2 131 141 143	.0 68 2 131 141 143	.0 68 2 131 141 143	55 55
135.0	.0 68 2 122 131 133	.0 68 2 122 131 133	.0 68 2 122 131 133	.0 68 2 122 131 133	.0 68 2 122 131 133	55 55
130.0	.0 68 2 118 122 124	.0 68 2 118 122 124	.0 68 2 118 122 124	.0 68 2 118 122 124	.0 68 2 118 122 124	55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2148.(FT) QNH ALT. : 2217.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. =11482.9(FT) A.S.D.A. =11482.9(FT) T.O.D.A. =11482.9(FT) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
for training only	WIND (KT) MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE
TREF = 44 DC TMAX = 55 DC		DRY RUNWAY

O A T DC	-10	-5	0	10	20
-1.0	182419 2-6 137 157 158	184833 2-6 144 162 163	187001 2-6 150 167 167	188381 2-6 155 170 171	189652 2-6 159 174 174
14.0	180266 2-6 134 154 155	182817 2-6 140 159 160	185118 2-6 146 164 164	186575 2-6 150 167 167	187944 2-6 155 170 171
29.0	178012 2-6 131 151 152	180674 2-6 137 156 157	183150 2-6 142 161 161	184705 2-6 147 164 164	186150 2-6 151 167 167
43.9	175729 2-6 128 148 149	178522 2-6 133 153 154	181150 2-6 139 158 158	182495 2-8 143 160 161	182495 2-8 143 160 161
45.0	174323 2-6 129 148 150	177089 2-6 134 153 154	179613 2-6 140 158 158	180388 2-8 142 159 160	180388 2-8 144 159 160
47.0	171759 2-6 130 149 150	174417 2-6 136 153 154	176682 2-8 141 158 159	176682 2-8 142 158 159	176682 2-8 143 158 159
48.0	170505 2-6 131 149 150	173107 2-6 137 154 155	174829 2-8 141 157 158	174829 2-8 142 157 158	174829 2-8 144 157 158
50.0	167887 2-6 132 149 151	170381 2-6 138 154 155	171122 2-8 141 156 157	171122 2-8 142 156 157	171122 2-8 144 156 157
51.0	166598 2-6 133 150 151	169041 2-6 139 155 155	169268 2-8 141 155 156	169268 2-8 142 155 156	169268 2-8 143 155 156
52.0	165279 2-6 134 150 151	167413 2-8 139 154 155	167413 2-8 141 154 155	167413 2-8 142 154 155	167413 2-8 142 154 155
54.0	162600 2-6 135 150 152	163704 2-8 139 153 154	163704 2-8 141 153 154	163704 2-8 141 153 154	163704 2-8 141 153 154
55.0	161210 2-6 136 151 152	162100 2-8 140 153 154	162100 2-8 141 153 154	162100 2-8 141 153 154	162100 2-8 141 153 154
57.0	158477 2-6 138 150 152	160523 2-6 145 156 156	162097 2-8 151 160 161	162097 2-8 152 160 161	162097 2-8 152 160 161
58.0	157113 2-6 139 150 151	159120 2-6 145 156 156	160842 2-6 153 161 161	161648 2-2 157 164 164	161648 2-2 158 164 164
59.0	155748 2-6 139 150 151	157708 2-6 146 156 156	159368 2-6 154 161 161	159903 2-2 157 163 163	159903 2-2 157 163 163
61.0	153068 2-6 141 151 151	154904 2-6 148 156 156	156413 2-2 155 161 161	156413 2-2 157 161 161	156413 2-2 155 161 161
62.0	151711 2-6 142 151 151	153487 2-6 149 156 156	154667 2-2 155 160 160	154667 2-2 156 160 160	154667 2-2 154 160 160
64.0	149043 2-6 144 151 152	150681 2-6 151 156 157	151177 2-2 155 158 158	151177 2-2 153 158 158	151177 2-2 152 158 158
65.0	147714 2-6 145 151 152	149242 2-6 152 156 157	149431 2-2 153 157 157	149431 2-2 152 157 157	149431 2-2 151 157 157
66.0	146334 2-6 146 151 152	147686 2-2 153 156 157	147686 2-2 152 156 157	147686 2-2 151 156 157	147686 2-2 150 156 157
68.0	143634 2-6 148 152 153	144195 2-2 151 154 155	144195 2-2 150 154 155	144195 2-2 148 154 155	144195 2-2 147 154 155

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2148.(FT) QNH ALT. : 2217.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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PARIS ORLY (LFPO) - RWY 08 - CONF 1 + F

CONF1+F	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =10892.4(FT) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=150/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA **DRY RUNWAY** 2 3

WRIGHT 1000LB	-10	-5	0	10	20	
180.0			-1.3 -2 4-4 154 156 156	.0 5 2-4 156 158 158	.2 18 2-4 44 156 158 158	44
175.0		-1.1 -2 4-4 150 154 154	.0 15 4-4 151 155 155	.0 30 4-4 152 155 155	.5 43 4-4 47 152 155 155	46
170.0	-.8 -2 4-4 146 151 152	.0 16 4-4 147 152 152	.1 39 4-4 147 152 152	2.3 43 4-4 150 154 154	1.2 48 2-4 49 155 155 155	49
165.0	.1 19 4-4 141 149 150	.0 42 4-4 142 150 150	4.3 43 4-4 147 152 152	1.3 50 4-4 152 152 152	.2 52 2-4 52 154 154 154	51
160.0	.3 43 4-4 137 147 148	4.8 43 4-4 142 150 150	1.4 52 4-4 149 149 149	.4 54 2-4 151 151 151	.6 55 2-4 54 154 154 154	54
158.0	.1 46 4-4 139 146 147	.6 51 4-4 146 147 147	.5 54 4-4 149 149 149	.8 55 2-4 151 151 151	.9 56 2-4 54 153 153 153	54
156.0	.4 48 4-4 140 146 146	.9 53 4-4 147 147 147	1.0 55 4-4 149 149 149	1.2 56 2-4 150 150 150	1.3 57 2-4 54 152 152 152	54
154.0	.7 50 4-4 141 145 145	.0 55 4-4 145 145 145	1.4 56 4-4 148 148 148	.1 58 2-4 149 149 149	.1 59 2-4 54 151 151 151	54
152.0	.3 53 4-4 142 144 144	.4 56 4-4 144 144 144	.2 58 4-4 146 146 146	.5 59 2-4 148 148 148	.6 60 2-4 54 151 151 151	54
150.0	.8 55 4-4 143 143 143	.9 57 4-4 144 144 144	.7 59 4-4 146 146 146	1.0 60 2-4 148 148 148	1.0 61 2-4 54 150 150 150	54
148.0	1.3 56 4-4 143 143 143	1.3 58 4-4 143 143 143	1.2 60 4-4 145 145 145	1.5 61 2-4 147 147 147	1.5 62 2-4 54 150 150 150	54
146.0	.2 58 4-4 141 141 141	.4 60 4-4 142 142 142	.2 62 2-4 143 143 143	.5 63 2-4 146 146 146	.5 64 2-4 54 149 149 149	54
144.0	.8 59 4-4 141 141 141	.9 61 4-4 141 141 141	.8 63 2-4 143 143 143	1.0 64 2-4 146 146 146	1.0 65 2-4 54 148 148 148	54
142.0	1.3 60 4-4 140 140 140	.0 63 4-4 140 140 140	1.3 64 2-4 142 142 142	.1 66 2-4 145 145 145	.0 67 2-4 54 147 147 147	54
140.0	.5 62 4-4 139 139 139	.6 64 4-4 140 140 140	.5 66 2-4 142 142 142	.6 67 2-4 144 144 144	.0 67 2 54 142 143 143	54
135.0	.0 66 4-4 136 136 136	1.5 67 4-4 138 138 138	4.1 67 2-4 141 141 141	.0 67 132 136 136	.0 67 54 130 136 136	54
130.0	3.7 67 4-4 136 136 136	.0 67 129 134 134	.0 67 126 134 134	.0 67 125 134 134	.0 67 54 125 134 134	54

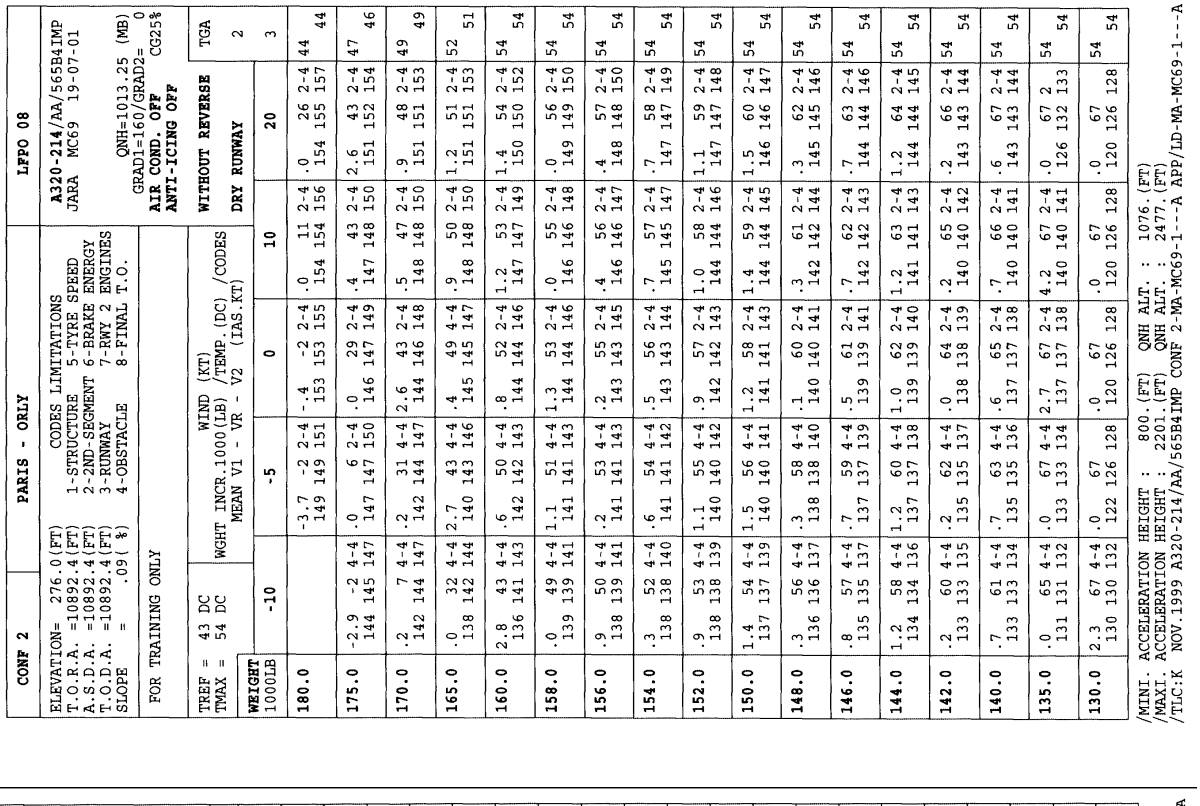
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2251.(FT) QNH ALT. : 2527.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =10892.4(FT) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 43 DC TMAX = 54 DC	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-2.0	169222 4-4 146 151 152	173880 4-4 150 154 154	178719 4-4 154 156 156	181273 2-4 158 159 159	183362 2-4 161 162 162
13.0	166266 4-4 143 150 151	170616 4-4 147 152 153	175462 4-4 152 155 155	178598 4-4 154 157 157	180990 2-4 157 159 159
28.0	163295 4-4 140 149 149	167714 4-4 145 151 151	172230 4-4 149 153 153	175445 4-4 152 155 155	178492 4-4 155 157 157
43.4	160249 4-4 137 147 148	164760 4-4 142 150 150	169188 4-4 147 152 152	172253 4-4 150 154 154	175382 4-4 152 155 155
45.0	158917 4-4 138 147 147	163389 4-4 143 149 149	167875 4-4 148 151 151	171106 4-4 150 153 153	174220 4-4 153 155 155
46.0	158070 4-4 139 146 147	162524 4-4 143 149 149	167097 4-4 148 151 151	170378 4-4 151 153 153	173456 4-4 154 155 155
48.0	156386 4-4 140 146 146	160785 4-4 145 148 148	165671 4-4 149 151 151	168877 4-4 152 152 152	171215 2-4 155 155 155
49.0	155538 4-4 140 145 146	159987 4-4 145 148 148	164945 4-4 150 150 150	167806 4-4 152 152 152	169753 2-4 155 155 155
51.0	153869 4-4 141 145 145	158551 4-4 146 147 147	162868 4-4 150 150 150	164849 4-4 152 152 152	166703 2-4 155 155 155
52.0	153016 4-4 142 144 144	157861 4-4 146 147 147	161416 4-4 149 149 149	163385 4-4 152 152 152	165186 2-4 154 154 154
53.0	152279 4-4 142 144 144	156942 4-4 147 147 147	159970 4-4 149 149 149	161912 2-4 151 151 151	163683 2-4 154 154 154
55.0	150799 4-4 143 143 143	154026 4-4 145 145 145	156991 4-4 149 149 149	158846 2-4 151 151 151	160558 2-4 154 154 154
56.0	149292 4-4 143 143 143	152439 4-4 144 144 144	155383 4-4 148 148 148	157236 2-4 150 150 150	158907 2-4 153 153 153
58.0	146247 4-4 141 141 141	149348 4-4 143 143 143	152246 4-4 146 146 146	154058 2-4 149 149 149	155689 2-4 152 152 152
59.0	144769 4-4 141 141 141	147836 4-4 142 142 142	150713 4-4 146 146 146	152486 2-4 148 148 148	154122 2-4 151 151 151
60.0	143317 4-4 140 140 140	146353 4-4 142 142 142	149202 4-4 145 145 145	150966 2-4 148 148 148	152554 2-4 151 151 151
62.0	140484 4-4 139 139 139	143444 4-4 141 141 141	146235 2-4 143 143 143	147954 2-4 146 146 146	149492 2-4 150 150 150
63.0	139098 4-4 138 138 138	142019 4-4 140 140 140	144772 2-4 143 143 143	146469 2-4 146 146 146	147975 2-4 149 149 149
65.0	136378 4-4 137 137 137	139220 4-4 139 139 139	141888 2-4 142 142 142	143529 2-4 145 145 145	145005 2-4 148 148 148
66.0	135040 4-4 136 136 136	137844 4-4 139 139 139	140469 2-4 142 142 142	142072 2-4 145 145 145	143516 2-4 148 148 148
67.0	133712 4-4 136 136 136	136478 4-4 138 138 138	139064 2-4 141 141 141	140629 2-4 144 144 144	142035 2-4 147 147 147

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2251.(FT) QNH ALT. : 2527.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

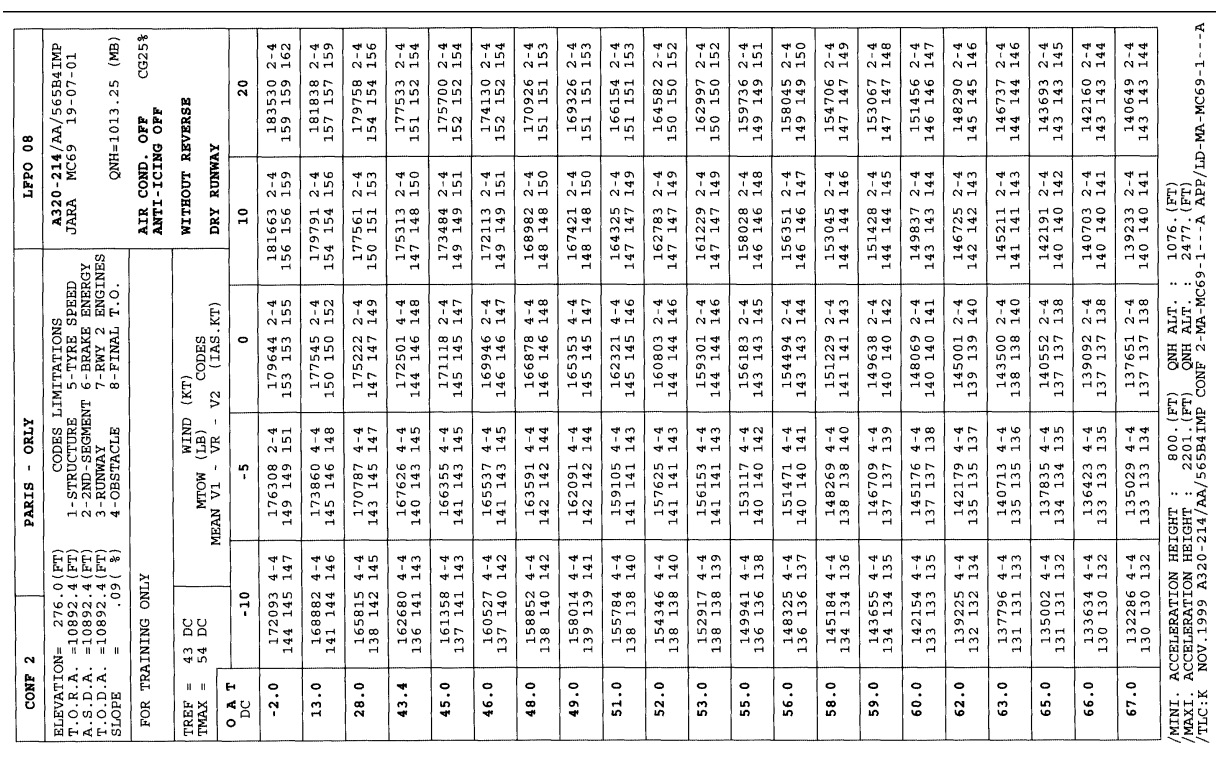
PARIS ORLY (LFPO) - RWY 08 - CONF 2



CONF 2	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =10892.4(FT) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=160/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2

WEIGHT 1000LB	-10	-5	0	10	20	3
180.0		-3.7 -2 2-4 149 149 151	-.4 -2 2-4 153 153 155	.0 11 2-4 154 154 156	.0 26 2-4 154 155 157	44 44
175.0	-2.9 -2 4-4 144 145 147	.0 6 2-4 147 147 150	.0 29 2-4 146 147 149	.4 43 2-4 147 148 150	2.6 43 2-4 151 152 154	47 46
170.0	.2 7 4-4 142 144 147	.2 31 4-4 142 144 147	2.6 43 2-4 144 146 148	.5 47 2-4 148 148 150	.9 48 2-4 151 151 153	49 49
165.0	.0 32 4-4 138 142 144	2.7 43 4-4 140 143 146	.4 49 4-4 145 145 147	.9 50 2-4 148 148 150	1.2 51 2-4 151 151 153	52 51
160.0	2.8 43 4-4 136 141 143	.6 50 4-4 142 142 143	.8 52 2-4 144 144 146	1.2 53 2-4 147 147 149	1.4 54 2-4 150 150 152	54 54
158.0	.0 49 4-4 139 139 141	1.1 51 4-4 141 141 143	1.3 53 2-4 144 144 146	.0 55 2-4 146 146 148	.0 56 2-4 149 149 150	54 54
156.0	.9 50 4-4 138 139 141	.2 53 4-4 141 141 143	.2 55 2-4 143 143 145	.4 56 2-4 146 146 147	.4 57 2-4 148 148 150	54 54
154.0	.3 52 4-4 138 138 140	.6 54 4-4 141 141 142	.5 56 2-4 143 143 144	.7 57 2-4 145 145 147	.7 58 2-4 147 147 149	54 54
152.0	.9 53 4-4 138 138 139	1.1 55 4-4 140 140 142	.9 57 2-4 142 142 143	1.0 58 2-4 144 144 146	1.1 59 2-4 147 147 148	54 54
150.0	1.4 54 4-4 137 137 139	1.5 56 4-4 140 140 141	1.2 58 2-4 141 141 143	1.4 59 2-4 144 144 145	1.5 60 2-4 146 146 147	54 54
148.0	.3 56 4-4 136 136 137	.3 58 4-4 138 138 140	.1 60 2-4 140 140 141	.3 61 2-4 142 142 144	.3 62 2-4 145 145 146	54 54
146.0	.8 57 4-4 135 135 137	.7 59 4-4 137 137 139	.5 61 2-4 139 139 141	.7 62 2-4 142 142 143	.7 63 2-4 144 144 146	54 54
144.0	1.2 58 4-4 134 134 136	1.2 60 4-4 137 137 138	1.0 62 2-4 139 139 140	1.2 63 2-4 141 141 143	1.2 64 2-4 144 144 145	54 54
142.0	.2 60 4-4 133 133 135	.2 62 4-4 135 135 137	.0 64 2-4 138 138 139	.2 65 2-4 140 140 142	.2 66 2-4 143 143 144	54 54
140.0	.7 61 4-4 133 133 134	.7 63 4-4 135 135 136	.6 65 2-4 137 137 138	.7 66 2-4 140 140 141	.6 67 2-4 143 143 144	54 54
135.0	.0 65 4-4 131 131 132	.0 67 4-4 133 133 134	2.7 67 2-4 137 137 138	4.2 67 2-4 140 140 141	.0 67 2 126 132 133	54
130.0	2.3 67 4-4 130 130 132	.0 67 122 126 128	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2201.(FT) QNH ALT. : 2477.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

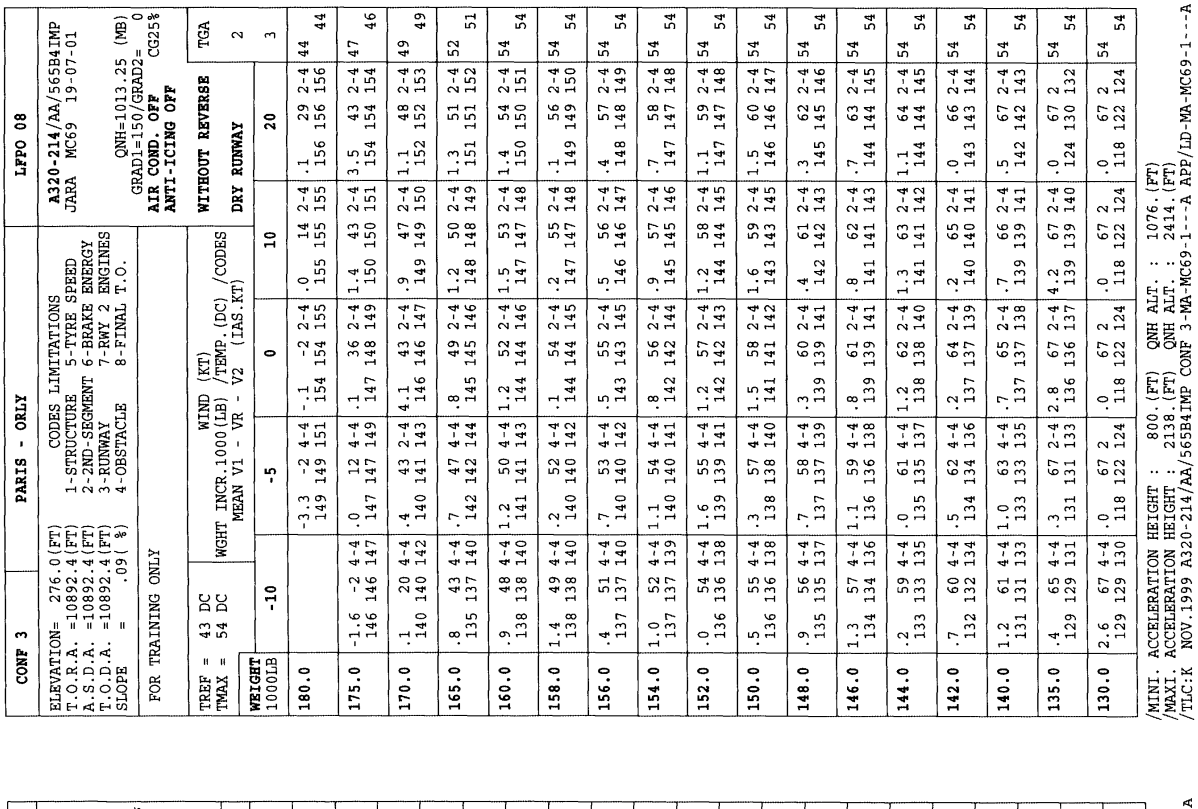


CONF 2	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =10892.4(FT) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	172093 4-4 144 145 147	176308 2-4 149 149 151	179644 2-4 153 153 155	181663 2-4 156 156 159	183530 2-4 159 159 162
13.0	168882 4-4 141 144 146	173860 4-4 145 146 148	177545 2-4 150 150 152	179791 2-4 154 154 156	181838 2-4 157 157 159
28.0	165815 4-4 138 142 145	170787 4-4 143 145 147	175222 2-4 147 147 149	177561 2-4 150 151 153	179758 2-4 154 154 156
43.4	162680 4-4 136 141 143	167626 4-4 140 143 145	172501 4-4 144 146 148	175313 2-4 147 148 150	177533 2-4 151 152 154
45.0	161358 4-4 137 141 143	166355 4-4 141 143 145	171118 2-4 145 145 147	173484 2-4 149 149 151	175700 2-4 152 152 154
46.0	160527 4-4 137 140 142	165537 4-4 141 143 145	169946 2-4 146 146 147	172113 2-4 149 149 151	174130 2-4 152 152 154
48.0	158852 4-4 138 140 142	163591 4-4 142 142 144	166878 4-4 146 146 148	168982 2-4 148 148 150	170926 2-4 151 151 153
49.0	158014 4-4 139 139 141	162091 4-4 142 142 144	165353 4-4 145 145 147	167421 2-4 148 148 150	169326 2-4 151 151 153
51.0	155784 4-4 138 138 140	159105 4-4 141 141 143	162321 4-4 145 145 146	164325 2-4 147 147 149	166154 2-4 151 151 153
52.0	154346 4-4 138 138 140	157625 4-4 141 141 143	160803 2-4 144 144 146	162783 2-4 147 147 149	164582 2-4 150 150 152
53.0	152917 4-4 138 138 139	156153 4-4 141 141 143	159301 2-4 144 144 146	161229 2-4 147 147 149	162997 2-4 150 150 152
55.0	149941 4-4 136 136 138	153117 4-4 140 140 142	156183 2-4 143 143 145	158028 2-4 146 146 148	159736 2-4 149 149 151
56.0	148325 4-4 136 136 137	151471 4-4 140 140 141	154494 2-4 143 143 144	156351 2-4 146 146 147	158045 2-4 149 149 150
58.0	145184 4-4 134 134 136	148269 4-4 138 138 140	151229 2-4 141 141 143	153045 2-4 144 144 146	154706 2-4 147 147 149
59.0	143655 4-4 134 134 135	146709 4-4 137 137 139	149638 2-4 140 140 142	151428 2-4 144 144 145	153067 2-4 147 147 148
60.0	142154 4-4 133 133 135	145176 4-4 137 137 138	148069 2-4 140 140 141	149837 2-4 143 143 144	151456 2-4 146 146 147
62.0	139225 4-4 132 132 134	142179 4-4 135 135 137	145001 2-4 139 139 140	146725 2-4 142 142 143	148290 2-4 145 145 146
63.0	137796 4-4 131 131 133	140713 4-4 135 135 136	143500 2-4 138 138 140	145211 2-4 141 141 143	146737 2-4 144 144 146
65.0	135002 4-4 131 131 132	137835 4-4 134 134 135	140552 2-4 137 137 138	142191 2-4 140 140 142	143693 2-4 143 143 145
66.0	133634 4-4 130 130 132	136423 4-4 133 133 135	139092 2-4 137 137 138	140703 2-4 140 140 141	142160 2-4 143 143 144
67.0	132286 4-4 130 130 132	135029 4-4 133 133 134	137651 2-4 137 137 138	139233 2-4 140 140 141	140649 2-4 143 143 144

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2201.(FT) QNH ALT. : 2477.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

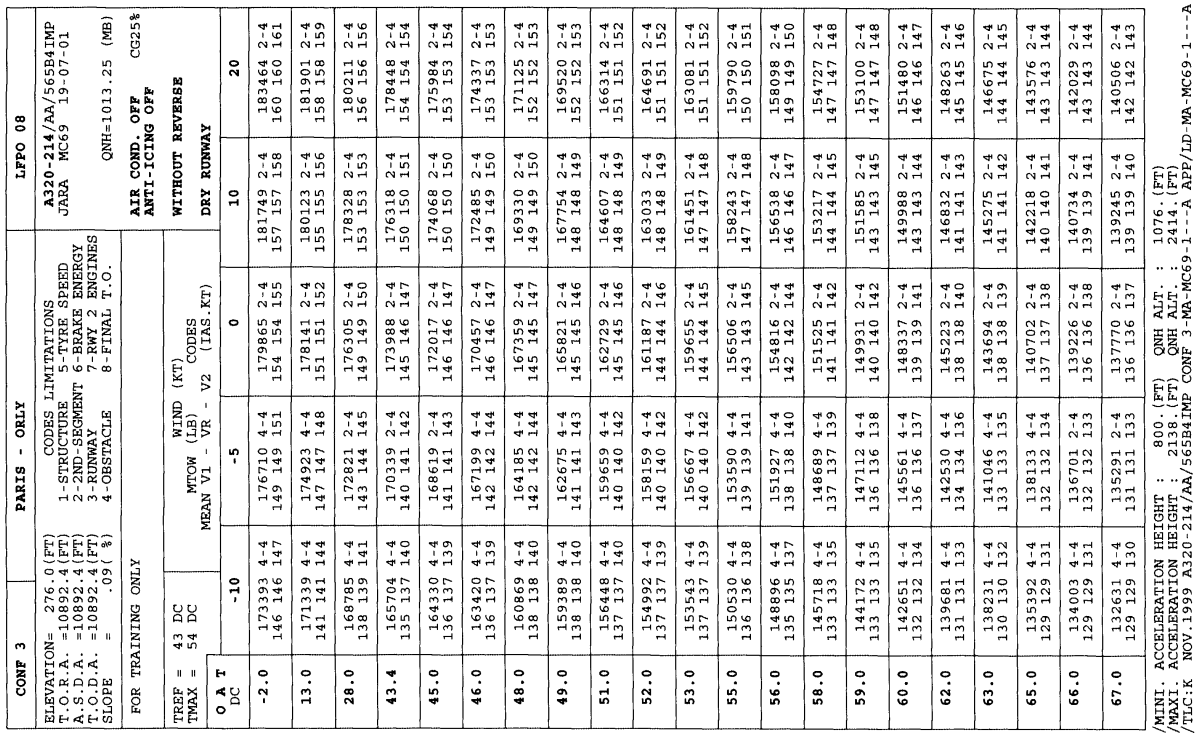
PARIS ORLY (LFPO) - RWY 08 - CONF 3



CONF 3	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =10892.4(FT) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=150/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0		-3.3 -2 4-4 -.1 -2 2-4 .0 14 2-4 .1 29 2-4 44 149 149 151 154 154 155 155 155 155 156 156 156				44
175.0	-1.6 -2 4-4 .0 12 4-4 .1 36 2-4 1.4 43 2-4 3.5 43 2-4 47 146 146 147 147 147 149 147 148 149 150 150 151 154 154 154					46
170.0	.1 20 4-4 .4 43 2-4 4.1 43 2-4 .9 47 2-4 1.1 48 2-4 49 140 140 142 140 141 143 146 146 147 149 149 150 152 152 153					49
165.0	.8 43 4-4 .7 47 4-4 .8 49 2-4 1.2 50 2-4 1.3 51 2-4 52 135 137 140 142 142 144 145 145 146 148 148 149 151 151 152					51
160.0	.9 48 4-4 1.2 50 4-4 1.2 52 2-4 1.5 53 2-4 1.4 54 2-4 54 138 138 140 141 141 143 144 144 146 147 147 148 150 150 151					54
158.0	1.4 49 4-4 .2 52 4-4 .1 54 2-4 .2 55 2-4 .1 56 2-4 54 138 138 140 140 140 142 144 144 145 147 147 148 149 149 150					54
156.0	.4 51 4-4 .7 53 4-4 .5 55 2-4 .5 56 2-4 .4 57 2-4 54 137 137 140 140 140 142 143 143 145 146 146 147 148 148 149					54
154.0	1.0 52 4-4 1.1 54 4-4 .8 56 2-4 .9 57 2-4 .7 58 2-4 54 137 137 139 140 140 141 142 142 144 145 145 146 147 147 148					54
152.0	.0 54 4-4 1.6 55 4-4 1.2 57 2-4 1.2 58 2-4 1.1 59 2-4 54 136 136 138 139 139 141 142 142 143 144 144 145 147 147 148					54
150.0	.5 55 4-4 .3 57 4-4 1.5 58 2-4 1.6 59 2-4 1.5 60 2-4 54 136 136 138 138 138 140 141 141 142 143 143 145 146 146 147					54
148.0	.9 56 4-4 .7 58 4-4 .3 60 2-4 .4 61 2-4 .3 62 2-4 54 135 135 137 137 137 139 139 139 141 142 142 143 145 145 146					54
146.0	1.3 57 4-4 1.1 59 4-4 .8 61 2-4 .8 62 2-4 .7 63 2-4 54 134 134 136 136 136 138 139 139 141 141 141 143 144 144 145					54
144.0	.2 59 4-4 .0 61 4-4 1.2 62 2-4 1.3 63 2-4 1.1 64 2-4 54 133 133 135 135 135 137 138 138 140 141 141 142 144 144 145					54
142.0	.7 60 4-4 .5 62 4-4 .2 64 2-4 .2 65 2-4 .0 66 2-4 54 132 132 134 134 134 136 137 137 139 140 140 141 143 143 144					54
140.0	1.2 61 4-4 1.0 63 4-4 .7 65 2-4 .7 66 2-4 .5 67 2-4 54 131 131 133 133 133 135 137 137 138 139 139 141 142 142 143					54
135.0	.4 65 4-4 .3 67 2-4 2.8 67 2-4 4.2 67 2-4 .0 67 2 54 129 129 131 131 131 133 136 136 137 139 139 140 124 130 132					54
130.0	2.6 67 4-4 .0 67 2 .0 67 2 .0 67 2 .0 67 2 54 129 129 130 118 122 124 118 122 124 118 122 124 118 122 124					54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2138.(FT) QNH ALT. : 2414.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF 3	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =10892.4(FT) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20	
-2.0	173393 4-4 146 146 147	176710 4-4 149 149 151	179865 2-4 154 154 155	181749 2-4 157 157 158	183464 2-4 160 160 161	
13.0	171339 4-4 141 141 144	174923 4-4 147 147 148	178141 2-4 151 151 152	180123 2-4 155 155 156	181901 2-4 158 158 159	
28.0	168785 4-4 138 139 141	172821 2-4 143 144 145	176305 2-4 149 149 150	178328 2-4 153 153 153	180211 2-4 156 156 156	
43.4	165704 4-4 135 137 140	170339 2-4 140 141 142	173988 2-4 145 146 147	176318 2-4 150 150 151	178448 2-4 154 154 154	
45.0	164330 4-4 136 137 139	168619 2-4 141 141 143	172017 2-4 146 146 147	174068 2-4 150 150 150	175984 2-4 153 153 154	
46.0	163420 4-4 136 137 139	167199 4-4 142 142 144	170457 2-4 146 146 147	172485 2-4 149 149 150	174337 2-4 153 153 153	
48.0	160869 4-4 138 138 140	164185 4-4 142 142 144	167359 2-4 145 145 147	169330 2-4 149 149 150	171125 2-4 152 152 153	
49.0	159389 4-4 138 138 140	162675 4-4 141 141 143	165821 2-4 145 145 146	167754 2-4 148 148 149	169520 2-4 152 152 153	
51.0	156448 4-4 137 137 140	159659 4-4 140 140 142	162729 2-4 145 145 146	164607 2-4 148 148 149	166314 2-4 151 151 152	
52.0	154992 4-4 137 137 139	158159 4-4 140 140 142	161187 2-4 144 144 146	163033 2-4 148 148 149	164691 2-4 151 151 152	
53.0	153543 4-4 137 137 139	156667 4-4 140 140 142	159655 2-4 144 144 145	161451 2-4 147 147 148	163081 2-4 151 151 152	
55.0	150530 4-4 136 136 138	153590 4-4 139 139 141	156506 2-4 143 143 145	158243 2-4 147 147 148	159790 2-4 150 150 151	
56.0	148896 4-4 135 135 137	151927 4-4 138 138 140	154816 2-4 142 142 144	156538 2-4 146 146 147	158098 2-4 149 149 150	
58.0	145718 4-4 133 133 135	148689 4-4 137 137 139	151525 2-4 141 141 142	153217 2-4 144 144 145	154727 2-4 147 147 148	
59.0	144172 4-4 133 133 135	147112 4-4 136 136 138	149931 2-4 140 140 142	151585 2-4 143 143 145	153100 2-4 147 147 148	
60.0	142651 4-4 132 132 134	145561 4-4 136 136 137	148337 2-4 139 139 141	149988 2-4 143 143 144	151480 2-4 146 146 147	
62.0	139681 4-4 131 131 133	142530 4-4 134 134 136	145223 2-4 138 138 140	146832 2-4 141 141 143	148263 2-4 145 145 146	
63.0	138231 4-4 130 130 132	141046 4-4 133 133 135	143694 2-4 138 138 139	145275 2-4 141 141 142	146675 2-4 144 144 145	
65.0	135392 4-4 129 129 131	138133 4-4 132 132 134	140702 2-4 137 137 138	142218 2-4 140 140 141	143576 2-4 143 143 144	
66.0	134003 4-4 129 129 131	136701 2-4 132 132 133	139226 2-4 136 136 138	140734 2-4 139 139 141	142029 2-4 143 143 144	
67.0	132631 4-4 129 129 130	135291 2-4 131 131 133	137770 2-4 136 136 137	139245 2-4 139 139 140	140506 2-4 142 142 143	

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2138.(FT) QNH ALT. : 2414.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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PARIS ORLY (LFPO) - RWY 25 - CONF 1 + F

CONF1+F	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. =11975.1(FT) A.S.D.A. =11975.1(FT) T.O.D.A. =12171.9(FT) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) WIND (KT) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0	-4.4 -2 4-4 141 161 161	-.9 -2 4-4 147 164 164	.1 16 4-6 148 164 164	.1 32 4-6 148 163 163	.7 43 4-6 148 163 163	44 44
175.0	.1 1 4-4 141 160 160	.1 26 4-6 141 158 158	1.2 43 4-6 142 159 159	3.5 43 4-6 145 161 161	.1 47 4-8 153 161 161	47 46
170.0	.0 35 4-6 134 153 153	2.6 43 4-6 137 155 155	.3 48 4-6 146 160 160	1.2 49 4-4 150 163 163	1.4 49 2-8 155 158 158	49 49
165.0	3.8 43 4-6 132 152 152	.6 49 4-6 142 156 156	1.3 51 4-4 149 161 161	.8 52 4-8 154 158 158	.8 52 2-8 153 156 156	52 51
160.0	.8 50 4-4 137 153 153	.3 53 4-4 145 157 157	.7 55 4-4 152 162 162	1.3 56 4-8 157 164 164	.4 58 4-4 162 167 167	54 54
158.0	.3 52 4-4 139 153 153	1.0 54 4-4 146 157 157	.0 57 4-4 154 162 162	.6 58 4-4 159 164 164	1.0 59 4-4 163 166 166	54 54
156.0	1.0 53 4-4 139 154 154	.3 56 4-4 148 158 158	.7 58 4-4 155 162 162	1.2 59 4-4 160 164 164	.1 61 4-4 164 165 165	54 54
154.0	.4 55 4-4 141 154 154	1.0 57 4-4 148 158 158	1.3 59 4-4 156 162 162	.5 61 4-4 161 163 163	.6 62 4-2 164 164 164	54 54
152.0	1.1 56 4-4 142 154 154	.4 59 4-4 150 158 158	.6 61 4-4 158 162 162	1.1 62 4-4 162 163 163	.8 63 4-2 163 163 163	54 54
150.0	.6 58 4-4 144 154 154	1.1 60 4-4 151 158 158	1.3 62 4-4 158 162 162	.3 64 4-4 164 164 164	1.1 64 4-2 162 162 162	54 54
148.0	.1 60 4-4 145 154 154	.5 62 4-4 153 158 158	.6 64 4-4 160 161 161	.8 65 4-2 165 165 165	1.4 65 4-2 161 161 161	54 54
146.0	.8 61 4-4 146 154 154	1.2 63 4-4 154 158 158	1.3 65 4-4 161 161 161	1.1 66 4-2 164 164 164	1.6 66 4-2 160 160 160	54 54
144.0	.3 63 4-4 148 154 154	.6 65 4-4 155 158 158	.4 67 4-4 163 163 163	1.4 67 4-2 162 162 162	1.9 67 4-2 159 159 159	54 54
142.0	1.1 64 4-4 149 154 154	1.3 66 4-4 156 157 157	.0 67 4 151 151 151	.0 67 4 148 148 148	.0 67 2 145 147 147	54 54
140.0	.5 66 4-4 151 155 155	2.0 67 4-4 157 158 158	.0 67 4 145 145 145	.0 67 2 143 143 143	.0 67 2 138 143 143	54 54
135.0	4.3 67 4-4 152 155 155	.0 67 4 137 137 137	.0 67 128 136 136	.0 67 126 136 136	.0 67 126 136 136	54 54
130.0	.0 67 125 134 134	.0 67 125 134 134	.0 67 125 134 134	.0 67 125 134 134	.0 67 125 134 134	54 54

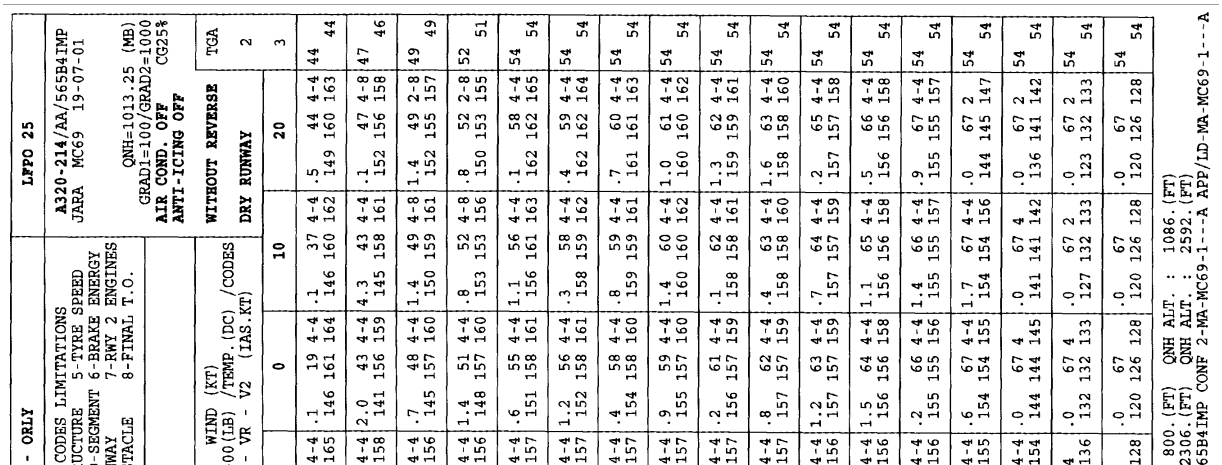
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2287.(FT) QNH ALT. : 2573.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. =11975.1(FT) A.S.D.A. =11975.1(FT) T.O.D.A. =12171.9(FT) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	175558 4-4 141 161 161	179123 4-4 147 164 164	182522 4-4 152 168 168	184705 4-4 155 170 170	186767 4-4 158 173 173
13.0	173385 4-4 138 158 158	176989 4-6 143 161 161	180482 4-6 148 165 165	182699 4-6 151 167 167	184807 4-4 155 170 170
28.0	171158 4-6 135 155 155	174779 4-6 140 158 158	178346 4-6 145 162 162	180607 4-6 148 164 164	182803 4-6 151 166 166
43.4	168697 6-6 132 152 152	172494 4-6 137 155 155	176144 4-6 142 159 159	178464 4-6 145 161 161	180672 4-6 148 163 163
45.0	166904 4-6 133 152 152	170604 4-6 138 155 155	174187 4-6 144 159 159	176472 4-6 147 161 161	178654 4-6 150 164 164
46.0	165703 4-6 134 152 152	169365 4-6 139 156 156	172905 4-6 144 159 159	175182 4-6 148 162 162	176924 4-8 151 162 162
48.0	163274 4-6 136 152 152	166866 4-6 141 156 156	170342 4-6 146 160 160	172545 4-6 150 162 162	173229 4-8 154 159 159
49.0	162044 4-4 136 153 153	165569 4-6 142 156 156	169025 4-6 147 160 160	171189 4-4 150 163 163	171381 2-8 154 158 158
50.0	160814 4-4 137 153 153	164296 4-4 143 157 157	167680 4-4 148 160 160	169533 4-8 152 161 161	169533 2-8 154 157 157
52.0	158269 4-4 139 153 153	161677 4-4 144 157 157	164937 4-4 150 161 161	165835 4-8 154 158 158	165835 2-8 153 156 156
53.0	157013 4-4 139 154 154	160343 4-4 145 157 157	163535 4-4 151 161 161	163986 4-8 155 156 156	163986 2-8 152 155 155
55.0	154427 4-4 141 154 154	157633 4-4 147 158 158	160739 4-4 152 162 162	161332 4-8 156 156 156	161332 2-8 153 155 155
56.0	153135 4-4 142 154 154	156314 4-4 148 158 158	159388 4-4 153 162 162	161330 4-8 157 164 164	161330 2-8 157 158 158
58.0	150596 4-4 144 154 154	153702 4-4 149 158 158	156688 4-4 155 162 162	158577 4-4 159 164 164	160415 4-4 162 167 167
59.0	149321 4-4 144 154 154	152385 4-4 150 158 158	155327 4-4 156 162 162	157212 4-4 160 164 164	159031 4-4 163 166 166
60.0	148071 4-4 145 154 154	151083 4-4 151 158 158	153981 4-4 157 162 162	155851 4-4 161 164 164	157659 4-4 164 165 165
62.0	145560 4-4 147 154 154	148484 4-4 153 158 158	151310 4-4 158 162 162	153148 4-4 162 163 163	154561 4-2 164 164 164
63.0	144307 4-4 148 154 154	147182 4-4 154 158 158	149995 4-4 159 161 161	151776 4-4 163 163 163	152822 4-2 163 163 163
65.0	141800 4-4 150 155 155	144594 4-4 155 158 158	147302 4-4 161 161 161	148793 4-2 165 165 165	149368 4-2 161 161 161
66.0	140547 4-4 151 155 155	143303 4-4 156 157 157	145888 4-4 162 162 162	147128 4-2 164 164 164	147637 4-2 160 160 160
67.0	139293 4-4 152 155 155	141996 4-4 157 158 158	144364 4-4 163 163 163	145441 4-2 162 162 162	145892 4-2 159 159 159

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2287.(FT) QNH ALT. : 2573.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

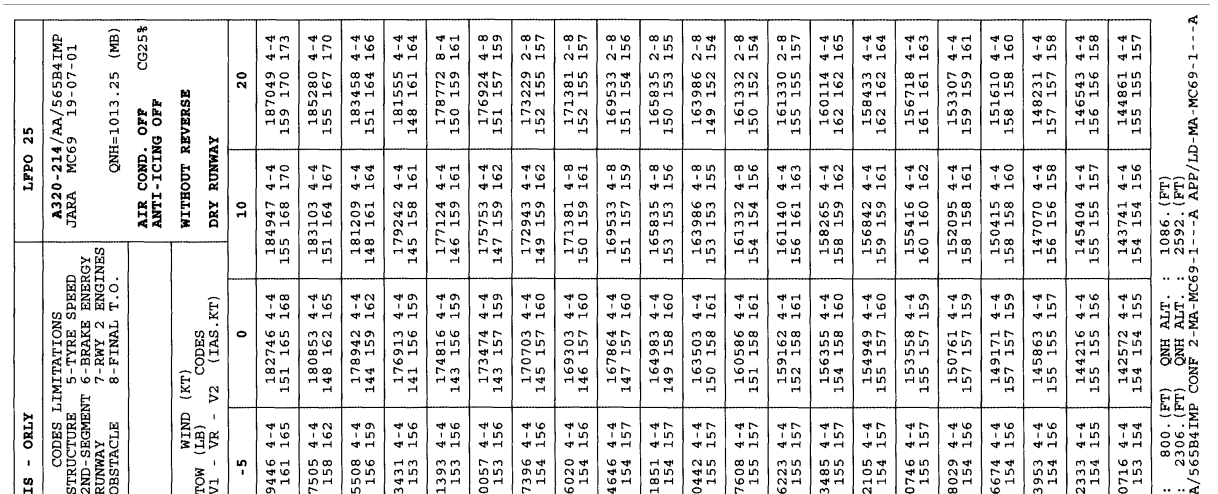
PARIS ORLY (LFPO) - RWY 25 - CONF 2



CONF 2	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. =11975.1(FT) A.S.D.A. =11975.1(FT) T.O.D.A. =12171.9(FT) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=100/GRAD2=1000 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0	-4.0 2 4-4 142 158 161	-.6 -2 4-4 147 161 165	.1 19 4-4 146 161 164	.1 37 4-4 146 160 162	.5 44 4-4 44 149 160 163 44
175.0	.0 5 4-4 140 156 160	.1 31 4-4 139 155 158	2.0 43 4-4 141 156 159	4.3 43 4-4 145 158 161	.1 47 4-8 47 152 156 158 46
170.0	.0 42 4-4 132 150 153	3.5 43 4-4 137 153 156	.7 48 4-4 145 157 160	1.4 49 4-8 150 159 161	1.4 49 2-8 49 152 155 157 49
165.0	4.9 43 4-4 132 150 152	1.0 49 4-4 141 154 156	1.4 51 4-4 148 157 160	.8 52 4-8 153 153 156	.8 52 2-8 52 150 153 155 51
160.0	1.2 50 4-4 137 150 153	.4 53 4-4 144 155 157	.6 55 4-4 151 158 161	1.1 56 4-4 156 161 163	.1 58 4-4 54 162 162 165 54
158.0	.5 52 4-4 138 151 153	1.0 54 4-4 145 155 157	1.2 56 4-4 152 158 161	.3 58 4-4 158 159 162	.4 59 4-4 54 162 162 164 54
156.0	1.2 53 4-4 139 151 153	.2 56 4-4 147 155 157	.4 58 4-4 154 158 160	.8 59 4-4 159 159 161	.7 60 4-4 54 161 161 163 54
154.0	.4 55 4-4 141 151 153	.9 57 4-4 148 155 157	.9 59 4-4 155 157 160	1.4 60 4-4 160 160 162	1.0 61 4-4 54 160 160 162 54
152.0	1.1 56 4-4 142 151 153	.1 59 4-4 149 154 157	.2 61 4-4 156 157 159	.1 62 4-4 158 158 161	1.3 62 4-4 54 159 159 161 54
150.0	.5 58 4-4 143 151 153	.7 60 4-4 150 155 157	.8 62 4-4 157 157 159	.4 63 4-4 158 158 160	1.6 63 4-4 54 158 158 160 54
148.0	1.1 59 4-4 144 151 153	.0 62 4-4 152 154 156	1.2 63 4-4 157 157 159	.7 64 4-4 157 157 159	.2 65 4-4 54 157 157 158 54
146.0	.5 61 4-4 145 151 153	.7 63 4-4 153 154 156	1.5 64 4-4 156 156 158	1.1 65 4-4 156 156 158	.5 66 4-4 54 156 156 158 54
144.0	1.2 62 4-4 146 151 153	1.3 64 4-4 153 154 156	.2 66 4-4 155 155 156	1.4 66 4-4 155 155 157	.9 67 4-4 54 155 155 157 54
142.0	.6 64 4-4 148 151 153	.3 66 4-4 154 154 155	.6 67 4-4 154 154 155	1.7 67 4-4 154 154 156	.0 67 2 54 144 145 147 54
140.0	1.3 65 4-4 149 151 152	.7 67 4-4 153 153 154	.0 67 4 144 144 145	.0 67 4 141 141 142	.0 67 2 54 136 141 142 54
135.0	3.7 67 4-4 151 151 152	.0 67 4-4 135 135 136	.0 67 4 132 132 133	.0 67 2 127 132 133	.0 67 2 54 123 132 133 54
130.0	.0 67 4 127 127 129	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	.0 67 54 120 126 128 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2306.(FT) QNH ALT. : 2592.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF 2	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. =11975.1(FT) A.S.D.A. =11975.1(FT) T.O.D.A. =12171.9(FT) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	175956 4-4 142 158 161	179446 4-4 147 161 165	182746 4-4 151 165 168	184947 4-4 155 168 170	187049 4-4 159 170 173
13.0	173949 4-4 138 155 158	177505 4-4 143 158 162	180853 4-4 148 162 165	183103 4-4 151 164 167	185280 4-4 155 167 170
28.0	171898 4-4 135 152 155	175508 4-4 140 156 159	178942 4-4 144 159 162	181209 4-4 148 161 164	183458 4-4 151 164 166
43.4	169811 4-4 132 150 152	173431 4-4 137 153 156	176913 4-4 141 156 159	179242 4-4 145 158 161	181555 4-4 148 161 164
45.0	167764 4-4 133 150 152	171393 4-4 138 153 156	174816 4-4 143 156 159	177124 4-4 146 159 161	178772 8-4 150 159 161
46.0	166464 4-4 134 150 152	170057 4-4 139 153 156	173474 4-4 143 157 159	175753 4-4 147 159 162	176924 4-8 151 157 159
48.0	163847 4-4 135 150 153	167396 4-4 140 154 156	170703 4-4 145 157 160	172943 4-4 149 159 162	173229 2-8 152 155 157
49.0	162533 4-4 136 150 153	166020 4-4 141 154 156	169303 4-4 146 157 160	171381 4-8 150 159 161	171381 2-8 152 155 157
50.0	161200 4-4 137 150 153	164646 4-4 142 154 157	167864 4-4 147 157 160	169533 4-8 151 157 159	169533 2-8 151 154 156
52.0	158533 4-4 138 151 153	161851 4-4 144 154 157	164983 4-4 149 158 160	165835 4-8 153 153 156	165835 2-8 150 153 155
53.0	157175 4-4 139 151 153	160442 4-4 144 155 157	163503 4-4 150 158 161	163986 4-8 153 153 155	163986 2-8 149 152 154
55.0	154438 4-4 141 151 153	157608 4-4 146 155 157	160586 4-4 151 158 161	161332 4-8 154 154 156	161332 2-8 150 152 154
56.0	153092 4-4 142 151 153	156223 4-4 147 155 157	159162 4-4 152 158 161	161140 4-4 156 161 163	161330 2-8 155 155 157
58.0	150454 4-4 143 151 153	153485 4-4 148 155 157	156355 4-4 154 158 160	158265 4-4 158 159 162	160114 4-4 162 162 165
59.0	149122 4-4 144 151 153	152105 4-4 149 154 157	154949 4-4 155 157 160	156842 4-4 159 159 161	158433 4-4 162 162 164
60.0	147811 4-4 145 151 153	150746 4-4 150 155 157	153558 4-4 155 157 159	155416 4-4 160 160 162	156718 4-4 161 161 163
62.0	145196 4-4 146 151 153	148029 4-4 152 154 156	150761 4-4 157 157 159	152095 4-4 158 158 161	153307 4-4 159 159 161
63.0	143884 4-4 147 151 153	146674 4-4 153 154 156	149171 4-4 157 157 159	150415 4-4 158 158 160	151610 4-4 158 158 160
65.0	141277 4-4 149 151 152	143953 4-4 154 154 156	145863 4-4 155 155 157	147070 4-4 156 156 158	148231 4-4 157 157 158
66.0	139971 4-4 150 150 152	142333 4-4 154 154 155	144216 4-4 155 155 156	145404 4-4 156 156 158	146543 4-4 156 156 158
67.0	138655 4-4 151 151 152	140716 4-4 153 153 154	142572 4-4 154 154 155	143741 4-4 154 154 156	144861 4-4 155 155 157

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2306.(FT) QNH ALT. : 2592.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

PARIS ORLY (LFPO) - RWY 25 - CONF 3

CONF 3	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. =11975.1(FT) A.S.D.A. =11975.1(FT) T.O.D.A. =12171.9(FT) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=100/GRAD2=1000 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2

WEIGHT 1000LB	-10	-5	0	10	20	TGA 3
180.0	-3.9 -2 4-4 144 160 161	-.5 -2 4-4 150 164 165	.1 21 4-4 149 163 164	.0 40 4-4 148 162 162	.6 44 4-8 152 162 162	44
175.0	.1 6 4-4 142 158 160	.1 34 4-4 140 157 157	2.4 43 4-4 143 159 159	4.7 43 4-4 147 161 161	.1 47 2-8 154 157 157	47 46
170.0	.2 43 4-4 132 151 152	3.9 43 4-4 138 155 156	.8 48 4-4 148 159 160	1.4 49 4-8 153 161 161	1.4 49 2-8 153 156 156	49
165.0	.4 47 4-4 135 151 152	1.2 49 4-4 143 156 156	1.4 51 4-4 151 160 160	.8 52 4-8 155 155 155	.8 52 2-8 150 153 154	52 51
160.0	1.3 50 4-4 138 151 153	.4 53 4-4 146 157 157	.3 55 4-4 155 160 160	.8 56 4-4 160 161 161	.2 57 4-8 160 160 160	54
158.0	.6 52 4-4 139 152 153	.9 54 4-4 147 157 157	.9 56 4-4 156 159 160	1.3 57 4-4 161 161 162	1.0 58 4-4 163 163 163	54
156.0	1.2 53 4-4 140 152 153	.0 56 4-4 149 157 157	.0 58 4-4 158 158 159	.1 59 4-4 161 161 161	1.3 59 4-4 162 162 162	54
154.0	.4 55 4-4 142 153 153	.6 57 4-4 150 156 157	.6 59 4-4 159 159 159	.4 60 4-4 160 160 160	1.6 60 4-4 161 161 161	54
152.0	1.0 56 4-4 143 152 153	1.2 58 4-4 151 156 156	1.1 60 4-4 159 159 159	.7 61 4-4 159 159 159	.2 62 4-4 159 159 159	54
150.0	.3 58 4-4 145 152 153	.5 60 4-4 153 155 155	1.4 61 4-4 158 158 159	1.0 62 4-4 158 158 158	.5 63 4-4 158 158 158	54
148.0	1.0 59 4-4 146 152 153	1.1 61 4-4 154 155 155	.1 63 4-4 157 157 157	1.3 63 4-4 157 157 157	.8 64 4-4 157 157 157	54
146.0	.3 61 4-4 148 151 152	.2 63 4-4 156 156 156	.5 64 4-4 156 156 156	.0 65 4-4 156 156 156	1.2 65 4-4 156 156 156	54
144.0	1.0 62 4-4 149 151 151	.5 64 4-4 155 155 155	.8 65 4-4 155 155 155	.4 66 4-4 155 155 155	1.5 66 4-4 155 155 155	54
142.0	.3 64 4-4 151 152 152	.9 65 4-4 154 154 154	1.2 66 4-4 154 154 154	.7 67 4-4 154 154 154	1.8 67 4-4 155 155 155	54
140.0	1.0 65 4-4 153 153 153	1.3 66 4-4 153 153 153	1.5 67 4-4 153 153 153	.0 67 4 141 141 142	.0 67 2 136 141 142	54
135.0	2.8 67 4-4 151 151 151	4.7 67 4-4 152 152 152	.0 67 4 131 131 132	.0 67 2 126 131 132	.0 67 2 122 131 132	54
130.0	.0 67 4 126 126 127	.0 67 4 123 123 125	.0 67 2 119 122 124	.0 67 2 118 122 124	.0 67 2 118 122 124	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2302.(FT) QNH ALT. : 2588.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. =11975.1(FT) A.S.D.A. =11975.1(FT) T.O.D.A. =12171.9(FT) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	176108 4-4 144 160 161	179514 4-4 150 164 165	182683 4-4 156 168 168	184753 4-4 160 170 170	186703 4-4 164 173 173
13.0	174244 4-4 140 157 158	177746 4-4 145 161 162	181030 4-4 151 165 165	183161 4-4 155 167 168	185177 4-4 159 170 170
28.0	172263 4-4 136 154 155	175883 4-4 141 158 159	179268 4-4 147 162 162	181464 4-4 151 164 164	183569 4-4 155 167 167
43.4	170164 4-4 132 151 152	173861 4-4 138 155 156	177384 4-4 143 159 159	179640 4-4 147 161 161	181675 4-8 151 163 163
45.0	168095 4-4 134 151 152	171730 4-4 139 155 156	175170 4-4 145 159 159	177404 4-4 149 161 162	178772 4-8 153 159 160
46.0	166763 4-4 134 151 152	170370 4-4 140 155 156	173756 4-4 146 159 160	175941 4-4 150 162 162	176924 2-8 154 158 158
48.0	164083 4-4 136 151 152	167558 4-4 142 155 156	170840 4-4 148 159 160	172985 4-4 152 162 163	173229 2-8 154 156 157
49.0	162722 4-4 137 151 153	166163 4-4 143 156 156	169379 4-4 149 160 160	171381 4-8 153 161 161	171381 2-8 153 156 156
50.0	161347 4-4 138 151 153	164725 4-4 143 156 157	167888 4-4 150 160 160	169533 4-8 154 158 158	169533 2-8 152 155 155
52.0	158611 4-4 139 152 153	161847 4-4 145 156 157	164880 4-4 152 160 161	165835 4-8 155 155 155	165835 2-8 150 153 154
53.0	157196 4-4 140 152 153	160365 4-4 146 157 157	163340 4-4 153 160 160	163986 4-8 154 154 155	163986 2-8 149 153 153
55.0	154405 4-4 142 153 153	157431 4-4 148 157 157	160309 4-4 155 160 160	161332 4-8 156 156 156	161332 2-8 151 154 154
56.0	153029 4-4 143 152 153	156008 4-4 149 157 157	158876 4-4 156 159 160	160768 4-4 160 161 161	161330 4-8 158 158 158
58.0	150326 4-4 145 152 153	153208 4-4 151 156 156	156048 4-4 158 158 159	157760 4-4 162 162 162	159020 4-4 163 163 163
59.0	148982 4-4 146 152 153	151827 4-4 152 156 156	154607 4-4 159 159 159	156063 4-4 161 161 161	157307 4-4 162 162 162
60.0	147638 4-4 147 151 152	150464 4-4 153 155 155	153090 4-4 159 159 159	154372 4-4 160 160 160	155605 4-4 161 161 161
62.0	144983 4-4 149 151 151	147701 4-4 156 156 156	149762 4-4 158 158 158	151010 4-4 158 158 158	152206 4-4 159 159 159
63.0	143674 4-4 150 151 151	146162 4-4 156 156 156	148107 4-4 157 157 157	149338 4-4 157 157 157	150516 4-4 158 158 158
65.0	140989 4-4 153 153 153	142921 4-4 154 154 154	144814 4-4 155 155 155	146008 4-4 156 156 156	147151 4-4 156 156 156
66.0	139404 4-4 152 152 152	141308 4-4 153 153 153	143175 4-4 154 154 154	144350 4-4 155 155 155	145475 4-4 155 155 155
67.0	137824 4-4 151 151 151	139699 4-4 152 152 152	141539 4-4 153 153 153	142696 4-4 154 154 154	143802 4-4 155 155 155

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2302.(FT) QNH ALT. : 2588.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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PARIS ORLY (LFPO) - RWY 26 - CONF 1 + F

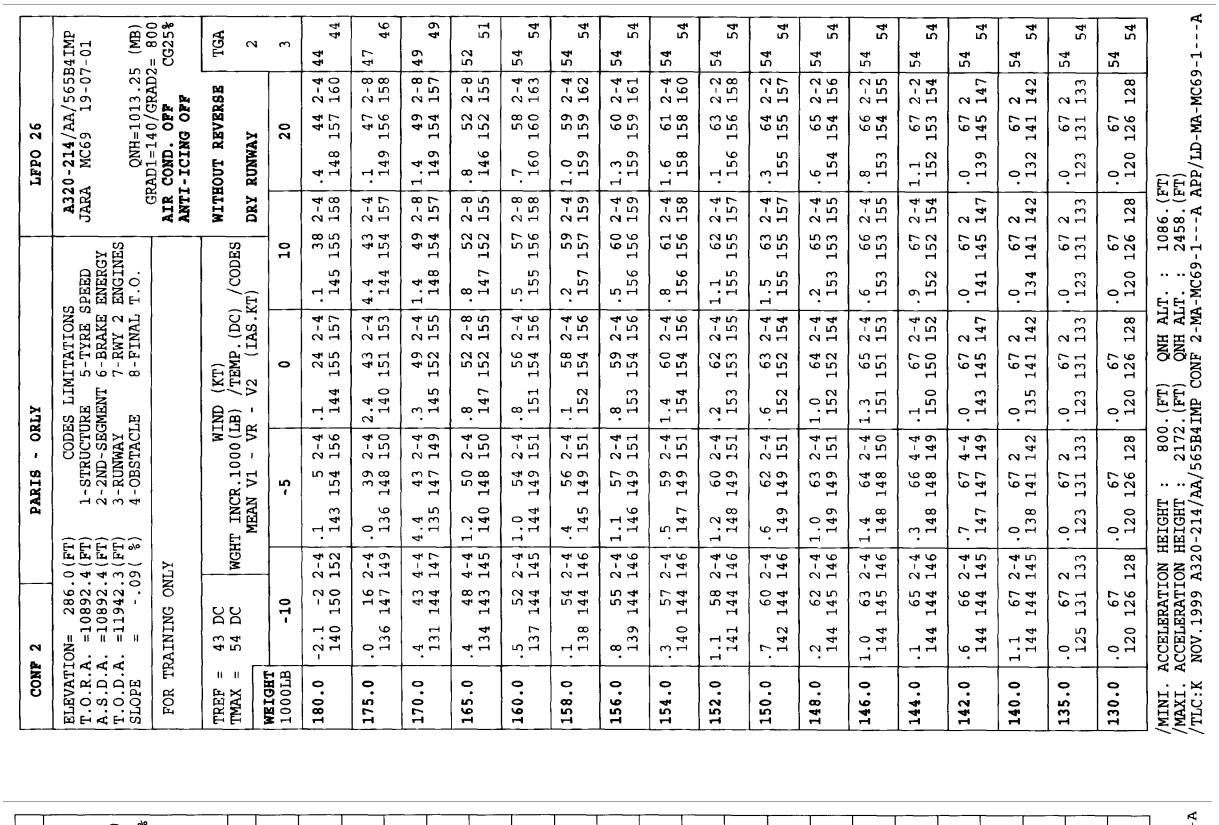
CONF1+F	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =11942.3(FT) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=160/GRAD2= 0
FOR TRAINING ONLY		AIR COND. OFF CG25% ANTI-ICING OFF
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA
WEIGHT 1000LB	-10 | -5 | 0 | 10 | 20	DRY RUNWAY 2 3
180.0	-3.9 -2 4-4 | .1 -1 2-4 | .0 19 2-4 | .0 32 2-4 | .3 43 2-4 44 44 140 155 155 | 145 157 157 | 146 158 158 | 147 159 159 | 148 160 160	
175.0	.1 3 4-4 | .1 24 4-4 | .6 43 4-4 | 3.3 43 2-4 | .1 47 8-4 47 46 139 154 155 | 140 155 155 | 142 155 155 | 145 157 157 | 150 159 159	
170.0	.1 27 4-4 | 1.2 43 4-4 | 1.0 48 2-4 | 1.4 49 2-8 | 1.4 49 2-8 49 49 135 152 152 | 138 153 153 | 145 155 155 | 149 158 158 | 150 158 158	
165.0	1.7 43 4-4 | .3 50 4-4 | .8 52 2-8 | .8 52 2-8 | .8 52 2-8 52 51 133 151 151 | 141 151 151 | 148 156 156 | 149 156 156 | 149 156 156	
160.0	.1 51 4-4 | .7 54 2-4 | 1.0 56 2-4 | .6 57 2-8 | 1.3 58 2-4 54 54 137 148 148 | 144 152 152 | 152 157 157 | 155 159 159 | 161 164 164	
158.0	.2 53 4-4 | .3 56 2-4 | .5 58 2-4 | .7 59 2-4 | .2 60 2-4 54 54 138 147 147 | 146 152 152 | 153 157 157 | 158 161 161 | 162 163 163	
156.0	.3 55 4-4 | 1.1 57 2-4 | 1.2 59 2-4 | .0 61 2-4 | .5 61 2-2 54 54 139 146 146 | 146 152 152 | 154 157 157 | 160 161 161 | 161 162 162	
154.0	1.1 56 2-4 | .6 59 2-4 | .6 61 2-4 | .7 62 2-4 | .7 62 2-2 54 54 140 146 146 | 148 152 152 | 156 158 158 | 161 161 161 | 160 161 161	
152.0	.8 58 2-4 | .2 61 2-4 | .1 63 2-4 | 1.0 63 2-2 | 1.0 63 2-2 54 54 141 146 146 | 150 152 152 | 157 158 158 | 160 160 160 | 159 160 160	
150.0	.6 60 2-4 | 1.0 62 2-4 | .7 64 2-4 | 1.2 64 2-2 | 1.2 64 2-2 54 54 143 147 147 | 150 153 153 | 158 158 158 | 159 159 159 | 158 159 159	
148.0	.3 62 2-4 | .6 64 2-4 | 1.3 65 2-4 | 1.5 65 2-2 | 1.5 65 2-2 54 54 144 147 147 | 152 153 153 | 158 158 158 | 158 159 159 | 157 159 159	
146.0	.0 64 2-4 | .1 66 2-4 | 1.7 66 2-2 | 1.7 66 2-2 | 1.7 66 2-2 54 54 146 148 148 | 154 154 154 | 158 158 158 | 157 158 158 | 156 158 158	
144.0	.9 65 2-4 | .6 67 2-4 | 2.0 67 2-2 | 2.0 67 2-2 | 2.0 67 2-2 54 54 147 148 148 | 153 153 153 | 157 157 157 | 155 157 157 | 155 157 157	
142.0	.6 67 2-4 | .0 67 2 | .0 67 2-2 | .0 67 2 | .0 67 2 54 54 149 149 149 | 145 147 147 | 143 147 147 | 142 147 147 | 140 147 147	
140.0	.0 67 2 | .0 67 2-2 | .0 67 2 | .0 67 2 | .0 67 2 54 54 141 143 143 | 139 143 143 | 136 143 143 | 134 143 143 | 132 143 143	
135.0	.0 67 | .0 67 | .0 67 | .0 67 | .0 67 54 54 129 136 136 | 126 136 136 | 126 136 136 | 126 136 136 | 126 136 136	
130.0	.0 67 | .0 67 | .0 67 | .0 67 | .0 67 54 54 125 133 134 | 125 133 134 | 125 133 134 | 125 133 134 | 125 133 134	

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2229.(FT) QNH ALT. : 2515.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =11942.3(FT) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB)
FOR TRAINING ONLY		AIR COND. OFF CG25% ANTI-ICING OFF
TREF = 43 DC TMAX = 54 DC	MTOW (LB) MEAN V1 - VR - V2 CODES (IAS.KT)	WITHOUT REVERSE
O A T DC	-5 | 0 | 10 | 20	DRY RUNWAY
-2.0	176098 4-4 140 155 155 | 180247 2-4 145 157 157 | 183402 2-4 150 162 162 | 185239 2-4 154 165 165 | 186958 2-4 158 169 169
13.0	173138 4-4 137 154 154 | 177426 4-4 142 156 156 | 181032 2-4 147 159 159 | 182951 2-4 151 162 162 | 184734 2-4 154 165 165
28.0	169929 4-4 135 152 152 | 174313 4-4 140 154 154 | 178555 4-4 144 157 157 | 180663 2-4 148 159 159 | 182518 2-4 151 162 162
43.4	166651 4-4 133 150 151 | 171119 4-4 138 153 153 | 175523 4-4 142 155 155 | 178268 4-4 145 157 157 | 180235 2-4 148 159 159
45.0	165315 4-4 134 150 150 | 169772 4-4 138 152 152 | 174140 4-4 143 155 155 | 176477 2-4 146 157 157 | 178349 2-4 150 160 160
46.0	164485 4-4 134 150 150 | 168943 4-4 139 152 152 | 173249 4-4 144 154 154 | 175296 2-4 147 157 157 | 176924 8-4 151 160 160
48.0	162825 4-4 135 149 149 | 167241 4-4 140 151 151 | 170954 2-4 145 155 155 | 172860 2-4 149 158 158 | 173229 2-8 150 158 158
49.0	161942 4-4 136 149 149 | 166289 4-4 141 151 151 | 169763 2-4 146 155 155 | 171381 2-8 149 158 158 | 171381 2-8 150 158 158
50.0	161024 4-4 136 148 148 | 165322 4-4 141 151 151 | 168544 2-4 147 155 155 | 169533 2-8 150 157 157 | 169533 2-8 150 157 157
52.0	159171 4-4 137 148 148 | 163064 2-4 143 151 151 | 165835 2-8 147 156 156 | 165835 2-8 149 156 156 | 165835 2-8 149 156 156
53.0	158229 4-4 138 147 147 | 161892 2-4 143 151 151 | 163986 2-8 148 155 155 | 163986 2-8 149 155 155 | 163986 2-8 148 155 155
55.0	156259 4-4 139 146 146 | 159465 2-4 145 152 152 | 161332 2-8 149 155 155 | 161332 2-8 150 155 155 | 161332 2-8 148 155 155
56.0	155103 2-4 140 146 146 | 158266 2-4 146 152 152 | 160992 2-4 152 157 157 | 161330 2-8 153 158 158 | 161330 2-8 153 158 158
58.0	152837 2-4 141 146 146 | 155834 2-4 147 152 152 | 158487 2-4 153 157 157 | 159944 2-4 157 160 160 | 161302 2-4 161 164 164
59.0	151693 2-4 142 147 147 | 154627 2-4 148 152 152 | 157209 2-4 154 157 157 | 158668 2-4 158 161 161 | 159995 2-4 162 164 164
60.0	150553 2-4 143 147 147 | 153436 2-4 149 152 152 | 155909 2-4 155 157 157 | 157323 2-4 159 161 161 | 158241 2-2 162 163 163
62.0	148312 2-4 144 147 147 | 151012 2-4 150 153 153 | 153378 2-4 156 158 158 | 154695 2-4 161 161 161 | 154731 2-2 160 161 161
63.0	147162 2-4 145 147 147 | 149812 2-4 151 153 153 | 152100 2-4 157 158 158 | 152976 2-2 160 160 160 | 152976 2-2 159 160 160
65.0	144903 2-4 147 148 148 | 147381 2-4 153 153 153 | 149331 2-4 158 158 158 | 149462 2-2 158 159 159 | 149462 2-2 157 159 159
66.0	143778 2-4 148 148 148 | 146130 2-4 154 154 154 | 147707 2-2 158 158 158 | 147707 2-2 157 158 158 | 147707 2-2 156 158 158
67.0	142595 2-4 149 149 149 | 144631 2-4 153 153 153 | 145952 2-2 156 157 157 | 145952 2-2 155 157 157 | 145952 2-2 155 157 157

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2229.(FT) QNH ALT. : 2515.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

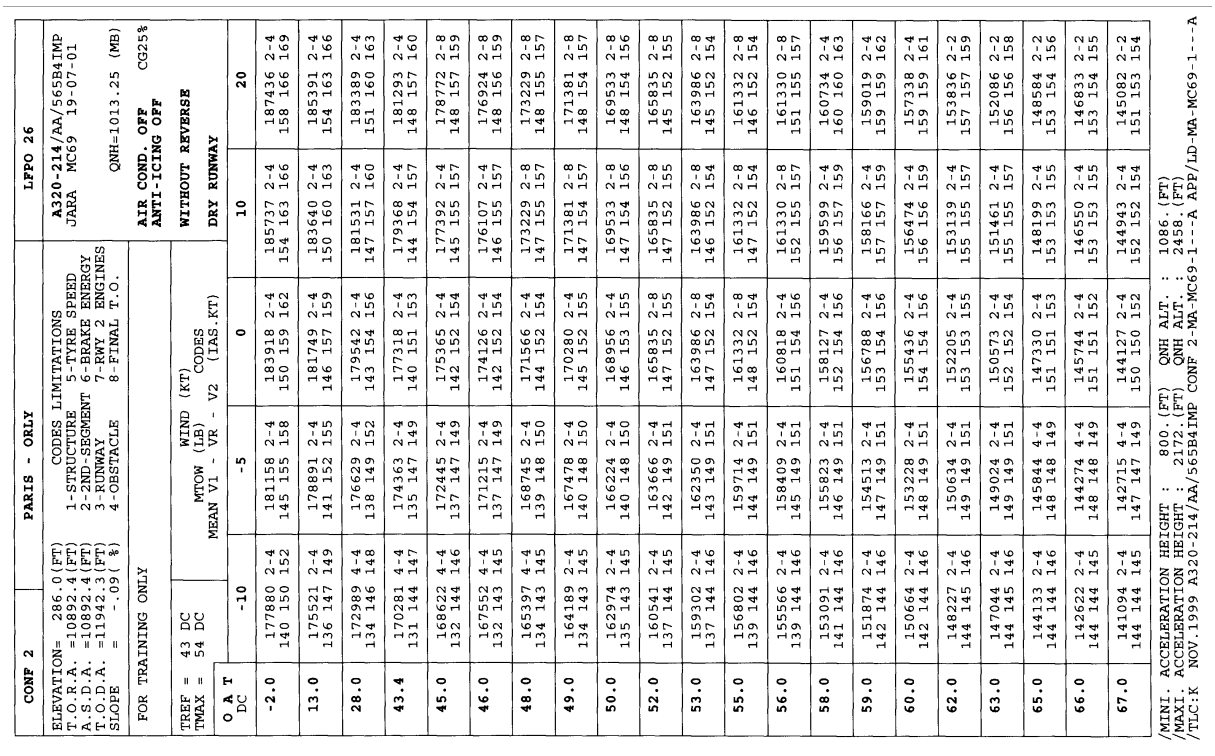
PARIS ORLY (LFPO) - RWY 26 - CONF 2



CONF 2	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =11942.3(FT) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=140/GRAD2= 800 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES WIND (KT) MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0	-2.1 -2 2-4 140 150 152	.1 5 2-4 143 154 156	.1 24 2-4 144 155 157	.1 38 2-4 145 155 158	.4 44 2-4 44 148 157 160 44
175.0	.0 16 2-4 136 147 149	.0 39 2-4 136 148 150	2.4 43 2-4 140 151 153	4.4 43 2-4 144 154 157	.1 47 2-8 47 149 156 158 46
170.0	.4 43 4-4 131 144 147	4.4 43 2-4 135 147 149	.3 49 2-4 145 152 155	1.4 49 2-8 148 154 157	1.4 49 2-8 49 149 154 157 49
165.0	.4 48 4-4 134 143 145	1.2 50 2-4 140 148 150	.8 52 2-8 147 152 155	.8 52 2-8 147 152 155	.8 52 2-8 52 146 152 155 51
160.0	.5 52 2-4 137 144 145	1.0 54 2-4 144 149 151	.8 56 2-4 151 154 156	.5 57 2-8 155 156 158	.7 58 2-4 54 160 160 163 54
158.0	.1 54 2-4 138 144 146	.4 56 2-4 145 149 151	.1 58 2-4 152 154 156	.2 59 2-4 157 157 159	1.0 59 2-4 54 159 159 162 54
156.0	.8 55 2-4 139 144 146	1.1 57 2-4 146 149 151	.8 59 2-4 153 154 156	.5 60 2-4 156 156 159	1.3 60 2-4 54 159 159 161 54
154.0	.3 57 2-4 140 144 146	.5 59 2-4 147 149 151	1.4 60 2-4 154 154 156	.8 61 2-4 156 156 158	1.6 61 2-4 54 158 158 160 54
152.0	1.1 58 2-4 141 144 146	1.2 60 2-4 148 149 151	.2 62 2-4 153 153 155	1.1 62 2-4 155 155 157	.1 63 2-2 54 156 156 158 54
150.0	.7 60 2-4 142 144 146	.6 62 2-4 149 149 151	.6 63 2-4 152 152 154	1.5 63 2-4 155 155 157	.3 64 2-2 54 155 155 157 54
148.0	.2 62 2-4 144 145 146	1.0 63 2-4 149 149 151	1.0 64 2-4 152 152 154	.2 65 2-4 153 153 155	.6 65 2-2 54 154 154 156 54
146.0	1.0 63 2-4 144 145 146	1.4 64 2-4 148 148 150	1.3 65 2-4 151 151 153	.6 66 2-4 153 153 155	.8 66 2-2 54 153 154 155 54
144.0	.1 65 2-4 144 144 146	.3 66 4-4 148 148 149	.1 67 2-4 150 150 152	.9 67 2-4 152 152 154	1.1 67 2-2 54 152 153 154 54
142.0	.6 66 2-4 144 144 145	.7 67 4-4 147 147 149	.0 67 2 143 145 147	.0 67 2 141 145 147	.0 67 2 54 139 145 147 54
140.0	1.1 67 2-4 144 144 145	.0 67 2 138 141 142	.0 67 2 135 141 142	.0 67 2 134 141 142	.0 67 2 54 132 141 142 54
135.0	.0 67 2 125 131 133	.0 67 2 123 131 133	.0 67 2 123 131 133	.0 67 2 123 131 133	.0 67 2 54 123 131 133 54
130.0	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	.0 67 54 120 126 128 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2172.(FT) QNH ALT. : 2458.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF 2	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =11942.3(FT) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	177880 2-4 140 150 152	181158 2-4 145 155 158	183918 2-4 150 159 162	185737 2-4 154 163 166	187436 2-4 158 166 169
13.0	175521 2-4 136 147 149	178891 2-4 141 152 155	181749 2-4 146 157 159	183640 2-4 150 160 163	185391 2-4 154 163 166
28.0	172989 4-4 134 146 148	176629 2-4 138 149 152	179542 2-4 143 154 156	181531 2-4 147 157 160	183389 2-4 151 160 163
43.4	170281 4-4 131 144 147	174363 2-4 135 147 149	177318 2-4 140 151 153	179368 2-4 144 154 157	181293 2-4 148 157 160
45.0	168622 4-4 132 144 146	172445 2-4 137 147 149	175365 2-4 142 152 154	177392 2-4 145 155 157	178772 2-8 148 157 159
46.0	167552 4-4 132 143 145	171215 2-4 137 147 149	174126 2-4 142 152 154	176107 2-4 146 155 157	176924 2-8 148 156 159
48.0	165397 4-4 134 143 145	168745 2-4 139 148 150	171566 2-4 144 152 154	173229 2-8 147 155 157	173229 2-8 148 155 157
49.0	164189 2-4 134 143 145	167478 2-4 140 148 150	170280 2-4 145 152 155	171381 2-8 147 154 157	171381 2-8 148 154 157
50.0	162974 2-4 135 143 145	166224 2-4 140 148 150	168956 2-4 146 153 155	169533 2-8 147 154 156	169533 2-8 148 154 156
52.0	160541 2-4 137 144 145	163666 2-4 142 149 151	165835 2-8 147 152 155	165835 2-8 147 152 155	165835 2-8 145 152 155
53.0	159302 2-4 137 144 146	162350 2-4 143 149 151	163986 2-8 147 152 154	163986 2-8 146 152 154	163986 2-8 145 152 154
55.0	156802 2-4 139 144 146	159714 2-4 144 149 151	161332 2-8 148 152 154	161332 2-8 147 152 154	161332 2-8 146 152 154
56.0	155566 2-4 139 144 146	158409 2-4 145 149 151	160818 2-4 151 154 156	161330 2-8 152 155 157	161330 2-8 151 155 157
58.0	153091 2-4 141 144 146	155823 2-4 146 149 151	158127 2-4 152 154 156	159599 2-4 156 157 159	160734 2-4 160 160 163
59.0	151874 2-4 142 144 146	154513 2-4 147 149 151	156788 2-4 153 154 156	158166 2-4 157 157 159	159019 2-4 159 159 162
60.0	150664 2-4 142 144 146	153228 2-4 148 149 151	155436 2-4 154 154 156	156474 2-4 156 156 159	157338 2-4 159 159 161
62.0	148227 2-4 144 145 146	150634 2-4 149 149 151	152205 2-4 153 153 155	153139 2-4 155 155 157	153836 2-2 157 157 159
63.0	147044 2-4 144 145 146	149024 2-4 149 149 151	150573 2-4 152 152 154	151461 2-4 155 155 157	152086 2-2 156 156 158
65.0	144133 2-4 144 144 146	145844 4-4 148 148 149	147330 2-4 151 151 153	148199 2-4 153 153 155	148584 2-2 153 154 156
66.0	142622 2-4 144 144 145	144274 4-4 148 148 149	145744 2-4 151 151 152	146550 2-4 153 153 155	146833 2-2 153 154 155
67.0	141094 2-4 144 144 145	142715 4-4 147 147 149	144127 2-4 150 150 152	144943 2-4 152 152 154	145082 2-2 151 153 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2172.(FT) QNH ALT. : 2458.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

PARIS ORLY (LFPO) - RWY 26 - CONF 3

CONF 3	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =11942.3(FT) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 900 CG25% AIR COND. OFF ANTI-ICING OFF
FOR TRAINING ONLY	WIND (KT) WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC		DRY RUNWAY 2

WEIGHT 1000LB	-10	-5	0	10	20	3
180.0	-1.4 -2 2-4 141 151 153	.1 10 2-4 144 155 155	.1 30 2-4 145 156 156	.2 43 2-4 146 157 157	.6 44 2-8 150 159 159	44 44
175.0	.1 21 2-4 136 147 148	.2 43 2-4 136 148 149	3.2 43 2-4 142 153 154	1.7 46 2-4 149 157 158	.1 47 2-8 150 157 157	47 46
170.0	1.6 43 2-4 131 142 144	.7 47 2-4 139 148 150	.8 49 2-4 147 154 155	1.4 49 2-8 149 155 156	1.4 49 2-8 149 155 156	49 49
165.0	1.0 48 2-4 134 143 145	.5 51 2-4 142 150 150	.8 52 2-8 148 153 154	.8 52 2-8 148 153 154	.8 52 2-8 146 153 154	52 51
160.0	1.1 52 2-4 137 144 146	.1 55 2-4 146 151 151	.9 56 2-4 154 156 156	.2 57 2-8 157 158 158	.6 57 2-8 157 159 159	54 54
158.0	.6 54 2-4 139 145 146	.7 56 2-4 147 150 151	.1 58 2-4 155 156 156	1.2 58 2-4 159 159 159	.2 59 2-4 161 161 161	54 54
156.0	.1 56 2-4 140 145 146	.1 58 2-4 148 150 151	.6 59 2-4 156 156 156	1.4 59 2-4 158 158 158	.5 60 2-4 160 160 160	54 54
154.0	.8 57 2-4 141 145 146	.7 59 2-4 149 151 151	1.0 60 2-4 155 155 155	.1 61 2-4 157 157 157	.8 61 2-4 159 159 159	54 54
152.0	.3 59 2-4 143 145 146	1.4 60 2-4 150 151 151	1.3 61 2-4 154 154 155	.4 62 2-4 156 156 156	1.1 62 2-4 158 158 158	54 54
150.0	1.1 60 2-4 144 145 146	.2 62 2-4 150 150 150	.0 63 2-4 153 153 153	.7 63 2-4 155 155 156	1.4 63 2-4 158 158 158	54 54
148.0	.6 62 2-4 145 145 147	.6 63 2-4 149 149 150	.4 64 2-4 152 152 153	1.1 64 2-4 155 155 155	.1 65 2-4 156 156 156	54 54
146.0	1.0 63 2-4 145 145 146	1.0 64 2-4 148 148 149	.7 65 2-4 152 152 152	1.5 65 2-4 154 154 154	.4 66 2-4 156 156 156	54 54
144.0	1.5 64 2-4 144 144 146	1.4 65 2-4 148 148 148	1.1 66 2-4 151 151 151	.2 67 2-4 153 153 153	.7 67 2-2 155 155 155	54 54
142.0	.4 66 2-4 144 144 145	.3 67 2-4 147 147 147	1.5 67 2-4 151 151 151	.0 67 2 142 146 147	.0 67 2 140 146 147	54 54
140.0	.8 67 4-4 143 143 144	.0 67 2 138 141 142	.0 67 2 135 141 142	.0 67 2 133 141 142	.0 67 2 131 141 142	54 54
135.0	.0 67 2 124 130 132	.0 67 2 122 130 132	.0 67 2 122 130 132	.0 67 2 122 130 132	.0 67 2 122 130 132	54 54
130.0	.0 67 2 118 122 124	.0 67 2 118 122 124	.0 67 2 118 122 124	.0 67 2 118 122 124	.0 67 2 118 122 124	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2142.(FT) QNH ALT. : 2428.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =11942.3(FT) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) CG25% AIR COND. OFF ANTI-ICING OFF
FOR TRAINING ONLY	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC		DRY RUNWAY 2

OAT DC	-10	-5	0	10	20	3
-2.0	178617 2-4 141 151 153	181756 2-4 147 157 158	184390 2-4 153 162 163	185997 2-4 158 166 166	187436 2-4 162 169 169	
13.0	176328 2-4 138 148 150	179642 2-4 143 154 155	182393 2-4 149 159 160	184140 2-4 154 163 163	185674 2-4 158 166 166	
28.0	173953 2-4 134 145 147	177437 2-4 140 151 152	180340 2-4 146 156 157	182171 2-4 150 160 160	183833 2-4 154 163 163	
43.4	171554 2-4 131 142 144	175149 2-4 136 148 149	178166 2-4 142 153 154	180099 2-4 146 157 157	181675 2-8 150 160 160	
45.0	169661 2-4 132 143 144	173210 2-4 138 148 149	176153 2-4 143 153 154	178019 2-4 148 157 157	178772 2-8 150 158 159	
46.0	168462 2-4 133 143 144	171935 2-4 138 148 149	174830 2-4 144 154 154	176682 2-4 149 157 158	176924 2-8 150 158 158	
48.0	166048 2-4 134 143 145	169369 2-4 140 149 150	172187 2-4 146 154 155	173229 2-8 149 156 157	173229 2-8 150 156 157	
49.0	164818 2-4 135 143 145	168110 2-4 141 149 150	170827 2-4 147 154 155	171381 2-8 149 155 156	171381 2-8 149 155 156	
50.0	163599 2-4 136 143 145	166785 2-4 141 149 150	169467 2-4 148 155 155	169533 2-8 149 155 155	169533 2-8 148 155 155	
52.0	161125 2-4 137 144 146	164169 2-4 143 150 151	165835 2-8 148 153 154	165835 2-8 147 153 154	165835 2-8 146 153 154	
53.0	159866 2-4 138 144 146	162789 2-4 144 150 151	163986 2-8 148 153 153	163986 2-8 147 153 153	163986 2-8 145 153 153	
55.0	157331 2-4 139 145 146	160095 2-4 146 151 151	161332 2-8 150 153 154	161332 2-8 148 153 154	161332 2-8 147 153 154	
56.0	156070 2-4 140 145 146	158736 2-4 147 150 151	160943 2-4 154 156 156	161330 2-8 155 157 157	161330 2-8 153 157 157	
58.0	153564 2-4 142 145 146	156065 2-4 148 150 151	158140 2-4 155 156 156	159153 2-4 159 159 159	159877 2-4 161 161 161	
59.0	152318 2-4 143 145 146	154732 2-4 149 151 151	156633 2-4 156 156 156	157439 2-4 158 158 158	158175 2-4 161 161 161	
60.0	151072 2-4 144 145 146	153402 2-4 150 151 151	154952 2-4 155 155 155	155749 2-4 157 157 158	156472 2-4 160 160 160	
62.0	148616 2-4 145 145 147	150244 2-4 150 150 150	151642 2-4 154 154 154	152410 2-4 156 156 156	153101 2-4 158 158 158	
63.0	147042 2-4 145 145 146	148626 2-4 149 149 150	150010 2-4 153 153 153	150739 2-4 155 155 156	151396 2-4 158 158 158	
65.0	143898 4-4 144 144 145	145431 2-4 148 148 148	146721 2-4 152 152 152	147456 2-4 154 154 154	148094 2-4 156 156 156	
66.0	142353 2-4 144 144 145	143847 2-4 147 147 148	145074 2-4 151 151 151	145790 2-4 153 153 154	146422 2-4 156 156 156	
67.0	140806 4-4 143 143 144	142270 2-4 147 147 147	143467 2-4 151 151 151	144159 2-4 153 153 153	144712 2-2 155 155 155	

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2142.(FT) QNH ALT. : 2428.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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TOULOUSE (LFBO) - RWY 15R - CONF 1 + F

CONF1+F	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =11680.0(FT) T.O.D.A. =11483.0(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=180/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WIND (KT) WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0	-4.5 -2 4-4 141 155 155	-.4 -2 4-4 146 157 157	.1 16 2-4 147 159 159	.1 30 2-4 147 159 159	.2 43 2-4 44 148 160 160 43
175.0	.1 0 4-4 140 155 155	.2 22 4-4 141 155 155	.5 43 4-4 142 155 155	3.2 43 2-4 145 157 157	.4 46 2-8 46 149 159 159 46
170.0	.1 26 4-4 136 152 152	1.1 43 4-4 138 153 153	.1 48 2-4 146 155 155	1.7 48 2-4 149 157 157	1.8 48 2-8 49 149 158 158 48
165.0	1.3 43 4-4 133 150 151	.4 49 4-4 141 151 151	1.0 51 2-4 148 155 155	1.2 51 2-8 149 156 156	1.2 51 2-8 51 148 156 156 51
160.0	.2 50 4-4 137 148 148	.9 53 4-4 144 151 151	.1 56 2-4 152 157 157	.4 57 2-4 157 161 161	.6 57 2-8 54 158 161 161 53
158.0	.3 52 4-4 138 147 147	.4 55 4-4 146 152 152	.8 57 2-4 153 157 157	1.1 58 2-4 158 161 161	.9 59 2-2 54 162 163 163 54
156.0	.0 54 4-4 140 148 148	1.2 56 4-4 146 152 152	.3 59 2-4 155 157 157	.5 60 2-4 160 161 161	1.1 60 2-2 54 161 163 163 54
154.0	.9 55 4-4 140 148 148	.8 58 4-4 148 152 152	1.0 60 2-4 155 157 157	1.2 61 2-4 160 161 161	1.3 61 2-2 54 160 162 162 54
152.0	.5 57 4-4 142 148 148	.4 60 4-4 150 152 152	.4 62 2-4 157 158 158	1.5 62 2-4 160 160 160	1.6 62 2-2 54 159 161 161 54
150.0	.2 59 4-4 143 148 148	.0 62 4-4 151 153 153	1.1 63 2-4 158 158 158	.1 64 2-2 158 159 159	.1 64 2-2 54 157 159 159 54
148.0	1.1 60 4-4 144 148 148	.8 63 2-4 152 153 153	.1 65 2-4 157 157 157	.3 65 2-2 157 158 158	.3 65 2-2 54 156 158 158 54
146.0	.8 62 4-4 146 148 148	.1 65 4-4 153 153 153	.5 66 2-4 157 157 157	.6 66 2-2 156 157 157	.6 66 2-2 54 155 157 157 54
144.0	.5 64 4-4 147 149 149	.7 66 4-4 153 153 153	.8 67 2-2 156 156 156	.8 67 2-2 155 156 156	.8 67 2-2 54 154 156 156 54
142.0	.1 66 4-4 149 149 149	1.2 67 4-4 152 152 152	.0 67 2 146 149 149	.0 67 2 144 149 149	.0 67 2 54 143 149 149 54
140.0	.9 67 4-4 150 150 150	.0 67 2 2 142 145 145	.0 67 2 139 145 145	.0 67 2 137 145 145	.0 67 2 54 135 145 145 54
135.0	.0 67 134 136 136	.0 67 128 136 136	.0 67 126 136 136	.0 67 126 136 136	.0 67 54 126 136 136 54
130.0	.0 67 125 134 134	.0 67 2 2 125 134 134	.0 67 125 134 134	.0 67 125 134 134	.0 67 54 125 134 134 54

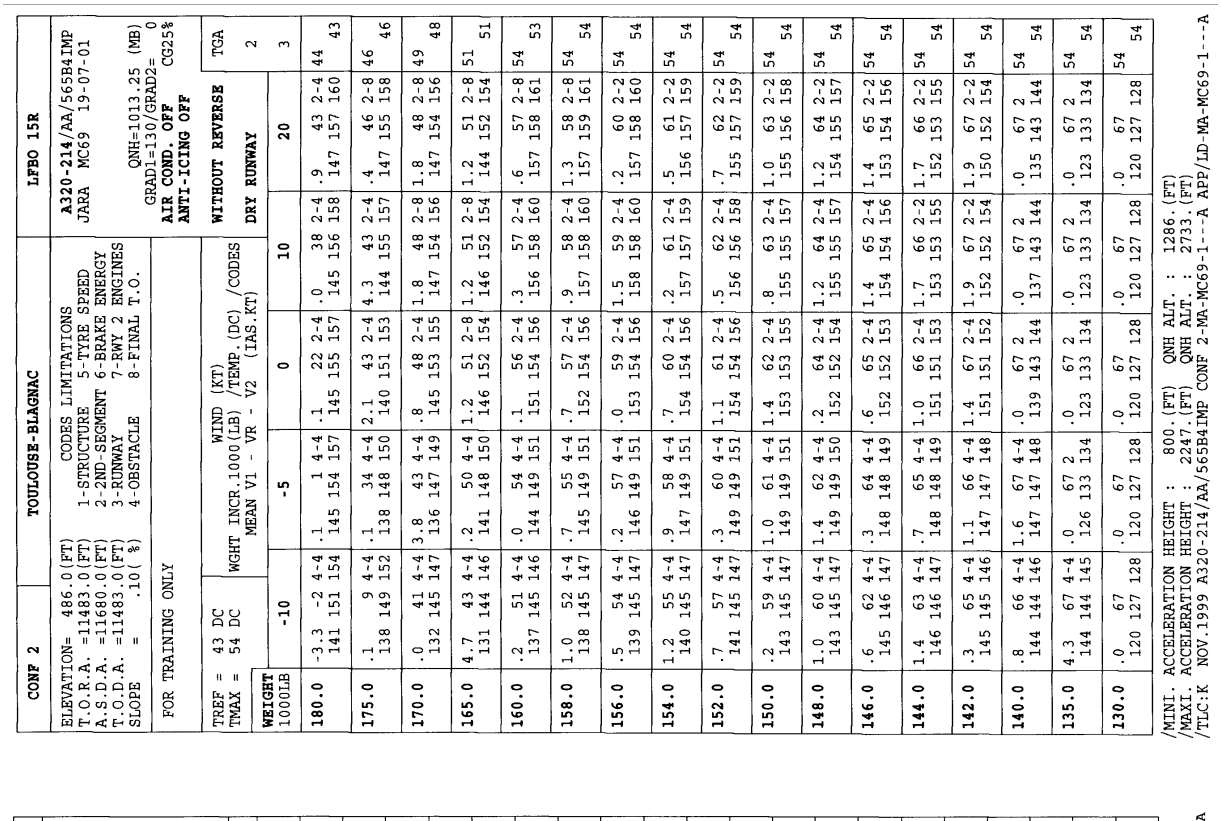
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2260.(FT) QNH ALT. : 2746.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =11680.0(FT) T.O.D.A. =11483.0(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (LB) MEAN V1 - VR - V2 WIND (KT) CODES (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	175492 4-4 141 155 155	179566 4-4 146 157 157	182952 2-4 151 162 162	184950 2-4 154 166 166	186753 2-4 158 169 169
13.0	172589 4-4 138 153 154	176860 4-4 143 156 156	180611 2-4 147 159 159	182677 2-4 151 163 163	184579 2-4 154 166 166
28.0	169755 4-4 135 152 152	174024 4-4 140 154 154	178210 4-4 145 157 157	180434 2-4 148 160 160	182388 2-4 151 163 163
43.0	166298 6-6 133 150 151	171098 6-6 138 153 153	175532 4-4 142 155 155	178186 2-4 145 157 157	180231 2-4 148 160 160
44.0	165565 6-6 134 150 150	170279 4-4 138 153 153	174570 4-4 143 155 155	177037 2-4 146 157 157	179055 2-4 149 160 160
46.0	164029 4-4 135 150 150	168352 4-4 139 152 152	172520 2-4 144 154 154	174639 2-4 148 158 158	175444 2-8 149 159 159
47.0	163043 4-4 135 149 149	167376 4-4 140 152 152	171317 2-4 145 155 155	173414 2-4 149 158 158	173602 2-8 149 158 158
49.0	161122 4-4 136 148 148	165419 4-4 141 151 151	168915 2-4 147 155 155	169916 2-8 149 157 157	169916 2-8 149 157 157
50.0	160177 4-4 137 148 148	164391 4-4 142 150 150	167691 2-4 147 156 156	168072 2-8 148 156 156	168072 2-8 149 156 156
52.0	158282 4-4 138 147 147	162063 4-4 143 151 151	164385 2-8 148 155 155	164385 2-8 148 155 155	164385 2-8 147 155 155
53.0	157177 4-4 139 147 147	160865 4-4 144 151 151	162540 2-8 148 154 154	162540 2-8 147 154 154	162540 2-8 145 154 154
54.0	156023 4-4 140 148 148	159633 4-4 145 152 152	160696 2-8 147 153 153	160696 2-8 146 153 153	160696 2-8 144 153 153
56.0	153677 4-4 141 148 148	157219 4-4 146 152 152	160088 2-4 152 157 157	160625 2-8 154 158 158	160625 2-8 153 158 158
57.0	152510 4-4 142 148 148	155998 4-4 147 152 152	158813 2-4 153 157 157	160416 2-4 157 161 161	160623 2-8 158 161 161
59.0	150220 4-4 143 148 148	153618 4-4 149 152 152	156262 2-4 155 157 157	157797 2-4 159 161 161	158851 2-2 162 163 163
60.0	149055 4-4 144 148 148	152416 4-4 150 152 152	154995 2-4 155 157 157	156500 2-4 160 161 161	157095 2-2 161 163 163
61.0	147904 4-4 145 148 148	151196 4-4 150 152 152	153742 2-4 156 158 158	155193 2-4 160 161 161	155338 2-2 160 162 162
63.0	145600 4-4 146 149 149	148807 2-4 152 153 153	151145 2-4 158 158 158	151826 2-2 159 160 160	151826 2-2 158 160 160
64.0	144456 4-4 147 149 149	147566 4-4 153 153 153	149634 2-4 158 158 158	150066 2-2 158 159 159	150066 2-2 157 159 159
66.0	142132 4-4 149 149 149	144704 4-4 153 153 153	146467 2-4 157 157 157	146554 2-2 156 157 157	146554 2-2 154 157 157
67.0	140933 4-4 150 150 150	143187 4-4 152 152 152	144798 2-2 156 156 156	144798 2-2 155 156 156	144798 2-2 153 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2260.(FT) QNH ALT. : 2746.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

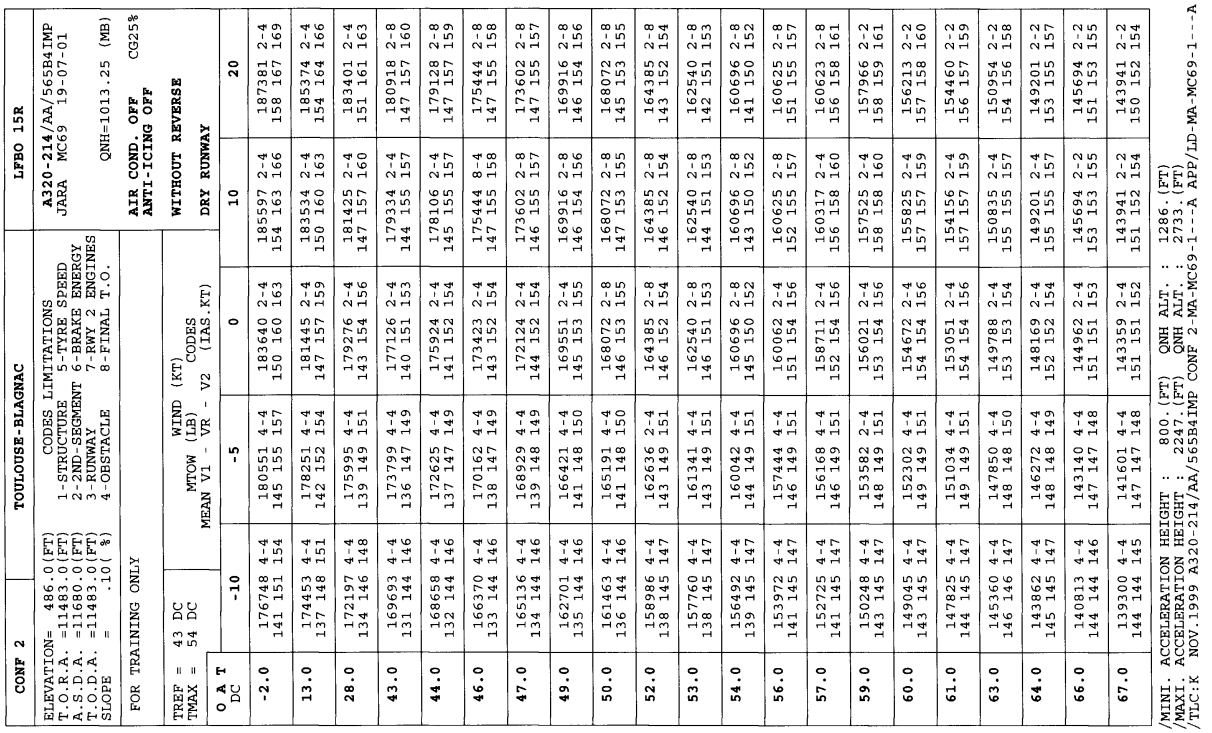
TOULOUSE (LFBO) - RWY 15R - CONF 2



CONF 2	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =11680.0(FT) T.O.D.A. =11483.0(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=130/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WIND (KT) WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0	-3.3 -2 4-4 141 151 154	.1 1 4-4 145 154 157	.1 22 2-4 145 155 157	.0 38 2-4 145 156 158	.9 43 2-4 44 43 147 157 160
175.0	.1 9 4-4 138 149 152	.1 34 4-4 138 148 150	2.1 43 2-4 140 151 153	4.3 43 2-4 144 155 157	.4 46 2-8 46 147 155 158
170.0	.0 41 4-4 132 145 147	3.8 43 4-4 136 147 149	.8 48 2-4 145 153 155	1.8 48 2-8 147 154 156	1.8 48 2-8 49 48 147 154 156
165.0	4.7 43 4-4 131 144 146	.2 50 4-4 141 148 150	1.2 51 2-8 146 152 154	1.2 51 2-8 146 152 154	1.2 51 2-8 51 144 152 154
160.0	.2 51 4-4 137 145 146	.0 54 4-4 144 149 151	.1 56 2-4 151 154 156	.3 57 2-4 156 158 160	.6 57 2-8 54 53 157 158 161
158.0	1.0 52 4-4 138 145 147	.7 55 4-4 145 149 151	.7 57 2-4 152 154 156	.9 58 2-4 157 158 160	1.3 58 2-8 54 157 159 161
156.0	.5 54 4-4 139 145 147	.2 57 4-4 146 149 151	.0 59 2-4 153 154 156	1.5 59 2-4 158 158 160	.2 60 2-2 54 54 157 158 160
154.0	1.2 55 4-4 140 145 147	.9 58 4-4 147 149 151	.7 60 2-4 154 154 156	.2 61 2-4 157 157 159	.5 61 2-2 54 54 156 157 159
152.0	.7 57 4-4 141 145 147	.3 60 4-4 149 149 151	1.1 61 2-4 154 154 156	.5 62 2-4 156 156 158	.7 62 2-2 54 54 155 157 159
150.0	.2 59 4-4 143 145 147	1.0 61 4-4 149 149 151	1.4 62 2-4 153 153 155	.8 63 2-4 155 155 157	1.0 63 2-2 54 54 155 156 158
148.0	1.0 60 4-4 143 145 147	1.4 62 4-4 149 149 150	.2 64 2-4 152 152 154	1.2 64 2-4 155 155 157	1.2 64 2-2 54 54 154 155 157
146.0	.6 62 4-4 145 146 147	.3 64 4-4 148 148 149	.6 65 2-4 152 152 153	1.4 65 2-4 154 154 156	1.4 65 2-2 54 54 153 154 156
144.0	1.4 63 4-4 146 146 147	.7 65 4-4 148 148 149	1.0 66 2-4 151 151 153	1.7 66 2-2 153 153 155	1.7 66 2-2 54 54 152 153 155
142.0	.3 65 4-4 145 145 146	1.1 66 4-4 147 147 148	1.4 67 2-4 151 151 152	1.9 67 2-2 152 152 154	1.9 67 2-2 54 54 150 152 154
140.0	.8 66 4-4 144 144 146	1.6 67 4-4 147 147 148	.0 67 2 139 143 144	.0 67 2 137 143 144	.0 67 2 54 54 135 143 144
135.0	4.3 67 4-4 144 144 145	.0 67 2 126 133 134	.0 67 2 123 133 134	.0 67 2 123 133 134	.0 67 2 54 123 133 134
130.0	.0 67 120 127 128	.0 67 120 127 128	.0 67 120 127 128	.0 67 120 127 128	.0 67 54 120 127 128

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2247.(FT) QNH ALT. : 2733.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

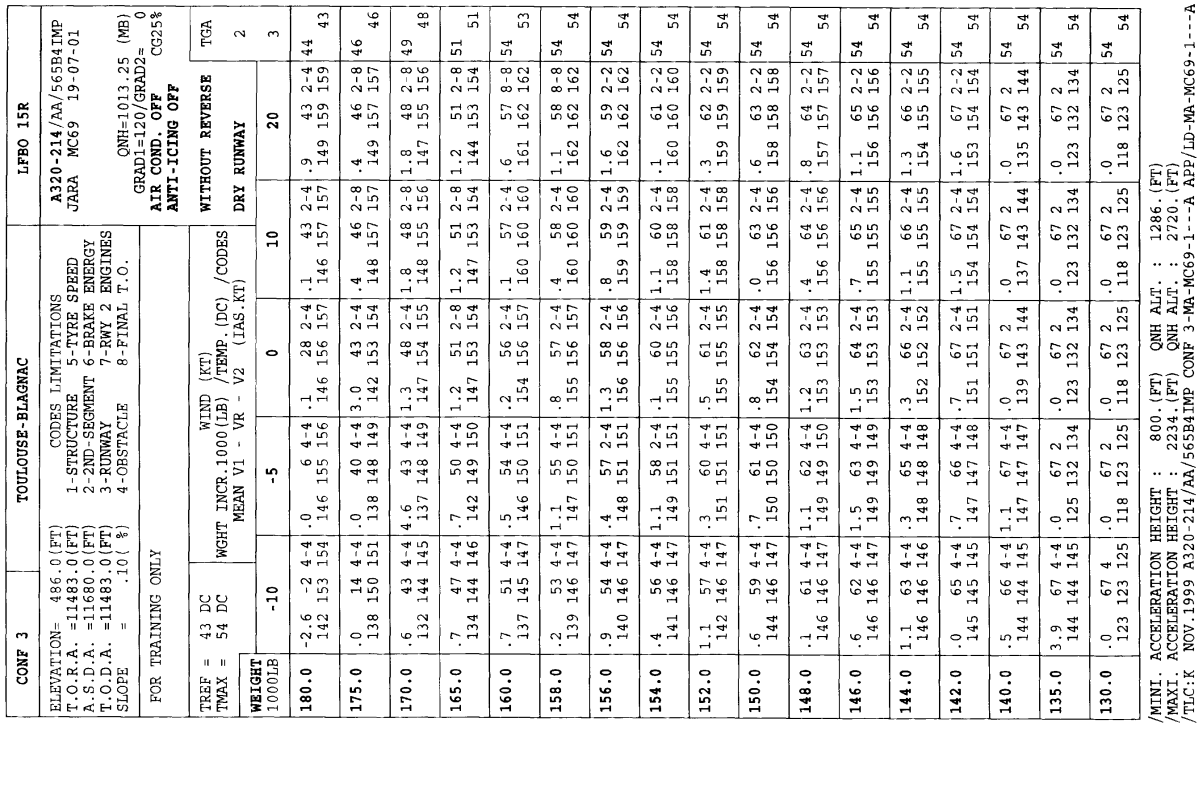


CONF 2	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =11680.0(FT) T.O.D.A. =11483.0(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	176748 4-4 141 151 154	180551 4-4 145 155 157	183640 2-4 150 160 163	185597 2-4 154 163 166	187381 2-4 158 167 169
13.0	174453 4-4 137 148 151	178251 4-4 142 152 154	181445 2-4 147 157 159	183534 2-4 150 160 163	185374 2-4 154 164 166
28.0	172197 4-4 134 146 148	175995 4-4 139 149 151	179276 2-4 143 154 156	181425 2-4 147 157 160	183401 2-4 151 161 163
43.0	169693 4-4 131 144 146	173799 4-4 136 147 149	177126 2-4 140 151 153	179334 2-4 144 155 157	180918 2-8 147 157 160
44.0	168658 4-4 132 144 146	172625 4-4 137 147 149	175924 2-4 141 152 154	178106 2-4 145 155 157	179128 2-8 147 157 159
46.0	166370 4-4 133 144 146	170162 4-4 138 147 149	173423 2-4 143 152 154	175444 8-4 147 155 158	175444 2-8 147 155 158
47.0	165136 4-4 134 144 146	168929 4-4 139 148 149	172124 2-4 144 152 154	173602 2-8 146 155 157	173602 2-8 147 155 157
49.0	162701 4-4 135 144 146	166421 4-4 141 148 150	169551 2-4 145 153 155	169916 2-8 146 154 156	169916 2-8 146 154 156
50.0	161463 4-4 136 144 146	165191 4-4 141 148 150	168072 2-8 146 153 155	168072 2-8 147 153 155	168072 2-8 145 153 155
52.0	158986 4-4 138 145 147	162636 2-4 143 149 151	164385 2-8 146 152 154	164385 2-8 146 152 154	164385 2-8 143 152 154
53.0	157760 4-4 138 145 147	161341 4-4 143 149 151	162540 2-8 146 151 153	162540 2-8 144 151 153	162540 2-8 142 151 153
54.0	156492 4-4 139 145 147	160042 4-4 144 149 151	160696 2-8 145 150 152	160696 2-8 143 150 152	160696 2-8 141 150 152
56.0	153972 4-4 141 145 147	157444 4-4 146 149 151	160062 2-4 151 154 156	160625 2-8 152 155 157	160625 2-8 151 155 157
57.0	152725 4-4 141 145 147	156168 4-4 146 149 151	158711 2-4 152 154 156	160317 2-4 156 158 160	160623 2-8 156 158 161
59.0	150248 4-4 143 145 147	153582 2-4 148 149 151	156021 2-4 153 154 156	157525 2-4 158 158 160	157966 2-2 158 159 161
60.0	149045 4-4 143 145 147	152302 4-4 149 149 151	154672 2-4 154 154 156	155825 2-4 157 157 159	156213 2-2 157 158 160
61.0	147825 4-4 144 145 147	151034 4-4 149 149 151	153051 2-4 154 154 156	154156 2-4 157 157 159	154460 2-2 156 157 159
63.0	145360 4-4 146 146 147	147850 4-4 148 148 150	149788 2-4 153 153 154	150835 2-4 155 155 157	150954 2-2 154 156 158
64.0	143862 4-4 145 145 147	146272 4-4 148 148 149	148169 2-4 152 152 154	149201 2-4 155 155 157	149201 2-2 153 155 157
66.0	140813 4-4 144 144 146	143140 4-4 147 147 148	144962 2-4 151 151 153	145694 2-2 153 153 155	145694 2-2 151 153 155
67.0	139300 4-4 144 144 145	141601 4-4 147 147 148	143359 2-4 151 151 152	143941 2-2 151 152 154	143941 2-2 150 152 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2247.(FT) QNH ALT. : 2733.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

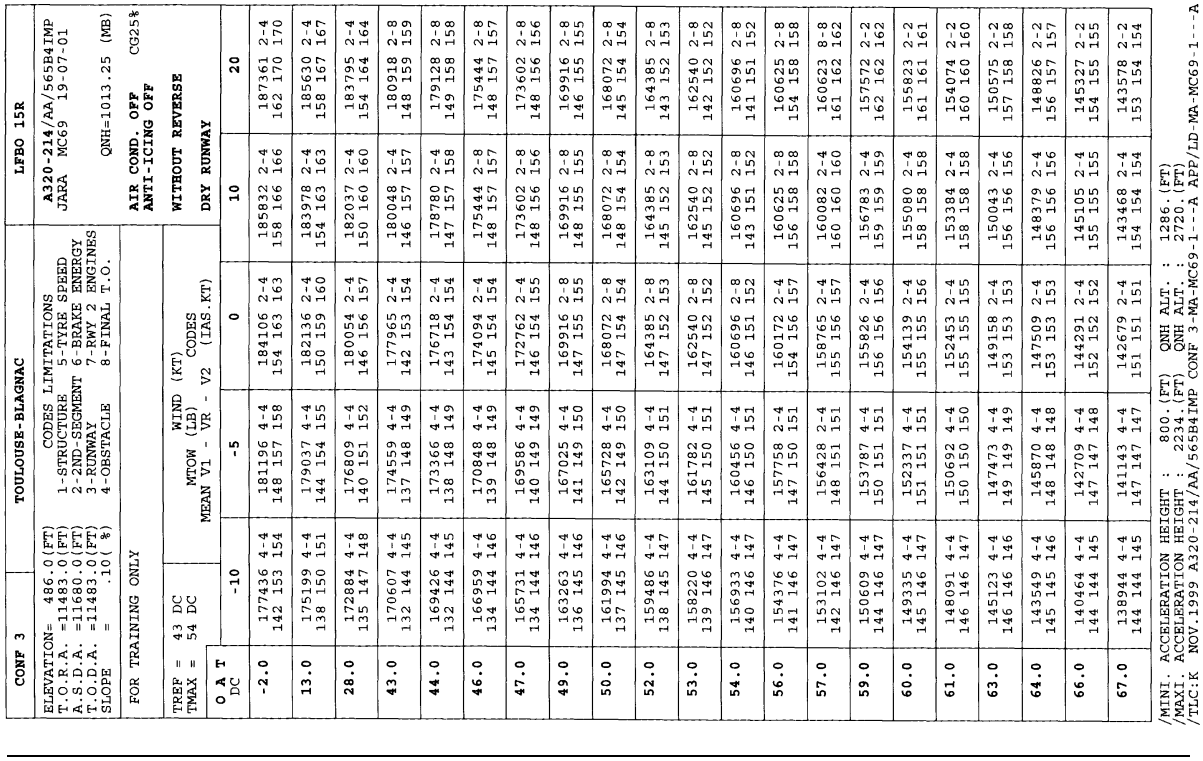
TOULOUSE (LFBO) - RWY 15R - CONF 3



CONF 3	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =11680.0(FT) T.O.D.A. =11483.0(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3 TGA

WEIGHT 1000LB	-10	-5	0	10	20	
180.0	-2.6 -2 4-4 142 153 154	.0 6 4-4 146 155 156	.1 28 2-4 146 156 157	.1 43 2-4 146 157 157	.9 43 2-4 149 159 159	44 43
175.0	.0 14 4-4 138 150 151	.0 40 4-4 138 148 149	3.0 43 2-4 142 153 154	.4 46 2-8 148 157 157	.4 46 2-8 149 157 157	46 46
170.0	.6 43 4-4 132 144 145	4.6 43 4-4 137 148 149	1.3 48 2-4 147 154 155	1.8 48 2-8 148 155 156	1.8 48 2-8 147 155 156	49 48
165.0	.7 47 4-4 134 144 146	.7 50 4-4 142 149 150	1.2 51 2-8 147 153 154	1.2 51 2-8 147 153 154	1.2 51 2-8 144 153 154	51 51
160.0	.7 51 4-4 137 145 147	.5 54 4-4 146 150 151	.2 56 2-4 154 156 157	.1 57 2-4 160 160 160	.6 57 8-8 161 162 162	54 53
158.0	.2 53 4-4 139 146 147	1.1 55 4-4 147 150 151	.8 57 2-4 155 156 157	.4 58 2-4 160 160 160	1.1 58 8-8 162 162 162	54 54
156.0	.9 54 4-4 140 146 147	4 57 2-4 148 151 151	1.3 58 2-4 156 156 156	.8 59 2-4 159 159 159	1.6 59 2-2 162 162 162	54 54
154.0	.4 56 4-4 141 146 147	1.1 58 2-4 149 151 151	.1 60 2-4 155 155 156	1.1 60 2-4 158 158 158	.1 61 2-2 160 160 160	54 54
152.0	1.1 57 4-4 142 146 147	.3 60 4-4 151 151 151	.5 61 2-4 155 155 155	1.4 61 2-4 158 158 158	.3 62 2-2 159 159 159	54 54
150.0	.6 59 4-4 144 146 147	.7 61 4-4 150 150 150	.8 62 2-4 154 154 154	.0 63 2-4 156 156 156	.6 63 2-2 158 158 158	54 54
148.0	.1 61 4-4 146 146 147	1.1 62 4-4 149 149 150	1.2 63 2-4 153 153 153	.4 64 2-4 156 156 156	.8 64 2-2 157 157 157	54 54
146.0	.6 62 4-4 146 146 147	1.5 63 4-4 149 149 149	1.5 64 2-4 153 153 153	.7 65 2-4 155 155 155	1.1 65 2-2 156 156 156	54 54
144.0	1.1 63 4-4 146 146 146	.3 65 4-4 148 148 148	.3 66 2-4 152 152 152	1.1 66 2-4 155 155 155	1.3 66 2-2 154 155 155	54 54
142.0	.0 65 4-4 145 145 145	.7 66 4-4 147 147 148	.7 67 2-4 151 151 151	1.5 67 2-4 154 154 154	1.6 67 2-2 153 154 154	54 54
140.0	.5 66 4-4 144 144 145	1.1 67 4-4 147 147 147	.0 67 2 139 143 144	.0 67 2 137 143 144	.0 67 2 135 143 144	54 54
135.0	3.9 67 4-4 144 144 145	.0 67 2 125 132 134	.0 67 2 123 132 134	.0 67 2 123 132 134	.0 67 2 123 132 134	54 54
130.0	.0 67 4 123 123 125	.0 67 2 118 123 125	.0 67 2 118 123 125	.0 67 2 118 123 125	.0 67 2 118 123 125	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2234.(FT) QNH ALT. : 2720.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A



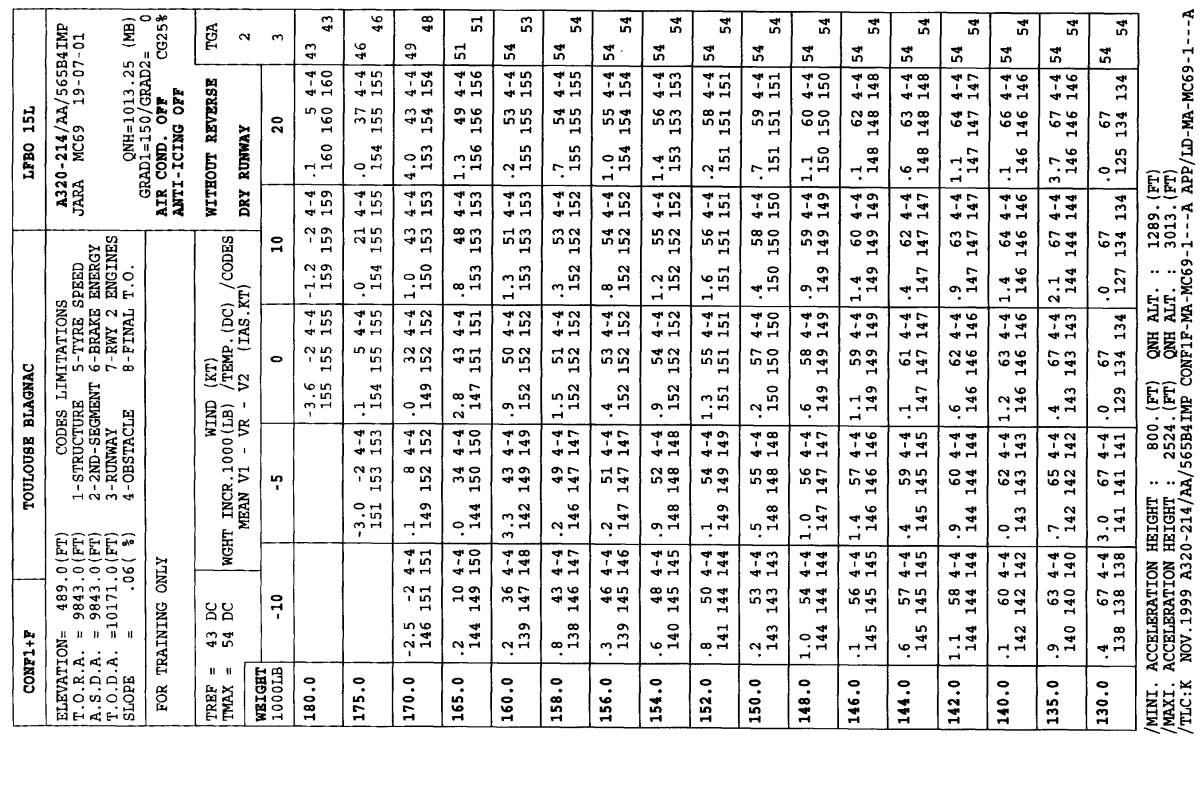
CONF 3	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =11680.0(FT) T.O.D.A. =11483.0(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY 10 20

OAT DC	-10	-5	0	10	20
-2.0	177436 4-4 142 153 154	181196 4-4 148 157 158	184106 2-4 154 163 163	185832 2-4 158 166 166	187361 2-4 162 170 170
13.0	175199 4-4 138 150 151	179037 4-4 144 154 155	182136 2-4 150 159 160	183978 2-4 154 163 163	185630 2-4 158 167 167
28.0	172884 4-4 135 147 148	176809 4-4 140 151 152	180054 2-4 146 156 157	182037 2-4 150 160 160	183795 2-4 154 164 164
43.0	170607 4-4 132 144 145	174559 4-4 137 148 149	177965 2-4 142 153 154	180048 2-4 146 157 157	180918 2-8 148 159 159
44.0	169426 4-4 132 144 145	173366 4-4 138 148 149	176718 2-4 143 154 154	178780 2-4 147 157 158	179128 2-8 149 158 158
46.0	166959 4-4 134 144 146	170848 4-4 139 148 149	174094 2-4 145 154 154	175444 2-8 148 157 157	175444 2-8 148 157 157
47.0	165731 4-4 134 144 146	169586 4-4 140 149 149	172762 2-4 146 154 155	173602 2-8 148 156 156	173602 2-8 148 156 156
49.0	163263 4-4 136 145 146	167025 4-4 141 149 150	169916 2-8 147 155 155	169916 2-8 148 155 155	169916 2-8 146 155 155
50.0	161994 4-4 137 145 146	165728 4-4 142 149 150	168072 2-8 147 154 154	168072 2-8 148 154 154	168072 2-8 145 154 154
52.0	159486 4-4 138 145 147	163109 4-4 144 150 151	164385 2-8 147 152 153	164385 2-8 145 152 153	164385 2-8 143 152 153
53.0	158220 4-4 139 146 147	161782 4-4 145 150 151	162540 2-8 147 152 152	162540 2-8 145 152 152	162540 2-8 142 152 152
54.0	156933 4-4 140 146 147	160456 4-4 146 150 151	160696 2-8 146 151 152	160696 2-8 146 151 152	160696 2-8 141 151 152
56.0	154376 4-4 141 146 147	157758 2-4 147 150 151	160172 2-4 154 156 157	160625 2-8 156 158 158	160625 2-8 154 158 158
57.0	153102 4-4 142 146 147	156428 2-4 148 151 151	158765 2-4 155 156 157	160082 2-4 160 160 160	160623 8-8 161 162 162
59.0	150609 4-4 144 146 147	153787 4-4 150 151 151	155826 2-4 156 156 156	156783 2-4 159 159 159	157572 2-2 162 162 162
60.0	149335 4-4 145 146 147	152337 4-4 151 151 151	154139 2-4 155 155 156	155080 2-4 158 158 158	155823 2-2 161 161 161
61.0	148091 4-4 146 146 147	150692 4-4 150 150 150	152453 2-4 155 155 155	153384 2-4 158 158 158	154074 2-2 160 160 160
63.0	145123 4-4 146 146 146	147473 4-4 149 149 149	149158 2-4 153 153 153	150043 2-4 156 156 156	150575 2-2 157 158 158
64.0	143549 4-4 145 145 146	145870 4-4 148 148 148	147509 2-4 153 153 153	148379 2-4 156 156 156	148826 2-2 156 157 157
66.0	140464 4-4 144 144 145	142709 4-4 147 147 148	144291 2-4 152 152 152	145105 2-4 155 155 155	145327 2-2 154 155 155
67.0	138944 4-4 144 144 145	141143 4-4 147 147 147	142679 2-4 151 151 151	143468 2-4 154 154 154	143578 2-2 153 154 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2234.(FT) QNH ALT. : 2720.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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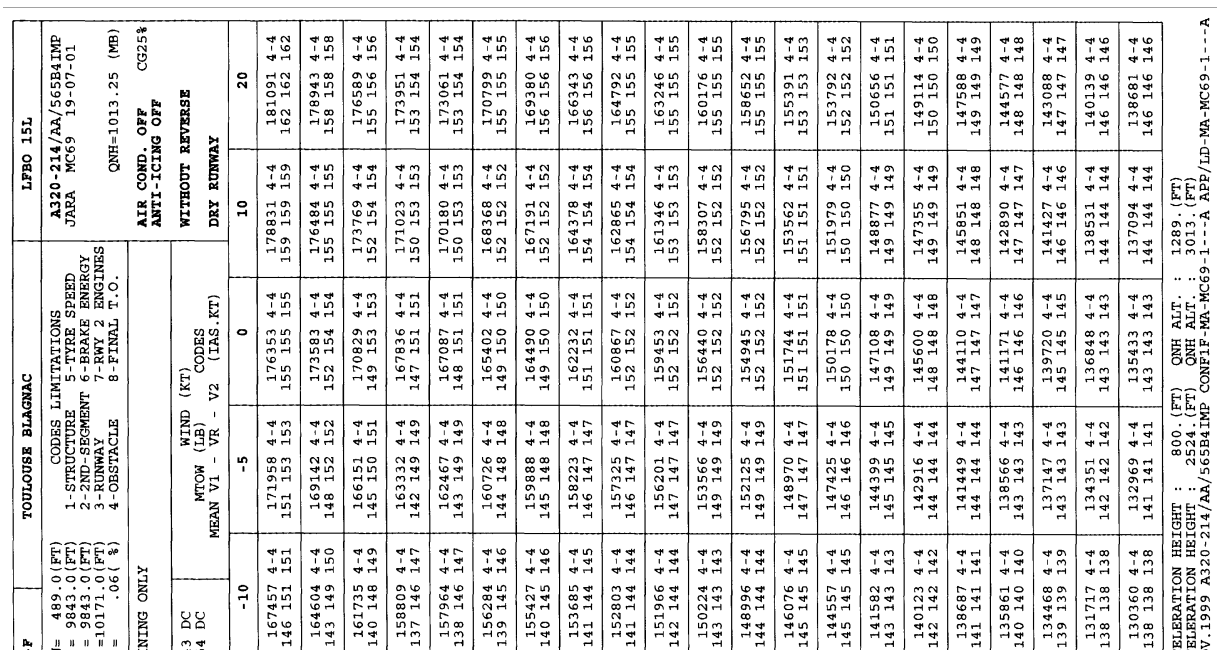
TOULOUSE (LFBO) - RWY 15L - CONF 1 + F



CONF1+F	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=150/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2

WEIGHT 1000LB	-10	-5	0	10	20	3
180.0			-3.6 -2 4-4 155 155 155	-1.2 -2 4-4 159 159 159	.1 5 4-4 43 160 160 160	43
175.0		-3.0 -2 4-4 151 153 153	.1 5 4-4 154 155 155	.0 21 4-4 154 155 155	.0 37 4-4 46 154 155 155	46
170.0	-2.5 -2 4-4 146 151 151	.1 8 4-4 149 152 152	.0 32 4-4 149 152 152	1.0 43 4-4 150 153 153	4.0 43 4-4 49 153 154 154	48
165.0	.2 10 4-4 144 149 150	.0 34 4-4 144 150 150	2.8 43 4-4 147 151 151	.8 48 4-4 153 153 153	1.3 49 4-4 51 156 156 156	51
160.0	.2 36 4-4 139 147 148	3.3 43 4-4 142 149 149	.9 50 4-4 152 152 152	1.3 51 4-4 153 153 153	.2 53 4-4 54 155 155 155	53
158.0	.8 43 4-4 138 146 147	.2 49 4-4 146 147 147	1.5 51 4-4 152 152 152	.3 53 4-4 152 152 152	.7 54 4-4 54 155 155 155	54
156.0	.3 46 4-4 139 145 146	.2 51 4-4 147 147 147	.4 53 4-4 152 152 152	.8 54 4-4 152 152 152	1.0 55 4-4 54 154 154 154	54
154.0	.6 48 4-4 140 145 145	.9 52 4-4 148 148 148	.9 54 4-4 152 152 152	1.2 55 4-4 152 152 152	1.4 56 4-4 54 153 153 153	54
152.0	.8 50 4-4 141 144 144	.1 54 4-4 149 149 149	1.3 55 4-4 151 151 151	1.6 56 4-4 151 151 151	.2 58 4-4 54 151 151 151	54
150.0	.2 53 4-4 143 143 143	.5 55 4-4 148 148 148	.2 57 4-4 150 150 150	.4 58 4-4 150 150 150	.7 59 4-4 54 151 151 151	54
148.0	1.0 54 4-4 144 144 144	1.0 56 4-4 147 147 147	.6 58 4-4 149 149 149	.9 59 4-4 149 149 149	1.1 60 4-4 54 150 150 150	54
146.0	.1 56 4-4 145 145 145	1.4 57 4-4 146 146 146	1.1 59 4-4 149 149 149	1.4 60 4-4 149 149 149	.1 62 4-4 54 148 148 148	54
144.0	.6 57 4-4 145 145 145	.4 59 4-4 145 145 145	.1 61 4-4 147 147 147	.4 62 4-4 147 147 147	.6 63 4-4 54 148 148 148	54
142.0	1.1 58 4-4 144 144 144	.9 60 4-4 144 144 144	.6 62 4-4 146 146 146	.9 63 4-4 147 147 147	1.1 64 4-4 54 147 147 147	54
140.0	.1 60 4-4 142 142 142	.0 62 4-4 143 143 143	1.2 63 4-4 146 146 146	1.4 64 4-4 146 146 146	.1 66 4-4 54 146 146 146	54
135.0	.9 63 4-4 140 140 140	.7 65 4-4 142 142 142	.4 67 4-4 143 143 143	2.1 67 4-4 144 144 144	3.7 67 4-4 54 146 146 146	54
130.0	.4 67 4-4 138 138 138	3.0 67 4-4 141 141 141	.0 67 129 134 134	.0 67 127 134 134	.0 67 54 125 134 134	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 2524.(FT) QNH ALT. : 3013.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF1+F	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	167457 4-4 146 151 151	171958 4-4 151 153 153	176353 4-4 155 155 155	178831 4-4 159 159 159	181091 4-4 162 162 162
13.0	164604 4-4 143 149 150	169142 4-4 148 152 152	173583 4-4 152 154 154	176484 4-4 155 155 155	178943 4-4 158 158 158
28.0	161735 4-4 140 148 149	166151 4-4 145 150 151	170829 4-4 149 153 153	173769 4-4 152 154 154	176589 4-4 155 156 156
43.0	158809 4-4 137 146 147	163332 4-4 142 149 149	167836 4-4 147 151 151	171023 4-4 150 153 153	173951 4-4 153 154 154
44.0	157964 4-4 138 146 147	162467 4-4 143 149 149	167087 4-4 148 151 151	170180 4-4 150 153 153	173061 4-4 153 154 154
46.0	156284 4-4 139 145 146	160726 4-4 144 148 148	165402 4-4 149 150 150	168368 4-4 152 152 152	170799 4-4 155 155 155
47.0	155427 4-4 140 145 146	159888 4-4 145 148 148	164490 4-4 149 150 150	167191 4-4 152 152 152	169380 4-4 156 156 156
49.0	153685 4-4 141 144 145	158223 4-4 146 147 147	162232 4-4 151 151 151	164378 4-4 154 154 154	166343 4-4 156 156 156
50.0	152803 4-4 141 144 144	157325 4-4 146 147 147	160867 4-4 152 152 152	162865 4-4 154 154 154	164792 4-4 155 155 155
51.0	151966 4-4 142 144 144	156201 4-4 147 147 147	159453 4-4 152 152 152	161346 4-4 153 153 153	163246 4-4 155 155 155
53.0	150224 4-4 143 143 143	153566 4-4 149 149 149	156440 4-4 152 152 152	158307 4-4 152 152 152	160176 4-4 155 155 155
54.0	148996 4-4 144 144 144	152125 4-4 149 149 149	154945 4-4 152 152 152	156795 4-4 152 152 152	158652 4-4 155 155 155
56.0	146076 4-4 145 145 145	148970 4-4 147 147 147	151744 4-4 151 151 151	153562 4-4 151 151 151	155391 4-4 153 153 153
57.0	144557 4-4 145 145 145	147425 4-4 146 146 146	150178 4-4 150 150 150	151979 4-4 150 150 150	153792 4-4 152 152 152
59.0	141582 4-4 143 143 143	144399 4-4 145 145 145	147108 4-4 149 149 149	148877 4-4 149 149 149	150656 4-4 151 151 151
60.0	140123 4-4 142 142 142	142916 4-4 144 144 144	145600 4-4 148 148 148	147355 4-4 149 149 149	149114 4-4 150 150 150
61.0	138687 4-4 141 141 141	141449 4-4 144 144 144	144110 4-4 147 147 147	145851 4-4 148 148 148	147588 4-4 149 149 149
63.0	135861 4-4 140 140 140	138566 4-4 143 143 143	141171 4-4 146 146 146	142890 4-4 147 147 147	144577 4-4 148 148 148
64.0	134468 4-4 139 139 139	137147 4-4 143 143 143	139720 4-4 145 145 145	141427 4-4 146 146 146	143088 4-4 147 147 147
66.0	131717 4-4 138 138 138	134351 4-4 142 142 142	136848 4-4 143 143 143	138531 4-4 144 144 144	140139 4-4 146 146 146
67.0	130360 4-4 138 138 138	132969 4-4 141 141 141	135433 4-4 143 143 143	137094 4-4 144 144 144	138681 4-4 146 146 146

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 2524.(FT) QNH ALT. : 3013.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

TOULOUSE (LFBO) - RWY 15L - CONF 2

CONF 2	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=140/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0			-3.9 -2 4-4 155 155 158	-1.7 -2 4-4 156 156 159	.1 1 4-4 158 158 161	43
175.0		-2.3 -2 4-4 150 150 153	.1 7 4-4 153 153 156	.0 26 4-4 152 152 154	.2 43 4-4 152 152 154	46
170.0	-1.1 -2 4-4 145 145 148	.0 17 4-4 146 146 148	.2 43 4-4 145 145 147	2.8 43 4-4 148 148 151	.6 46 4-4 153 153 155	49 48
165.0	.1 21 4-4 140 142 144	.9 43 4-4 141 143 145	1.2 46 4-4 147 147 150	.3 48 4-4 150 150 152	.8 49 4-4 151 151 153	51
160.0	1.3 43 4-4 136 140 143	1.3 47 4-4 143 143 145	.1 50 4-4 148 148 150	.6 51 4-4 148 148 151	1.0 52 4-4 150 150 152	53
158.0	.4 46 4-4 138 139 141	.6 49 4-4 145 145 147	.6 51 4-4 147 147 150	1.0 52 4-4 148 148 150	1.4 53 4-4 149 149 151	54
156.0	.2 48 4-4 139 139 141	1.0 50 4-4 145 145 147	1.1 52 4-4 147 147 149	1.5 53 4-4 147 147 149	.2 55 4-4 149 149 150	54
154.0	1.0 49 4-4 140 140 142	.0 52 4-4 145 145 147	1.5 53 4-4 146 146 148	.3 55 4-4 146 146 148	.5 56 4-4 148 148 150	54
152.0	.3 51 4-4 141 141 143	.5 53 4-4 145 145 147	.3 55 4-4 146 146 147	.6 56 4-4 145 145 147	.8 57 4-4 147 147 149	54
150.0	.9 52 4-4 141 141 143	1.1 54 4-4 144 144 146	.7 56 4-4 145 145 147	1.0 57 4-4 145 145 146	1.2 58 4-4 146 146 148	54
148.0	1.4 53 4-4 141 141 143	1.4 55 4-4 143 143 145	1.1 57 4-4 144 144 146	1.4 58 4-4 144 144 146	.0 60 4-4 145 145 147	54
146.0	.4 55 4-4 141 141 143	.2 57 4-4 142 142 144	1.5 58 4-4 144 144 145	.2 60 4-4 143 143 144	.4 61 4-4 144 144 146	54
144.0	.8 56 4-4 140 140 142	.7 58 4-4 141 141 143	.4 60 4-4 142 142 144	.7 61 4-4 142 142 144	.9 62 4-4 144 144 145	54
142.0	1.3 57 4-4 139 139 141	1.1 59 4-4 140 140 142	.8 61 4-4 142 142 143	1.1 62 4-4 142 142 143	1.4 63 4-4 143 143 144	54
140.0	.3 59 4-4 138 138 140	.2 61 4-4 139 139 140	1.4 62 4-4 141 141 143	.1 64 4-4 141 141 142	.4 65 4-4 142 142 143	54
135.0	.9 62 4-4 136 136 138	.8 64 4-4 137 137 138	.5 66 4-4 139 139 140	.8 67 4-4 139 139 140	2.4 67 4-4 140 140 141	54
130.0	.3 66 4-4 134 134 135	1.6 67 4-4 136 136 137	4.1 67 4-4 138 138 139	.0 67 121 126 128	.0 67 120 126 128	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 2506.(FT) QNH ALT. : 2995.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	168906 4-4 145 145 148	172724 4-4 150 150 153	176131 4-4 155 155 158	178289 4-4 156 156 159	180381 4-4 158 158 161
13.0	166552 4-4 142 143 145	170631 4-4 146 146 149	174355 4-4 151 151 154	176639 4-4 155 155 158	178763 4-4 156 156 159
28.0	163921 4-4 139 141 144	168432 4-4 143 144 146	172311 4-4 148 148 150	174784 4-4 151 151 154	177036 4-4 155 155 158
43.0	161279 4-4 136 140 143	165887 4-4 141 143 145	170231 4-4 145 145 147	172832 4-4 148 148 151	175240 4-4 152 152 154
44.0	160335 4-4 137 140 142	164902 4-4 141 142 144	168969 4-4 146 146 148	171481 4-4 149 149 152	173749 4-4 153 153 155
46.0	158384 4-4 138 139 141	162617 4-4 143 143 145	166199 4-4 147 147 150	168425 4-4 150 150 153	170551 4-4 153 153 155
47.0	157405 4-4 138 139 141	161315 4-4 143 143 145	164763 4-4 148 148 151	166847 4-4 150 150 152	168958 4-4 152 152 154
49.0	155025 4-4 140 140 142	158563 4-4 145 145 147	161692 4-4 149 149 151	163713 4-4 150 150 152	165773 4-4 151 151 153
50.0	153728 4-4 141 141 143	157047 4-4 145 145 147	160147 4-4 148 148 150	162156 4-4 149 149 151	164181 4-4 150 150 152
51.0	152348 4-4 141 141 143	155537 4-4 145 145 147	158598 4-4 147 147 150	160599 4-4 148 148 151	162588 4-4 150 150 152
53.0	149445 4-4 141 141 143	152543 4-4 145 145 147	155505 4-4 146 146 148	157483 4-4 147 147 149	159422 4-4 149 149 151
54.0	147998 4-4 142 142 144	151054 4-4 144 144 146	153966 4-4 146 146 148	155924 4-4 147 147 149	157848 4-4 149 149 151
56.0	144821 4-4 140 140 142	147817 4-4 143 143 144	150674 4-4 145 145 147	152590 4-4 145 145 147	154478 4-4 148 148 150
57.0	143273 4-4 139 139 141	146236 4-4 142 142 144	149063 4-4 144 144 146	150958 4-4 145 145 146	152828 4-4 147 147 149
59.0	140252 4-4 138 138 140	143148 4-4 140 140 142	145910 4-4 143 143 145	147763 4-4 143 143 145	149595 4-4 146 146 147
60.0	138778 4-4 137 137 139	141639 4-4 140 140 141	144367 4-4 142 142 144	146198 4-4 143 143 144	148012 4-4 145 145 147
61.0	137324 4-4 137 137 138	140150 4-4 139 139 140	142844 4-4 142 142 143	144653 4-4 142 142 144	146448 4-4 144 144 146
63.0	134479 4-4 136 136 137	137228 4-4 138 138 139	139856 4-4 141 141 142	141622 4-4 141 141 143	143372 4-4 143 143 144
64.0	133085 4-4 135 135 137	135790 4-4 137 137 138	138390 4-4 141 141 142	140133 4-4 141 141 142	141858 4-4 142 142 144
66.0	130335 4-4 134 134 135	132963 4-4 136 136 138	135502 4-4 139 139 140	137206 4-4 140 140 141	138869 4-4 141 141 142
67.0	128987 4-4 133 133 135	131572 4-4 136 136 137	134075 4-4 138 138 139	135762 4-4 139 139 140	137390 4-4 140 140 141

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 2506.(FT) QNH ALT. : 2995.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

TOULOUSE (LFBO) - RWY 15L - CONF 3

CONF 3	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214/AA/565B4IMP** JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0			-3.8 -2 4-4 155 155 156	-1.7 -2 4-4 156 156 157	.0 1 4-4 43 158 158 158 43
175.0		-2.0 -2 4-4 153 153 155	.1 8 4-4 154 154 155	.0 28 4-4 153 153 154	.5 43 4-4 46 153 153 154 46
170.0	-.4 -2 4-4 148 148 149	.1 22 4-4 147 147 148	1.0 43 4-4 147 147 148	3.4 43 4-4 151 151 152	.7 46 4-4 49 152 152 153 48
165.0	.2 29 4-4 139 139 142	2.2 43 4-4 141 141 143	1.5 46 4-4 149 149 150	.5 48 4-4 149 149 150	.9 49 4-4 51 150 150 151 51
160.0	2.9 43 4-4 136 136 139	.3 48 4-4 144 144 146	.3 50 4-4 146 146 147	.8 51 4-4 148 148 149	1.1 52 4-4 54 149 149 150 53
158.0	.3 47 4-4 139 139 141	.8 49 4-4 144 144 146	.7 51 4-4 147 147 148	1.2 52 4-4 147 147 148	1.5 53 4-4 54 148 148 149 54
156.0	.9 48 4-4 140 140 142	1.3 50 4-4 144 144 146	1.2 52 4-4 146 146 147	.0 54 4-4 146 146 147	.2 55 4-4 54 147 147 148 54
154.0	.1 50 4-4 142 142 144	.2 52 4-4 144 144 145	.1 54 4-4 145 145 146	.4 55 4-4 145 145 146	.5 56 4-4 54 147 147 148 54
152.0	.6 51 4-4 141 141 143	.7 53 4-4 144 144 145	.4 55 4-4 144 144 145	.7 56 4-4 144 144 145	.9 57 4-4 54 146 146 147 54
150.0	1.2 52 4-4 140 140 143	1.2 54 4-4 143 143 145	.8 56 4-4 143 143 145	1.0 57 4-4 143 143 145	1.2 58 4-4 54 145 145 146 54
148.0	.2 54 4-4 139 139 141	1.6 55 4-4 142 142 144	1.2 57 4-4 142 142 144	1.4 58 4-4 142 142 144	.0 60 4-4 54 144 144 145 54
146.0	.6 55 4-4 138 138 141	.4 57 4-4 140 140 142	1.6 58 4-4 141 141 143	.2 60 4-4 141 141 143	.4 61 4-4 54 143 143 144 54
144.0	1.0 56 4-4 138 138 140	.8 58 4-4 140 140 142	.4 60 4-4 140 140 142	.7 61 4-4 140 140 142	.9 62 4-4 54 142 142 144 54
142.0	1.4 57 4-4 137 137 139	1.2 59 4-4 139 139 141	.9 61 4-4 139 139 141	1.2 62 4-4 140 140 142	1.3 63 4-4 54 142 142 143 54
140.0	.4 59 4-4 136 136 138	.2 61 4-4 138 138 140	1.4 62 4-4 138 138 140	.1 64 4-4 139 139 141	.3 65 4-4 54 140 140 142 54
135.0	1.0 62 4-4 134 134 136	.8 64 4-4 135 135 137	.5 66 4-4 136 136 137	.7 67 4-4 138 138 139	2.3 67 4-4 54 139 139 140 54
130.0	.4 66 4-4 132 132 134	1.6 67 4-4 134 134 135	4.0 67 4-4 135 135 137	.0 67 2 118 123 125	.0 67 2 54 118 123 125 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 2441.(FT) QNH ALT. : 2930.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214/AA/565B4IMP** JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 43 DC TMAX = 54 DC	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
-2.0	169617 4-4 148 148 149	173008 4-4 153 153 155	176183 4-4 155 155 156	178306 4-4 156 156 157	180337 4-4 158 158 159
13.0	167584 4-4 143 143 146	171310 4-4 149 149 151	174555 4-4 153 153 154	176713 4-4 155 155 156	178793 4-4 157 157 157
28.0	165311 4-4 139 139 142	169271 4-4 145 145 147	172868 4-4 151 151 152	175023 4-4 153 153 154	177131 4-4 156 156 156
43.0	162932 4-4 136 136 139	167154 4-4 141 141 143	171004 4-4 147 147 148	173360 4-4 151 151 152	175479 4-4 153 153 154
44.0	161862 4-4 137 137 139	165910 4-4 142 142 144	169602 4-4 148 148 149	171822 4-4 151 151 152	173912 4-4 153 153 154
46.0	159478 4-4 138 138 140	163263 4-4 144 144 146	166534 4-4 149 149 150	168628 4-4 150 150 151	170696 4-4 152 152 153
47.0	158258 4-4 139 139 141	161829 4-4 145 145 147	164962 4-4 149 149 150	167040 4-4 149 149 151	169096 4-4 152 152 153
49.0	155567 4-4 140 140 143	158793 4-4 144 144 146	161838 4-4 148 148 149	163884 4-4 149 149 150	165899 4-4 150 150 151
50.0	154128 4-4 142 142 144	157262 4-4 144 144 146	160261 4-4 146 146 147	162316 4-4 149 149 150	164299 4-4 150 150 151
51.0	152645 4-4 141 141 143	155739 4-4 144 144 146	158728 4-4 147 147 148	160751 4-4 148 148 149	162698 4-4 149 149 150
53.0	149685 4-4 140 140 142	152716 4-4 144 144 145	155640 4-4 145 145 147	157615 4-4 146 146 148	159500 4-4 148 148 149
54.0	148209 4-4 139 139 141	151214 4-4 143 143 145	154108 4-4 145 145 146	156043 4-4 146 146 147	157909 4-4 148 148 149
56.0	145005 4-4 138 138 140	147949 4-4 141 141 143	150785 4-4 143 143 145	152686 4-4 144 144 145	154517 4-4 147 147 148
57.0	143441 4-4 137 137 139	146354 4-4 140 140 142	149161 4-4 142 142 144	151041 4-4 143 143 145	152855 4-4 146 146 147
59.0	140390 4-4 136 136 138	143240 4-4 139 139 141	145984 4-4 141 141 142	147820 4-4 142 142 143	149597 4-4 144 144 146
60.0	138900 4-4 135 135 137	141719 4-4 138 138 140	144430 4-4 140 140 142	146241 4-4 141 141 143	148000 4-4 144 144 145
61.0	137432 4-4 134 134 136	140215 4-4 138 138 140	142896 4-4 139 139 141	144683 4-4 140 140 142	146423 4-4 143 143 144
63.0	134557 4-4 134 134 135	137268 4-4 136 136 138	139884 4-4 138 138 139	141622 4-4 139 139 141	143326 4-4 142 142 143
64.0	133149 4-4 133 133 135	135819 4-4 135 135 137	138403 4-4 137 137 139	140119 4-4 139 139 141	141801 4-4 141 141 142
66.0	130385 4-4 132 132 134	132967 4-4 134 134 136	135484 4-4 136 136 137	137161 4-4 138 138 140	138794 4-4 140 140 141
67.0	129026 4-4 132 132 134	131560 4-4 134 134 135	134047 4-4 135 135 137	135706 4-4 138 138 139	137307 4-4 139 139 140

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 2441.(FT) QNH ALT. : 2930.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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TOULOUSE (LFBO) - RWY 33R - CONF 1 + F

CONF1+F	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = -.06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=140/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	WIND (KT) WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0		-4.1 -2 4-4 .1 -2 2-4 .1 12 2-4 .1 25 2-4 43 43 148 155 155 152 158 158 153 158 158 153 159 159			
175.0	-3.7 -2 4-4 .0 2 4-4 .1 24 4-4 .1 39 4-4 2.2 43 2-4 46 46 143 152 153 147 154 155 147 155 155 148 155 155 150 156 156				
170.0	.0 4 4-4 .1 26 4-4 1.3 43 4-4 4.3 43 4-4 1.3 48 2-4 48 48 142 152 152 143 152 152 144 153 153 147 155 155 154 157 157				
165.0	.0 28 4-4 1.7 43 4-4 .2 50 2-4 1.0 51 2-4 1.2 51 2-8 51 51 138 150 150 140 151 151 148 151 151 153 155 155 153 155 155				
160.0	2.2 43 4-4 .0 51 4-4 .4 54 2-4 .1 55 2-8 .6 56 2-8 54 53 135 148 149 144 148 148 151 153 153 154 155 155 158 158 158				
158.0	.6 47 4-4 .4 53 4-4 .0 56 2-4 .1 57 2-4 1.4 57 2-4 54 54 137 147 147 145 147 147 153 153 153 155 155 155 158 158 158				
156.0	.2 50 4-4 .2 55 2-4 .5 57 2-4 .5 58 2-4 .2 59 2-4 54 54 139 146 146 147 148 148 153 153 153 155 155 155 157 157 157				
154.0	.6 52 4-4 1.1 56 2-4 .9 58 2-4 .9 59 2-4 .6 60 2-4 54 54 140 145 145 147 148 148 152 152 152 154 154 154 156 156 156				
152.0	.1 55 4-4 .3 58 4-4 1.3 59 2-4 1.3 60 2-4 1.0 61 2-4 54 54 142 144 144 148 148 148 151 151 151 154 154 154 156 156 156				
150.0	.4 57 4-4 .8 59 4-4 .3 61 2-4 .1 62 2-4 1.4 62 2-4 54 54 143 143 143 148 148 148 150 150 150 153 153 153 155 155 155				
148.0	1.2 58 4-4 1.2 60 4-4 .7 62 2-4 .6 63 2-4 .3 64 2-4 54 54 143 143 143 147 147 147 150 150 150 152 152 152 154 154 154				
146.0	.5 60 4-4 .3 62 4-4 1.2 63 2-4 1.1 64 2-4 .7 65 2-4 54 54 143 143 143 146 146 146 149 149 149 152 152 152 154 154 154				
144.0	1.0 61 4-4 .8 63 4-4 .2 65 2-4 .0 66 2-4 1.2 66 2-4 54 54 143 143 143 145 145 145 148 148 148 151 151 151 154 154 154				
142.0	.1 63 4-4 1.3 64 4-4 .7 66 2-4 .5 67 2-4 1.6 67 2-4 54 54 142 142 142 144 144 144 148 148 148 150 150 150 153 153 153				
140.0	.7 64 4-4 .4 66 2-4 1.2 67 2-4 .0 67 2 .0 67 2 54 54 142 142 142 143 143 143 148 148 148 143 145 145 141 145 145				
135.0	1.5 67 4-4 4.0 67 2-4 .0 67 .0 67 .0 67 54 54 141 141 141 143 143 143 131 136 136 129 136 136 127 136 136				
130.0	.0 67 .0 67 .0 67 .0 67 .0 67 .0 67 54 54 128 134 134 126 134 134 125 134 134 125 134 134 125 134 134				

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2200.(FT) QNH ALT. : 2695.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF1+F	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = -.06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	WTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-2.0	171260 4-4 143 152 153	175859 4-4 148 155 155	180114 2-4 152 158 158	182271 2-4 156 161 161	184268 2-4 159 164 164
13.0	168120 4-4 140 151 151	172691 4-4 145 153 154	177290 4-4 149 156 156	179893 2-4 152 158 158	181932 2-4 156 161 161
28.0	165011 4-4 138 150 150	169658 4-4 142 152 152	174261 4-4 147 154 154	177240 4-4 150 156 156	179675 2-4 153 158 158
43.0	162245 4-4 135 148 149	166663 4-4 140 151 151	171274 4-4 144 153 153	174342 4-4 147 155 155	177228 4-4 150 156 156
44.0	161289 4-4 136 148 148	165820 4-4 140 150 150	170451 4-4 145 153 153	173504 4-4 148 154 154	176304 2-4 151 156 156
46.0	159426 4-4 137 147 147	164111 4-4 142 150 150	168785 4-4 146 152 152	171803 4-4 149 154 154	174018 2-4 152 157 157
47.0	158583 4-4 137 147 147	163268 4-4 142 149 149	167953 4-4 147 152 152	170786 2-4 150 154 154	172823 2-4 153 157 157
49.0	156973 4-4 138 146 146	161627 4-4 143 149 149	166264 4-4 148 151 151	168448 2-4 151 154 154	169850 2-8 154 157 157
50.0	156176 4-4 139 146 146	160820 4-4 144 148 148	165163 2-4 148 151 151	167259 2-4 152 155 155	168007 2-8 154 156 156
51.0	155365 4-4 139 145 146	160028 4-4 144 148 148	164023 2-4 149 152 152	166041 2-4 153 155 155	166163 2-8 153 155 155
53.0	153777 4-4 140 145 145	158368 4-4 145 147 147	161653 2-4 151 152 152	162475 2-8 152 154 154	162475 2-8 151 154 154
54.0	153006 4-4 141 145 145	157339 2-4 146 147 147	160444 2-4 151 153 153	160631 2-8 151 153 153	160631 2-8 150 153 153
56.0	151239 4-4 142 144 144	155084 2-4 147 148 148	158035 2-4 153 153 153	159622 2-4 156 156 156	160593 2-8 157 158 158
57.0	150378 4-4 143 143 143	153859 4-4 148 148 148	156511 2-4 153 153 153	158062 2-4 155 155 155	159438 2-4 158 158 158
59.0	147961 4-4 143 143 143	150758 4-4 148 148 148	153348 2-4 151 151 151	154852 2-4 154 154 154	156178 2-4 157 157 157
60.0	146507 4-4 143 143 143	149237 4-4 147 147 147	151791 2-4 151 151 151	153260 2-4 154 154 154	154554 2-4 156 156 156
61.0	145028 4-4 143 143 143	147735 4-4 147 147 147	150265 2-4 150 150 150	151693 2-4 153 153 153	152963 2-4 156 156 156
63.0	142120 4-4 142 142 142	144780 4-4 145 145 145	147218 2-4 149 149 149	148597 2-4 152 152 152	149812 2-4 155 155 155
64.0	140692 4-4 142 142 142	143325 4-4 144 144 144	145703 2-4 149 149 149	147056 2-4 152 152 152	148252 2-4 154 154 154
66.0	137882 4-4 141 141 141	140438 2-4 143 143 143	142726 2-4 148 148 148	144001 2-4 151 151 151	145164 2-4 154 154 154
67.0	136499 4-4 141 141 141	139005 2-4 143 143 143	141241 2-4 148 148 148	142505 2-4 150 150 150	143614 2-4 153 153 153

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2200.(FT) QNH ALT. : 2695.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

TOULOUSE (LFBO) - RWY 33R - CONF 2

CONF 2 | **TOULOUSE BLAGNAC** | **LFBO 33R**

ELEVATION= 495.0(FT)
T.O.R.A. = 9843.0(FT)
A.S.D.A. = 9843.0(FT)
T.O.D.A. =10171.0(FT)
SLOPE = -.06(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 19-07-01

QNH=1013.25 (MB)
GRAD1=150/GRAD2= 0
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

WIND (KT) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE TGA
DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0		-2.2 -2 2-4 147 150 153	.1 4 2-4 150 154 157	.0 19 2-4 150 155 157	.1 33 2-4 151 156 158	43
175.0	-.9 -2 4-4 142 146 148	.1 15 2-4 143 147 149	.1 37 2-4 143 148 150	1.6 43 2-4 146 150 153	3.7 43 2-4 149 154 156	46
170.0	.1 18 4-4 138 144 147	.2 42 4-4 138 144 147	4.2 43 2-4 142 147 149	.4 48 2-4 150 152 154	1.7 48 2-8 152 154 156	48
165.0	.3 43 4-4 133 142 144	5.0 43 4-4 138 144 147	.8 50 2-4 147 149 151	1.2 51 2-8 151 152 154	1.2 51 2-8 150 152 154	51
160.0	.7 48 4-4 136 141 142	.2 52 2-4 144 145 146	.6 54 2-8 150 150 152	.6 54 2-8 149 150 152	.1 56 2-4 154 154 157	53
158.0	.8 50 4-4 137 140 142	1.0 53 2-4 144 145 147	.9 55 2-8 149 149 151	.8 56 2-4 152 152 154	.4 57 2-4 154 154 156	54
156.0	.8 52 4-4 138 139 141	.1 55 2-4 144 145 146	1.2 56 2-4 149 149 151	1.1 57 2-4 151 151 153	.8 58 2-4 153 153 155	54
154.0	.5 54 2-4 140 140 142	.5 56 2-4 144 144 146	1.5 57 2-4 148 148 150	1.4 58 2-4 150 150 152	1.1 59 2-4 152 152 154	54
152.0	1.0 55 2-4 141 141 142	.8 57 2-4 143 143 145	.3 59 2-4 147 147 148	.1 60 2-4 149 149 151	1.4 60 2-4 152 152 153	54
150.0	1.6 56 4-4 141 141 143	1.2 58 2-4 143 143 144	.6 60 2-4 146 146 147	.5 61 2-4 148 148 150	.2 62 2-4 150 150 152	54
148.0	.4 58 4-4 140 140 142	.0 60 2-4 141 141 143	1.0 61 2-4 145 145 147	.9 62 2-4 148 148 149	.6 63 2-4 150 150 152	54
146.0	.8 59 4-4 139 139 141	.5 61 2-4 141 141 142	1.5 62 2-4 145 145 146	1.3 63 2-4 147 147 149	1.0 64 2-4 149 149 151	54
144.0	1.2 60 4-4 139 139 140	1.0 62 2-4 140 140 142	.4 64 2-4 144 144 145	.2 65 2-4 146 146 148	1.4 65 2-4 149 149 150	54
142.0	.2 62 4-4 138 138 139	1.4 63 4-4 140 140 141	.8 65 2-4 143 143 145	.6 66 2-4 146 146 147	.2 67 2-4 148 148 149	54
140.0	.7 63 4-4 137 137 138	.5 65 2-4 139 139 140	1.3 66 2-4 143 143 144	1.1 67 2-4 145 145 147	.0 67 2 140 143 144	54
135.0	1.4 66 4-4 135 135 136	2.6 67 2-4 138 138 139	4.8 67 2-4 143 143 144	.0 67 2 126 133 134	.0 67 2 124 133 134	54
130.0	5.0 67 4-4 135 135 136	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2150.(FT) QNH ALT. : 2645.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 2 | **TOULOUSE BLAGNAC** | **LFBO 33R**

ELEVATION= 495.0(FT)
T.O.R.A. = 9843.0(FT)
A.S.D.A. = 9843.0(FT)
T.O.D.A. =10171.0(FT)
SLOPE = -.06(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-214/AA/565B4IMP
JARA MC69 19-07-01

QNH=1013.25 (MB)
AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 43 DC
TMAX = 54 DC

MTOW (LB) WIND (KT) CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE

OAT DC	-10	-5	0	10	20
DRY RUNWAY					
-2.0	174052 4-4 142 146 148	177794 2-4 147 150 153	181018 2-4 152 155 158	183146 2-4 155 159 162	185084 2-4 159 162 165
13.0	171120 4-4 139 145 147	175424 2-4 143 147 150	178696 2-4 148 152 155	180899 2-4 152 156 158	182955 2-4 155 159 162
28.0	168133 4-4 136 143 146	172815 4-4 140 146 148	176432 2-4 145 150 152	178713 2-4 148 153 155	180835 2-4 152 156 159
43.0	165296 4-4 133 142 144	169994 4-4 138 144 147	174211 2-4 142 147 149	176559 2-4 146 150 153	178743 2-4 149 154 156
44.0	164353 4-4 134 142 144	169071 4-4 138 144 146	173056 2-4 143 147 149	175361 2-4 146 151 153	177532 2-4 150 154 156
46.0	162477 4-4 135 141 143	167180 4-4 139 143 145	170669 2-4 144 148 150	172933 2-4 148 151 153	175030 2-4 152 155 157
47.0	161568 4-4 136 141 143	166183 2-4 140 143 145	169464 2-4 145 148 150	171683 2-4 149 152 154	173535 2-8 152 155 157
49.0	159744 4-4 137 140 142	163794 2-4 142 144 145	167016 2-4 146 149 151	169149 2-4 150 152 154	169850 2-8 151 153 156
50.0	158804 4-4 137 140 142	162618 2-4 142 144 146	165787 2-4 147 149 151	167888 2-4 151 152 155	168007 2-8 151 153 155
51.0	157860 4-4 138 139 141	161412 2-4 143 144 146	164500 2-4 148 149 151	166163 2-8 151 152 154	166163 2-8 150 152 154
53.0	155677 2-4 139 140 141	158988 2-4 144 145 147	161982 2-4 149 150 152	162475 2-8 149 151 153	162475 2-8 148 151 153
54.0	154507 2-4 140 140 142	157742 2-4 145 145 147	160631 2-8 150 150 152	160631 2-8 148 150 152	160631 2-8 147 150 152
56.0	151555 4-4 141 141 143	154495 2-4 144 144 146	157212 2-4 149 149 151	158769 2-4 152 152 154	160143 2-4 154 154 157
57.0	149932 4-4 141 141 142	152842 2-4 143 143 145	155536 2-4 148 148 150	157078 2-4 151 151 153	158445 2-4 154 154 156
59.0	146767 4-4 139 139 141	149611 2-4 142 142 143	152254 2-4 147 147 148	153738 2-4 149 149 151	155072 2-4 152 152 154
60.0	145224 4-4 139 139 140	148031 2-4 141 141 143	150633 2-4 146 146 147	152107 2-4 149 149 151	153416 2-4 152 152 153
61.0	143704 4-4 138 138 140	146478 2-4 141 141 142	149046 2-4 145 145 147	150504 2-4 148 148 150	151807 2-4 151 151 153
63.0	140730 4-4 137 137 138	143424 4-4 140 140 141	145915 2-4 144 144 146	147318 2-4 147 147 149	148561 2-4 150 150 152
64.0	139272 4-4 136 136 138	141940 2-4 139 139 140	144368 2-4 144 144 145	145752 2-4 147 147 148	146985 2-4 149 149 151
66.0	136401 4-4 135 135 136	138994 4-4 139 139 140	141326 2-4 143 143 144	142614 2-4 146 146 147	143789 2-4 148 148 150
67.0	134987 4-4 135 135 136	137552 2-4 138 138 139	139813 2-4 143 143 144	141080 2-4 145 145 147	142217 2-4 148 148 149

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2150.(FT) QNH ALT. : 2645.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

TOULOUSE (LFBO) - RWY 33R - CONF 3

CONF 3	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = -.06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=130/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY	WIND (KT) WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA DRY RUNWAY 2 3

TREF = 43 DC
TMAX = 54 DC

WEIGHT 1000LB	-10	-5	0	10	20
180.0	-4.8 -2 2-4 143 146 148	-1.3 -2 2-4 149 152 153	.1 10 2-4 152 155 156	.1 24 2-4 152 156 157	.0 39 2-4 43 153 157 157 43
175.0	.0 -1 2-4 143 146 148	.1 21 2-4 143 147 149	.2 43 2-4 144 149 149	2.4 43 2-4 148 152 153	4.5 43 2-4 46 152 156 156 46
170.0	.1 29 2-4 136 140 142	1.7 43 2-4 138 143 145	.3 47 2-4 147 150 150	1.1 48 2-4 152 154 154	1.7 48 2-8 48 153 155 156 48
165.0	2.7 43 2-4 133 138 141	.8 48 2-4 142 144 146	.2 51 2-4 150 151 152	1.2 51 8-4 153 153 154	1.2 51 2-8 51 150 153 154 51
160.0	1.1 49 2-4 137 139 141	.9 52 2-4 145 145 147	.6 54 8-4 151 151 152	.6 54 2-8 149 151 152	.2 55 2-8 54 151 153 154 53
158.0	.8 51 2-4 138 139 141	.1 54 2-4 146 146 147	.9 55 8-4 150 150 151	.6 56 2-4 152 152 153	.1 57 2-4 54 154 154 155 54
156.0	.4 53 2-4 140 140 142	.4 55 2-4 145 145 146	1.2 56 2-4 149 149 150	.9 57 2-4 151 151 152	.4 58 2-4 54 154 154 154 54
154.0	1.1 54 2-4 140 140 142	.7 56 2-4 144 144 145	1.5 57 2-4 148 148 149	1.2 58 2-4 151 151 151	.7 59 2-4 54 153 153 153 54
152.0	1.5 55 2-4 140 140 142	1.0 57 2-4 143 143 144	.2 59 2-4 147 147 148	1.5 59 2-4 150 150 150	1.0 60 2-4 54 152 152 153 54
150.0	.2 57 4-4 140 140 141	1.4 58 2-4 142 142 144	.6 60 2-4 146 146 147	.2 61 2-4 148 148 149	1.4 61 2-4 54 152 152 152 54
148.0	.6 58 4-4 139 139 141	.2 60 2-4 141 141 142	.9 61 2-4 145 145 146	.6 62 2-4 148 148 149	.1 63 2-4 54 150 150 151 54
146.0	1.0 59 4-4 138 138 140	.6 61 2-4 140 140 142	1.4 62 2-4 145 145 146	1.0 63 2-4 147 147 148	.5 64 2-4 54 150 150 150 54
144.0	1.4 60 4-4 137 137 139	1.1 62 2-4 140 140 141	.2 64 2-4 143 143 145	1.4 64 2-4 147 147 147	.9 65 2-4 54 149 149 149 54
142.0	.4 62 4-4 136 136 138	.0 64 2-4 139 139 140	.7 65 2-4 143 143 144	.3 66 2-4 146 146 146	1.3 66 2-4 54 149 149 149 54
140.0	.9 63 4-4 136 136 137	.5 65 2-4 138 138 140	1.1 66 2-4 143 143 144	.8 67 2-4 145 145 146	1.7 67 2-4 54 148 148 149 54
135.0	.1 67 4-4 133 133 135	2.5 67 2-4 137 137 139	4.6 67 2-4 142 142 143	.0 67 2 125 132 134	.0 67 2 54 123 132 134 54
130.0	.0 67 2 119 123 125	.0 67 2 118 123 125	.0 67 2 118 123 125	.0 67 2 118 123 125	.0 67 2 54 118 123 125 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2107.(FT) QNH ALT. : 2602.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

CONF 3	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = -.06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	WITHOUT REVERSE DRY RUNWAY

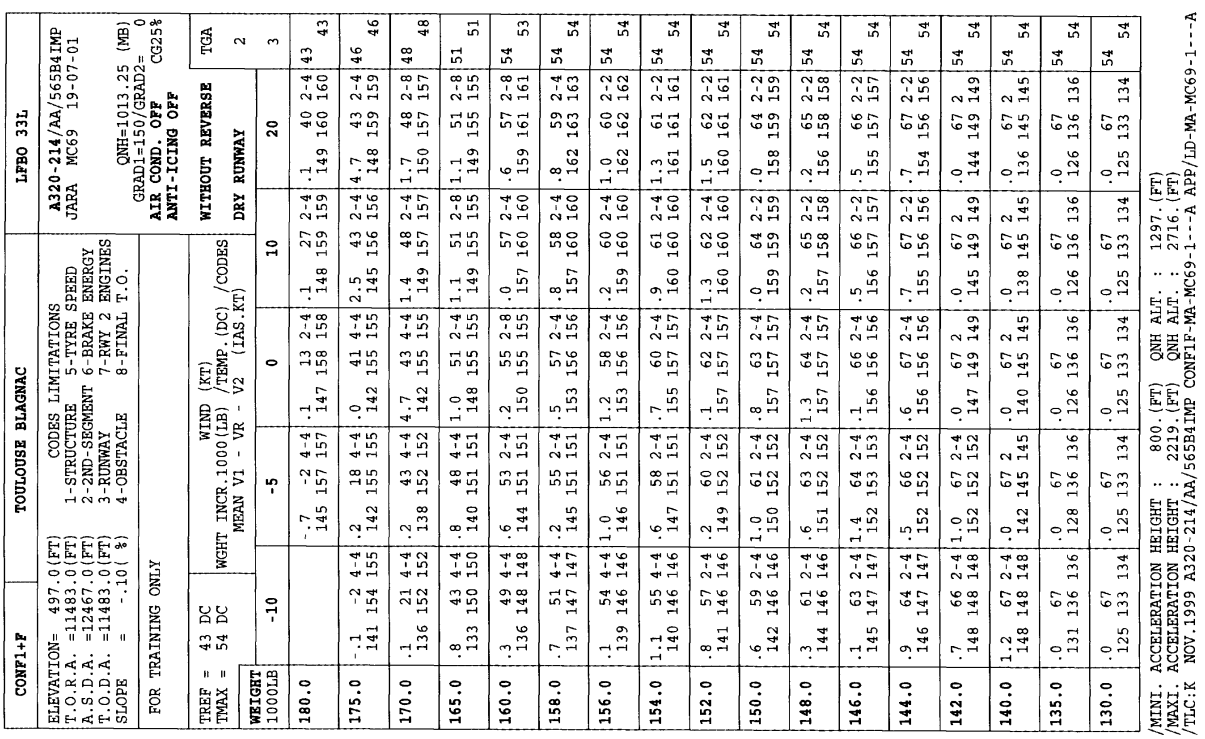
TREF = 43 DC
TMAX = 54 DC

OAT DC	-10	-5	0	10	20
-2.0	175181 2-4 143 146 148	178680 2-4 149 152 153	181811 2-4 155 158 158	183723 2-4 159 162 162	185450 2-4 163 165 166
13.0	172757 2-4 139 143 145	176377 2-4 145 149 150	179661 2-4 151 155 155	181690 2-4 155 158 159	183535 2-4 159 162 162
28.0	170272 2-4 136 140 142	174035 2-4 141 146 147	177436 2-4 147 152 152	179569 2-4 151 155 156	181539 2-4 155 159 159
43.0	167665 4-4 133 138 141	171686 2-4 138 143 145	175214 2-4 144 149 149	177442 2-4 148 152 153	179475 2-4 152 156 156
44.0	166674 4-4 133 138 140	170547 2-4 139 143 145	174029 2-4 144 149 150	176224 2-4 149 153 153	178220 2-4 153 156 157
46.0	164457 2-4 135 138 140	168203 2-4 140 144 145	171526 2-4 146 149 150	173682 2-4 150 153 154	175378 2-8 154 156 157
47.0	163344 2-4 135 138 140	166978 2-4 141 144 145	170282 2-4 147 150 150	172364 2-4 151 153 154	173535 2-8 154 156 156
49.0	161050 2-4 137 139 141	164598 2-4 142 144 146	167768 2-4 149 150 151	169755 2-4 153 154 155	169850 2-8 152 154 155
50.0	159921 2-4 137 139 141	163382 2-4 143 145 146	166475 2-4 149 150 151	168007 2-8 153 154 154	168007 2-8 151 154 154
51.0	158767 2-4 138 139 141	162120 2-4 144 145 146	165160 2-4 150 151 152	166163 8-4 153 153 154	166163 2-8 150 153 154
53.0	156413 2-4 140 140 142	159643 2-4 146 146 147	162202 2-4 151 151 152	162475 2-8 150 152 152	162475 2-8 149 152 152
54.0	155149 2-4 140 140 142	158089 2-4 146 146 147	160631 8-4 151 151 152	160631 2-8 149 151 152	160631 2-8 147 151 152
56.0	151830 4-4 140 140 142	154680 2-4 144 144 145	157207 2-4 149 149 150	158586 2-4 152 152 153	159799 2-4 155 155 156
57.0	150191 4-4 140 140 141	153014 2-4 143 143 144	155512 2-4 148 148 149	156892 2-4 151 151 152	158077 2-4 154 154 155
59.0	146996 4-4 138 138 140	149757 2-4 141 141 143	152186 2-4 147 147 148	153531 2-4 150 150 150	154702 2-4 153 153 153
60.0	145437 4-4 137 137 139	148164 2-4 141 141 142	150554 2-4 146 146 147	151878 2-4 149 149 150	153037 2-4 152 152 153
61.0	143903 4-4 137 137 139	146603 2-4 140 140 142	148933 2-4 145 145 146	150233 2-4 148 148 149	151397 2-4 152 152 152
63.0	140900 4-4 136 136 137	143514 2-4 139 139 141	145773 2-4 144 144 145	147024 2-4 147 147 148	148117 2-4 150 150 151
64.0	139427 4-4 135 135 137	142006 2-4 139 139 140	144196 2-4 143 143 145	145420 2-4 147 147 147	146522 2-4 150 150 150
66.0	136531 4-4 134 134 135	139016 2-4 138 138 139	141121 2-4 143 143 144	142296 2-4 146 146 146	143309 2-4 149 149 149
67.0	135103 4-4 133 133 135	137544 2-4 137 137 139	139607 2-4 142 142 143	140755 2-4 145 145 146	141735 2-4 148 148 149

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2107.(FT) QNH ALT. : 2602.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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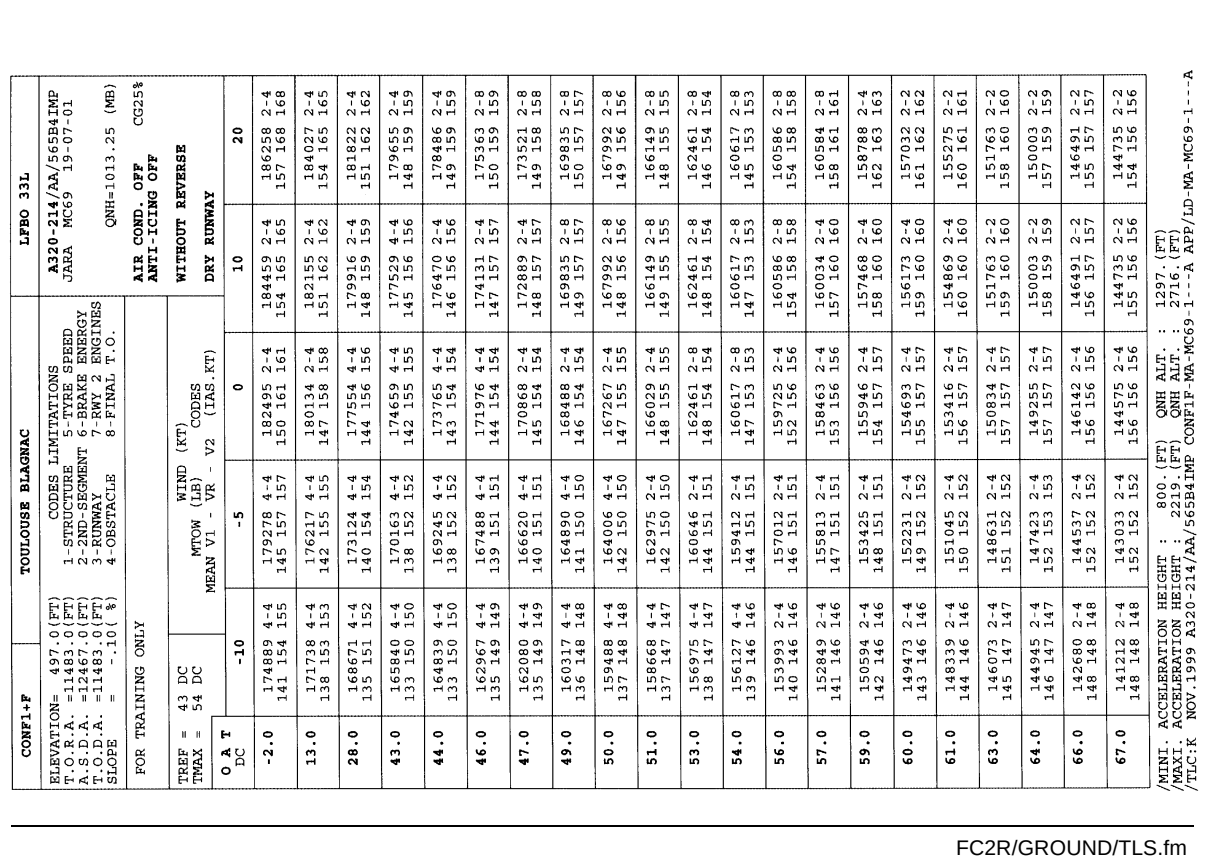
TOULOUSE (LFBO) - RWY 33L - CONF 1 + F



CONF1+F	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =12467.0(FT) T.O.D.A. =11483.0(FT) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=150/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3 TGA

WEIGHT 1000LB	-10	-5	0	10	20
180.0		-.7 -2 4-4 .1 13 2-4 .1 27 2-4 .1 40 2-4 43 43 145 157 157 147 158 158 148 159 159 149 160 160			
175.0	-.1 -2 4-4 .2 18 4-4 .0 41 4-4 2.5 43 2-4 4.7 43 2-4 46 46 141 154 155 142 155 155 142 155 155 145 156 156 148 159 159				
170.0	.1 21 4-4 .2 43 4-4 4.7 43 4-4 1.4 48 2-4 1.7 48 2-8 48 48 136 152 152 138 152 152 142 155 152 149 157 157 150 157 157				
165.0	.8 43 4-4 .8 48 4-4 1.0 51 2-4 1.1 51 2-8 1.1 51 2-8 51 51 133 150 150 140 151 151 148 155 155 149 155 155 149 155 155				
160.0	.3 49 4-4 .6 53 2-4 .2 55 2-8 .0 57 2-4 .6 57 2-8 54 53 136 148 148 144 151 151 150 155 155 157 160 160 159 161 161				
158.0	.7 51 4-4 .2 55 2-4 .5 57 2-4 .8 58 2-4 .8 59 2-4 54 54 137 147 147 145 151 151 153 156 156 157 160 160 162 163 163				
156.0	.1 54 4-4 1.0 56 2-4 1.2 58 2-4 .2 60 2-4 1.0 60 2-2 54 54 139 146 146 146 151 151 153 156 156 159 160 160 162 162 162				
154.0	1.1 55 4-4 .6 58 2-4 .7 60 2-4 .9 61 2-4 1.3 61 2-2 54 54 140 146 146 147 151 151 155 157 157 160 160 160 161 161 161				
152.0	.8 57 2-4 .2 60 2-4 .1 62 2-4 1.3 62 2-4 1.5 62 2-2 54 54 141 146 146 149 152 152 157 157 157 160 160 160 160 161 161				
150.0	.6 59 2-4 1.0 61 2-4 .8 63 2-4 .0 64 2-2 .0 64 2-2 54 54 142 146 146 150 152 152 157 157 157 159 159 159 158 159 159				
148.0	.3 61 2-4 .6 63 2-4 1.3 64 2-4 .2 65 2-2 .2 65 2-2 54 54 144 146 146 151 152 152 157 157 157 157 158 158 156 158 158				
146.0	.1 63 2-4 1.4 64 2-4 .1 66 2-4 .5 66 2-2 .5 66 2-2 54 54 145 147 147 152 153 153 156 156 156 156 157 157 155 157 157				
144.0	.9 64 2-4 .5 66 2-4 .6 67 2-4 .7 67 2-2 .7 67 2-2 54 54 146 147 147 152 152 152 156 156 156 155 156 156 154 156 156				
142.0	.7 66 2-4 1.0 67 2-4 .0 67 2 .0 67 2 .0 67 2 54 54 148 148 148 152 152 152 147 149 149 145 149 149 144 149 149				
140.0	1.2 67 2-4 .0 67 2 .0 67 2 .0 67 2 .0 67 2 54 54 148 148 148 142 145 145 140 145 145 138 145 145 136 145 145				
135.0	.0 67 .0 67 .0 67 .0 67 .0 67 .0 67 54 54 131 136 136 128 136 136 126 136 136 126 136 136 126 136 136				
130.0	.0 67 .0 67 .0 67 .0 67 .0 67 .0 67 54 54 125 133 134 125 133 134 125 133 134 125 133 134 125 133 134				

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2219.(FT) QNH ALT. : 2716.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

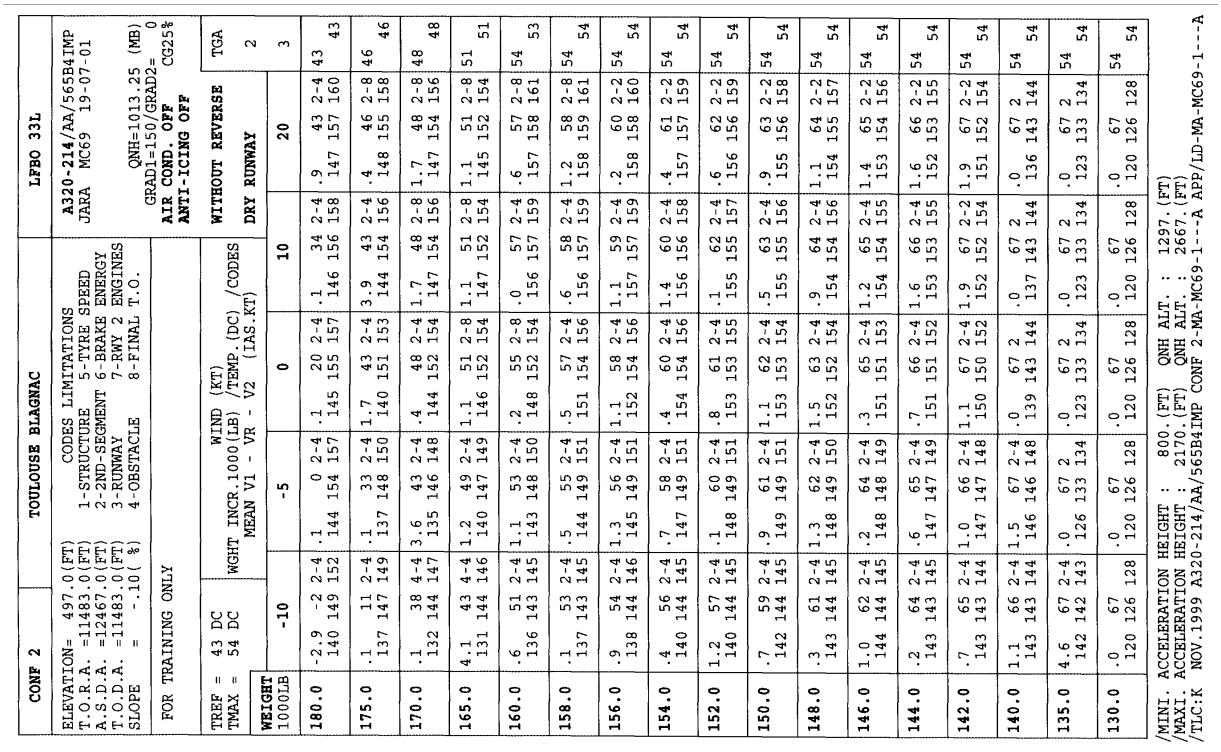


CONF1+F	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =12467.0(FT) T.O.D.A. =11483.0(FT) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	174889 4-4 141 154 155	179278 4-4 145 157 157	182495 2-4 150 161 161	184459 2-4 154 165 165	186258 2-4 157 168 168
13.0	171738 4-4 138 153 153	176217 4-4 142 155 155	180134 2-4 147 158 158	182155 2-4 151 162 162	184027 2-4 154 165 165
28.0	168671 4-4 135 151 152	173124 4-4 140 154 154	177554 4-4 144 156 156	179916 2-4 148 159 159	181822 2-4 151 162 162
43.0	165840 4-4 133 150 150	170163 4-4 138 152 152	174659 4-4 142 155 155	177529 4-4 145 156 156	179655 2-4 148 159 159
44.0	164839 4-4 133 150 150	169245 4-4 138 152 152	173765 4-4 143 154 154	176470 2-4 146 156 156	178486 2-4 149 159 159
46.0	162967 4-4 135 149 149	167488 4-4 139 151 151	171976 4-4 144 154 154	174131 2-4 147 157 157	175363 2-8 150 159 159
47.0	162080 4-4 135 149 149	166620 4-4 140 151 151	170868 2-4 145 154 154	172889 2-4 148 157 157	173521 2-8 149 158 158
49.0	160317 4-4 136 148 148	164890 4-4 141 150 150	168488 2-4 146 154 154	169835 2-8 149 157 157	169835 2-8 150 157 157
50.0	159488 4-4 137 148 148	164006 4-4 142 150 150	167267 2-4 147 155 155	167992 2-8 148 156 156	167992 2-8 149 156 156
51.0	158668 4-4 137 147 147	162975 2-4 142 150 150	166029 2-4 148 155 155	166149 2-8 149 155 155	166149 2-8 148 155 155
53.0	156975 4-4 138 147 147	160646 2-4 144 151 151	162461 2-8 148 154 154	162461 2-8 148 154 154	162461 2-8 146 154 154
54.0	156127 4-4 139 146 146	159412 2-4 144 151 151	160617 2-8 147 153 153	160617 2-8 147 153 153	160617 2-8 145 153 153
56.0	153993 2-4 140 146 146	157012 2-4 146 151 151	159725 2-4 152 156 156	160586 2-8 154 158 158	160586 2-8 154 158 158
57.0	152849 2-4 141 146 146	155813 2-4 147 151 151	158463 2-4 153 156 156	160034 2-4 157 160 160	160584 2-8 158 161 161
59.0	150594 2-4 142 146 146	153425 2-4 148 151 151	155946 2-4 154 157 157	157468 2-4 158 160 160	158788 2-4 162 163 163
60.0	149473 2-4 143 146 146	152231 2-4 149 152 152	154693 2-4 155 157 157	156173 2-4 159 160 160	157032 2-2 161 162 162
61.0	148339 2-4 144 146 146	151045 2-4 150 152 152	153416 2-4 156 157 157	154869 2-4 160 160 160	155275 2-2 160 161 161
63.0	146073 2-4 145 147 147	148631 2-4 151 152 152	150834 2-4 157 157 157	151763 2-2 159 160 160	151763 2-2 158 160 160
64.0	144945 2-4 146 147 147	147423 2-4 152 153 153	149255 2-4 157 157 157	150003 2-2 158 159 159	150003 2-2 157 159 159
66.0	142680 2-4 148 148 148	144537 2-4 152 152 152	146142 2-4 156 156 156	146491 2-2 156 157 157	146491 2-2 155 157 157
67.0	141212 2-4 148 148 148	143033 2-4 152 152 152	144575 2-4 156 156 156	144735 2-2 155 156 156	144735 2-2 154 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2219.(FT) QNH ALT. : 2716.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF1F-MA-MC69-1---A APP/LD-MA-MC69-1---A

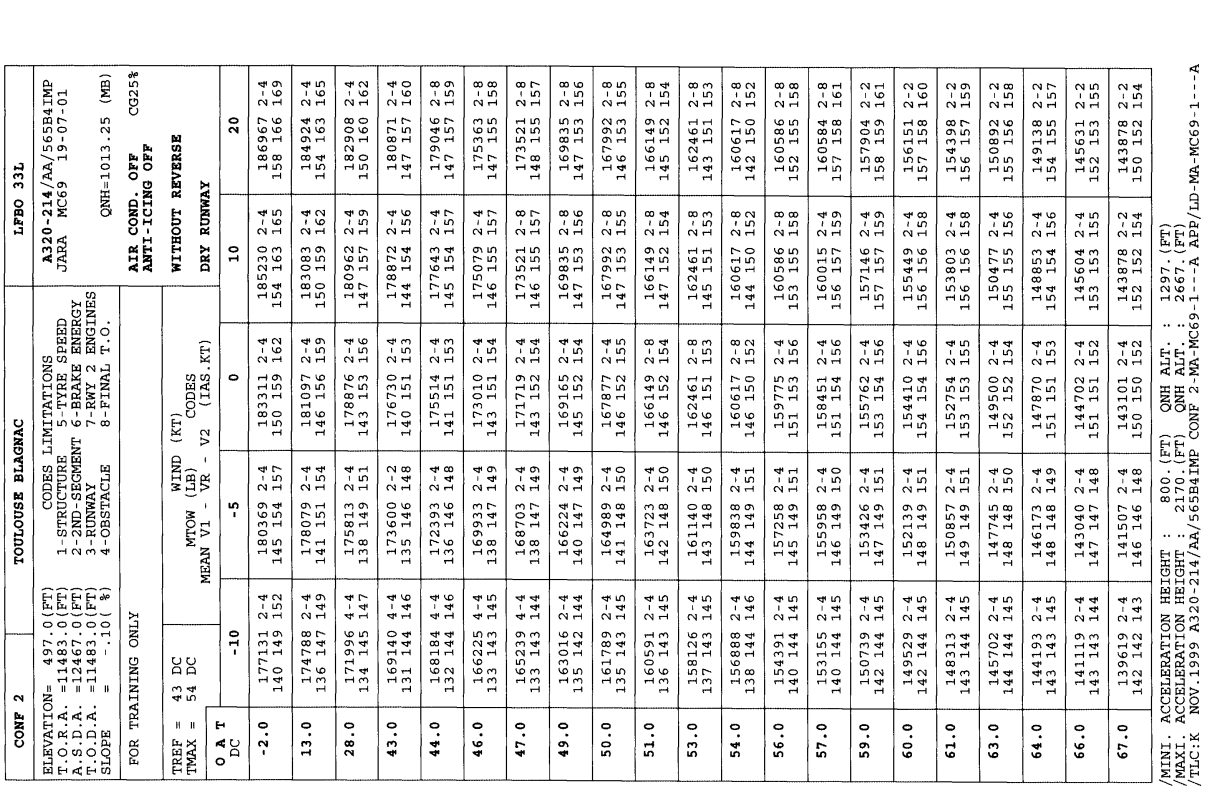
TOULOUSE (LFBO) - RWY 33L - CONF 2



CONF 2	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =12467.0(FT) T.O.D.A. =11483.0(FT) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=150/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 43 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0	-2.9 -2 2-4 140 149 152	.1 0 2-4 144 154 157	.1 20 2-4 145 155 157	.1 34 2-4 146 156 158	.9 43 2-4 43 147 157 160	43
175.0	.1 11 2-4 137 147 149	.1 33 2-4 137 148 150	1.7 43 2-4 140 151 153	3.9 43 2-4 144 154 156	.4 46 2-8 46 148 155 158	46
170.0	.1 38 4-4 132 144 147	3.6 43 2-4 135 146 148	.4 48 2-4 144 152 154	1.7 48 2-8 147 154 156	1.7 48 2-8 48 147 154 156	48
165.0	4.1 43 4-4 131 144 146	1.2 49 2-4 140 147 149	1.1 51 2-8 146 152 154	1.1 51 2-8 147 152 154	1.1 51 2-8 51 145 152 154	51
160.0	.6 51 2-4 136 143 145	1.1 53 2-4 143 148 150	.2 55 2-8 148 152 154	.0 57 2-4 156 157 159	.6 57 2-8 53 157 158 161	53
158.0	.1 53 2-4 137 143 145	.5 55 2-4 144 149 151	.5 57 2-4 151 154 156	.6 58 2-4 156 157 159	1.2 58 2-8 54 158 159 161	54
156.0	.9 54 2-4 138 144 146	1.3 56 2-4 145 149 151	1.1 58 2-4 152 154 156	1.1 59 2-4 157 157 159	.2 60 2-2 54 158 158 160	54
154.0	.4 56 2-4 140 144 145	.7 58 2-4 147 149 151	.4 60 2-4 154 154 156	1.4 60 2-4 156 156 158	.4 61 2-2 54 157 157 159	54
152.0	1.2 57 2-4 140 144 145	.1 60 2-4 148 149 151	.8 61 2-4 153 153 155	.1 62 2-4 155 155 157	.6 62 2-2 54 156 156 159	54
150.0	.7 59 2-4 142 144 145	.9 61 2-4 149 149 151	1.1 62 2-4 153 153 154	.5 63 2-4 155 155 156	.9 63 2-2 54 155 156 158	54
148.0	.3 61 2-4 143 144 145	1.3 62 2-4 148 149 150	1.5 63 2-4 152 152 154	.9 64 2-4 154 154 156	1.1 64 2-2 54 154 155 157	54
146.0	1.0 62 2-4 144 144 145	.2 64 2-4 148 148 149	.3 65 2-4 151 151 153	1.2 65 2-4 154 154 155	1.4 65 2-2 54 153 154 156	54
144.0	.2 64 2-4 143 143 145	.6 65 2-4 147 147 149	.7 66 2-4 151 151 152	1.6 66 2-4 153 153 155	1.6 66 2-2 54 152 153 155	54
142.0	.7 65 2-4 143 143 144	1.0 66 2-4 147 147 148	1.1 67 2-4 150 150 152	1.9 67 2-2 152 152 154	1.9 67 2-2 54 151 152 154	54
140.0	1.1 66 2-4 143 143 144	1.5 67 2-4 146 146 148	.0 67 2 139 143 144	.0 67 2 137 143 144	.0 67 2 54 136 143 144	54
135.0	4.6 67 2-4 142 142 143	.0 67 2 126 133 134	.0 67 2 123 133 134	.0 67 2 123 133 134	.0 67 2 54 123 133 134	54
130.0	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	.0 67 120 126 128	.0 67 54 120 126 128	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2170.(FT) QNH ALT. : 2667.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

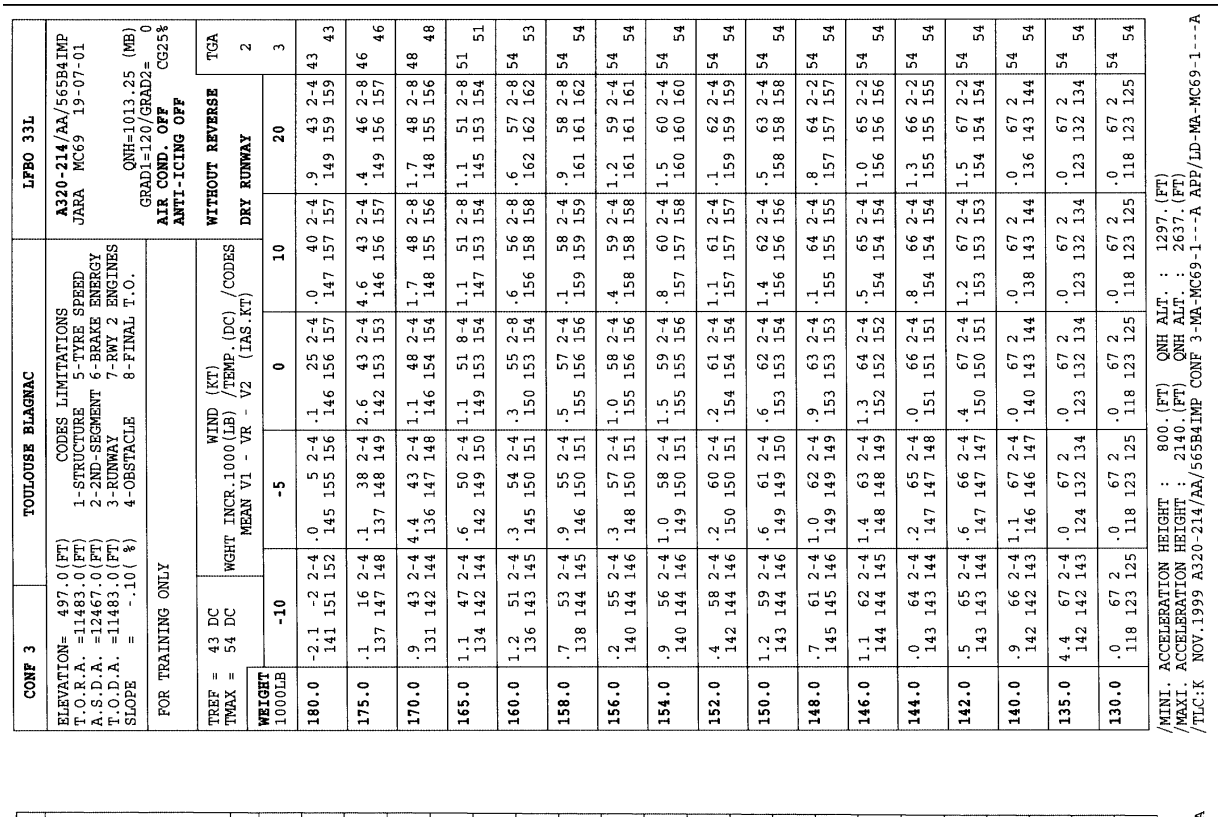


CONF 2	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =12467.0(FT) T.O.D.A. =11483.0(FT) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-214**/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 43 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-2.0	177131 2-4 140 149 152	180369 2-4 145 154 157	183311 2-4 150 159 162	185230 2-4 154 163 165	186967 2-4 158 166 169
13.0	174788 2-4 136 147 149	178079 2-4 141 151 154	181097 2-4 146 156 159	183083 2-4 150 159 162	184924 2-4 154 163 165
28.0	171996 4-4 134 145 147	175813 2-4 138 149 151	178876 2-4 143 153 156	180962 2-4 147 157 159	182908 2-4 150 160 162
43.0	169140 4-4 131 144 146	173600 2-2 135 146 148	176730 2-4 140 151 153	178872 2-4 144 154 156	180871 2-4 147 157 160
44.0	168184 4-4 132 144 146	172393 2-4 136 146 148	175514 2-4 141 151 153	177643 2-4 145 154 157	179046 2-8 147 157 159
46.0	166225 4-4 133 143 145	169933 2-4 138 147 149	173010 2-4 143 151 154	175079 2-4 146 155 157	175363 2-8 147 155 158
47.0	165239 4-4 133 143 144	168703 2-4 138 147 149	171719 2-4 143 152 154	173521 2-8 146 155 157	173521 2-8 148 155 157
49.0	163016 2-4 135 142 144	166224 2-4 140 147 149	169165 2-4 145 152 154	169835 2-8 147 153 156	169835 2-8 147 153 156
50.0	161789 2-4 135 143 145	164989 2-4 141 148 150	167877 2-4 146 152 155	167992 2-8 147 153 155	167992 2-8 146 153 155
51.0	160591 2-4 136 143 145	163723 2-4 142 148 150	166149 2-8 146 152 154	166149 2-8 147 152 154	166149 2-8 145 152 154
53.0	158126 2-4 137 143 145	161140 2-4 143 148 150	162461 2-8 146 151 153	162461 2-8 145 151 153	162461 2-8 143 151 153
54.0	156888 2-4 138 144 146	159838 2-4 144 149 151	160617 2-8 146 150 152	160617 2-8 144 150 152	160617 2-8 142 150 152
56.0	154391 2-4 140 144 145	157258 2-4 145 149 151	159775 2-4 151 153 156	160586 2-8 153 155 158	160586 2-8 152 155 158
57.0	153155 2-4 140 144 145	155958 2-4 146 149 150	158451 2-4 151 154 156	160015 2-4 156 157 159	160584 2-8 157 158 161
59.0	150739 2-4 142 144 145	153426 2-4 147 149 151	155762 2-4 153 154 156	157146 2-4 157 157 159	157904 2-2 158 159 161
60.0	149529 2-4 142 144 145	152139 2-4 148 149 151	154410 2-4 154 154 156	155449 2-4 156 156 158	156151 2-2 157 158 160
61.0	148313 2-4 143 144 145	150857 2-4 149 149 151	152754 2-4 153 153 155	153803 2-4 156 156 158	154398 2-2 156 157 159
63.0	145702 2-4 144 144 145	147745 2-4 148 148 150	149500 2-4 152 152 154	150477 2-4 155 155 156	150892 2-2 155 156 158
64.0	144193 2-4 143 143 145	146173 2-4 148 148 149	147870 2-4 151 151 153	148853 2-4 154 154 156	149138 2-2 154 155 157
66.0	141119 2-4 143 143 144	143040 2-4 147 147 148	144702 2-4 151 151 152	145604 2-4 153 153 155	145631 2-2 152 153 155
67.0	139619 2-4 142 142 143	141507 2-4 146 146 148	143101 2-4 150 150 152	143878 2-2 152 152 154	143878 2-2 150 152 154

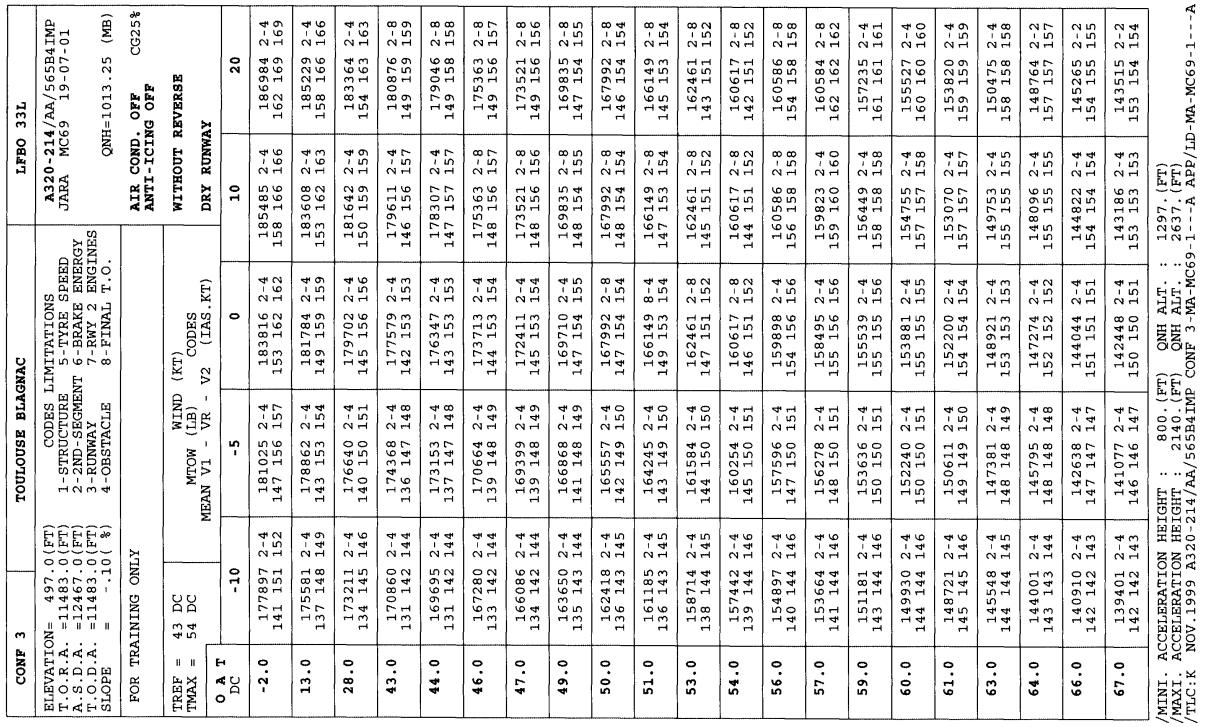
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2170.(FT) QNH ALT. : 2667.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 2-MA-MC69-1---A APP/LD-MA-MC69-1---A

TOULOUSE (LFBO) - RWY 33L - CONF 3



CONF 3	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =12467.0(FT) T.O.D.A. =11483.0(FT) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 54 DC	-10 -5 0 10 20	DRY RUNWAY 2 3
WEIGHT 1000LB		
180.0	-2.1 -2 2-4 .0 5 2-4 .1 25 2-4 .0 40 2-4 .9 43 2-4 43 43 141 151 152 145 155 156 146 156 157 147 157 157 149 159 159	
175.0	.1 16 2-4 .1 38 2-4 2.6 43 2-4 4.6 43 2-4 .4 46 2-8 46 46 137 147 148 137 148 149 142 153 153 146 156 157 149 156 157	
170.0	.9 43 2-4 4.4 43 2-4 1.1 48 2-4 1.7 48 2-8 1.7 48 2-8 48 48 131 142 144 136 147 148 146 154 154 148 155 156 148 155 156	
165.0	1.1 47 2-4 .6 50 2-4 1.1 51 8-4 1.1 51 2-8 1.1 51 2-8 51 51 134 142 144 142 149 150 149 153 154 147 153 154 145 153 154	
160.0	1.2 51 2-4 .3 54 2-4 .3 55 2-8 .6 56 2-8 .6 57 2-8 54 53 136 143 145 145 150 151 150 153 154 156 158 158 162 162 162	
158.0	.7 53 2-4 .9 55 2-4 .5 57 2-4 .1 58 2-4 .9 58 2-8 54 54 138 144 145 146 150 151 155 156 156 159 159 159 161 161 162	
156.0	.2 55 2-4 .3 57 2-4 1.0 58 2-4 .4 59 2-4 1.2 59 2-4 54 54 140 144 146 148 150 151 155 156 156 158 158 158 161 161 161	
154.0	.9 56 2-4 1.0 58 2-4 1.5 59 2-4 .8 60 2-4 1.5 60 2-4 54 54 140 144 146 149 150 151 155 156 156 157 157 158 160 160 160	
152.0	.4 58 2-4 .2 60 2-4 .2 61 2-4 1.1 61 2-4 .1 62 2-4 54 54 142 144 146 150 150 151 154 154 154 157 157 157 159 159 159	
150.0	1.2 59 2-4 .6 61 2-4 .6 62 2-4 1.4 62 2-4 .5 63 2-4 54 54 143 144 146 149 149 150 153 153 154 156 156 156 158 158 158	
148.0	.7 61 2-4 1.0 62 2-4 .9 63 2-4 .1 64 2-4 .8 64 2-2 54 54 145 145 146 149 149 149 153 153 153 155 155 155 157 157 157	
146.0	1.1 62 2-4 1.4 63 2-4 1.3 64 2-4 .5 65 2-4 1.0 65 2-2 54 54 144 144 145 148 148 149 152 152 152 154 154 154 156 156 156	
144.0	.0 64 2-4 .2 65 2-4 .0 66 2-4 .8 66 2-4 1.3 66 2-2 54 54 143 143 144 147 147 148 151 151 151 154 154 154 155 155 155	
142.0	.5 65 2-4 .6 66 2-4 .4 67 2-4 1.2 67 2-4 1.5 67 2-2 54 54 143 143 144 147 147 147 150 150 151 153 153 153 154 154 154	
140.0	.9 66 2-4 1.1 67 2-4 .0 67 2 .0 67 2 .0 67 2 54 54 142 142 143 146 146 147 140 143 144 138 143 144 136 143 144	
135.0	4.4 67 2-4 .0 67 2 .0 67 2 .0 67 2 .0 67 2 54 54 142 142 143 124 132 143 123 132 134 123 132 134 123 132 134	
130.0	.0 67 2 .0 67 2 .0 67 2 .0 67 2 .0 67 2 54 54 118 123 125 118 123 125 118 123 125 118 123 125 118 123 125	

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2140.(FT) QNH ALT. : 2637.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A



CONF 3	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =12467.0(FT) T.O.D.A. =11483.0(FT) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-214/AA/565B4IMP JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE
TREF = 43 DC TMAX = 54 DC	-10 -5 0 10 20	DRY RUNWAY
O A T DC		
-2.0	177897 2-4 181025 2-4 183816 2-4 185485 2-4 186984 2-4 141 151 152 147 156 157 153 162 162 158 166 166 162 169 169	
13.0	175581 2-4 178862 2-4 181784 2-4 183608 2-4 185229 2-4 137 148 149 143 153 154 149 159 159 153 162 163 158 166 166	
28.0	173211 2-4 176640 2-4 179702 2-4 181642 2-4 183364 2-4 134 145 146 140 150 151 145 156 156 150 159 159 154 163 163	
43.0	170860 2-4 174368 2-4 177579 2-4 179611 2-4 180876 2-4 131 142 144 136 147 148 142 153 153 146 156 157 149 159 159	
44.0	169695 2-4 173153 2-4 176347 2-4 178307 2-4 179046 2-8 131 142 144 137 147 148 143 153 153 147 157 157 149 158 158	
46.0	167280 2-4 170664 2-4 173713 2-4 175363 2-8 175363 2-8 133 142 144 139 148 149 144 153 154 148 156 157 149 156 157	
47.0	166086 2-4 169399 2-4 172411 2-4 173521 2-8 173521 2-8 134 142 144 139 148 149 145 153 154 148 156 156 149 156 156	
49.0	163650 2-4 166868 2-4 169710 2-4 169835 2-8 169835 2-8 135 143 144 141 148 149 147 154 155 148 154 155 147 154 155	
50.0	162418 2-4 165557 2-4 167992 2-8 167992 2-8 167992 2-8 136 143 145 142 149 150 147 154 154 148 154 154 146 154 154	
51.0	161185 2-4 164245 2-4 166149 8-4 166149 2-8 166149 2-8 136 143 145 143 149 150 147 153 154 147 153 154 145 153 154	
53.0	158714 2-4 161584 2-4 162461 2-8 162461 2-8 162461 2-8 138 144 145 144 150 150 147 151 152 145 151 152 143 151 152	
54.0	157442 2-4 160254 2-4 160617 2-8 160617 2-8 160617 2-8 139 144 146 145 150 151 146 151 152 144 151 152 142 151 152	
56.0	154897 2-4 157596 2-4 159898 2-4 160586 2-8 160586 2-8 140 144 146 147 150 151 154 156 156 156 158 158 154 158 158	
57.0	153664 2-4 156278 2-4 158495 2-4 159823 2-4 160584 2-8 141 144 146 148 150 151 155 156 156 159 160 160 162 162 162	
59.0	151181 2-4 153636 2-4 155539 2-4 156449 2-4 157235 2-4 143 144 146 150 150 151 155 155 156 158 158 158 161 161 161	
60.0	149930 2-4 152240 2-4 153881 2-4 154755 2-4 155527 2-4 144 144 146 150 150 151 155 155 155 157 157 158 160 160 160	
61.0	148721 2-4 150611 2-4 152200 2-4 153070 2-4 153820 2-4 145 145 146 149 149 150 154 154 154 157 157 157 159 159 159	
63.0	145548 2-4 147381 2-4 148921 2-4 149753 2-4 150475 2-4 144 144 145 148 148 149 153 153 153 155 155 155 158 158 158	
64.0	144001 2-4 145795 2-4 147274 2-4 148096 2-4 148764 2-2 143 143 144 148 148 148 152 152 152 155 155 155 157 157 157	
66.0	140910 2-4 142638 2-4 144044 2-4 144822 2-4 145265 2-2 142 142 143 147 147 147 151 151 151 154 154 154 154 155 155	
67.0	139401 2-4 141077 2-4 142448 2-4 143186 2-4 143515 2-2 142 142 143 146 146 147 150 150 151 153 153 153 153 154 154	

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2140.(FT) QNH ALT. : 2637.(FT)
/TLC:K NOV.1999 A320-214/AA/565B4IMP CONF 3-MA-MC69-1---A APP/LD-MA-MC69-1---A

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BORDEAUX (LFBD) - RWY 23 - CONF 1 + F

CONF1+F	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. =10170.6(FT) A.S.D.A. =10170.6(FT) T.O.D.A. =11482.9(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=130/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0			-3.4 0 4-4 162 162 163	-1.4 0 4-4 166 166 166	.0 2 4-4 169 169 170	45
175.0		-1.9 0 4-4 157 157 158	.0 10 4-4 159 159 160	.1 26 4-4 159 159 159	.1 42 4-4 159 159 159	49
170.0	-.8 0 4-4 151 152 153	.1 18 4-4 152 153 154	.1 43 4-4 151 153 153	2.4 45 4-4 154 154 155	4.7 45 4-4 158 158 158	51 52
165.0	.1 23 4-4 145 150 150	.7 45 4-4 145 150 151	4.8 45 4-4 151 153 153	1.0 52 4-4 157 157 157	1.4 52 4-8 153 153 153	54 54
160.0	1.4 45 4-4 140 148 149	.0 52 4-4 148 149 149	.7 55 4-4 155 155 155	1.0 56 4-8 157 157 157	1.3 57 4-4 161 161 161	54 54
158.0	.5 49 4-4 141 147 147	.2 54 4-4 149 149 149	.3 57 4-4 156 156 156	.5 58 4-4 159 159 159	.6 59 4-4 160 160 160	54 54
156.0	.8 51 4-4 142 146 146	.2 56 4-4 150 150 150	1.0 58 4-4 156 156 156	1.1 59 4-4 159 159 159	1.2 60 4-4 159 159 159	54 54
154.0	.2 54 4-4 143 145 145	.1 58 4-4 151 151 151	.3 60 4-4 155 155 155	.5 61 4-4 158 158 158	.5 62 4-4 158 158 158	54 54
152.0	.4 56 4-4 144 145 145	.9 59 4-4 151 151 151	1.0 61 4-4 155 155 155	1.1 62 4-4 157 157 157	1.2 63 4-4 158 158 158	54 54
150.0	.5 58 4-4 145 145 145	.5 61 4-4 152 152 152	.4 63 4-4 154 154 154	.5 64 4-4 156 156 156	.5 65 4-4 156 156 156	54 54
148.0	.4 60 4-4 146 146 146	1.2 62 4-4 152 152 152	1.1 64 4-4 154 154 154	1.2 65 4-4 156 156 156	1.2 66 4-4 156 156 156	54 54
146.0	.3 62 4-4 147 147 147	.6 64 4-4 151 151 151	.5 66 4-4 153 153 153	.5 67 4-4 154 154 154	.4 68 4-4 154 154 154	54 54
144.0	.0 64 4-4 147 147 147	.1 66 4-4 150 150 150	1.2 67 4-4 152 152 152	1.2 68 4-4 154 154 154	1.0 69 4-4 154 154 154	54 54
142.0	.8 65 4-4 147 147 147	.8 67 4-4 149 149 149	.5 69 4-4 152 152 152	1.8 69 4-4 153 153 153	.0 69 139 140 140	54 54
140.0	.4 67 4-4 147 147 147	.2 69 4-4 148 148 148	.0 69 4 139 139 139	.0 69 137 139 139	.0 69 135 139 139	54 54
135.0	2.8 69 4-4 146 146 146	.0 69 133 136 136	.0 69 129 136 136	.0 69 127 136 136	.0 69 127 136 136	54 54
130.0	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	54 54

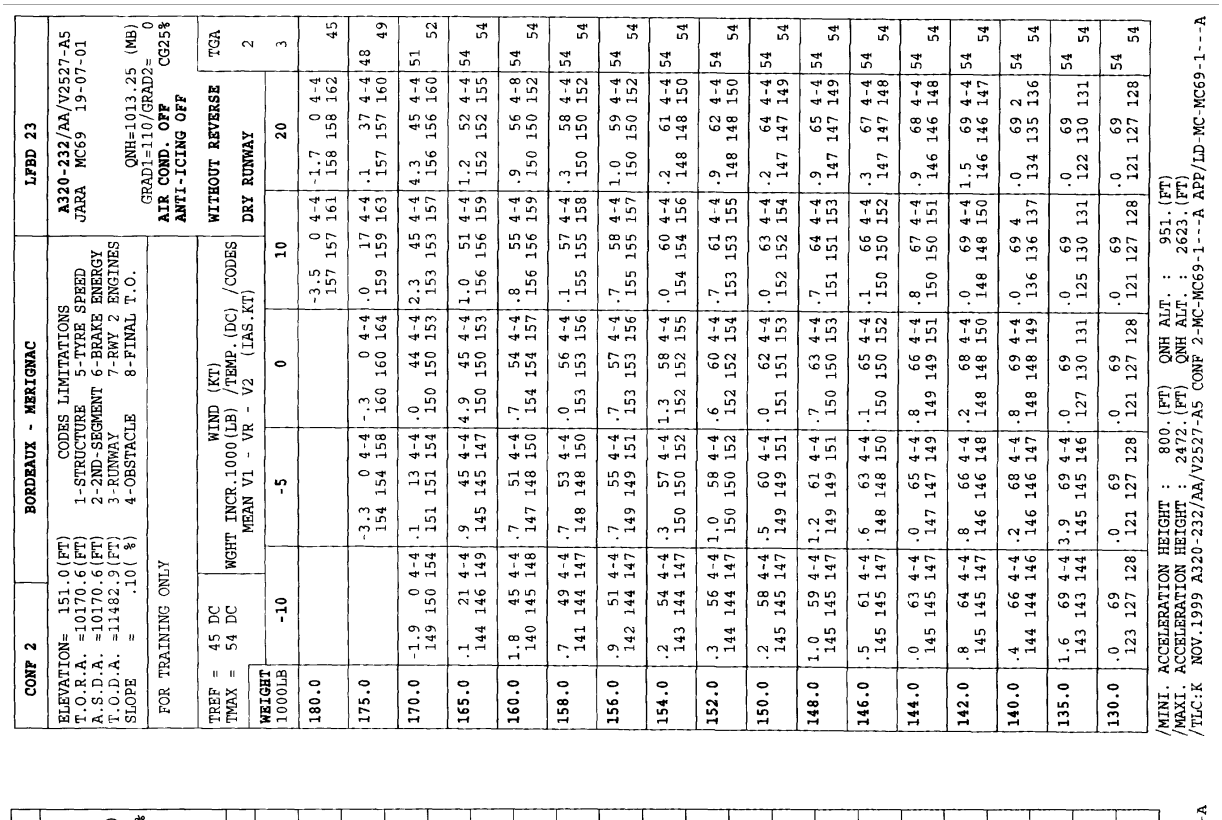
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2363.(FT) QNH ALT. : 2514.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. =10170.6(FT) A.S.D.A. =10170.6(FT) T.O.D.A. =11482.9(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
.0	169231 4-4 151 152 153	173053 4-4 157 157 158	176616 4-4 162 162 163	178619 4-4 166 166 166	180268 4-4 170 170 170
15.0	166457 4-4 147 150 151	170509 4-4 152 154 154	174249 4-4 158 158 158	176647 4-4 161 161 162	178625 4-4 165 165 165
30.0	163985 4-4 143 149 150	168234 4-4 149 152 153	172177 4-4 154 154 154	174541 4-4 158 158 158	176837 4-4 161 161 162
45.5	161279 4-4 140 148 149	165650 4-4 145 150 151	169679 4-4 151 153 153	172329 4-4 154 154 154	174577 4-4 158 158 158
47.0	160142 4-4 140 148 148	164473 4-4 146 150 150	168410 4-4 151 152 152	170944 4-4 155 155 155	173300 4-4 159 159 159
48.0	159300 4-4 141 147 148	163596 4-4 146 150 150	167552 4-4 152 152 152	169994 4-4 156 156 156	172326 4-4 159 159 159
50.0	157610 4-4 141 147 147	161834 4-4 147 149 150	165669 4-4 153 153 153	168104 4-4 157 157 157	169596 4-8 158 158 158
51.0	156764 4-4 142 146 146	160946 4-4 147 149 149	164716 4-4 153 153 153	167121 4-4 157 157 157	168015 4-8 155 155 155
53.0	155049 4-4 143 146 146	159116 4-4 148 149 149	162811 4-4 154 154 154	164851 4-8 157 157 157	164851 4-8 151 151 151
54.0	154184 4-4 143 145 145	158179 4-4 149 149 149	161811 4-4 155 155 155	163269 4-8 155 155 155	163269 8-8 150 150 150
55.0	153302 4-4 143 145 145	157198 4-4 149 149 149	160735 4-4 155 155 155	162158 4-8 156 156 156	162158 4-8 150 150 150
57.0	151454 4-4 144 144 144	155169 4-4 150 150 150	158304 4-4 156 156 156	159837 4-4 159 159 159	161300 4-4 161 161 161
58.0	150481 4-4 145 145 145	154110 4-4 151 151 151	157003 4-4 156 156 156	158477 4-4 159 159 159	159931 4-4 161 161 161
60.0	148430 4-4 146 146 146	151714 4-4 152 152 152	154322 4-4 155 155 155	155787 4-4 159 159 159	157212 4-4 159 159 159
61.0	147404 4-4 146 146 146	150451 4-4 152 152 152	152995 4-4 155 155 155	154454 4-4 158 158 158	155863 4-4 159 159 159
63.0	145250 4-4 148 148 148	147905 4-4 152 152 152	150364 4-4 154 154 154	151805 4-4 157 157 157	153173 4-4 158 158 158
64.0	144019 4-4 147 147 147	146631 4-4 151 151 151	149054 4-4 154 154 154	150487 4-4 156 156 156	151833 4-4 157 157 157
65.0	142796 4-4 147 147 147	145362 4-4 150 150 150	147756 4-4 153 153 153	149171 4-4 156 156 156	150495 4-4 156 156 156
67.0	140371 4-4 147 147 147	142838 4-4 149 149 149	145180 4-4 152 152 152	146546 4-4 154 154 154	147822 4-4 155 155 155
68.0	139100 4-4 147 147 147	141509 4-4 148 148 148	143829 4-4 152 152 152	145170 4-4 154 154 154	146422 4-4 154 154 154
69.0	137794 4-4 146 146 146	140171 4-4 148 148 148	142467 4-4 152 152 152	143784 4-4 153 153 153	145014 4-4 154 154 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2363.(FT) QNH ALT. : 2514.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

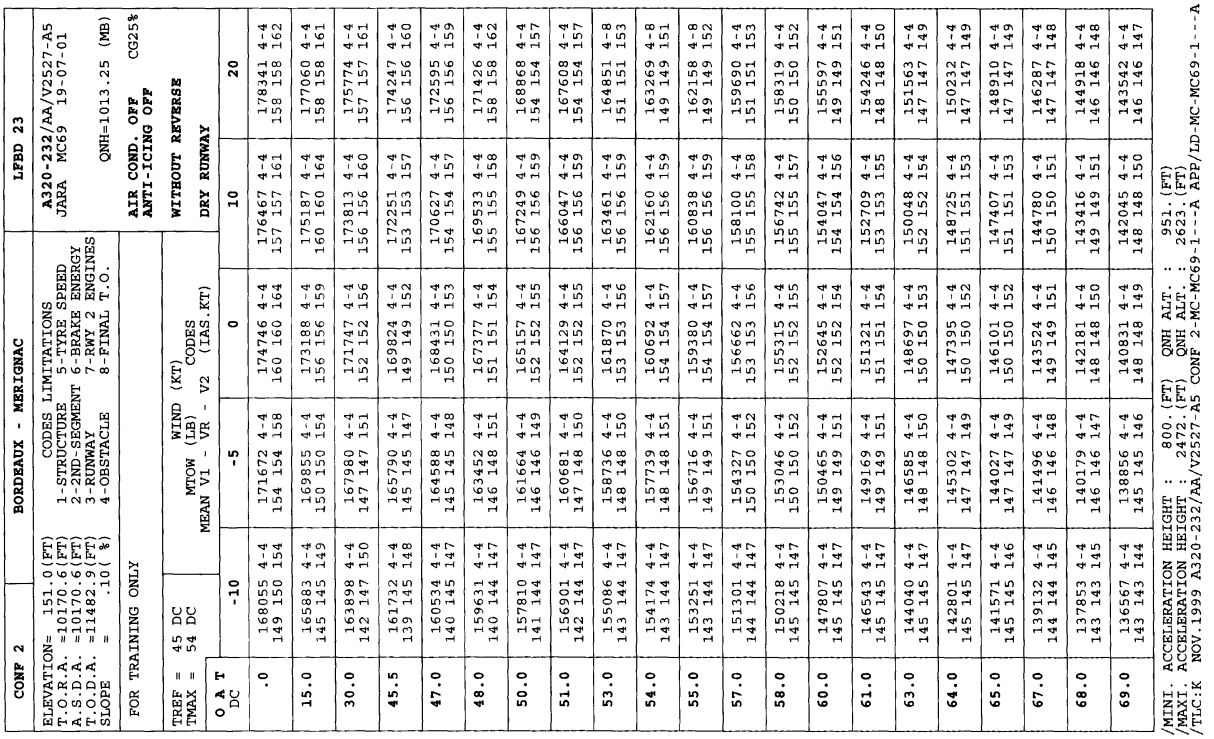
BORDEAUX (LFBD) - RWY 23 - CONF 2



CONF 2	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. =10170.6(FT) A.S.D.A. =10170.6(FT) T.O.D.A. =11482.9(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=110/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0				-3.5 0 4-4 157 157 161	-1.7 0 4-4 158 158 162
175.0		-3.3 0 4-4 154 154 158	-.3 0 4-4 160 160 164	.0 17 4-4 159 159 163	.1 37 4-4 157 157 160
170.0	-1.9 0 4-4 149 150 154	.1 13 4-4 151 151 154	.0 44 4-4 150 150 153	2.3 45 4-4 153 153 157	4.3 45 4-4 156 156 160
165.0	.1 21 4-4 144 146 149	.9 45 4-4 145 145 147	4.9 45 4-4 150 150 153	1.0 51 4-4 156 156 159	1.2 52 4-4 152 152 155
160.0	1.8 45 4-4 140 145 148	.7 51 4-4 147 148 150	.7 54 4-4 154 154 157	.8 55 4-4 156 156 159	.9 56 4-8 150 150 152
158.0	.7 49 4-4 141 144 147	.7 53 4-4 148 148 150	.0 56 4-4 153 153 156	.1 57 4-4 155 155 158	.3 58 4-4 150 150 152
156.0	.9 51 4-4 142 144 147	.7 55 4-4 149 149 151	.7 57 4-4 153 153 156	.7 58 4-4 155 155 157	1.0 59 4-4 150 150 152
154.0	.2 54 4-4 143 144 147	.3 57 4-4 150 150 152	1.3 58 4-4 152 152 155	.0 60 4-4 154 154 156	.2 61 4-4 148 148 150
152.0	.3 56 4-4 144 144 147	1.0 58 4-4 150 150 152	.6 60 4-4 152 152 154	.7 61 4-4 153 153 155	.9 62 4-4 148 148 150
150.0	.2 58 4-4 145 145 147	.5 60 4-4 149 149 151	.0 62 4-4 151 151 153	.0 63 4-4 152 152 154	.2 64 4-4 147 147 149
148.0	1.0 59 4-4 145 145 147	1.2 61 4-4 149 149 151	.7 63 4-4 150 150 153	.7 64 4-4 151 151 153	.9 65 4-4 147 147 149
146.0	.5 61 4-4 145 145 147	.6 63 4-4 148 148 150	.1 65 4-4 150 150 152	.1 66 4-4 150 150 152	.3 67 4-4 147 147 148
144.0	.0 63 4-4 145 145 147	.0 65 4-4 147 147 149	.8 66 4-4 149 149 151	.8 67 4-4 150 150 151	.9 68 4-4 146 146 148
142.0	.8 64 4-4 145 145 147	.8 66 4-4 146 146 148	.2 68 4-4 148 148 150	.0 69 4-4 148 148 150	1.5 69 4-4 146 146 147
140.0	.4 66 4-4 144 144 146	.2 68 4-4 146 146 147	.8 69 4-4 148 148 149	.0 69 4-4 136 136 137	.0 69 2 134 135 136
135.0	1.6 69 4-4 143 143 144	3.9 69 4-4 145 145 146	.0 69 127 130 131	.0 69 125 130 131	.0 69 122 130 131
130.0	.0 69 123 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128

/MINI. ACCELERATION HEIGHT : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2623.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A



CONF 2	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. =10170.6(FT) A.S.D.A. =10170.6(FT) T.O.D.A. =11482.9(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
.0	168055 4-4 149 150 154	171672 4-4 154 154 158	174746 4-4 160 160 164	176467 4-4 157 157 161	178341 4-4 158 158 162
15.0	165883 4-4 145 145 149	169855 4-4 150 150 154	173188 4-4 156 156 159	175187 4-4 160 160 164	177060 4-4 158 158 161
30.0	163898 4-4 142 147 150	167980 4-4 147 147 151	171747 4-4 152 152 156	173813 4-4 156 156 160	175774 4-4 157 157 161
45.5	161732 4-4 139 145 148	165790 4-4 145 145 147	169824 4-4 149 149 152	172251 4-4 153 153 157	174247 4-4 156 156 160
47.0	160534 4-4 140 145 147	164588 4-4 145 145 148	168431 4-4 150 150 153	170627 4-4 154 154 157	172595 4-4 156 156 159
48.0	159631 4-4 140 144 147	163452 4-4 146 148 151	167377 4-4 151 151 154	169533 4-4 155 155 158	171426 4-4 158 158 162
50.0	157810 4-4 141 144 147	161664 4-4 146 146 149	165157 4-4 152 152 155	167249 4-4 156 156 159	168868 4-4 154 154 157
51.0	156901 4-4 142 144 147	160681 4-4 147 148 150	164129 4-4 152 152 155	166047 4-4 156 156 159	167608 4-4 154 154 157
53.0	155086 4-4 143 144 147	158736 4-4 148 148 150	161870 4-4 153 153 156	163461 4-4 156 156 159	164851 4-8 151 151 153
54.0	154174 4-4 143 144 147	157739 4-4 148 148 151	160692 4-4 154 154 157	162160 4-4 156 156 159	163269 4-8 149 149 151
55.0	153251 4-4 143 144 147	156716 4-4 149 149 151	159380 4-4 154 154 157	160838 4-4 156 156 159	162158 4-8 149 149 152
57.0	151301 4-4 144 144 147	154327 4-4 150 150 152	156662 4-4 153 153 156	158100 4-4 155 155 158	159690 4-4 151 151 153
58.0	150218 4-4 145 145 147	153046 4-4 150 150 152	155315 4-4 152 152 155	156742 4-4 155 155 157	158319 4-4 150 150 152
60.0	147807 4-4 145 145 147	150465 4-4 149 149 151	152645 4-4 152 152 154	154047 4-4 154 154 156	155597 4-4 149 149 151
61.0	146543 4-4 145 145 147	149169 4-4 149 149 151	151321 4-4 151 151 154	152709 4-4 153 153 155	154246 4-4 148 148 150
63.0	144040 4-4 145 145 147	146585 4-4 148 148 150	148697 4-4 150 150 153	150048 4-4 152 152 154	151563 4-4 147 147 149
64.0	142801 4-4 145 145 147	145302 4-4 147 147 149	147395 4-4 150 150 152	148725 4-4 151 151 153	150232 4-4 147 147 149
65.0	141571 4-4 145 145 146	144027 4-4 147 147 149	146101 4-4 150 150 152	147407 4-4 151 151 153	148910 4-4 147 147 149
67.0	139132 4-4 144 144 145	141496 4-4 146 146 148	143524 4-4 149 149 151	144780 4-4 150 150 151	146287 4-4 147 147 148
68.0	137853 4-4 143 143 145	140179 4-4 146 146 147	142181 4-4 148 148 150	143416 4-4 149 149 151	144918 4-4 146 146 148
69.0	136567 4-4 143 143 144	138856 4-4 145 145 146	140831 4-4 148 148 149	142045 4-4 148 148 150	143542 4-4 146 146 147

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2472.(FT) QNH ALT. : 2623.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

BORDEAUX (LFBD) - RWY 23 - CONF 3

CONF 3	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. =10170.6(FT) A.S.D.A. =10170.6(FT) T.O.D.A. =11482.9(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=130/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 45 DC TMAX = 54 DC	WIND (KT) WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0			-4.3 0 4-4 158 158 160	-2.3 0 4-4 159 159 161	.5 0 4-4 160 160 162	45
175.0	-4.8 0 4-4 153 153 155	-1.7 0 4-4 159 159 161	.1 9 4-4 160 160 162	.0 31 4-4 160 160 162	.7 45 4-4 155 155 157	48 49
170.0	.0 1 4-4 152 152 155	.0 28 4-4 151 152 155	1.5 45 4-4 152 152 154	3.8 45 4-4 155 155 156	1.1 49 4-4 153 153 154	51 52
165.0	.0 34 4-4 143 146 148	2.5 45 4-4 146 146 149	.4 51 4-4 155 155 157	.7 52 4-4 154 154 156	1.4 52 4-8 148 148 150	54 54
160.0	3.2 45 4-4 141 141 143	.3 53 4-4 150 150 152	.2 55 4-4 154 154 156	.4 56 4-4 150 150 152	.8 57 4-4 152 152 153	54 54
158.0	.5 51 4-4 143 145 147	1.1 54 4-4 150 150 152	.9 56 4-4 154 154 155	1.0 57 4-4 150 150 151	.0 59 4-4 150 150 152	54 54
156.0	.7 53 4-4 144 145 147	.5 56 4-4 150 150 152	.1 58 4-4 152 152 154	.3 59 4-4 149 149 151	.6 60 4-4 150 150 151	54 54
154.0	.9 55 4-4 145 145 147	1.2 57 4-4 150 150 152	.8 59 4-4 152 152 153	.9 60 4-4 149 149 150	1.3 61 4-4 149 149 150	54 54
152.0	.5 57 4-4 145 145 147	.5 59 4-4 149 149 151	.1 61 4-4 150 150 152	.3 62 4-4 147 147 149	.6 63 4-4 148 148 149	54 54
150.0	1.2 58 4-4 145 145 147	1.2 60 4-4 148 148 150	.7 62 4-4 150 150 151	.9 63 4-4 147 147 148	1.2 64 4-4 147 147 148	54 54
148.0	.6 60 4-4 145 145 147	.6 62 4-4 147 147 149	.0 64 4-4 148 148 150	.3 65 4-4 146 146 147	.5 66 4-4 146 146 147	54 54
146.0	.1 62 4-4 144 144 146	1.3 63 4-4 147 147 148	.7 65 4-4 148 148 149	1.0 66 4-4 145 145 146	1.2 67 4-4 145 145 146	54 54
144.0	.8 63 4-4 144 144 145	.7 65 4-4 146 146 147	.1 67 4-4 146 146 148	.3 68 4-4 144 144 145	.4 69 4-4 144 144 145	54 54
142.0	.3 65 4-4 142 142 144	.1 67 4-4 145 145 146	.7 68 4-4 146 146 147	.9 69 4-4 143 143 144	.0 69 2 136 136 137	54 54
140.0	1.0 66 4-4 142 142 143	.8 68 4-4 145 145 146	1.3 69 4-4 142 142 143	.0 69 4 134 134 135	.0 69 2 132 133 134	54 54
135.0	2.1 69 4-4 140 140 141	4.4 69 4-4 144 144 145	.0 69 2 125 126 128	.0 69 2 122 126 128	.0 69 2 120 126 128	54 54
130.0	.0 69 4 121 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2233.(FT) QNH ALT. : 2384.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	BORDEAUX - MERIGNAC	LFBD 23
ELEVATION= 151.0(FT) T.O.R.A. =10170.6(FT) A.S.D.A. =10170.6(FT) T.O.D.A. =11482.9(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 45 DC TMAX = 54 DC	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

OAT DC	-10	-5	0	10	20
.0	170187 4-4 153 153 155	173281 4-4 159 159 161	175746 4-4 158 158 160	177665 4-4 159 159 161	179544 4-4 160 160 162
15.0	168121 4-4 149 150 153	171835 4-4 155 155 157	174618 4-4 161 161 163	176368 4-4 157 157 159	178275 4-4 159 159 161
30.0	165697 4-4 144 148 150	169774 4-4 150 152 154	173304 4-4 156 156 158	175125 4-4 161 161 163	177051 4-4 157 157 158
45.5	163114 4-4 140 141 143	167374 4-4 146 146 148	171442 4-4 152 152 154	173703 4-4 154 154 156	175645 4-4 155 155 157
47.0	161979 4-4 141 145 148	166032 4-4 147 149 151	170064 4-4 153 153 154	172024 4-4 154 154 155	173940 4-4 155 155 156
48.0	161098 4-4 141 145 148	165141 4-4 147 149 151	168908 4-4 153 153 155	170821 4-4 158 158 159	172662 4-4 154 154 156
50.0	159327 4-4 142 145 147	163350 4-4 148 149 151	166648 4-4 155 155 156	168261 4-4 158 158 160	169596 4-8 151 151 153
51.0	158450 4-4 143 145 147	162442 4-4 149 149 151	165394 4-4 155 155 157	166971 4-4 158 158 159	168015 4-8 150 150 151
53.0	156689 4-4 144 145 147	160297 4-4 150 150 152	162843 4-4 155 155 157	164396 4-4 151 151 153	164851 4-8 147 147 149
54.0	155802 4-4 144 145 147	159119 4-4 150 150 152	161551 4-4 155 155 156	163105 4-4 151 151 153	163269 4-8 146 146 148
55.0	154925 4-4 145 145 147	157866 4-4 150 150 152	160230 4-4 154 154 156	161784 4-4 151 151 152	162158 4-8 146 146 148
57.0	152462 4-4 145 145 147	155185 4-4 150 150 152	157477 4-4 153 153 154	159016 4-4 150 150 151	160785 4-4 152 152 153
58.0	151173 4-4 145 145 147	153844 4-4 149 149 151	156111 4-4 152 152 154	157644 4-4 149 149 151	159399 4-4 151 151 152
60.0	148621 4-4 145 145 147	151184 4-4 148 148 150	153401 4-4 151 151 152	154930 4-4 149 149 150	156647 4-4 150 150 151
61.0	147349 4-4 145 145 146	149864 4-4 148 148 149	152054 4-4 150 150 152	153585 4-4 148 148 150	155281 4-4 149 149 150
63.0	144797 4-4 144 144 145	147250 4-4 147 147 148	149373 4-4 149 149 150	150915 4-4 147 147 148	152566 4-4 148 148 149
64.0	143530 4-4 143 143 144	145953 4-4 147 147 148	148040 4-4 148 148 150	149588 4-4 146 146 147	151217 4-4 147 147 148
65.0	142270 4-4 142 142 144	144665 4-4 146 146 147	146711 4-4 148 148 149	148267 4-4 146 146 147	149873 4-4 147 147 148
67.0	139764 4-4 141 141 142	142105 4-4 145 145 146	144062 4-4 146 146 148	145639 4-4 144 144 145	147199 4-4 145 145 146
68.0	138458 4-4 140 140 142	140775 4-4 145 145 146	142689 4-4 146 146 147	144266 4-4 144 144 145	145803 4-4 145 145 146
69.0	137146 4-4 140 140 141	139429 4-4 144 144 145	141336 4-4 142 142 143	142886 4-4 143 143 144	144400 4-4 144 144 145

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 951.(FT)
/MAXI. ACCELERATION HEIGHT : 2233.(FT) QNH ALT. : 2384.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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PARIS CHARLES DE GAULLE (LFPG) - RWY 08L - CONF 1 + F

CONF1+F	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =13829.0(FT) T.O.D.A. =14026.0(FT) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232/AA/V2527-A5** JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=210/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 45 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

OAT DC	-10	-5	0	10	20
.0	184186 2-6 139 164 164	186781 2-6 145 168 168	189365 2-6 150 172 172	190974 2-6 154 175 175	191563 2-6 158 179 179
15.0	181439 2-2 136 160 160	184487 2-6 142 165 165	187065 2-6 147 169 169	188868 2-6 150 172 172	190487 2-6 154 175 175
30.0	179090 2-6 134 157 157	182240 2-6 139 161 161	185087 2-6 144 166 166	186796 2-6 148 169 169	188566 2-6 151 171 171
45.0	175149 6-6 132 155 155	176732 8-8 135 156 156	176732 8-8 139 156 156	176732 8-8 141 156 156	176732 8-8 143 156 156
46.0	174954 8-8 132 155 155	175161 8-8 135 155 155	175161 8-8 139 155 155	175161 8-8 141 155 155	175161 8-8 143 155 155
48.0	172012 8-8 132 154 154	172012 8-8 136 154 154	172012 8-8 139 154 154	172012 8-8 142 154 154	172012 8-8 142 154 154
49.0	170437 8-8 132 153 153	170437 8-8 136 153 153	170437 8-8 139 153 153	170437 8-8 141 153 153	170437 8-8 141 153 153
51.0	167286 8-8 132 152 152	167286 8-8 136 152 152	167286 8-8 140 152 152	167286 8-8 140 152 152	167286 8-8 140 152 152
52.0	165711 8-8 132 151 151	165711 8-8 136 151 151	165711 8-8 139 151 151	165711 8-8 139 151 151	165711 8-8 139 151 151
54.0	162558 8-8 132 150 150	162558 8-8 136 150 150	162558 8-8 138 150 150	162558 8-8 138 150 150	162558 8-8 138 150 150
55.0	161954 8-8 132 149 149	161954 8-8 136 149 149	161954 8-8 138 149 149	161954 8-8 138 149 149	161954 8-8 138 149 149
56.0	161951 2-8 132 150 150	161951 2-8 136 150 150	161951 2-8 138 150 150	161951 2-8 138 150 150	161951 2-8 138 150 150
58.0	161949 2-8 134 153 153	161949 2-8 137 153 153	161949 2-8 141 153 153	161949 2-8 141 153 153	161949 2-8 141 153 153
59.0	161947 2-8 135 154 154	161947 2-8 138 154 154	161947 2-8 142 154 154	161947 2-8 142 154 154	161947 2-8 142 154 154
61.0	160720 2-6 138 156 156	161945 2-8 142 158 158	161945 2-8 144 158 158	161945 2-8 146 158 158	161945 2-8 146 158 158
62.0	159627 2-6 139 156 156	161943 2-8 145 160 160	161943 2-8 146 160 160	161943 2-8 147 160 160	161943 2-8 148 160 160
64.0	157427 2-6 140 156 156	159785 2-6 146 161 161	160524 2-2 152 165 165	160524 2-2 153 165 165	160524 2-2 154 165 165
65.0	156293 2-6 140 156 156	158525 2-6 147 161 161	158895 2-2 151 164 164	158895 2-2 152 164 164	158895 2-2 153 164 164
67.0	153992 2-6 142 157 157	155538 2-6 148 162 162	155638 2-2 151 163 163	155638 2-2 152 163 163	155638 2-2 151 163 163
68.0	152785 2-6 142 157 157	154010 2-2 149 162 162	154010 2-2 151 162 162	154010 2-2 150 162 162	154010 2-2 150 162 162
69.0	151592 2-6 143 157 157	152381 2-2 148 161 161	152381 2-2 150 161 161	152381 2-2 149 161 161	152381 2-2 149 161 161

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2314.(FT) QNH ALT. : 2626.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =13829.0(FT) T.O.D.A. =14026.0(FT) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232/AA/V2527-A5** JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=210/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(LB) WIND (KT) /CODES MEAN V1 - VR - V2 /TEMP.(DC) (IAS.KT)	**DRY RUNWAY**

WEIGHT 1000LB	-10	-5	0	10	20	TGA 2	TGA 3
180.0	.0 24 2-2 135 158 158	.0 36 2-6 138 159 159	.1 39 2-6 141 160 160	.1 40 2-6 144 160 160	.7 40 2-6 146 161 161		45
175.0	.1 45 2-6 132 155 155	1.7 45 2-6 135 156 156	1.7 45 2-6 139 156 156	1.7 45 2-6 142 156 156	1.7 45 2-6 144 156 156	47	48
170.0	.4 49 8-8 132 153 153	.4 49 8-8 136 153 153	.4 49 8-8 140 153 153	.4 49 8-8 142 153 153	.4 49 8-8 142 153 153	50	51
165.0	.7 52 8-8 132 151 151	.7 52 8-8 136 151 151	.7 52 8-8 140 151 151	.7 52 8-8 140 151 151	.7 52 8-8 140 151 151	54	54
160.0	.7 61 2-6 138 156 156	.9 63 2-8 146 161 161	.5 64 2-2 152 165 165	.5 64 2-2 153 165 165	.5 64 2-2 154 165 165	54	54
158.0	.5 63 2-6 139 156 156	.5 65 2-6 147 161 161	.9 65 2-2 152 164 164	.9 65 2-2 153 164 164	.9 65 2-2 154 164 164	54	54
156.0	.3 65 2-6 140 156 156	1.0 66 2-6 148 161 161	1.3 66 2-2 151 163 163	1.3 66 2-2 152 163 163	1.3 66 2-2 152 163 163	54	54
154.0	1.1 66 2-6 141 157 157	.0 68 2-2 149 162 162	.0 68 2-2 151 162 162	.0 68 2-2 152 162 162	.0 68 2-2 150 162 162	54	54
152.0	.8 68 2-6 142 157 157	.4 69 2-2 149 161 161	.4 69 2-2 150 161 161	.4 69 2-2 150 161 161	.4 69 2-2 149 161 161	54	54
150.0	1.6 69 2-6 143 157 157	.0 69 2 141 154 154	.0 69 2 142 154 154	.0 69 2 142 154 154	.0 69 2 142 154 154	54	54
148.0	.0 69 2 136 150 150	.0 69 2 139 150 150	.0 69 2 139 150 150	.0 69 2 139 150 150	.0 69 2 139 150 150	54	54
146.0	.0 69 2 135 147 147	.0 69 2 136 147 147	.0 69 2 136 147 147	.0 69 2 136 147 147	.0 69 2 136 147 147	54	54
144.0	.0 69 2 133 143 143	.0 69 2 133 143 143	.0 69 2 133 143 143	.0 69 2 133 143 143	.0 69 2 133 143 143	54	54
142.0	.0 69 2 130 140 140	.0 69 2 130 140 140	.0 69 2 130 140 140	.0 69 2 130 140 140	.0 69 2 130 140 140	54	54
140.0	.0 69 128 139 139	.0 69 128 139 139	.0 69 128 139 139	.0 69 128 139 139	.0 69 128 139 139	54	54
135.0	.0 69 127 136 136	.0 69 127 136 136	.0 69 127 136 136	.0 69 127 136 136	.0 69 127 136 136	54	54
130.0	.0 69 125 133 133	.0 69 125 133 133	.0 69 125 133 133	.0 69 125 133 133	.0 69 125 133 133	54	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2314.(FT) QNH ALT. : 2626.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 08L - CONF 2

CONF 2	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =13829.0(FT) T.O.D.A. =14026.0(FT) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=130/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

WEIGHT 1000LB	-10	-5	0	10	20	TGA
					2	3
180.0	.1 25 2-6 134 156 159	.1 37 2-2 136 157 160	.3 39 2-6 140 158 160	.2 40 2-6 142 158 161	.7 40 2-6 145 159 162	45
175.0	1.7 45 2-6 130 152 155	1.7 45 2-2 134 152 155	1.7 45 2-6 137 152 155	1.7 45 2-6 140 152 155	1.7 45 2-6 141 152 155	47 48
170.0	.4 49 2-8 131 149 152	.4 49 2-8 134 149 152	.4 49 2-8 138 149 152	.4 49 2-8 138 149 152	.4 49 2-8 138 149 152	50 51
165.0	.7 52 2-8 131 147 150	.7 52 2-8 134 147 150	.7 52 2-8 137 147 150	.7 52 2-8 137 147 150	.7 52 2-8 137 147 150	54 54
160.0	.9 61 2-6 138 155 157	.3 63 2-6 145 159 162	.5 63 8-8 147 160 162	.5 63 8-8 148 160 162	.5 63 8-8 148 160 162	54 54
158.0	.5 63 2-6 139 155 157	1.0 64 2-2 146 159 162	1.0 64 2-2 147 159 162	1.0 64 2-2 148 159 162	1.0 64 2-2 148 159 162	54 54
156.0	.1 65 2-6 140 155 157	1.4 65 2-2 145 158 161	1.4 65 2-2 147 158 161	1.4 65 2-2 147 158 161	1.4 65 2-2 147 158 161	54 54
154.0	.8 66 2-6 141 155 157	.3 67 2-2 145 157 159	.3 67 2-2 146 157 159	.3 67 2-2 146 157 159	.3 67 2-2 146 157 159	54 54
152.0	.3 68 2-6 142 155 157	.7 68 2-2 145 156 158	.7 68 2-2 146 156 158	.7 68 2-2 145 156 158	.7 68 2-2 145 156 158	54 54
150.0	1.0 69 2-6 143 155 157	1.1 69 2-2 145 155 157	1.1 69 2-2 145 155 157	1.1 69 2-2 144 155 157	1.1 69 2-2 144 155 157	54 54
148.0	.0 69 2 136 149 150	.0 69 2 138 149 150	.0 69 2 138 149 150	.0 69 2 138 149 150	.0 69 2 138 149 150	54 54
146.0	.0 69 2 134 145 146	.0 69 2 134 145 146	.0 69 2 134 145 146	.0 69 2 134 145 146	.0 69 2 134 145 146	54 54
144.0	.0 69 2 131 142 143	.0 69 2 131 142 143	.0 69 2 131 142 143	.0 69 2 131 142 143	.0 69 2 131 142 143	54 54
142.0	.0 69 2 128 139 140	.0 69 2 128 139 140	.0 69 2 128 139 140	.0 69 2 128 139 140	.0 69 2 128 139 140	54 54
140.0	.0 69 2 125 135 137	.0 69 2 125 135 137	.0 69 2 125 135 137	.0 69 2 125 135 137	.0 69 2 125 135 137	54 54
135.0	.0 69 122 129 131	.0 69 122 129 131	.0 69 122 129 131	.0 69 122 129 131	.0 69 122 129 131	54 54
130.0	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2178.(FT) QNH ALT. : 2490.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =13829.0(FT) T.O.D.A. =14026.0(FT) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
.0	184057 2-2 139 162 165	186808 2-6 144 167 170	188823 2-6 150 172 174	189654 2-2 153 174 176	189654 2-2 154 174 176
15.0	181539 2-6 135 158 162	185022 2-6 141 164 167	187219 2-6 146 169 171	188669 2-6 150 172 174	189637 2-2 153 174 176
30.0	179346 2-6 133 155 158	183131 2-2 138 161 164	185711 2-6 143 166 168	187261 2-6 147 169 171	188713 2-6 151 172 174
45.0	176732 2-8 130 152 155	176732 2-8 134 152 155	176732 2-8 137 152 155	176732 2-8 140 152 155	176732 2-8 141 152 155
46.0	175161 2-8 130 151 154	175161 2-8 133 151 154	175161 2-8 137 151 154	175161 2-8 139 151 154	175161 2-8 140 151 154
48.0	172012 2-8 130 150 153	172012 2-8 134 150 153	172012 2-8 137 150 153	172012 2-8 139 150 153	172012 2-8 139 150 153
49.0	170437 2-8 131 149 152	170437 2-8 134 149 152	170437 2-8 138 149 152	170437 2-8 138 149 152	170437 2-8 138 149 152
51.0	167286 2-8 130 148 150	167286 2-8 134 148 150	167286 2-8 137 148 150	167286 2-8 137 148 150	167286 2-8 137 148 150
52.0	165711 2-8 131 147 150	165711 2-8 134 147 150	165711 2-8 136 147 150	165711 2-8 136 147 150	165711 2-8 136 147 150
54.0	162558 2-8 130 146 148	162558 2-8 134 146 148	162558 2-8 135 146 148	162558 2-8 135 146 148	162558 2-8 135 146 148
55.0	161954 2-8 131 147 149	161954 2-8 135 147 149	161954 2-8 136 147 149	161954 2-8 136 147 149	161954 2-8 136 147 149
56.0	161951 2-8 132 148 150	161951 2-8 135 148 150	161951 2-8 137 148 150	161951 2-8 137 148 150	161951 2-8 137 148 150
58.0	161949 2-8 133 151 153	161949 2-8 137 151 153	161949 2-8 140 151 153	161949 2-8 140 151 153	161949 2-8 140 151 153
59.0	161947 2-8 134 153 155	161947 2-8 137 153 155	161947 2-8 141 153 155	161947 2-8 141 153 155	161947 2-8 141 153 155
61.0	160908 2-6 138 155 157	161945 2-8 142 157 160	161945 2-8 143 157 160	161945 2-8 145 157 160	161945 2-8 145 157 160
62.0	159705 2-6 139 155 157	161598 2-6 145 159 162	161943 8-8 147 160 163	161943 8-8 148 160 163	161943 8-8 148 160 163
64.0	157281 2-6 140 155 157	159001 2-2 145 159 162	159001 2-2 147 159 162	159001 2-2 147 159 162	159001 2-2 147 159 162
65.0	156052 2-6 140 155 157	157422 2-2 145 158 161	157422 2-2 147 158 161	157422 2-2 147 158 161	157422 2-2 146 158 161
67.0	153564 2-6 142 155 157	154265 2-2 145 157 159	154265 2-2 146 157 159	154265 2-2 145 157 159	154265 2-2 145 157 159
68.0	152260 2-6 142 155 157	152686 2-2 145 156 158	152686 2-2 146 156 158	152686 2-2 145 156 158	152686 2-2 145 156 158
69.0	150996 2-6 143 155 157	151107 2-2 144 155 157	151107 2-2 144 155 157	151107 2-2 144 155 157	151107 2-2 144 155 157

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2178.(FT) QNH ALT. : 2490.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 08L - CONF 3

CONF 3	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =13829.0(FT) T.O.D.A. =14026.0(FT) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=210/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

O A T DC	-10	-5	0	10	20
.0	184620 2-6 140 165 166	186517 2-6 146 170 170	188059 2-6 153 174 175	188150 2-2 154 175 175	188150 2-2 156 175 175
15.0	183039 2-6 137 162 163	185235 2-6 143 167 167	187027 2-6 149 171 172	188026 2-6 154 175 175	188134 2-2 155 175 175
30.0	180728 2-2 133 158 159	183645 2-6 139 163 164	185726 2-6 145 168 169	186955 2-6 150 171 172	187938 2-6 154 174 175
45.0	176732 2-8 130 152 154	176732 2-8 134 152 154	176732 2-8 138 152 154	176732 2-8 140 152 154	176732 2-8 140 152 154
46.0	175161 2-8 130 151 153	175161 2-8 134 151 153	175161 2-8 138 151 153	175161 2-8 139 151 153	175161 2-8 139 151 153
48.0	172012 2-8 130 150 151	172012 2-8 134 150 151	172012 2-8 138 150 151	172012 2-8 138 150 151	172012 2-8 138 150 151
49.0	170437 2-8 130 149 151	170437 2-8 134 149 151	170437 2-8 137 149 151	170437 2-8 137 149 151	170437 2-8 137 149 151
51.0	167286 2-8 130 147 149	167286 2-8 134 147 149	167286 2-8 136 147 149	167286 2-8 136 147 149	167286 2-8 136 147 149
52.0	165711 2-8 130 146 148	165711 2-8 134 146 148	165711 2-8 135 146 148	165711 2-8 135 146 148	165711 2-8 135 146 148
54.0	162558 8-8 131 145 147	162558 8-8 134 145 147	162558 8-8 134 145 147	162558 8-8 134 145 147	162558 8-8 134 145 147
55.0	161954 2-8 131 145 147	161954 2-8 134 145 147	161954 2-8 134 145 147	161954 2-8 134 145 147	161954 2-8 134 145 147
56.0	161951 2-8 132 147 149	161951 2-8 136 147 149	161951 2-8 136 147 149	161951 2-8 136 147 149	161951 2-8 136 147 149
58.0	161949 2-8 133 151 153	161949 2-8 137 151 153	161949 2-8 139 151 153	161949 2-8 139 151 153	161949 2-8 139 151 153
59.0	161947 2-8 135 154 155	161947 2-8 138 154 155	161947 2-8 142 154 155	161947 2-8 142 154 155	161947 2-8 142 154 155
61.0	160741 2-6 139 157 158	161945 2-8 145 160 161	161945 2-8 147 160 161	161945 2-8 147 160 161	161945 2-8 147 160 161
62.0	159491 2-6 140 157 158	160902 2-2 147 161 162	160902 2-2 149 161 162	160902 2-2 149 161 162	160902 2-2 148 161 162
64.0	156943 2-6 142 157 158	157760 2-2 146 160 160	157760 2-2 148 160 160	157760 2-2 148 160 160	157760 2-2 147 160 160
65.0	155611 2-6 142 157 158	156189 2-2 146 159 160	156189 2-2 148 159 160	156189 2-2 146 159 160	156189 2-2 146 159 160
67.0	153009 2-6 144 157 158	153047 2-2 146 157 158	153047 2-2 146 157 158	153047 2-2 145 157 158	153047 2-2 145 157 158
68.0	151476 2-2 144 157 157	151476 2-2 146 157 157	151476 2-2 145 157 157	151476 2-2 144 157 157	151476 2-2 144 157 157
69.0	149905 2-2 144 156 156	149905 2-2 146 156 156	149905 2-2 144 156 156	149905 2-2 144 156 156	149905 2-2 144 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2122.(FT) QNH ALT. : 2434.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	PARIS, CHARLES DE GAULE	LFPG 08L
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =13829.0(FT) T.O.D.A. =14026.0(FT) SLOPE = -.19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=210/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0	.2 32 2-2 133 157 159	.4 37 2-6 137 158 159	.3 39 2-6 141 159 160	.1 40 2-6 144 159 160	.5 40 2-6 145 160 161
175.0	1.7 45 2-2 130 152 154	1.7 45 2-6 134 152 154	1.7 45 2-6 138 152 154	1.7 45 2-6 141 152 154	1.7 45 2-6 141 152 154
170.0	.4 49 2-8 130 149 151	.4 49 2-8 134 149 151	.4 49 2-8 138 149 151	.4 49 2-8 138 149 151	.4 49 2-8 138 149 151
165.0	.7 52 2-8 131 146 148	.7 52 2-8 135 146 148	.7 52 2-8 135 146 148	.7 52 2-8 135 146 148	.7 52 2-8 135 146 148
160.0	.7 61 2-6 139 157 158	.9 62 2-6 147 161 162	.9 62 2-2 149 161 162	.9 62 2-2 150 161 162	.9 62 2-2 149 161 162
158.0	.2 63 2-6 141 157 158	1.3 63 2-6 147 161 161	1.3 63 2-2 149 161 161	1.3 63 2-2 149 161 161	1.3 63 2-2 148 161 161
156.0	.9 64 2-6 142 157 158	.2 65 2-2 147 159 160	.2 65 2-2 148 159 160	.2 65 2-2 147 159 160	.2 65 2-2 147 159 160
154.0	.3 66 2-6 143 157 158	.6 66 2-6 146 158 159	.6 66 2-2 147 158 159	.6 66 2-2 146 158 159	.6 66 2-2 146 158 159
152.0	1.0 67 2-6 144 157 158	1.0 67 2-2 146 157 158	1.0 67 2-2 146 157 158	1.0 67 2-2 145 157 158	1.0 67 2-2 145 157 158
150.0	1.5 68 2-2 144 157 157	1.5 68 2-2 146 157 157	1.5 68 2-2 145 157 157	1.5 68 2-2 144 157 157	1.5 68 2-2 144 157 157
148.0	1.9 69 2-2 144 156 156	1.9 69 2-2 146 156 156	1.9 69 2-2 144 156 156	1.9 69 2-2 144 156 156	1.9 69 2-2 144 156 156
146.0	.0 69 2 134 145 146	.0 69 2 134 145 146	.0 69 2 134 145 146	.0 69 2 134 145 146	.0 69 2 134 145 146
144.0	.0 69 2 130 141 142	.0 69 2 130 141 142	.0 69 2 130 141 142	.0 69 2 130 141 142	.0 69 2 130 141 142
142.0	.0 69 2 127 137 138	.0 69 2 127 137 138	.0 69 2 127 137 138	.0 69 2 127 137 138	.0 69 2 127 137 138
140.0	.0 69 2 124 134 135	.0 69 2 124 134 135	.0 69 2 124 134 135	.0 69 2 124 134 135	.0 69 2 124 134 135
135.0	.0 69 2 121 127 128	.0 69 2 121 127 128	.0 69 2 121 127 128	.0 69 2 121 127 128	.0 69 2 121 127 128
130.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2122.(FT) QNH ALT. : 2434.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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PARIS CHARLES DE GAULLE (LFPG) - RWY 26R - CONF 1 + F

CONF1+F	PARIS, CHARLES DE GAULE	LFPG 26R
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =14026.0(FT) T.O.D.A. =14026.0(FT) SLOPE = .19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY	WIND (KT) WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA DRY RUNWAY 2 3

TREF = 45 DC TMAX = 54 DC		-10		-5		0		10		20	
WEIGHT 1000LB											
180.0		-2.7 0 4-4 146 158 158		.1 5 4-4 150 161 161		.0 29 4-4 149 161 161		.3 35 4-4 150 161 161		.2 38 4-4 150 161 161	45
175.0		.2 13 4-4 142 156 156		.0 38 4-4 142 158 158		.7 52 8-8 141 151 151		.7 52 8-8 140 151 151		.7 52 8-8 140 151 151	54
170.0		.4 45 4-4 135 155 155		3.9 45 4-4 141 159 159		.4 49 8-8 143 153 153		.4 49 8-8 142 153 153		.4 49 8-8 142 153 153	50
165.0		.6 55 4-4 140 155 155		.1 59 4-4 148 155 155		.9 61 4-4 155 159 159		.6 63 2-4 160 160 160		.5 64 2-4 165 165 165	54
158.0		.5 57 4-4 141 149 149		1.0 60 4-4 148 155 155		.7 63 2-4 156 157 157		.1 65 2-4 160 160 160		.9 65 2-2 164 164 164	54
156.0		.4 59 4-4 142 149 149		.7 62 4-4 149 155 155		.5 65 2-4 157 157 157		.7 66 2-4 161 161 161		1.3 66 2-2 163 164 164	54
154.0		.4 61 4-4 143 149 149		.5 64 4-4 150 155 155		1.2 66 2-4 157 157 157		1.3 67 4-4 162 162 162		.0 68 2-2 161 162 162	54
152.0		.3 63 4-4 144 150 150		.4 66 2-4 151 152 152		.6 68 4-4 159 159 159		.4 69 4-2 164 164 164		.4 69 2-2 160 161 161	54
150.0		.3 65 4-4 145 150 150		.1 68 4-4 152 152 152		1.2 69 4-4 159 159 159		.0 69 2 151 154 154		.0 69 2 149 154 154	54
148.0		.2 67 4-4 146 150 150		.8 69 4-4 153 155 155		.0 69 2 147 150 150		.0 69 2 145 150 150		.0 69 2 143 150 150	54
146.0		1.1 68 4-4 146 150 150		.0 69 2 145 147 147		.0 69 2 142 147 147		.0 69 2 139 147 147		.0 69 2 136 147 147	54
144.0		2.0 69 4-4 147 150 150		.0 69 2 140 144 144		.0 69 2 136 144 144		.0 69 2 133 144 144		.0 69 2 133 144 144	54
142.0		.0 69 2 137 140 140		.0 69 2 134 140 140		.0 69 2 130 140 140		.0 69 2 130 140 140		.0 69 2 130 140 140	54
140.0		.0 69 133 139 139		.0 69 129 139 139		.0 69 129 139 139		.0 69 129 139 139		.0 69 129 139 139	54
135.0		.0 69 127 136 136		.0 69 127 136 136		.0 69 127 136 136		.0 69 127 136 136		.0 69 127 136 136	54
130.0		.0 69 125 134 134		.0 69 125 134 134		.0 69 125 134 134		.0 69 125 134 134		.0 69 125 134 134	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2345.(FT) QNH ALT. : 2657.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	PARIS, CHARLES DE GAULE	LFPG 26R
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =14026.0(FT) T.O.D.A. =14026.0(FT) SLOPE = .19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE DRY RUNWAY

TREF = 45 DC TMAX = 54 DC		-10		-5		0		10		20	
O A T DC											
.0		177281 4-4 146 158 158		180860 4-4 151 162 162		184091 4-4 156 167 167		186019 4-4 159 169 169		187920 4-4 162 171 171	
15.0		174822 4-4 142 155 156		178480 4-4 147 159 159		181956 4-4 152 164 164		184041 4-4 155 166 166		185951 4-4 159 169 169	
30.0		172797 4-4 138 158 159		176354 4-4 144 156 156		179884 4-4 149 161 161		182124 4-4 153 164 164		184211 4-4 156 166 166	
45.0		170428 4-4 135 155 155		173882 4-4 141 159 159		176732 8-8 145 156 156		176732 8-8 146 156 156		176732 8-8 145 156 156	
46.0		169665 4-4 136 155 155		173156 4-4 141 155 155		175161 8-8 145 155 155		175161 8-8 145 155 155		175161 8-8 143 155 155	
48.0		167700 4-4 137 155 156		171295 4-4 142 154 154		172012 8-8 143 154 154		172012 8-8 143 154 154		172012 8-8 142 154 154	
49.0		166718 4-4 137 156 156		170349 4-4 143 154 154		170437 8-8 143 153 153		170437 8-8 142 153 153		170437 8-8 141 153 153	
51.0		164750 4-4 138 156 156		167286 8-8 142 152 152		167286 8-8 142 152 152		167286 8-8 140 152 152		167286 8-8 140 152 152	
52.0		163639 4-4 138 151 151		165711 8-8 142 151 151		165711 8-8 141 151 151		165711 8-8 140 151 151		165711 8-8 140 151 151	
54.0		161717 4-4 139 155 155		162558 8-8 141 150 150		162558 8-8 139 150 150		162558 8-8 138 150 150		162558 8-8 138 150 150	
55.0		160625 4-4 140 155 155		161954 8-8 143 150 150		161954 8-8 140 150 150		161954 8-8 138 150 150		161954 8-8 138 150 150	
56.0		159608 4-4 140 149 149		161951 2-8 145 150 150		161951 2-8 144 150 150		161951 2-8 141 150 150		161951 2-8 139 150 150	
58.0		157488 4-4 141 149 149		161119 4-4 147 155 155		161949 2-8 149 153 153		161949 2-8 147 153 153		161949 2-8 144 153 153	
59.0		156447 4-4 142 149 149		160059 4-4 148 155 155		161947 2-8 152 155 155		161947 2-8 150 155 155		161947 2-8 148 155 155	
61.0		154383 4-4 143 149 149		157856 4-4 149 155 155		160908 4-4 155 159 159		161945 2-8 156 158 158		161945 2-8 155 158 158	
62.0		153358 4-4 143 149 149		156740 4-4 149 155 155		159829 2-4 155 157 157		161742 2-4 159 160 160		161943 2-8 159 161 161	
64.0		151318 4-4 144 150 150		154527 4-4 150 155 155		157625 2-4 156 157 157		159455 2-4 160 160 160		160524 2-4 165 165 165	
65.0		150316 4-4 145 150 150		153469 2-4 151 152 152		156464 2-4 157 157 157		158070 2-4 160 160 160		158895 2-2 163 164 164	
67.0		148207 4-4 146 150 150		151316 2-4 152 152 152		153886 2-4 157 157 157		155331 4-4 162 162 162		155638 2-2 161 163 163	
68.0		147089 4-4 146 150 150		150130 4-4 152 152 152		152575 4-4 159 159 159		153844 4-4 163 163 163		154010 2-2 160 162 162	
69.0		145991 4-4 147 150 150		148774 4-4 153 155 155		151239 4-4 159 159 159		152362 4-2 164 164 164		152381 2-2 159 161 161	

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2345.(FT) QNH ALT. : 2657.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 26R - CONF 2

CONF 2	PARIS, CHARLES DE GAULE	LFPG 26R
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =14026.0(FT) T.O.D.A. =14026.0(FT) SLOPE = .19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		
TREF = 45 DC TMAX = 54 DC	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	WITHOUT REVERSE DRY RUNWAY

OAT DC	-10	-5	0	10	20
.0	176467 4-4 144 156 160	179657 4-4 149 161 165	183204 2-4 154 161 164	185280 2-4 158 165 167	187134 2-4 163 168 171
15.0	174541 4-4 141 154 157	177904 4-4 146 158 162	181209 2-4 151 158 161	183478 2-4 155 162 164	185514 2-4 159 165 168
30.0	172614 4-4 138 151 154	176172 4-4 143 156 159	179378 2-4 148 156 158	181750 2-4 152 159 162	183928 2-4 155 163 165
45.0	170293 4-4 135 153 156	174235 4-4 140 154 157	176732 2-8 145 153 155	176732 2-8 145 153 155	176732 2-8 143 153 155
46.0	169761 4-4 135 149 152	173447 4-4 141 154 157	175161 2-8 143 152 154	175161 2-8 141 152 154	175161 2-8 141 152 154
48.0	167773 4-4 136 149 152	171349 4-4 142 154 157	172012 2-8 143 150 153	172012 2-8 142 150 153	172012 2-8 139 150 153
49.0	166778 4-4 137 149 152	170291 4-4 142 154 157	170437 2-8 143 150 152	170437 2-8 141 150 152	170437 2-8 139 150 152
51.0	164785 4-4 138 149 152	167286 2-8 142 148 150	167286 2-8 141 148 150	167286 2-8 138 148 150	167286 2-8 137 148 150
52.0	163785 4-4 138 149 152	165711 2-8 142 148 150	165711 2-8 140 148 150	165711 2-8 137 148 150	165711 2-8 137 148 150
54.0	161666 4-4 139 149 152	162558 2-8 141 146 148	162558 2-8 138 146 148	162558 2-8 135 146 148	162558 2-8 135 146 148
55.0	160579 4-4 140 149 152	161954 2-8 142 147 149	161954 2-8 139 147 149	161954 2-8 136 147 149	161954 2-8 136 147 149
56.0	159487 4-4 140 149 152	161951 2-8 144 148 150	161951 2-8 142 148 150	161951 2-8 139 148 150	161951 2-8 137 148 150
58.0	157293 4-4 141 149 151	160658 2-4 147 149 151	161949 2-8 148 151 153	161949 2-8 146 151 153	161949 2-8 144 151 153
59.0	156211 4-4 142 149 151	159559 2-4 147 149 151	161947 2-8 151 153 155	161947 2-8 149 153 155	161947 2-8 147 153 155
61.0	153908 4-4 143 144 146	157425 2-4 148 149 151	160412 2-4 154 154 156	161945 2-8 157 157 160	161945 2-8 155 157 160
62.0	152910 4-4 143 144 146	156361 2-4 149 149 151	159228 2-4 154 154 156	160731 2-4 157 157 160	161855 2-4 160 160 162
64.0	150940 2-4 144 144 146	154085 4-4 150 150 151	156492 2-4 154 154 156	157839 2-4 156 156 159	158946 2-4 159 159 161
65.0	149868 4-4 145 145 146	152801 4-4 150 150 152	155086 2-4 153 153 155	156381 2-4 156 156 158	157422 2-2 158 159 161
67.0	147632 4-4 146 146 147	150088 4-4 150 150 151	152278 2-4 153 153 154	153512 2-4 155 155 157	154265 2-2 156 157 159
68.0	146178 4-4 147 149 150	148649 4-4 149 149 150	150814 2-4 152 152 154	152004 2-4 155 155 157	152686 2-2 155 156 158
69.0	145032 4-4 148 149 150	147219 4-4 148 148 150	149355 2-4 152 152 153	150526 2-4 154 154 156	151107 2-2 155 156 157

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2207.(FT) QNH ALT. : 2519.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2	PARIS, CHARLES DE GAULE	LFPG 26R
ELEVATION= 312.0(FT) T.O.R.A. =13829.0(FT) A.S.D.A. =14026.0(FT) T.O.D.A. =14026.0(FT) SLOPE = .19(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(LB) WIND (KT) MEAN V1 - VR - V2 /TEMP.(DC) /CODES (IAS.KT)	WITHOUT REVERSE DRY RUNWAY

WEIGHT 1000LB	-10	-5	0	10	20	TGA 2	TGA 3
180.0	-3.5 0 4-4 144 156 160	-.3 0 4-4 149 161 165	.1 24 2-4 149 157 159	.1 35 2-4 149 157 160	.1 38 2-4 149 157 160	45	
175.0	.1 11 4-4 141 154 158	.0 39 4-4 141 155 158	1.7 45 2-4 145 153 155	1.7 45 2-4 145 153 155	1.7 45 2-4 143 153 155	47	48
170.0	.3 45 4-4 135 153 156	4.2 45 4-4 140 154 157	.4 49 2-8 143 150 152	.4 49 2-8 141 150 152	.4 49 2-8 139 150 152	50	51
165.0	.8 50 4-4 137 149 152	.7 52 2-8 142 148 150	.7 52 2-8 140 148 150	.7 52 2-8 137 148 150	.7 52 2-8 137 148 150	54	54
160.0	.6 55 4-4 140 149 152	.7 58 2-4 147 149 151	.4 61 2-4 154 154 156	.7 62 2-4 157 157 160	.4 63 2-4 160 160 162	54	54
158.0	.4 57 4-4 141 149 152	.5 60 2-4 148 149 151	1.2 62 2-4 154 154 156	1.3 63 2-4 157 157 159	.9 64 2-4 159 159 161	54	54
156.0	.2 59 4-4 142 149 151	.4 62 2-4 149 149 151	.5 64 2-4 154 154 156	.4 65 2-4 156 156 158	1.4 65 2-2 158 159 161	54	54
154.0	1.1 60 4-4 142 147 149	.1 64 4-4 150 150 151	1.1 65 2-4 153 153 155	.9 66 2-4 156 156 158	.3 67 2-2 157 157 159	54	54
152.0	.9 62 4-4 143 144 146	.8 65 4-4 150 150 152	.3 67 2-4 153 153 154	.0 68 2-4 155 155 157	.7 68 2-2 156 156 158	54	54
150.0	.9 64 2-4 144 144 146	.1 67 4-4 150 150 151	.8 68 2-4 152 152 154	.5 69 2-4 154 154 156	1.1 69 2-2 155 156 157	54	54
148.0	.8 66 4-4 145 145 147	.6 68 4-4 149 149 150	1.4 69 2-4 152 152 153	.0 69 2 145 149 150	.0 69 2 143 149 150	54	54
146.0	.2 68 4-4 147 149 150	1.2 69 4-4 148 148 150	.0 69 2 141 145 146	.0 69 2 139 145 146	.0 69 2 137 145 146	54	54
144.0	1.0 69 4-4 148 149 150	.0 69 2 139 142 143	.0 69 2 135 142 143	.0 69 2 133 142 143	.0 69 2 131 142 143	54	54
142.0	.0 69 2 137 139 140	.0 69 2 134 139 140	.0 69 2 130 139 140	.0 69 2 128 139 140	.0 69 2 128 139 140	54	54
140.0	.0 69 2 132 136 137	.0 69 2 128 136 137	.0 69 2 126 136 137	.0 69 2 126 136 137	.0 69 2 126 136 137	54	54
135.0	.0 69 122 130 131	.0 69 122 130 131	.0 69 122 130 131	.0 69 122 130 131	.0 69 122 130 131	54	54
130.0	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	54	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2207.(FT) QNH ALT. : 2519.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 26R - CONF 3

CONF 3 | **PARIS, CHARLES DE GAULE** | **LFPG 26R**

ELEVATION= 312.0(FT) | CODES LIMITATIONS | **A320-232/AA/V2527-A5**
T.O.R.A. =13829.0(FT) | 1-STRUCTURE 5-TYRE SPEED | JARA MC69 19-07-01
A.S.D.A. =14026.0(FT) | 2-2ND-SEGMENT 6-BRAKE ENERGY
T.O.D.A. =14026.0(FT) | 3-RUNWAY 7-RWY 2 ENGINES | QNH=1013.25 (MB)
SLOPE = .19(%) | 4-OBSTACLE 8-FINAL T.O. | GRAD1=120/GRAD2= 0

FOR TRAINING ONLY | **AIR COND. OFF** CG25% | **ANTI-ICING OFF**

TREF = 45 DC
TMAX = 54 DC

MTOW (LB) WIND (KT) CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE TGA
DRY RUNWAY 2

O A T DC	-10	-5	0	10	20	3
.0	178042 4-4 146 158 160	181427 2-4 152 159 169	184305 2-4 158 165 165	185908 2-4 162 168 169	187282 2-4 167 172 172	
15.0	176287 4-4 143 156 157	179540 4-4 149 160 162	182494 4-4 155 163 164	184584 2-4 159 166 166	186126 2-4 163 169 169	
30.0	174049 4-4 139 153 154	177730 4-4 145 157 159	180886 4-4 150 161 162	183024 2-4 155 162 163	184757 2-4 159 166 167	
45.0	171654 4-4 135 150 152	175581 4-4 141 155 156	176732 2-8 144 153 154	176732 2-8 144 153 154	176732 2-8 141 153 154	
46.0	170911 4-4 136 150 152	174822 4-4 141 155 156	175161 2-8 143 151 153	175161 2-8 142 151 153	175161 2-8 139 151 153	
48.0	168963 4-4 137 150 152	172012 2-8 142 150 151	172012 2-8 142 150 151	172012 2-8 140 150 151	172012 2-8 138 150 151	
49.0	167988 4-4 137 150 152	170437 2-8 142 149 151	170437 2-8 141 149 151	170437 2-8 138 149 151	170437 2-8 137 149 151	
51.0	166035 4-4 138 150 152	167286 2-8 142 148 149	167286 2-8 139 148 149	167286 2-8 136 148 149	167286 2-8 136 148 149	
52.0	165059 4-4 139 150 152	165711 2-8 141 147 148	165711 2-8 138 147 148	165711 2-8 135 147 148	165711 2-8 135 147 148	
54.0	162558 4-8 140 148 150	162558 8-8 139 145 147	162558 8-8 135 145 147	162558 8-8 134 145 147	162558 8-8 134 145 147	
55.0	161914 4-4 140 150 151	161954 2-8 141 146 147	161954 2-8 137 146 147	161954 2-8 135 146 147	161954 2-8 135 146 147	
56.0	160789 4-4 141 150 151	161951 2-8 143 147 149	161951 2-8 140 147 149	161951 2-8 137 147 149	161951 2-8 136 147 149	
58.0	158567 4-4 142 150 151	161949 2-8 148 152 153	161949 2-8 147 152 153	161949 2-8 145 152 153	161949 2-8 142 152 153	
59.0	157429 4-4 143 146 147	160870 2-4 149 152 153	161947 2-8 151 154 155	161947 2-8 149 154 155	161947 2-8 147 154 155	
61.0	155482 2-4 144 146 147	158595 2-4 150 152 153	161008 2-4 157 158 158	161945 2-8 160 161 161	161945 2-8 159 161 161	
62.0	154516 2-4 145 146 147	157464 2-4 151 152 153	159705 2-4 158 158 158	160585 2-4 161 161 161	160902 2-2 161 162 162	
64.0	152375 2-4 146 146 147	154999 2-4 152 152 153	156788 2-4 157 157 157	157643 4-4 160 160 160	157760 2-2 158 160 160	
65.0	151244 4-4 147 147 148	153610 2-4 151 151 152	155341 2-4 156 156 157	156153 4-4 159 159 160	156189 2-2 157 159 160	
67.0	148584 4-4 147 147 148	150804 2-4 151 151 151	152404 2-4 155 155 156	153047 2-2 157 158 158	153047 2-2 156 158 158	
68.0	147254 4-4 150 150 150	149334 2-4 150 150 151	150892 2-4 155 155 155	151476 2-2 156 157 157	151476 2-2 155 157 157	
69.0	145999 4-4 150 150 151	147884 2-4 150 150 150	149388 2-4 154 154 155	149905 2-2 155 156 156	149905 2-2 154 156 156	

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2150.(FT) QNH ALT. : 2462.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3 | **PARIS, CHARLES DE GAULE** | **LFPG 26R**

ELEVATION= 312.0(FT) | CODES LIMITATIONS | **A320-232/AA/V2527-A5**
T.O.R.A. =13829.0(FT) | 1-STRUCTURE 5-TYRE SPEED | JARA MC69 19-07-01
A.S.D.A. =14026.0(FT) | 2-2ND-SEGMENT 6-BRAKE ENERGY
T.O.D.A. =14026.0(FT) | 3-RUNWAY 7-RWY 2 ENGINES | QNH=1013.25 (MB)
SLOPE = .19(%) | 4-OBSTACLE 8-FINAL T.O. | GRAD1=120/GRAD2= 0

FOR TRAINING ONLY | **AIR COND. OFF** CG25% | **ANTI-ICING OFF**

TREF = 45 DC
TMAX = 54 DC

WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE TGA
DRY RUNWAY 2

WEIGHT 1000LB	-10	-5	0	10	20	3
180.0	-2.0 0 4-4 146 158 160	.0 11 2-4 150 160 161	.1 33 4-4 149 160 161	.1 37 2-4 150 158 159	.5 38 2-4 149 159 160	45
175.0	.1 23 4-4 141 154 156	.6 45 4-4 141 155 156	1.7 45 4-4 144 153 154	1.7 45 2-4 144 153 154	1.7 45 2-4 141 153 154	47 48
170.0	1.7 45 4-4 135 150 152	.4 49 2-8 142 149 151	.4 49 2-8 142 149 151	.4 49 2-8 139 149 151	.4 49 2-8 138 149 151	50 51
165.0	.1 52 4-4 139 150 152	.7 52 2-8 142 147 148	.7 52 2-8 138 147 148	.7 52 2-8 136 147 148	.7 52 2-8 136 147 148	54 54
160.0	.8 56 4-4 141 150 151	.9 59 2-4 149 152 153	1.0 61 2-4 157 158 158	.6 62 2-4 161 161 161	.9 62 2-2 161 162 162	54 54
158.0	.6 58 4-4 142 150 151	.6 61 2-4 150 152 153	.2 63 2-4 157 157 158	1.1 63 2-4 160 160 160	1.3 63 2-2 160 161 161	54 54
156.0	.5 60 4-4 143 146 147	.2 63 2-4 152 152 153	.8 64 2-4 157 157 157	.2 65 4-4 159 159 160	.2 65 2-2 158 159 160	54 54
154.0	.5 62 2-4 145 146 147	1.0 64 2-4 152 152 153	1.3 65 2-4 156 156 157	.6 66 4-4 158 158 159	.6 66 2-2 157 159 159	54 54
152.0	.4 64 2-4 146 146 147	.2 66 2-4 151 151 152	.4 67 2-4 155 155 156	1.0 67 2-2 157 158 158	1.0 67 2-2 156 158 158	54 54
150.0	1.2 65 4-4 147 147 148	.8 67 2-4 151 151 151	.9 68 2-4 155 155 155	1.5 68 2-2 156 157 157	1.5 68 2-2 155 157 157	54 54
148.0	.6 67 4-4 147 147 148	1.3 68 2-4 150 150 151	1.4 69 2-4 154 154 155	1.9 69 2-2 155 156 156	1.9 69 2-2 154 156 156	54 54
146.0	1.3 68 4-4 150 150 150	1.9 69 2-4 150 150 150	.0 69 2 140 145 146	.0 69 2 137 145 146	.0 69 2 135 145 146	54 54
144.0	2.0 69 4-4 150 150 151	.0 69 2 136 141 142	.0 69 2 133 141 142	.0 69 2 130 141 142	.0 69 2 130 141 142	54 54
142.0	.0 69 2 134 137 138	.0 69 2 131 137 138	.0 69 2 127 137 138	.0 69 2 127 137 138	.0 69 2 127 137 138	54 54
140.0	.0 69 2 130 134 135	.0 69 2 126 134 135	.0 69 2 124 134 135	.0 69 2 124 134 135	.0 69 2 124 134 135	54 54
135.0	.0 69 2 121 127 128	.0 69 2 121 127 128	.0 69 2 121 127 128	.0 69 2 121 127 128	.0 69 2 121 127 128	54 54
130.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1112.(FT)
/MAXI. ACCELERATION HEIGHT : 2150.(FT) QNH ALT. : 2462.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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PARIS CHARLES DE GAULLE (LFPG) - RWY 27 - CONF 1 + F

CONF1+F	PARIS CHARLES DE GAULLE	LFPG 27
ELEVATION= 388.0(FT) T.O.R.A. =11811.0(FT) A.S.D.A. =12007.9(FT) T.O.D.A. =12385.2(FT) SLOPE = -.14(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=160/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2

WEIGHT 1000LB	-10	-5	0	10	20	3	
180.0	-4.1 -1 4-4 146 155 156	-.6 -1 4-4 151 158 158	.1 16 2-4 152 159 159	.2 30 2-4 152 159 159	.0 36 2-4 153 159 159		44
175.0	.1 3 4-4 145 155 155	.2 24 4-4 145 155 155	.5 44 4-4 147 155 155	1.9 44 2-4 149 156 156	2.0 44 2-4 150 156 156	47	48
170.0	.1 30 4-4 139 152 153	1.5 44 4-4 141 153 153	.1 49 8-8 146 153 153	.1 49 8-8 146 153 153	.1 49 8-8 144 153 153	50	51
165.0	2.3 44 4-4 136 151 151	.4 52 4-4 144 151 151	.4 52 8-8 145 151 151	.4 52 8-8 143 151 151	.4 52 8-8 141 151 151	53	54
160.0	.6 53 4-4 139 148 148	.5 57 4-4 146 150 150	.8 60 2-8 153 155 155	.7 62 2-4 158 159 159	.9 63 2-4 162 162 162	54	54
158.0	.7 55 4-4 139 148 148	.4 59 4-4 147 150 150	.8 62 2-4 154 155 155	.2 64 4-4 159 159 159	.1 65 2-4 161 161 161	54	54
156.0	.8 57 4-4 140 147 147	.4 61 2-4 148 150 150	.6 64 2-4 155 156 156	.9 65 4-4 160 160 160	.6 66 2-4 161 161 161	54	54
154.0	.8 59 4-4 141 147 147	.4 63 4-4 149 150 150	.2 66 4-4 157 157 157	.1 67 4-4 158 158 158	1.1 67 2-4 161 161 161	54	54
152.0	.9 61 4-4 142 146 146	.5 65 4-4 150 151 151	.8 67 4-4 157 157 157	.6 68 4-4 158 158 158	1.6 68 2-4 162 162 162	54	54
150.0	1.0 63 4-4 143 146 146	.3 67 2-4 151 151 151	.0 69 4-4 156 156 156	1.2 69 4-4 157 157 157	1.9 69 2-2 160 161 161	54	54
148.0	.1 66 4-4 145 146 146	1.2 68 4-4 152 152 152	.0 69 2 149 151 151	.0 69 2 147 151 151	.0 69 2 146 151 151	54	54
146.0	.1 68 4-4 146 146 146	2.0 69 4-4 152 152 152	.0 69 2 144 147 147	.0 69 2 142 147 147	.0 69 2 140 147 147	54	54
144.0	1.1 69 4-4 146 147 147	.0 69 2 141 144 144	.0 69 2 139 144 144	.0 69 2 137 144 144	.0 69 2 134 144 144	54	54
142.0	.0 69 2 139 141 141	.0 69 2 136 141 141	.0 69 2 133 141 141	.0 69 2 131 141 141	.0 69 2 130 141 141	54	54
140.0	.0 69 135 139 139	.0 69 132 139 139	.0 69 129 139 139	.0 69 129 139 139	.0 69 129 139 139	54	54
135.0	.0 69 127 136 136	.0 69 127 136 136	.0 69 127 136 136	.0 69 127 136 136	.0 69 127 136 136	54	54
130.0	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	54	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2312.(FT) QNH ALT. : 2700.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	PARIS CHARLES DE GAULLE	LFPG 27
ELEVATION= 388.0(FT) T.O.R.A. =11811.0(FT) A.S.D.A. =12007.9(FT) T.O.D.A. =12385.2(FT) SLOPE = -.14(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-1.0	175862 4-4 146 155 156	179404 4-4 151 158 158	182778 2-4 156 162 162	184938 2-4 159 165 165	186837 2-4 162 168 168
14.0	173022 4-4 142 154 154	176797 4-4 147 156 156	180357 2-4 152 159 159	182564 2-4 156 162 162	184669 2-4 159 165 165
29.0	170321 4-4 139 152 153	174335 4-4 144 154 155	178124 4-4 149 157 157	180471 2-4 153 159 159	182604 2-4 156 162 162
44.8	167154 4-4 136 151 151	171373 4-4 141 153 153	175405 4-4 146 155 155	176755 8-8 149 156 156	176755 8-8 149 156 156
46.0	166340 4-4 136 151 151	170539 4-4 142 153 153	174539 4-4 147 155 155	174805 8-8 148 155 155	174805 8-8 148 155 155
48.0	164742 4-4 137 150 150	168870 4-4 142 152 152	171661 8-8 146 154 154	171661 8-8 147 154 154	171661 8-8 145 154 154
49.0	163933 4-4 137 150 150	168011 4-4 143 152 152	170089 8-8 146 153 153	170089 8-8 146 153 153	170089 8-8 144 153 153
51.0	162272 4-4 138 149 149	166257 4-4 144 151 151	166944 8-8 145 152 152	166944 8-8 144 152 152	166944 8-8 142 152 152
52.0	161429 4-4 138 149 149	165356 4-4 144 151 151	165371 8-8 145 151 151	165371 8-8 143 151 151	165371 8-8 141 151 151
53.0	160561 4-4 139 148 148	163797 8-8 144 150 150	163797 8-8 143 150 150	163797 8-8 141 150 150	163797 8-8 139 150 150
55.0	158715 4-4 139 148 148	161857 8-8 145 149 149	161857 8-8 143 149 149	161857 8-8 141 149 149	161857 8-8 139 149 149
56.0	157746 4-4 140 147 147	161506 4-4 146 150 150	161855 2-8 146 150 150	161855 2-8 144 150 150	161855 2-8 142 150 150
58.0	155810 4-4 141 147 147	159466 4-4 147 150 150	161853 8-4 153 153 153	161853 2-8 149 153 153	161853 2-8 148 153 153
59.0	154844 4-4 141 147 147	158446 4-4 147 150 150	161851 2-8 153 155 155	161851 2-8 152 155 155	161851 2-8 151 155 155
61.0	152922 4-4 142 146 146	156434 2-4 148 150 150	159840 2-4 154 155 155	161835 2-4 158 159 159	161848 2-8 157 159 159
62.0	151940 4-4 143 146 146	155433 2-4 149 150 150	158763 2-4 154 155 155	160721 2-4 158 159 159	161846 2-8 160 161 161
63.0	150960 4-4 143 146 146	154436 4-4 149 150 150	157675 2-4 155 155 155	159518 4-4 159 159 159	160886 2-4 162 162 162
65.0	149022 4-4 144 146 146	152450 4-4 150 151 151	155432 4-4 156 156 156	156872 4-4 160 160 160	158073 2-4 161 161 161
66.0	148059 4-4 145 146 146	151460 2-4 150 151 151	154164 4-4 157 157 157	155497 4-4 159 159 159	156609 2-4 161 161 161
68.0	146089 4-4 146 146 146	149196 4-4 152 152 152	151447 4-4 157 157 157	152639 4-4 158 158 158	153569 2-4 162 162 162
69.0	145096 4-4 146 147 147	147988 4-4 152 152 152	150016 4-4 156 156 156	151180 4-4 157 157 157	151945 2-2 160 161 161

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2312.(FT) QNH ALT. : 2700.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 27 - CONF 2

CONF 2	PARIS CHARLES DE GAULLE	LFPG 27
ELEVATION= 388.0(FT) T.O.R.A. =11811.0(FT) A.S.D.A. =12007.9(FT) T.O.D.A. =12385.2(FT) SLOPE = -.14(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		

TREF = 44 DC
TMAX = 54 DC

WGHT INCR.1000(LB) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE — TGA

WEIGHT 1000LB	-10	-5	0	10	20	DRY RUNWAY 2	DRY RUNWAY 3	
180.0	-4.8 -1 4-4 144 154 157	-1.3 -1 4-4 149 156 159	.1 13 4-4 151 157 160	.0 31 2-4 151 156 159	.1 36 2-4 151 157 160			44
175.0	.1 0 4-4 144 153 157	.1 25 4-4 144 153 156	.9 44 4-4 145 153 156	1.9 44 2-4 147 153 156	2.0 44 2-4 147 153 156			47 48
170.0	.1 34 4-4 137 148 151	2.4 44 4-4 140 150 153	.1 49 2-8 145 149 152	.1 49 2-8 144 149 152	.1 49 2-8 141 149 152			50 51
165.0	3.6 44 4-4 135 147 150	.4 52 4-8 143 148 151	.4 52 2-8 143 147 150	.4 52 2-8 140 147 150	.4 52 2-8 138 147 150			53 54
160.0	.9 53 4-4 138 146 148	.3 57 4-4 146 149 151	.2 60 2-4 153 153 155	.6 61 4-4 157 157 160	.3 62 2-4 157 157 160			54 54
158.0	.9 55 4-4 139 146 148	.2 59 4-4 147 149 151	1.1 61 4-4 153 153 155	1.2 62 4-4 156 156 159	.9 63 4-4 157 157 159			54 54
156.0	.9 57 4-4 140 146 148	.1 61 4-4 148 149 151	.5 63 4-4 154 154 157	.3 64 4-4 155 155 157	1.4 64 4-4 157 157 159			54 54
154.0	.9 59 4-4 141 146 148	1.1 62 4-4 148 149 151	1.1 64 4-4 154 154 156	.9 65 4-4 155 155 157	.6 66 4-4 157 157 159			54 54
152.0	.9 61 4-4 142 145 147	.9 64 4-4 149 149 151	.4 66 4-4 153 153 155	.0 67 4-4 154 154 156	1.1 67 4-4 156 156 158			54 54
150.0	.8 63 4-4 143 145 146	.5 66 4-4 151 151 152	.9 67 4-4 153 153 155	.6 68 4-4 154 154 156	.2 69 4-4 155 155 157			54 54
148.0	.8 65 4-4 144 145 147	1.1 67 4-4 151 151 153	.1 69 4-4 151 151 153	1.1 69 4-4 153 153 155	.0 69 2 146 149 151			54 54
146.0	.7 67 4-4 145 146 147	.4 69 4-4 150 150 152	.0 69 2 144 146 147	.0 69 2 142 146 147	.0 69 2 140 146 147			54 54
144.0	.5 69 4-4 147 147 148	.0 69 2 141 142 143	.0 69 2 138 142 143	.0 69 2 136 142 143	.0 69 2 134 142 143			54 54
142.0	.0 69 4 139 139 140	.0 69 2 136 139 140	.0 69 2 133 139 140	.0 69 2 131 139 140	.0 69 2 129 139 140			54 54
140.0	.0 69 2 134 136 137	.0 69 2 131 136 137	.0 69 2 128 136 137	.0 69 2 126 136 137	.0 69 2 126 136 137			54 54
135.0	.0 69 123 130 131	.0 69 122 130 131	.0 69 122 130 131	.0 69 122 130 131	.0 69 122 130 131			54 54
130.0	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128			54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2187.(FT) QNH ALT. : 2575.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2	PARIS CHARLES DE GAULLE	LFPG 27
ELEVATION= 388.0(FT) T.O.R.A. =11811.0(FT) A.S.D.A. =12007.9(FT) T.O.D.A. =12385.2(FT) SLOPE = -.14(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		

TREF = 44 DC
TMAX = 54 DC

MTOW (LB) CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE

OAT DC	-10	-5	0	10	20	DRY RUNWAY
-1.0	175201 4-4 144 154 157	178693 4-4 149 156 159	182015 4-4 154 159 163	184195 2-4 158 163 166	186170 2-4 162 166 169	
14.0	172944 4-4 140 151 154	176565 4-4 146 154 158	179978 4-4 151 157 160	182289 4-4 154 160 163	184402 2-4 158 163 166	
29.0	170888 4-4 138 149 152	174545 4-4 143 152 155	178108 4-4 148 155 158	180500 2-4 151 157 160	182758 2-4 155 160 163	
44.8	168463 4-4 135 147 150	172254 4-4 140 150 153	175830 4-4 145 153 156	176755 2-8 147 153 155	176755 2-8 146 153 155	
46.0	167544 4-4 135 147 150	171313 4-4 141 150 152	174805 4-8 145 152 154	174805 2-8 146 151 154	174805 2-8 144 151 154	
48.0	165694 4-4 136 147 150	169378 4-4 141 149 152	171661 2-8 145 150 153	171661 2-8 144 150 153	171661 2-8 142 150 153	
49.0	164765 4-4 137 147 149	168409 4-4 142 150 152	170089 2-8 145 149 152	170089 2-8 143 149 152	170089 2-8 141 149 152	
51.0	162873 4-4 137 146 149	166476 4-4 143 150 153	166944 2-8 143 148 150	166944 2-8 141 148 150	166944 2-8 139 148 150	
52.0	161906 4-4 138 146 149	165371 4-8 143 148 151	165371 2-8 142 147 150	165371 2-8 140 147 150	165371 2-8 137 147 150	
53.0	160927 4-4 138 146 148	163797 2-8 143 147 149	163797 2-8 142 147 149	163797 2-8 139 147 149	163797 2-8 137 147 149	
55.0	158942 4-4 139 146 148	161857 2-8 144 147 149	161857 2-8 142 147 149	161857 2-8 140 147 149	161857 2-8 137 147 149	
56.0	157922 4-4 140 146 148	161397 4-4 145 149 151	161855 2-8 145 148 150	161855 2-8 143 148 150	161855 2-8 140 148 150	
58.0	155900 4-4 141 146 148	159261 4-4 146 148 151	161853 2-8 150 151 154	161853 2-8 148 151 154	161853 2-8 147 151 154	
59.0	154900 4-4 141 146 148	158204 4-4 147 149 151	161352 2-4 152 152 155	161851 2-8 152 153 156	161851 2-8 150 153 156	
61.0	152877 4-4 142 145 147	156103 4-4 148 149 151	159079 4-4 153 153 155	160599 4-4 157 157 160	161768 4-4 158 158 160	
62.0	151854 4-4 143 145 146	155058 4-4 148 149 151	157823 4-4 154 154 156	159174 4-4 156 156 159	160320 2-4 157 157 160	
63.0	150832 4-4 143 145 146	153992 4-4 149 149 151	156520 4-4 154 154 157	157750 4-4 156 156 158	158872 4-4 157 157 159	
65.0	148804 4-4 144 145 147	151731 4-4 150 150 152	153771 4-4 154 154 156	154910 4-4 155 155 157	155999 4-4 157 157 159	
66.0	147797 4-4 145 145 147	150476 4-4 151 151 152	152379 4-4 153 153 155	153491 4-4 154 154 156	154573 4-4 157 157 159	
68.0	145610 4-4 146 146 148	147767 4-4 151 151 153	149512 4-4 152 152 154	150587 4-4 154 154 156	151652 4-4 156 156 158	
69.0	144450 4-4 147 147 148	146353 4-4 150 150 152	148061 4-4 151 151 153	149120 4-4 153 153 155	150177 4-4 155 155 157	

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2187.(FT) QNH ALT. : 2575.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS CHARLES DE GAULLE (LFPG) - RWY 27 - CONF 3

CONF 3	PARIS CHARLES DE GAULLE	LFPG 27
ELEVATION= 388.0(FT) T.O.R.A. =11811.0(FT) A.S.D.A. =12007.9(FT) T.O.D.A. =12385.2(FT) SLOPE = -.14(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=140/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0	-3.0 -1 4-4 146 156 158	.1 3 2-4 151 157 159	.1 28 2-4 150 158 159	.1 35 2-4 151 158 159	.3 37 2-4 151 158 159	44
175.0	.1 12 4-4 143 153 155	.1 36 4-4 143 153 154	1.9 44 4-4 146 153 154	2.0 44 2-4 147 153 154	2.1 44 2-4 145 153 154	47 48
170.0	.1 42 4-4 136 148 150	3.7 44 4-4 141 151 153	.1 49 2-8 144 149 151	.1 49 2-8 142 149 151	.1 49 2-8 139 149 151	50 51
165.0	4.8 44 4-4 136 148 150	.4 52 2-8 141 147 148	.4 52 2-8 141 147 148	.4 52 2-8 138 147 148	.4 52 2-8 136 147 148	53 54
160.0	.4 55 4-4 140 147 149	.9 58 2-4 148 150 151	.1 61 2-4 156 156 157	1.1 61 2-4 159 159 160	.4 62 2-2 161 161 162	54 54
158.0	.4 57 4-4 141 147 148	.7 60 2-4 149 150 151	.6 62 2-4 156 156 156	.2 63 2-4 158 158 159	.9 63 2-2 160 160 161	54 54
156.0	.5 59 4-4 142 146 148	.6 62 2-4 150 150 152	1.2 63 2-4 155 155 156	.7 64 2-4 158 158 158	1.3 64 2-2 159 160 160	54 54
154.0	.5 61 4-4 143 146 147	1.3 63 4-4 151 151 152	.3 65 2-4 154 154 155	1.3 65 2-4 157 157 158	.2 66 2-2 157 158 159	54 54
152.0	.5 63 4-4 145 145 146	.6 65 4-4 151 151 152	.9 66 2-4 154 154 154	.3 67 2-4 156 156 157	.6 67 2-2 156 157 158	54 54
150.0	.4 65 4-4 146 146 147	1.2 66 4-4 150 150 151	.0 68 2-4 153 153 154	.8 68 2-4 156 156 156	1.0 68 2-2 155 156 157	54 54
148.0	1.2 66 4-4 147 147 148	.4 68 4-4 149 149 150	.6 69 2-4 152 152 153	1.4 69 4-4 155 155 156	1.5 69 2-2 154 156 156	54 54
146.0	.6 68 4-4 148 148 149	.9 69 4-4 148 148 149	.0 69 2 142 145 147	.0 69 2 140 145 147	.0 69 2 138 145 147	54 54
144.0	1.2 69 4-4 147 147 148	.0 69 2 138 141 142	.0 69 2 135 141 142	.0 69 2 133 141 142	.0 69 2 131 141 142	54 54
142.0	.0 69 2 136 138 139	.0 69 2 133 138 139	.0 69 2 130 138 139	.0 69 2 127 138 139	.0 69 2 127 138 139	54 54
140.0	.0 69 2 132 134 136	.0 69 2 129 134 136	.0 69 2 125 134 136	.0 69 2 124 134 136	.0 69 2 124 134 136	54 54
135.0	.0 69 2 121 127 129	.0 69 2 121 127 129	.0 69 2 121 127 129	.0 69 2 121 127 129	.0 69 2 121 127 129	54 54
130.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2130.(FT) QNH ALT. : 2518.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

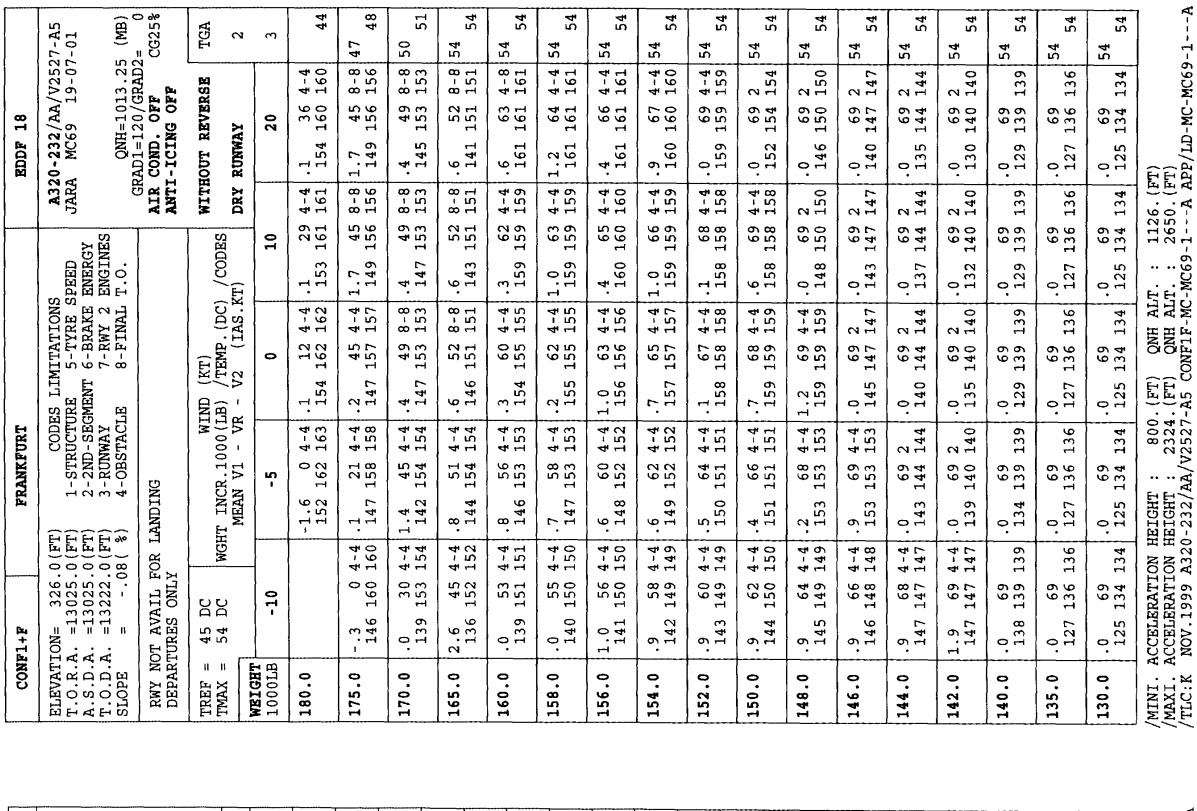
CONF 3	PARIS CHARLES DE GAULLE	LFPG 27
ELEVATION= 388.0(FT) T.O.R.A. =11811.0(FT) A.S.D.A. =12007.9(FT) T.O.D.A. =12385.2(FT) SLOPE = -.14(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 54 DC	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-1.0	177049 4-4 146 156 158	180633 2-4 152 158 159	183591 2-4 158 163 164	185327 2-4 162 167 168	186748 2-4 166 171 171
14.0	174803 4-4 143 153 155	178590 4-4 148 157 158	181929 2-4 154 160 161	183836 2-4 158 164 165	185492 2-4 162 168 168
29.0	172408 4-4 139 150 152	176239 4-4 145 154 155	179997 4-4 150 158 159	182112 2-4 154 161 162	183958 2-4 158 164 165
44.8	169629 4-4 135 148 150	173610 4-4 141 151 153	176755 2-8 146 153 154	176755 2-8 147 153 154	176755 2-8 144 153 154
46.0	168725 4-4 136 148 150	172684 4-4 141 151 153	174805 2-8 145 151 153	174805 2-8 145 151 153	174805 2-8 142 151 153
48.0	166920 4-4 137 148 150	170808 4-4 142 151 153	171661 2-8 145 150 151	171661 2-8 143 150 151	171661 2-8 140 150 151
49.0	166018 4-4 137 147 149	169873 4-4 143 151 153	170089 2-8 144 149 151	170089 2-8 141 149 151	170089 2-8 139 149 151
51.0	164168 4-4 138 147 149	166944 2-8 143 147 149	166944 2-8 141 147 149	166944 2-8 139 147 149	166944 2-8 136 147 149
52.0	163235 4-4 138 147 149	165371 2-8 143 147 148	165371 2-8 141 147 148	165371 2-8 138 147 148	165371 2-8 136 147 148
53.0	162289 4-4 139 147 149	163797 2-8 143 146 147	163797 2-8 139 146 147	163797 2-8 137 146 147	163797 2-8 135 146 147
55.0	160363 4-4 140 147 149	161857 2-8 143 146 148	161857 2-8 140 146 148	161857 2-8 137 146 148	161857 2-8 135 146 148
56.0	159370 4-4 140 147 149	161855 2-8 145 148 149	161855 2-8 142 148 149	161855 2-8 140 148 149	161855 2-8 138 148 149
58.0	157416 4-4 142 147 148	160898 2-4 148 150 151	161853 2-8 149 152 153	161853 2-8 147 152 153	161853 2-8 145 152 153
59.0	156452 4-4 142 146 148	159816 2-4 148 150 151	161851 2-8 153 154 155	161851 2-8 151 154 155	161851 2-8 149 154 155
61.0	154491 4-4 143 146 147	157656 2-4 150 150 152	160057 2-4 156 156 157	161138 2-4 159 159 160	161848 2-8 161 161 162
62.0	153499 4-4 144 145 147	156550 2-4 150 150 152	158621 2-4 156 156 156	159658 2-4 158 158 159	160448 2-2 161 161 162
63.0	152487 4-4 145 145 146	155311 4-4 151 151 152	157190 2-4 155 155 156	158177 2-4 158 158 159	158882 2-2 160 160 161
65.0	150356 4-4 146 146 147	152622 4-4 151 151 152	154342 2-4 154 154 155	155257 2-4 157 157 158	155748 2-2 158 159 159
66.0	149216 4-4 147 147 148	151236 4-4 150 150 151	152928 2-4 154 154 154	153801 2-4 157 157 157	154182 2-2 157 158 159
68.0	146604 4-4 148 148 149	148375 4-4 149 149 150	150030 2-4 153 153 154	150842 2-4 156 156 156	151049 2-2 155 156 157
69.0	145193 4-4 147 147 148	146929 4-4 148 148 149	148556 2-4 152 152 153	149351 4-4 155 155 156	149482 2-2 154 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1188.(FT)
/MAXI. ACCELERATION HEIGHT : 2130.(FT) QNH ALT. : 2518.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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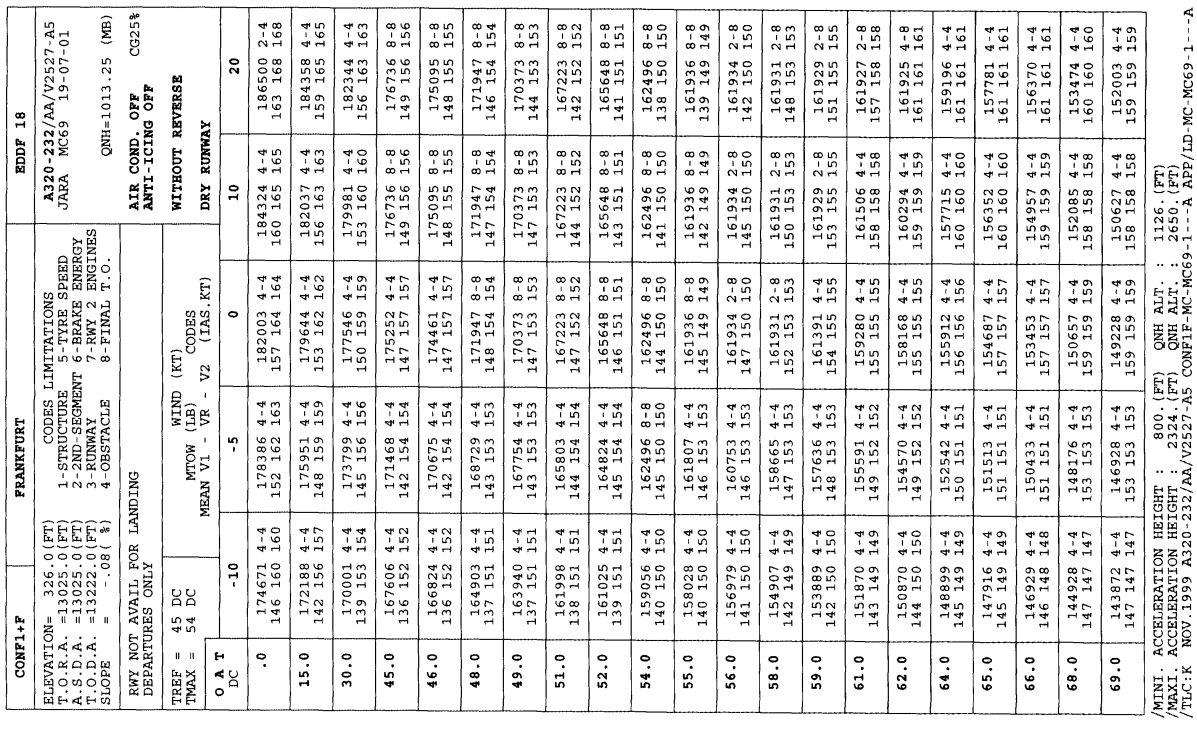
FRANKFURT (EDDF) - RWY 18 - CONF 1 + F



CONF1+F	FRANKFURT	EDDF 18
ELEVATION= 326.0(FT) T.O.R.A. =13025.0(FT) A.S.D.A. =13025.0(FT) T.O.D.A. =13222.0(FT) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
RWY NOT AVAIL FOR LANDING DEPARTURES ONLY	WIND (KT) WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE TGA DRY RUNWAY 2 3

TREF = 45 DC TMAX = 54 DC		-10		-5		0		10		20		
WEIGHT 1000LB												
180.0				-1.6 0 4-4 152 162 163		.1 12 4-4 154 162 162		.1 29 4-4 153 161 161		.1 36 4-4 154 160 160		44
175.0		-.3 0 4-4 146 160 160		.1 21 4-4 147 158 158		.2 45 4-4 147 157 157		1.7 45 8-8 149 156 156		1.7 45 8-8 149 156 156		47 48
170.0	.0 30 4-4 139 153 154		1.4 45 4-4 142 154 154		.4 49 8-8 147 153 153		.4 49 8-8 147 153 153		.4 49 8-8 145 153 153		50	51
165.0	2.6 45 4-4 136 152 152		.8 51 4-4 144 154 154		.6 52 8-8 146 151 151		.6 52 8-8 143 151 151		.6 52 8-8 141 151 151		54	54
160.0	.0 53 4-4 139 151 151		.8 56 4-4 146 153 153		.3 60 4-4 154 155 155		.3 62 4-4 159 159 159		.6 63 4-4 161 161 161		54	54
158.0	.0 55 4-4 140 150 150		.7 58 4-4 147 153 153		.2 62 4-4 155 155 155		1.0 63 4-4 159 159 159		1.2 64 4-4 161 161 161		54	54
156.0	1.0 56 4-4 141 150 150		.6 60 4-4 148 152 152		1.0 63 4-4 156 156 156		.4 65 4-4 160 160 160		.4 66 4-4 161 161 161		54	54
154.0	.9 58 4-4 142 149 149		.6 62 4-4 149 152 152		.7 65 4-4 157 157 157		1.0 66 4-4 159 159 159		.9 67 4-4 160 160 160		54	54
152.0	.9 60 4-4 143 149 149		.5 64 4-4 150 151 151		.1 67 4-4 158 158 158		.1 68 4-4 158 158 158		.0 69 4-4 159 159 159		54	54
150.0	.9 62 4-4 144 150 150		.4 66 4-4 151 151 151		.7 68 4-4 159 159 159		.6 69 4-4 158 158 158		.0 69 2 152 154 154		54	54
148.0	.9 64 4-4 145 149 149		.2 68 4-4 153 153 153		1.2 69 4-4 159 159 159		.0 69 2 148 150 150		.0 69 2 146 150 150		54	54
146.0	.9 66 4-4 146 148 148		.9 69 4-4 153 153 153		.0 69 2 145 147 147		.0 69 2 143 147 147		.0 69 2 140 147 147		54	54
144.0	.9 68 4-4 147 147 147		.0 69 2 143 144 144		.0 69 2 140 144 144		.0 69 2 137 144 144		.0 69 2 135 144 144		54	54
142.0	1.9 69 4-4 147 147 147		.0 69 2 139 140 140		.0 69 2 135 140 140		.0 69 2 132 140 140		.0 69 2 130 140 140		54	54
140.0	.0 69 138 139 139		.0 69 134 139 139		.0 69 129 139 139		.0 69 129 139 139		.0 69 129 139 139		54	54
135.0	.0 69 127 136 136		.0 69 127 136 136		.0 69 127 136 136		.0 69 127 136 136		.0 69 127 136 136		54	54
130.0	.0 69 125 134 134		.0 69 125 134 134		.0 69 125 134 134		.0 69 125 134 134		.0 69 125 134 134		54	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1126.(FT)
/MAXI. ACCELERATION HEIGHT : 2324.(FT) QNH ALT. : 2650.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

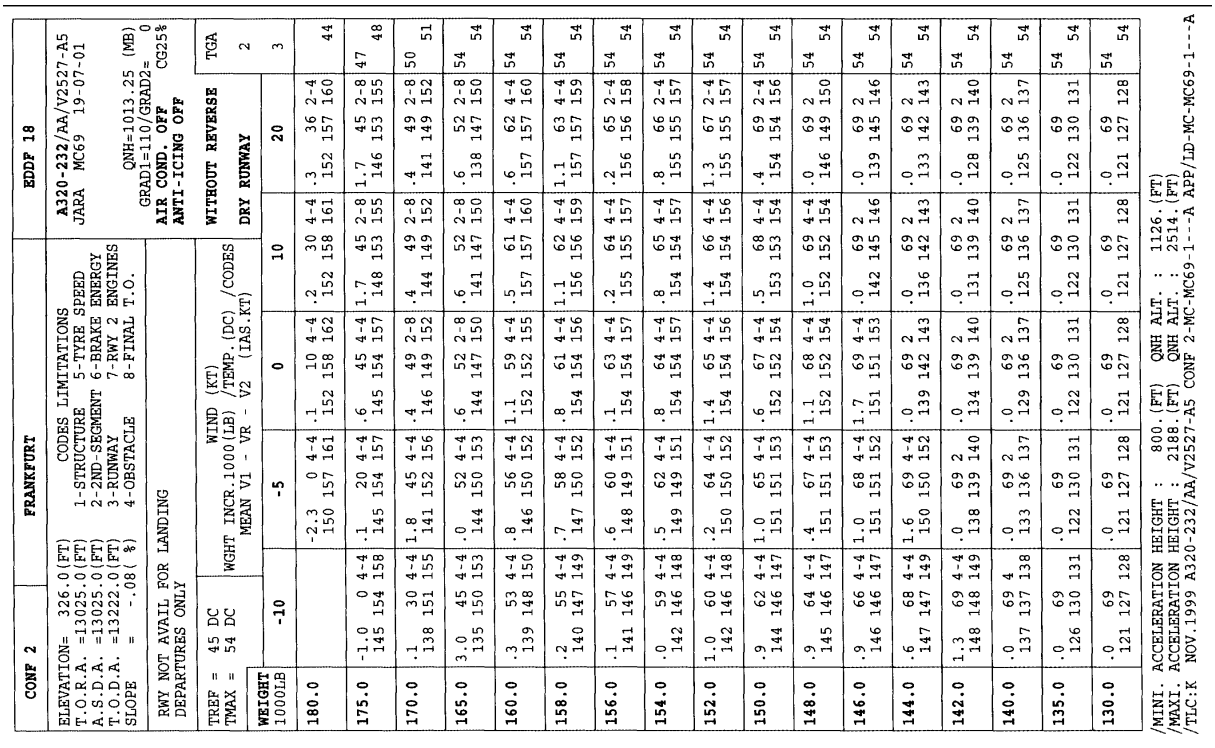


CONF1+F	FRANKFURT	EDDF 18
ELEVATION= 326.0(FT) T.O.R.A. =13025.0(FT) A.S.D.A. =13025.0(FT) T.O.D.A. =13222.0(FT) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
RWY NOT AVAIL FOR LANDING DEPARTURES ONLY	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	WITHOUT REVERSE DRY RUNWAY

TREF = 45 DC TMAX = 54 DC		-10		-5		0		10		20	
O A T DC											
.0	174671 4-4 146 160 160		178386 4-4 152 162 163		182003 4-4 157 164 164		184324 4-4 160 165 165		186500 2-4 163 168 168	
15.0	172188 4-4 142 156 157		175951 4-4 148 159 159		179644 4-4 153 162 162		182037 4-4 156 163 163		184358 4-4 159 165 165	
30.0	170001 4-4 139 153 154		173799 4-4 145 156 156		177546 4-4 150 159 159		179981 4-4 153 160 160		182344 4-4 156 163 163	
45.0	167606 4-4 136 152 152		171468 4-4 142 154 154		175252 4-4 147 157 157		176736 8-8 149 156 156		176736 8-8 149 156 156	
46.0	166824 4-4 136 152 152		170675 4-4 142 154 154		174461 4-4 147 157 157		175095 8-8 148 155 155		175095 8-8 148 155 155	
48.0	164903 4-4 137 151 151		168729 4-4 143 153 153		171947 8-8 148 154 154		171947 8-8 147 154 154		171947 8-8 146 154 154	
49.0	163940 4-4 137 151 151		167754 4-4 143 153 153		170373 8-8 147 153 153		170373 8-8 147 153 153		170373 8-8 144 153 153	
51.0	161998 4-4 138 151 151		165803 4-4 144 154 154		167223 8-8 147 152 152		167223 8-8 144 152 152		167223 8-8 142 152 152	
52.0	161025 4-4 139 151 151		164824 4-4 145 154 154		165648 8-8 146 151 151		165648 8-8 143 151 151		165648 8-8 141 151 151	
54.0	159056 4-4 140 150 150		162496 8-8 145 150 150		162496 8-8 144 150 150		162496 8-8 141 150 150		162496 8-8 138 150 150	
55.0	158028 4-4 140 150 150		161807 4-4 146 153 153		161936 8-8 145 149 149		161936 8-8 142 149 149		161936 8-8 139 149 149	
56.0	156979 4-4 141 150 150		160753 4-4 146 153 153		161934 2-8 147 150 150		161934 2-8 145 150 150		161934 2-8 142 150 150	
58.0	154907 4-4 142 149 149		158665 4-4 147 153 153		161931 2-8 152 153 153		161931 2-8 150 153 153		161931 2-8 148 153 153	
59.0	153889 4-4 142 150 150		157636 4-4 148 153 153		161391 4-4 154 155 155		161929 2-8 153 155 155		161929 2-8 151 155 155	
61.0	151870 4-4 143 149 149		155591 4-4 149 152 152		159280 4-4 155 155 155		161506 4-4 158 158 158		161927 2-8 157 158 158	
62.0	150870 4-4 144 150 150		154570 4-4 149 152 152		158168 4-4 155 155 155		160294 4-4 159 159 159		161925 4-8 161 161 161	
64.0	148899 4-4 145 149 149		152542 4-4 150 151 151		155912 4-4 156 156 156		157715 4-4 160 160 160		159196 4-4 161 161 161	
65.0	147916 4-4 145 149 149		151513 4-4 151 151 151		154687 4-4 157 157 157		156352 4-4 158 160 160		157781 4-4 161 161 161	
66.0	146929 4-4 146 148 148		150433 4-4 151 151 151		153453 4-4 157 157 157		154957 4-4 159 159 159		156370 4-4 161 161 161	
68.0	144928 4-4 147 147 147		148176 4-4 153 153 153		150657 4-4 159 159 159		152085 4-4 158 158 158		153474 4-4 160 160 160	
69.0	143872 4-4 147 147 147		146928 4-4 153 153 153		149228 4-4 159 159 159		150627 4-4 158 158 158		152003 4-4 159 159 159	

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1126.(FT)
/MAXI. ACCELERATION HEIGHT : 2324.(FT) QNH ALT. : 2650.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

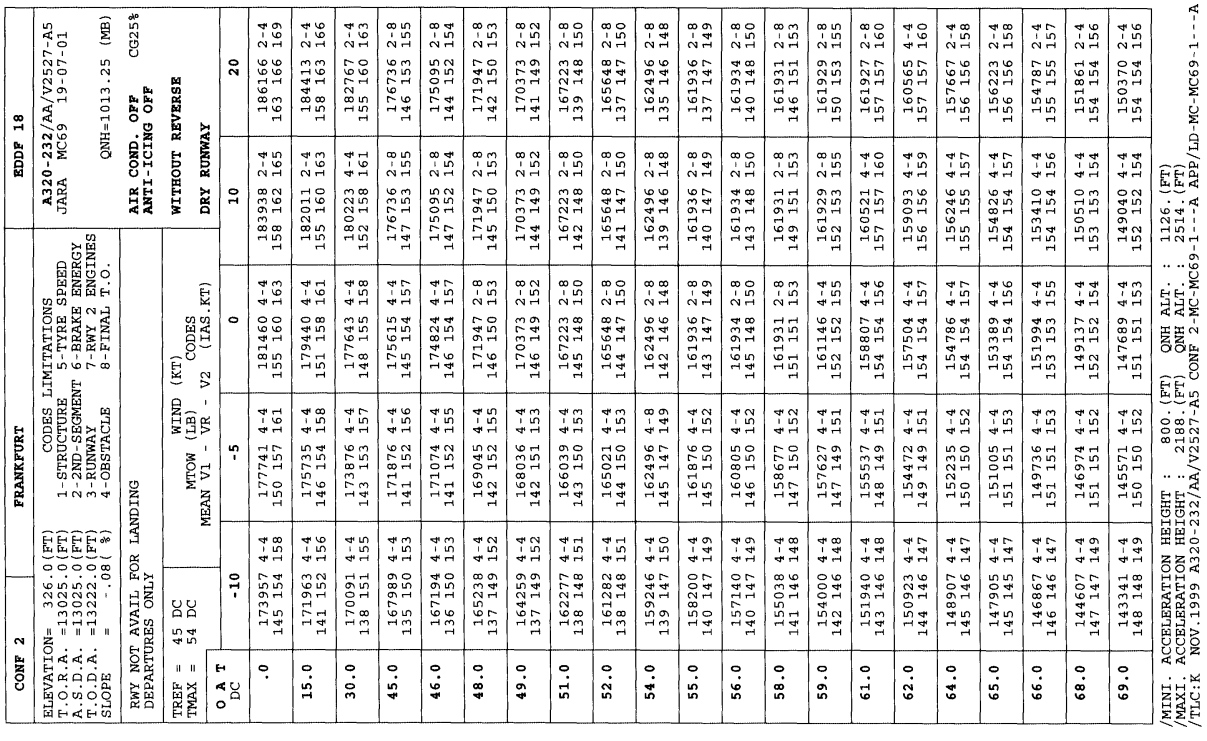
FRANKFURT (EDDF) - RWY 18 - CONF 2



CONF 2	FRANKFURT	EDDF 18
ELEVATION= 326.0(FT) T.O.R.A. =13025.0(FT) A.S.D.A. =13025.0(FT) T.O.D.A. =13222.0(FT) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRADI=110/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
RWY NOT AVAIL FOR LANDING DEPARTURES ONLY	WGHT INCR.1000(LB) WIND (KT) MEAN V1 - VR - V2 /TEMP.(DC) /CODES (IAS.KT)	WITHOUT REVERSE TGA DRY RUNWAY 2 3

TREF = 45 DC TMAX = 54 DC		-10		-5		0		10		20		
WEIGHT 1000LB												
180.0				-2.3 150	0 157	4-4 161	.1 152	10 4-4 158	.2 162	30 4-4 152	.3 161	36 2-4 157 160 44
175.0	-1.0 145	0 4-4 154 158	.1	20 4-4 145 154	157	.6 145	45 4-4 154 157	1.7 148	45 2-8 153 155	1.7 146	45 2-8 153 155	47 48
170.0	.1 138	30 4-4 151 155	1.8 141	45 4-4 152 156		.4 146	49 2-8 149 152	.4 144	49 2-8 149 152	.4 141	49 2-8 149 152	50 51
165.0	3.0 135	45 4-4 150 153	.0 144	52 4-4 150 153		.6 144	52 2-8 147 150	.6 141	52 2-8 147 150	.6 138	52 2-8 147 150	54 54
160.0	.3 139	53 4-4 148 150	.8 146	56 4-4 150 152		1.1 152	59 4-4 152 155	.5 157	61 4-4 157 160	.6 157	62 4-4 157 160	54 54
158.0	.2 140	55 4-4 147 149	.7 147	58 4-4 150 152		.8 154	61 4-4 154 156	1.1 156	62 4-4 156 159	1.1 157	63 4-4 157 159	54 54
156.0	.1 141	57 4-4 146 149	.6 148	60 4-4 149 151		.1 154	63 4-4 154 157	.2 155	64 4-4 155 157	.2 156	65 2-4 156 158	54 54
154.0	.0 142	59 4-4 146 148	.5 149	62 4-4 149 151		.8 154	64 4-4 154 157	.8 154	65 4-4 154 157	.8 155	66 2-4 155 157	54 54
152.0	1.0 142	60 4-4 146 148	.2 150	64 4-4 150 152		1.4 154	65 4-4 154 156	1.4 154	66 4-4 154 156	1.3 155	67 2-4 155 157	54 54
150.0	.9 144	62 4-4 146 147	1.0 151	65 4-4 151 153		.6 152	67 4-4 152 154	.5 153	68 4-4 153 154	.4 154	69 2-4 154 156	54 54
148.0	.9 145	64 4-4 146 147	.4 151	67 4-4 151 153		1.1 152	68 4-4 152 154	1.0 152	69 4-4 152 154	.0 146	69 2 149 150	54 54
146.0	.9 146	66 4-4 146 147	1.0 151	68 4-4 151 152		1.7 151	69 4-4 151 153	.0 142	69 2 145 146	.0 139	69 2 145 146	54 54
144.0	.6 147	68 4-4 147 149	1.6 150	69 4-4 150 152		.0 139	69 2 142 143	.0 136	69 2 142 143	.0 133	69 2 142 143	54 54
142.0	1.3 148	69 4-4 148 149	.0 138	69 2 139 140		.0 134	69 2 139 140	.0 131	69 2 139 140	.0 128	69 2 139 140	54 54
140.0	.0 137	69 4 137 138	.0 133	69 2 136 137		.0 129	69 2 136 137	.0 125	69 2 136 137	.0 125	69 2 136 137	54 54
135.0	.0 126	69 130 131	.0 122	69 130 131		.0 122	69 130 131	.0 122	69 130 131	.0 122	69 130 131	54 54
130.0	.0 121	69 127 128	.0 121	69 127 128		.0 121	69 127 128	.0 121	69 127 128	.0 121	69 127 128	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1126.(FT)
/MAXI. ACCELERATION HEIGHT : 2188.(FT) QNH ALT. : 2514.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A



CONF 2	FRANKFURT	EDDF 18
ELEVATION= 326.0(FT) T.O.R.A. =13025.0(FT) A.S.D.A. =13025.0(FT) T.O.D.A. =13222.0(FT) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
RWY NOT AVAIL FOR LANDING DEPARTURES ONLY	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	WITHOUT REVERSE DRY RUNWAY

TREF = 45 DC TMAX = 54 DC		-10		-5		0		10		20	
OAT DC											
.0	173957 145	4-4 154 158	177741 150	4-4 157 161	181460 155	4-4 160 163	183938 158	2-4 162 165	186166 163	2-4 166 169	
15.0	171963 141	4-4 152 156	175735 146	4-4 154 158	179440 151	4-4 158 161	182011 155	2-4 160 163	184413 158	2-4 163 166	
30.0	170091 138	4-4 151 155	173876 143	4-4 153 157	177643 148	4-4 155 158	180223 152	4-4 158 161	182767 155	2-4 160 163	
45.0	167989 135	4-4 150 153	171876 141	4-4 152 156	175615 145	4-4 154 157	176736 147	2-8 153 155	176736 146	2-8 153 155	
46.0	167194 136	4-4 150 153	171074 141	4-4 152 155	174824 146	4-4 154 157	175095 147	2-8 152 154	175095 144	2-8 152 154	
48.0	165238 137	4-4 149 152	169045 142	4-4 152 155	171947 145	2-8 150 153	171947 142	2-8 150 153	171947 142	2-8 150 153	
49.0	164259 137	4-4 149 152	168036 142	4-4 151 153	170373 146	2-8 149 152	170373 144	2-8 149 152	170373 141	2-8 149 152	
51.0	162277 138	4-4 148 151	166039 143	4-4 150 153	167223 145	2-8 148 150	167223 142	2-8 148 150	167223 139	2-8 148 150	
52.0	161282 138	4-4 148 151	165021 144	4-4 150 153	165648 144	2-8 147 150	165648 141	2-8 147 150	165648 137	2-8 147 150	
54.0	159246 139	4-4 147 150	162496 145	4-8 147 149	162496 142	2-8 146 148	162496 139	2-8 146 148	162496 135	2-8 146 148	
55.0	158200 140	4-4 147 149	161876 145	4-4 150 152	161936 143	2-8 147 149	161936 140	2-8 147 149	161936 137	2-8 147 149	
56.0	157140 140	4-4 147 149	160805 146	4-4 150 152	161934 145	2-8 148 150	161934 143	2-8 148 150	161934 140	2-8 148 150	
58.0	155038 141	4-4 146 148	158677 147	4-4 150 152	161931 151	2-8 151 153	161931 149	2-8 151 153	161931 146	2-8 151 153	
59.0	154000 142	4-4 146 148	157627 147	4-4 149 151	161146 152	4-4 152 155	161929 152	2-8 153 155	161929 150	2-8 153 155	
61.0	151940 143	4-4 146 148	155537 148	4-4 149 151	158807 154	4-4 154 156	160521 157	4-4 157 160	161927 157	2-8 157 160	
62.0	150923 144	4-4 146 147	154472 149	4-4 149 151	157504 154	4-4 154 157	159093 156	4-4 156 159	160565 157	4-4 157 160	
64.0	148907 145	4-4 146 147	152235 150	4-4 150 152	154786 154	4-4 154 157	156246 155	4-4 155 157	157667 156	2-4 156 158	
65.0	147905 145	4-4 145 147	151005 151	4-4 151 153	153389 154	4-4 154 156	154826 154	4-4 154 157	156223 156	2-4 156 158	
66.0	146867 146	4-4 146 147	149736 151	4-4 151 153	151994 153	4-4 153 155	153410 154	4-4 154 156	154787 155	2-4 155 157	
68.0	144607 147	4-4 147 149	146974 151	4-4 151 152	149137 152	4-4 152 154	150510 153	4-4 153 154	151861 154	2-4 154 156	
69.0	143341 148	4-4 148 149	145571 150	4-4 150 152	147689 151	4-4 151 153	149040 152	4-4 152 154	150370 154	2-4 154 156	

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1126.(FT)
/MAXI. ACCELERATION HEIGHT : 2188.(FT) QNH ALT. : 2514.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

FRANKFURT (EDDF) - RWY 18 - CONF 3

CONF 3	FRANKFURT	EDDF 18
ELEVATION= 326.0(FT) T.O.R.A. =13025.0(FT) A.S.D.A. =13025.0(FT) T.O.D.A. =13222.0(FT) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 0
RWY NOT AVAIL FOR LANDING DEPARTURES ONLY	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	AIR COND. OFF CG25% ANTI-ICING OFF
TREF = 45 DC TMAX = 54 DC		WITHOUT REVERSE TGA

WEIGHT 1000LB	-10	-5	0	10	20	DRY RUNWAY 2 / 3
180.0	-4.4 0 4-4 147 155 157	-.7 0 4-4 153 157 159	.0 24 2-4 152 158 159	.0 35 2-4 152 157 158	.0 38 2-4 151 158 159	44
175.0	.1 4 4-4 146 155 157	.1 32 4-4 145 155 157	1.7 45 4-8 147 153 154	1.7 45 2-8 147 152 154	1.7 45 2-8 144 152 154	47 48
170.0	.0 39 4-4 137 151 153	3.0 45 4-4 142 154 156	.4 49 2-8 145 149 151	.4 49 2-8 143 149 151	.4 49 2-8 139 149 151	50 51
165.0	4.0 45 4-4 136 150 152	.6 52 4-8 146 147 148	.6 52 2-8 142 147 148	.6 52 2-8 139 147 148	.6 52 2-8 136 147 148	54 54
160.0	.5 54 4-4 140 148 150	.0 58 4-4 149 149 150	.6 60 4-8 154 154 155	.7 61 2-4 157 157 158	.4 62 2-4 160 160 161	54 54
158.0	.4 56 4-4 141 147 149	.9 59 4-4 149 149 151	1.2 61 4-4 154 154 155	1.2 62 2-4 156 156 157	.9 63 2-4 160 160 160	54 54
156.0	.3 58 4-4 143 146 148	.7 61 4-4 151 151 152	.3 63 4-4 153 153 154	.3 64 2-4 155 155 156	1.4 64 2-4 159 159 160	54 54
154.0	.3 60 4-4 144 145 147	.1 63 4-4 151 151 152	.9 64 4-4 152 152 153	.9 65 2-4 155 155 156	.5 66 4-4 158 158 159	54 54
152.0	.2 62 4-4 145 145 147	.7 64 4-4 151 151 152	.1 66 4-4 152 152 153	.0 67 2-4 154 154 155	1.0 67 4-4 157 157 158	54 54
150.0	.1 64 4-4 147 147 148	1.3 65 4-4 150 150 151	.6 67 4-4 152 152 153	.5 68 2-4 154 154 154	1.4 68 2-2 156 157 157	54 54
148.0	.9 65 4-4 147 147 149	.5 67 4-4 149 149 150	1.2 68 4-4 152 152 153	1.0 69 2-4 153 153 154	1.8 69 2-2 155 156 156	54 54
146.0	.3 67 4-4 148 148 149	1.1 68 4-4 149 149 149	1.7 69 4-4 152 152 152	.0 69 2 141 145 146	.0 69 2 138 145 146	54 54
144.0	.9 68 4-4 147 147 148	1.7 69 4-4 148 148 149	.0 69 2 137 141 142	.0 69 2 134 141 142	.0 69 2 131 141 142	54 54
142.0	1.5 69 4-4 146 146 147	.0 69 2 136 137 139	.0 69 2 131 137 139	.0 69 2 128 137 139	.0 69 2 127 137 139	54 54
140.0	.0 69 4 135 135 136	.0 69 2 131 134 135	.0 69 2 127 134 135	.0 69 2 124 134 135	.0 69 2 124 134 135	54 54
135.0	.0 69 2 124 127 128	.0 69 2 121 127 128	.0 69 2 121 127 128	.0 69 2 121 127 128	.0 69 2 121 127 128	54 54
130.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1126.(FT)
/MAXI. ACCELERATION HEIGHT : 2130.(FT) QNH ALT. : 2456.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

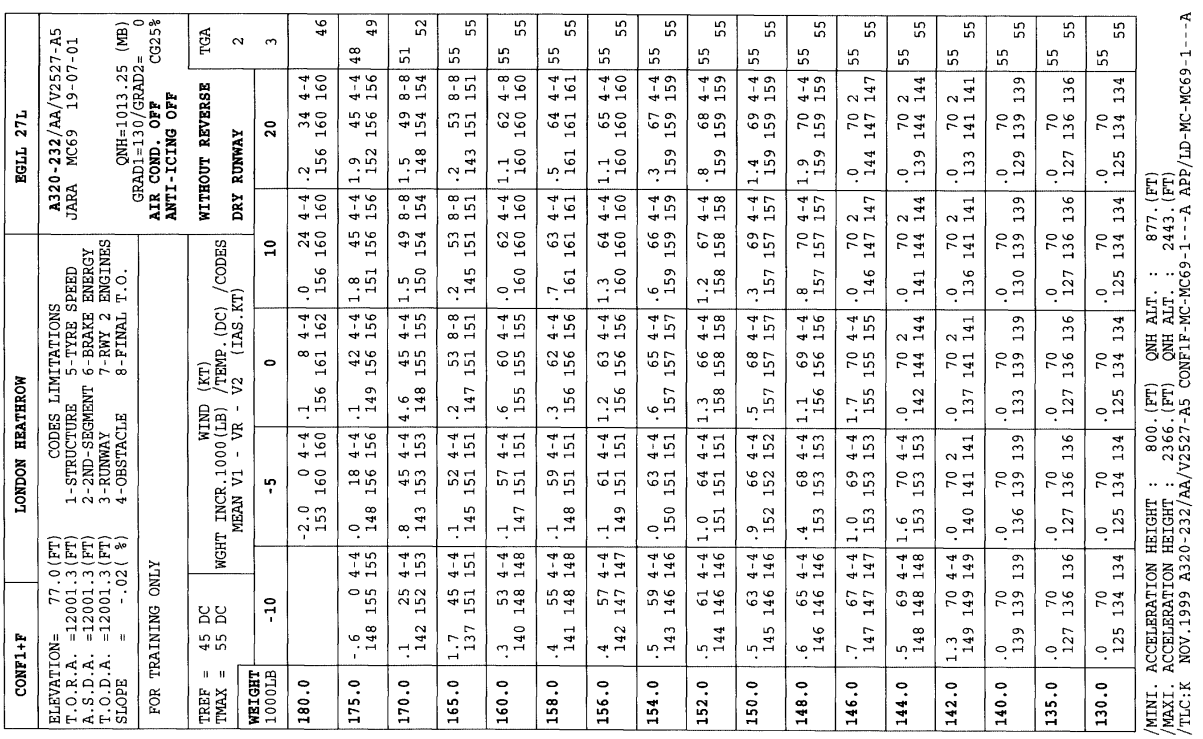
CONF 3	FRANKFURT	EDDF 18
ELEVATION= 326.0(FT) T.O.R.A. =13025.0(FT) A.S.D.A. =13025.0(FT) T.O.D.A. =13222.0(FT) SLOPE = -.08(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB)
RWY NOT AVAIL FOR LANDING DEPARTURES ONLY	MTOW (LB) MEAN V1 - VR - V2 CODES (IAS.KT)	AIR COND. OFF CG25% ANTI-ICING OFF
TREF = 45 DC TMAX = 54 DC		WITHOUT REVERSE

OAT DC	-10	-5	0	10	20	DRY RUNWAY
.0	175573 4-4 147 155 157	179335 4-4 153 157 159	182886 2-4 158 162 163	184916 2-4 162 166 167	186560 2-4 166 170 170	
15.0	173612 4-4 144 154 156	177480 4-4 149 156 158	181167 2-4 155 159 160	183421 2-4 159 163 164	185332 2-4 163 167 168	
30.0	171443 4-4 140 153 155	175400 4-4 145 155 157	179231 4-4 151 157 158	181664 2-4 155 160 161	183784 2-4 158 164 165	
45.0	169068 4-4 136 150 152	173075 4-4 142 154 156	176736 4-8 147 153 154	176736 2-8 147 152 154	176736 2-8 144 152 154	
46.0	168282 4-4 136 150 152	172286 4-4 142 154 155	175095 2-8 147 151 153	175095 2-8 145 151 153	175095 2-8 142 151 153	
48.0	166346 4-4 137 150 152	170326 4-4 143 153 155	171947 2-8 146 150 151	171947 2-8 144 150 151	171947 2-8 140 150 151	
49.0	165375 4-4 138 150 152	169332 4-4 143 152 154	170373 2-8 145 149 151	170373 2-8 142 149 151	170373 2-8 139 149 151	
51.0	163432 4-4 139 149 151	167223 4-8 145 150 152	167223 2-8 143 147 149	167223 2-8 140 147 149	167223 2-8 136 147 149	
52.0	162454 4-4 139 149 151	165648 4-8 146 147 148	165648 2-8 142 147 148	165648 2-8 139 147 148	165648 2-8 136 147 148	
54.0	160464 4-4 140 148 150	162496 8-8 144 145 147	162496 8-8 140 145 147	162496 8-8 137 145 147	162496 8-8 134 145 147	
55.0	159438 4-4 141 148 149	161936 2-8 145 146 147	161936 2-8 141 146 147	161936 2-8 138 146 147	161936 2-8 135 146 147	
56.0	158395 4-4 141 147 149	161934 4-8 148 148 149	161934 2-8 143 147 149	161934 2-8 141 147 149	161934 2-8 138 147 149	
58.0	156341 4-4 143 146 148	160038 4-4 149 149 150	161931 8-8 150 151 153	161931 8-8 147 151 153	161931 8-8 145 151 153	
59.0	155316 4-4 143 146 147	158943 4-4 149 149 151	161929 4-8 154 154 156	161929 2-8 152 154 155	161929 2-8 149 154 155	
61.0	153283 4-4 144 145 146	156658 4-4 151 151 152	159194 4-4 154 154 155	160657 2-4 157 157 158	161877 2-4 161 161 161	
62.0	152236 4-4 145 145 147	155406 4-4 152 152 153	157761 4-4 154 154 155	159209 2-4 156 156 157	160397 2-4 160 160 161	
64.0	150110 4-4 147 147 148	152702 4-4 151 151 152	154906 4-4 152 152 153	156330 2-4 155 155 156	157445 2-4 159 159 160	
65.0	148912 4-4 147 147 149	151310 4-4 150 150 151	153486 4-4 152 152 153	154898 2-4 155 155 156	155977 4-4 159 159 159	
66.0	147705 4-4 148 148 149	149922 4-4 150 150 151	152072 4-4 152 152 153	153471 2-4 155 155 155	154506 4-4 158 158 159	
68.0	144941 4-4 147 147 148	147084 4-4 149 149 149	149188 4-4 152 152 153	150536 2-4 154 154 154	151397 2-2 156 157 157	
69.0	143535 4-4 146 146 147	145650 4-4 148 148 149	147731 4-4 152 152 152	149029 2-4 153 153 154	149827 2-2 155 156 156	

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1126.(FT)
/MAXI. ACCELERATION HEIGHT : 2130.(FT) QNH ALT. : 2456.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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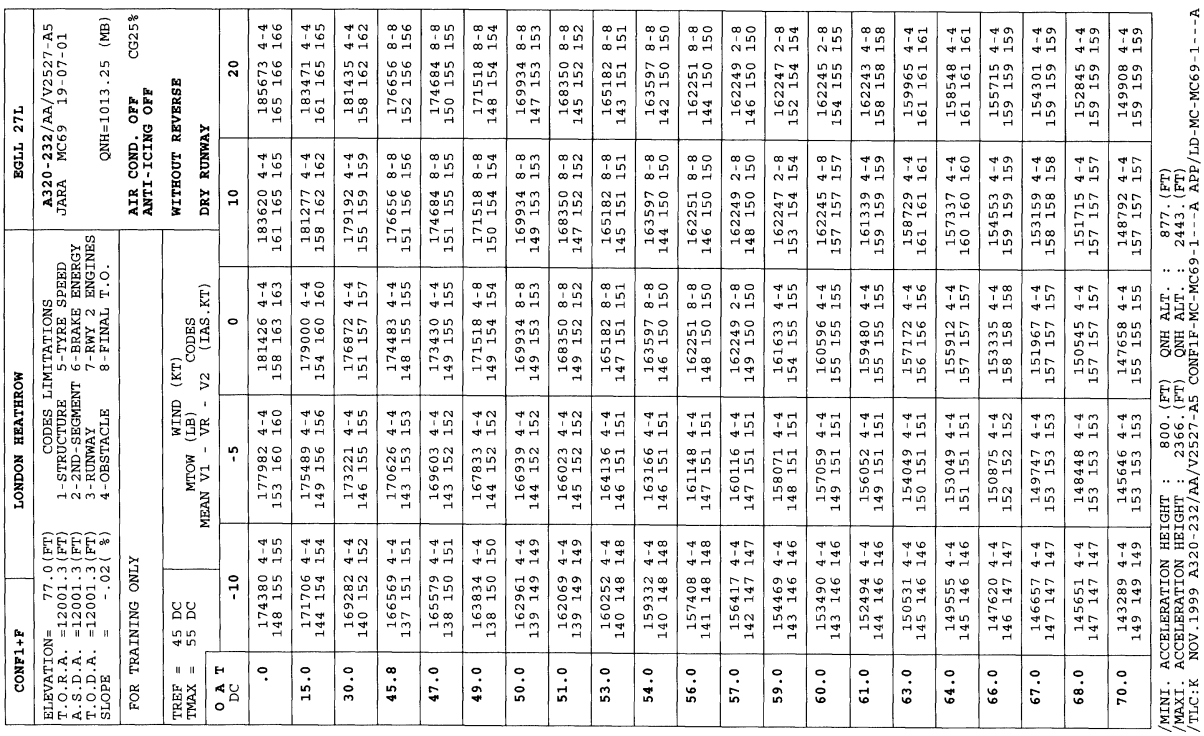
LONDON HEATHROW (EGLL) - RWY 27L - CONF 1 + F



CONF1+F	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. =12001.3(FT) A.S.D.A. =12001.3(FT) T.O.D.A. =12001.3(FT) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=130/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 45 DC TMAX = 55 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0		-2.0 0 4-4 153 160 160	.1 8 4-4 156 161 162	.0 24 4-4 156 160 160	.2 34 4-4 156 160 160	46
175.0	-.6 0 4-4 148 155 155	.0 18 4-4 148 156 156	.1 42 4-4 149 156 156	1.8 45 4-4 151 156 156	1.9 45 4-4 152 156 156	48 49
170.0	.1 25 4-4 142 152 153	.8 45 4-4 143 153 153	4.6 45 4-4 148 155 155	1.5 49 8-8 150 154 154	1.5 49 8-8 148 154 154	51 52
165.0	1.7 45 4-4 137 151 151	.1 52 4-4 145 151 151	.2 53 8-8 147 151 151	.2 53 8-8 145 151 151	.2 53 8-8 143 151 151	55 55
160.0	.3 53 4-4 140 148 148	.1 57 4-4 147 151 151	.6 60 4-4 155 155 155	.0 62 4-4 160 160 160	1.1 62 4-8 160 160 160	55 55
158.0	.4 55 4-4 141 148 148	.1 59 4-4 148 151 151	.3 62 4-4 156 156 156	.7 63 4-4 161 161 161	.5 64 4-4 161 161 161	55 55
156.0	.4 57 4-4 142 147 147	.1 61 4-4 149 151 151	1.2 63 4-4 156 156 156	1.3 64 4-4 160 160 160	1.1 65 4-4 160 160 160	55 55
154.0	.5 59 4-4 143 146 146	.0 63 4-4 150 151 151	.6 65 4-4 157 157 157	.6 66 4-4 159 159 159	.3 67 4-4 159 159 159	55 55
152.0	.5 61 4-4 144 146 146	1.0 64 4-4 151 151 151	1.3 66 4-4 158 158 158	1.2 67 4-4 158 158 158	.8 68 4-4 159 159 159	55 55
150.0	.5 63 4-4 145 146 146	.9 66 4-4 152 152 152	.5 68 4-4 157 157 157	.3 69 4-4 157 157 157	1.4 69 4-4 159 159 159	55 55
148.0	.6 65 4-4 146 146 146	.4 68 4-4 153 153 153	1.1 69 4-4 156 156 156	.8 70 4-4 157 157 157	1.9 70 4-4 159 159 159	55 55
146.0	.7 67 4-4 147 147 147	1.0 69 4-4 153 153 153	1.7 70 4-4 155 155 155	.0 70 2 146 147 147	.0 70 2 144 147 147	55 55
144.0	.5 69 4-4 148 148 148	1.6 70 4-4 153 153 153	.0 70 2 142 144 144	.0 70 2 141 144 144	.0 70 2 139 144 144	55 55
142.0	1.3 70 4-4 149 149 149	.0 70 2 140 141 141	.0 70 2 137 141 141	.0 70 2 136 141 141	.0 70 2 133 141 141	55 55
140.0	.0 70 139 139 139	.0 70 136 139 139	.0 70 133 139 139	.0 70 130 139 139	.0 70 129 139 139	55 55
135.0	.0 70 127 136 136	.0 70 127 136 136	.0 70 127 136 136	.0 70 127 136 136	.0 70 127 136 136	55 55
130.0	.0 70 125 134 134	.0 70 125 134 134	.0 70 125 134 134	.0 70 125 134 134	.0 70 125 134 134	55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2366.(FT) QNH ALT. : 2443.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A



CONF1+F	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. =12001.3(FT) A.S.D.A. =12001.3(FT) T.O.D.A. =12001.3(FT) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 55 DC	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
.0	174380 4-4 148 155 155	177982 4-4 153 160 160	181426 4-4 158 163 163	183620 4-4 161 165 165	185673 4-4 165 166 166
15.0	171706 4-4 144 154 154	175489 4-4 149 156 156	179000 4-4 154 160 160	181277 4-4 158 162 162	183471 4-4 161 165 165
30.0	169282 4-4 140 152 152	173221 4-4 146 155 155	176872 4-4 151 157 157	179192 4-4 155 159 159	181435 4-4 158 162 162
45.8	166569 4-4 137 151 151	170626 4-4 143 153 153	174483 4-4 148 155 155	176656 8-8 151 156 156	176656 8-8 152 156 156
47.0	165579 4-4 138 150 151	169603 4-4 143 152 152	173430 4-4 149 155 155	174684 8-8 151 155 155	174684 8-8 150 155 155
49.0	163834 4-4 138 150 150	167833 4-4 144 152 152	171518 4-8 149 154 154	171518 8-8 150 154 154	171518 8-8 148 154 154
50.0	162961 4-4 139 149 149	166939 4-4 144 152 152	169934 8-8 149 153 153	169934 8-8 149 153 153	169934 8-8 147 153 153
51.0	162069 4-4 139 149 149	166023 4-4 145 152 152	168350 8-8 149 152 152	168350 8-8 147 152 152	168350 8-8 145 152 152
53.0	160252 4-4 140 148 148	164136 4-4 146 151 151	165182 8-8 147 151 151	165182 8-8 145 151 151	165182 8-8 143 151 151
54.0	159332 4-4 140 148 148	163166 4-4 146 151 151	163597 8-8 146 150 150	163597 8-8 144 150 150	163597 8-8 142 150 150
56.0	157408 4-4 141 148 148	161148 4-4 147 151 151	162251 8-8 148 150 150	162251 8-8 146 150 150	162251 8-8 144 150 150
57.0	156417 4-4 142 147 147	160116 4-4 147 151 151	162249 2-8 149 150 150	162249 2-8 148 150 150	162249 2-8 146 150 150
59.0	154469 4-4 143 146 146	158071 4-4 148 151 151	161633 4-4 154 155 155	162247 2-8 153 154 154	162247 2-8 152 154 154
60.0	153490 4-4 143 146 146	157059 4-4 149 151 151	160596 4-4 155 155 155	162245 4-8 157 157 157	162245 2-8 154 155 155
61.0	152494 4-4 144 146 146	156052 4-4 149 151 151	159480 4-4 155 155 155	161339 4-4 159 159 159	162243 4-8 158 158 158
63.0	150531 4-4 145 146 146	154049 4-4 150 151 151	157172 4-4 156 156 156	158729 4-4 161 161 161	159965 4-4 161 161 161
64.0	149555 4-4 145 146 146	153049 4-4 151 151 151	155912 4-4 157 157 157	157337 4-4 160 160 160	158548 4-4 161 161 161
66.0	147620 4-4 146 147 147	150875 4-4 152 152 152	153335 4-4 158 158 158	154553 4-4 159 159 159	155715 4-4 159 159 159
67.0	146657 4-4 147 147 147	149747 4-4 153 153 153	151967 4-4 157 157 157	153159 4-4 158 158 158	154301 4-4 159 159 159
68.0	145651 4-4 147 147 147	148448 4-4 153 153 153	150545 4-4 157 157 157	151715 4-4 157 157 157	152845 4-4 159 159 159
70.0	143289 4-4 149 149 149	145646 4-4 153 153 153	147658 4-4 155 155 155	148792 4-4 157 157 157	149908 4-4 159 159 159

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2366.(FT) QNH ALT. : 2443.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

LONDON HEATHROW (EGLL) - RWY 27L - CONF 2

CONF 2	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. =12001.3(FT) A.S.D.A. =12001.3(FT) T.O.D.A. =12001.3(FT) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=100/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 45 DC TMAX = 55 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0		-3.1 0 4-4 151 157 161	.0 5 2-4 155 156 159	.1 23 2-4 155 156 159	.0 35 2-4 154 156 159 46
175.0	-1.5 0 4-4 146 153 157	.0 14 4-4 148 154 157	.1 41 4-4 148 154 157	1.8 45 2-4 150 152 155	1.9 45 2-4 149 152 155 48 49
170.0	.0 25 4-4 140 150 153	1.0 45 4-4 142 150 153	4.6 45 4-4 147 154 157	1.5 49 2-8 147 150 152	1.5 49 2-8 145 150 152 51 52
165.0	2.3 45 4-4 137 147 151	1.0 51 4-4 144 150 153	.2 53 2-8 145 147 149	.2 53 2-8 143 147 149	.2 53 2-8 141 147 149 55 55
160.0	.4 53 4-4 140 147 150	.8 56 4-4 146 150 152	.7 59 4-4 153 153 156	1.0 60 4-4 157 157 160	.7 61 4-4 158 158 160 55 55
158.0	.4 55 4-4 140 147 149	.7 58 4-4 147 149 152	.2 61 4-4 155 155 157	.1 62 4-4 156 156 158	1.3 62 4-4 155 155 157 55 55
156.0	.4 57 4-4 141 146 148	.6 60 4-4 148 149 151	.9 62 4-4 155 155 157	.7 63 4-4 155 155 158	.4 64 2-4 151 151 153 55 55
154.0	.4 59 4-4 142 145 148	.4 62 4-4 150 150 152	.1 64 4-4 154 154 156	1.3 64 4-4 155 155 157	1.0 65 2-4 151 151 153 55 55
152.0	.3 61 4-4 144 145 147	.1 64 4-4 151 151 153	.7 65 4-4 153 153 156	.5 66 4-4 155 155 157	.3 67 2-4 150 150 152 55 55
150.0	.3 63 4-4 145 146 147	.8 65 4-4 151 151 153	1.4 66 4-4 153 153 155	1.1 67 4-4 154 154 156	.8 68 2-4 150 150 152 55 55
148.0	.2 65 4-4 146 146 148	.2 67 4-4 151 151 153	.5 68 4-4 152 152 154	.2 69 4-4 154 154 156	1.4 69 2-4 149 149 151 55 55
146.0	.1 67 4-4 147 147 149	.8 68 4-4 151 151 152	1.1 69 4-4 152 152 153	.8 70 4-4 153 153 155	1.9 70 2-4 149 149 150 55 55
144.0	.8 68 4-4 147 147 148	1.4 69 4-4 150 150 152	1.7 70 4-4 151 151 153	.0 70 2 140 142 143	.0 70 2 138 142 143 55 55
142.0	.0 70 4-4 146 146 147	2.0 70 4-4 149 149 151	.0 70 2 137 139 140	.0 70 2 135 139 140	.0 70 2 132 139 140 55 55
140.0	.0 70 4 139 139 140	.0 70 2 135 136 137	.0 70 2 132 136 137	.0 70 2 129 136 137	.0 70 2 127 136 137 55 55
135.0	.0 70 127 130 131	.0 70 124 130 131	.0 70 122 130 131	.0 70 122 130 131	.0 70 122 130 131 55 55
130.0	.0 70 121 127 128	.0 70 121 127 128	.0 70 121 127 128	.0 70 121 127 128	.0 70 121 127 128 55 55

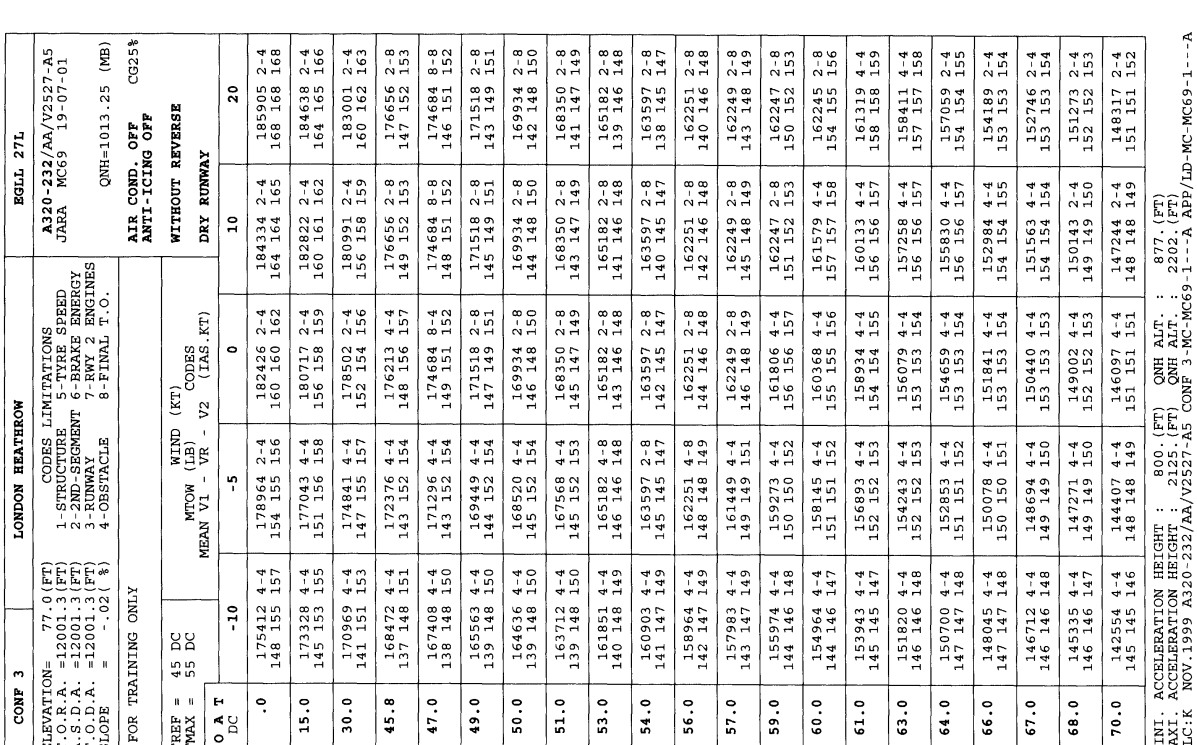
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2192.(FT) QNH ALT. : 2269.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. =12001.3(FT) A.S.D.A. =12001.3(FT) T.O.D.A. =12001.3(FT) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 45 DC TMAX = 55 DC	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
.0	173494 4-4 146 153 157	176941 4-4 151 157 161	180781 2-4 156 157 160	183128 2-4 160 160 164	185073 2-4 164 164 167
15.0	171347 4-4 142 152 155	174904 4-4 148 154 157	178555 2-4 152 154 157	181087 2-4 156 157 160	183382 2-4 160 161 164
30.0	169335 4-4 139 149 152	173008 4-4 145 153 156	176469 4-4 150 155 158	179197 2-4 153 155 158	181599 2-4 157 158 161
45.8	167193 4-4 136 147 150	170899 4-4 142 150 153	174515 4-4 147 154 157	176656 2-8 150 152 155	176656 2-8 149 152 155
47.0	166105 4-4 137 147 150	169785 4-4 142 151 154	173284 2-4 147 149 152	174684 2-8 149 151 154	174684 2-8 147 151 154
49.0	164216 4-4 138 147 150	167879 4-4 143 151 154	171370 4-4 148 153 156	171518 2-8 147 150 152	171518 2-8 145 150 152
50.0	163266 4-4 138 147 150	166924 4-4 144 151 153	169934 2-8 148 149 151	169934 2-8 146 149 151	169934 2-8 144 149 151
51.0	162311 4-4 139 147 150	165956 4-4 144 150 153	168350 2-8 147 148 151	168350 2-8 145 148 151	168350 2-8 143 148 151
53.0	160397 4-4 140 147 150	163947 4-4 145 149 152	165182 2-8 145 147 149	165182 2-8 143 147 149	165182 2-8 141 147 149
54.0	159434 4-4 140 147 150	162919 4-4 145 149 152	163597 2-8 144 146 148	163597 2-8 142 146 148	163597 2-8 140 146 148
56.0	157432 4-4 141 147 149	160814 4-4 146 150 152	162251 2-8 146 147 149	162251 2-8 144 147 149	162251 2-8 142 147 149
57.0	156406 4-4 141 146 148	159755 4-4 147 149 152	162249 2-8 148 148 151	162249 2-8 146 148 151	162249 2-8 145 148 151
59.0	154351 4-4 142 145 148	157652 4-4 148 150 152	160713 4-4 153 153 156	162247 4-8 156 156 159	162247 4-8 151 152 154
60.0	153319 4-4 143 145 147	156599 4-4 148 149 151	159522 4-4 154 154 157	160976 4-4 157 157 160	162166 4-4 158 158 161
61.0	152297 4-4 144 145 147	155534 4-4 149 149 151	158234 4-4 155 155 157	159552 4-4 156 156 159	160728 4-4 158 158 160
63.0	150267 4-4 145 146 147	153308 4-4 150 150 152	155530 4-4 155 155 157	156714 4-4 155 155 158	157789 2-4 152 152 154
64.0	149260 4-4 145 146 147	152111 4-4 151 151 153	154137 4-4 154 154 156	155300 4-4 155 155 157	156398 2-4 151 151 153
66.0	147160 4-4 146 146 148	149539 4-4 152 152 154	151359 4-4 153 153 155	152489 4-4 155 155 157	153637 2-4 151 151 153
67.0	146066 4-4 147 147 149	148193 4-4 151 151 153	149973 4-4 152 152 154	151093 4-4 154 154 156	152266 2-4 150 150 152
68.0	144760 4-4 147 147 148	146801 4-4 151 151 152	148548 4-4 152 152 154	149659 4-4 154 154 156	150841 2-4 150 150 152
70.0	142010 4-4 146 146 147	143988 4-4 149 149 151	145678 4-4 151 151 153	146768 4-4 153 153 155	147926 2-4 149 149 150

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2192.(FT) QNH ALT. : 2269.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

LONDON HEATHROW (EGLL) - RWY 27L - CONF 3



CONF 3	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. =12001.3(FT) A.S.D.A. =12001.3(FT) T.O.D.A. =12001.3(FT) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA **DRY RUNWAY** 2 3

TREF = 45 DC
TMAX = 55 DC

WGHT INCR.1000(LB) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WEIGHT 1000LB	-10	-5	0	10	20	
180.0	-4.6 0 4-4 148 155 157	-1.0 0 2-4 154 155 156	.1 19 2-4 155 157 158	.2 33 2-4 155 157 158	.2 37 2-4 154 157 158	46
175.0	.1 2 4-4 148 154 157	.1 28 4-4 147 155 157	1.3 45 2-4 149 156 157	1.9 45 2-4 149 152 153	2.0 45 2-4 148 152 154	48 49
170.0	.0 36 4-4 139 150 152	2.5 45 4-4 143 152 154	1.5 49 2-8 147 149 151	1.5 49 2-8 145 149 151	1.5 49 2-8 143 149 151	51 52
165.0	3.6 45 4-4 137 148 151	.2 53 4-8 146 146 148	.2 53 2-8 143 146 148	.2 53 2-8 141 146 148	.2 53 2-8 139 146 148	55 55
160.0	.9 54 4-4 141 147 149	.4 58 4-4 149 150 151	.4 60 4-4 155 155 156	.1 61 4-4 156 156 157	1.3 61 4-4 158 158 159	55 55
158.0	1.0 56 4-4 142 147 149	.1 60 4-4 151 151 152	.9 61 4-4 154 154 155	.7 62 4-4 156 156 157	.4 63 4-4 157 157 158	55 55
156.0	1.0 58 4-4 143 147 148	.9 61 4-4 152 152 153	.1 63 4-4 153 153 154	1.3 63 4-4 156 156 157	1.1 64 2-4 154 154 155	55 55
154.0	1.0 60 4-4 144 146 147	.2 63 4-4 152 152 153	.7 64 4-4 153 153 154	.4 65 4-4 155 155 156	.2 66 2-4 153 153 154	55 55
152.0	.9 62 4-4 146 146 147	.9 64 4-4 151 151 152	1.3 65 4-4 153 153 154	1.0 66 4-4 154 154 155	.7 67 2-4 153 153 154	55 55
150.0	.7 64 4-4 147 147 148	.1 66 4-4 150 150 151	.4 67 4-4 153 153 153	.1 68 2-4 149 149 150	1.3 68 2-4 152 152 153	55 55
148.0	.0 66 4-4 147 147 148	.7 67 4-4 149 149 150	1.0 68 4-4 152 152 153	.7 69 2-4 149 149 150	.3 70 2-4 151 151 152	55 55
146.0	.7 67 4-4 146 146 148	1.3 68 4-4 149 149 150	.1 70 4-4 151 151 151	1.2 70 2-4 148 148 149	.0 70 2 142 145 146	55 55
144.0	1.3 68 4-4 146 146 147	.4 70 4-4 148 148 149	.0 70 2 139 141 142	.0 70 2 137 141 142	.0 70 2 135 141 142	55 55
142.0	.6 70 4-4 145 145 146	.0 70 2 137 137 139	.0 70 2 134 137 139	.0 70 2 132 137 139	.0 70 2 130 137 139	55 55
140.0	.0 70 4 135 135 137	.0 70 2 132 134 136	.0 70 2 129 134 136	.0 70 2 127 134 136	.0 70 2 124 134 136	55 55
135.0	.0 70 2 124 127 128	.0 70 2 121 127 128	.0 70 2 121 127 128	.0 70 2 121 127 128	.0 70 2 121 127 128	55 55
130.0	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2125.(FT) QNH ALT. : 2202.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	LONDON HEATHROW	EGLL 27L
ELEVATION= 77.0(FT) T.O.R.A. =12001.3(FT) A.S.D.A. =12001.3(FT) T.O.D.A. =12001.3(FT) SLOPE = -.02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** **DRY RUNWAY**

TREF = 45 DC
TMAX = 55 DC

MTOW (LB) WIND (KT) CODES
MEAN V1 - VR - V2 (IAS.KT)

O A T DC	-10	-5	0	10	20
.0	175412 4-4 148 155 157	178964 2-4 154 155 156	182426 2-4 160 160 162	184334 2-4 164 164 165	185905 2-4 168 168 168
15.0	173328 4-4 145 153 155	177043 4-4 151 156 158	180717 2-4 156 158 159	182822 2-4 160 161 162	184638 2-4 164 165 166
30.0	170969 4-4 141 151 153	174841 4-4 147 155 157	178502 2-4 152 154 156	180991 2-4 156 158 159	183001 2-4 160 162 163
45.8	168472 4-4 137 148 151	172376 4-4 143 152 154	176213 4-4 148 156 157	176656 2-8 149 152 153	176656 2-8 147 152 153
47.0	167408 4-4 138 148 150	171296 4-4 143 152 154	174684 8-4 149 151 152	174684 8-8 146 151 152	174684 8-8 146 151 152
49.0	165563 4-4 139 148 150	169449 4-4 144 152 154	171518 2-8 147 149 151	171518 2-8 145 149 151	171518 2-8 143 149 151
50.0	164636 4-4 139 148 150	168520 4-4 145 152 154	169934 2-8 146 148 150	169934 2-8 144 148 150	169934 2-8 142 148 150
51.0	163712 4-4 139 148 150	167568 4-4 145 152 153	168350 2-8 145 147 149	168350 2-8 143 147 149	168350 2-8 141 147 149
53.0	161851 4-4 140 148 149	165182 4-8 146 146 148	165182 2-8 143 146 148	165182 2-8 141 146 148	165182 2-8 139 146 148
54.0	160903 4-4 141 147 149	163597 2-8 145 145 147	163597 2-8 142 145 147	163597 2-8 140 145 147	163597 2-8 138 145 147
56.0	158964 4-4 142 147 149	162251 4-8 148 148 149	162251 2-8 144 146 148	162251 2-8 142 146 148	162251 2-8 140 146 148
57.0	157983 4-4 143 147 149	161449 4-4 149 149 151	162249 2-8 146 148 149	162249 2-8 145 148 149	162249 2-8 143 148 149
59.0	155974 4-4 144 146 148	159273 4-4 150 150 152	161806 4-4 156 156 157	162247 2-8 151 152 153	162247 2-8 150 152 153
60.0	154964 4-4 144 146 147	158145 4-4 151 151 152	160368 4-4 155 155 156	161579 4-4 157 157 158	162245 2-8 154 155 156
61.0	153943 4-4 145 145 147	156893 4-4 152 152 153	158934 4-4 154 154 155	160133 4-4 156 156 157	161319 4-4 158 158 159
63.0	151820 4-4 146 146 148	154243 4-4 152 152 153	156079 4-4 153 153 154	157258 4-4 156 156 157	158411 4-4 157 157 158
64.0	150700 4-4 147 147 148	152853 4-4 151 151 152	154659 4-4 153 153 154	155830 4-4 156 156 157	157059 2-4 154 154 155
66.0	148045 4-4 147 147 148	150078 4-4 150 150 151	151841 4-4 153 153 154	152984 4-4 154 154 155	154189 2-4 153 153 154
67.0	146712 4-4 146 146 148	148694 4-4 149 149 150	150440 4-4 153 153 153	151563 4-4 154 154 154	152746 2-4 153 153 154
68.0	145335 4-4 146 146 147	147271 4-4 149 149 150	149002 4-4 152 152 153	150143 2-4 149 149 150	151273 2-4 152 152 153
70.0	142554 4-4 145 145 146	144407 4-4 148 148 149	146097 4-4 151 151 151	147244 2-4 148 148 149	148317 2-4 151 151 152

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2125.(FT) QNH ALT. : 2202.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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LONDON HEATHROW (EGLL) - RWY 27R - CONF 1 + F

CONF1+F	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. =12801.8(FT) A.S.D.A. =12801.8(FT) T.O.D.A. =12801.8(FT) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01
FOR TRAINING ONLY		QNH=1013.25 (MB) GRAD1=130/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
TREF = 45 DC TMAX = 55 DC	WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA **DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0		-3.5 0 4-4 154 156 157	.0 2 4-4 159 159 159	.0 18 4-4 158 159 159	.0 33 2-4 158 159 159	46
175.0	-2.4 0 4-4 149 154 155	.0 9 4-4 152 155 156	.1 34 4-4 151 155 156	1.0 45 4-4 152 156 156	1.9 45 2-4 153 156 156	48 49
170.0	.1 14 4-4 145 152 153	.1 39 4-4 145 152 153	3.3 45 4-4 149 154 154	1.5 49 8-8 152 154 154	1.5 49 8-8 150 154 154	51 52
165.0	.1 45 4-4 138 150 150	.1 45 4-4 144 152 152	.2 53 8-8 149 151 151	.2 53 8-8 147 151 151	.2 53 8-8 145 151 151	55 55
160.0	.4 51 4-4 140 148 149	.8 55 4-4 147 150 150	.4 59 4-4 155 155 155	.9 60 4-4 158 158 158	1.1 61 4-4 159 159 159	55 55
158.0	.5 53 4-4 141 147 147	.8 57 4-4 148 149 149	1.1 60 4-4 156 156 156	.1 62 4-4 157 157 157	.3 63 4-4 157 157 157	55 55
156.0	.7 55 4-4 142 147 147	.8 59 4-4 149 149 149	.5 62 4-4 156 156 156	.8 63 4-4 156 156 156	1.0 64 4-4 157 157 157	55 55
154.0	.8 57 4-4 143 147 147	.7 61 4-4 150 150 150	1.2 63 4-4 156 156 156	.1 65 4-4 155 155 155	.2 66 4-4 156 156 156	55 55
152.0	.9 59 4-4 144 146 146	.6 63 4-4 151 151 151	.5 65 4-4 154 154 154	.7 66 4-4 154 154 154	.9 67 4-4 156 156 156	55 55
150.0	1.0 61 4-4 144 145 145	.1 65 4-4 152 152 152	1.2 66 4-4 154 154 154	1.4 67 4-4 154 154 154	.0 69 4-4 155 155 155	55 55
148.0	.0 64 4-4 146 146 146	.8 66 4-4 152 152 152	.5 68 4-4 152 152 152	.6 69 4-4 153 153 153	.6 70 4-4 154 154 154	55 55
146.0	.0 66 4-4 147 147 147	.2 68 4-4 151 151 151	1.1 69 4-4 152 152 152	1.1 70 4-4 153 153 153	.0 70 2 145 147 147	55 55
144.0	1.0 67 4-4 148 148 148	.8 69 4-4 150 150 150	1.7 70 4-4 151 151 151	.0 70 2 142 144 144	.0 70 2 140 144 144	55 55
142.0	.5 69 4-4 149 149 149	1.4 70 4-4 150 150 150	.0 70 2 139 141 141	.0 70 2 137 141 141	.0 70 2 135 141 141	55 55
140.0	1.2 70 4-4 150 150 150	.0 70 138 139 139	.0 70 135 139 139	.0 70 133 139 139	.0 70 130 139 139	55 55
135.0	.0 70 131 136 136	.0 70 127 136 136	.0 70 127 136 136	.0 70 127 136 136	.0 70 127 136 136	55 55
130.0	.0 70 125 134 134	.0 70 125 134 134	.0 70 125 134 134	.0 70 125 134 134	.0 70 125 134 134	55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2369.(FT) QNH ALT. : 2446.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. =12801.8(FT) A.S.D.A. =12801.8(FT) T.O.D.A. =12801.8(FT) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01
FOR TRAINING ONLY		QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
TREF = 45 DC TMAX = 55 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

O A T DC	-10	-5	0	10	20
.0	172627 4-4 149 154 155	176544 4-4 154 156 157	180351 4-4 159 159 159	182784 4-4 162 162 162	185107 4-4 165 165 165
15.0	169961 4-4 145 152 153	174017 4-4 150 155 155	177920 4-4 155 157 157	180428 4-4 158 159 159	182810 2-4 162 162 162
30.0	167581 4-4 141 151 152	171659 4-4 147 153 153	175721 4-4 152 156 156	178322 4-4 155 157 157	180786 2-4 159 159 159
45.8	164951 4-4 138 150 150	168943 4-4 144 152 152	173194 4-4 149 154 154	175917 4-4 152 156 156	176656 8-8 153 156 156
47.0	163922 4-4 138 149 150	167956 4-4 144 152 152	172198 4-4 149 154 154	174684 8-8 152 155 155	174684 8-8 152 155 155
49.0	162174 4-4 139 149 149	166257 4-4 145 151 151	170416 4-4 150 154 154	171518 8-8 152 154 154	171518 8-8 150 154 154
50.0	161291 4-4 140 148 149	165398 4-4 145 151 151	169505 4-4 151 153 153	169934 8-8 150 153 153	169934 8-8 148 153 153
51.0	160384 4-4 140 148 149	164516 4-4 146 150 150	168350 8-8 151 152 152	168350 8-8 149 152 152	168350 8-8 147 152 152
53.0	158546 4-4 141 147 147	162687 4-4 146 150 150	165182 8-8 149 151 151	165182 8-8 147 151 151	165182 8-8 145 151 151
54.0	157663 4-4 141 147 147	161748 4-4 147 150 150	163597 8-8 148 150 150	163597 8-8 146 150 150	163597 8-8 144 150 150
56.0	155776 4-4 142 147 147	159806 4-4 148 149 149	162251 8-8 150 150 150	162251 8-8 148 150 150	162251 8-8 146 150 150
57.0	154801 4-4 143 147 147	158807 4-4 148 149 149	162249 4-8 153 153 153	162249 2-8 149 150 150	162249 2-8 147 150 150
59.0	152868 4-4 144 146 146	156780 4-4 149 149 149	160433 4-4 155 155 155	162225 4-4 159 159 159	162247 2-8 153 154 154
60.0	151917 4-4 144 145 145	155745 4-4 150 150 150	159145 4-4 156 156 156	160853 4-4 158 158 158	162245 4-8 157 157 157
61.0	150958 4-4 144 145 145	154701 4-4 150 150 150	157850 4-4 156 156 156	159489 4-4 158 158 158	161088 4-4 159 159 159
63.0	149006 4-4 145 145 145	152575 4-4 151 151 151	155180 4-4 156 156 156	156770 4-4 156 156 156	158336 4-4 157 157 157
64.0	148010 4-4 146 146 146	151351 4-4 152 152 152	153846 4-4 155 155 155	155418 4-4 156 156 156	156966 4-4 157 157 157
66.0	146049 4-4 147 147 147	148810 4-4 152 152 152	151188 4-4 154 154 154	152723 4-4 154 154 154	154231 4-4 156 156 156
67.0	144973 4-4 148 148 148	147516 4-4 152 152 152	149863 4-4 153 153 153	151378 4-4 154 154 154	152871 4-4 156 156 156
68.0	143750 4-4 148 148 148	146162 4-4 151 151 151	148480 4-4 152 152 152	149976 4-4 154 154 154	151456 4-4 155 155 155
70.0	141214 4-4 150 150 150	143412 4-4 150 150 150	145671 4-4 151 151 151	147137 4-4 153 153 153	148592 4-4 154 154 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2369.(FT) QNH ALT. : 2446.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

LONDON HEATHROW (EGLL) - RWY 27R - CONF 2

CONF 2	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. =12801.8(FT) A.S.D.A. =12801.8(FT) T.O.D.A. =12801.8(FT) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=110/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 45 DC TMAX = 55 DC	WIND (KT) WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0		-4.1 0 4-4 152 154 157	-.3 0 4-4 157 157 160	.0 17 4-4 156 157 160	.2 33 2-4 156 156 159	46
175.0	-3.2 0 4-4 147 151 155	.1 5 4-4 151 153 157	.1 34 4-4 149 153 156	1.5 45 4-4 151 153 156	1.9 45 2-4 150 152 155	48 49
170.0	.1 12 4-4 144 149 153	.1 42 4-4 143 149 152	3.7 45 4-4 147 151 154	1.5 49 2-8 149 150 152	1.5 49 2-8 147 150 152	51 52
165.0	.5 45 4-4 138 145 148	4.7 45 4-4 143 148 151	.2 53 4-8 147 147 149	.2 53 2-8 145 147 149	.2 53 2-8 143 147 149	55 55
160.0	.7 51 4-4 140 145 148	.8 55 4-4 147 148 150	.8 58 4-4 153 153 156	1.1 59 4-4 154 154 157	1.4 60 4-4 154 154 157	55 55
158.0	.8 53 4-4 140 144 147	.8 57 4-4 147 147 150	.0 60 4-4 153 153 155	.3 61 4-4 153 153 155	.5 62 4-4 153 153 156	55 55
156.0	.9 55 4-4 141 144 146	.6 59 4-4 149 149 151	.7 61 4-4 152 152 155	.9 62 4-4 152 152 155	1.1 63 4-4 153 153 155	55 55
154.0	.9 57 4-4 142 144 146	.1 61 4-4 150 150 152	1.3 62 4-4 152 152 154	.2 64 4-4 151 151 153	.3 65 4-4 152 152 154	55 55
152.0	1.0 59 4-4 143 144 146	.7 62 4-4 150 150 152	.6 64 4-4 150 150 152	.8 65 4-4 151 151 153	.9 66 4-4 152 152 154	55 55
150.0	1.0 61 4-4 144 144 146	.1 64 4-4 149 149 151	1.2 65 4-4 150 150 152	.1 67 4-4 150 150 152	.1 68 4-4 151 151 153	55 55
148.0	.8 63 4-4 145 145 147	.8 65 4-4 149 149 151	.6 67 4-4 149 149 150	.7 68 4-4 149 149 151	.7 69 4-4 151 151 152	55 55
146.0	.3 65 4-4 146 146 148	.2 67 4-4 147 147 149	1.2 68 4-4 148 148 150	1.2 69 4-4 149 149 151	1.2 70 4-4 150 150 152	55 55
144.0	1.0 66 4-4 146 146 147	.8 68 4-4 147 147 148	.4 70 4-4 147 147 148	1.8 70 4-4 148 148 150	.0 70 2 139 142 143	55 55
142.0	.4 68 4-4 145 145 147	.1 70 4-4 146 146 147	.0 70 2 139 139 140	.0 70 2 136 139 140	.0 70 2 134 139 140	55 55
140.0	1.1 69 4-4 145 145 146	.0 70 4 137 137 138	.0 70 2 134 136 137	.0 70 2 131 136 137	.0 70 2 128 136 137	55 55
135.0	4.8 70 4-4 144 144 146	.0 70 126 130 131	.0 70 122 130 131	.0 70 122 130 131	.0 70 122 130 131	55 55
130.0	.0 70 121 127 128	.0 70 121 127 128	.0 70 121 127 128	.0 70 121 127 128	.0 70 121 127 128	55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2194.(FT) QNH ALT. : 2271.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. =12801.8(FT) A.S.D.A. =12801.8(FT) T.O.D.A. =12801.8(FT) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 45 DC TMAX = 55 DC	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

OAT DC	-10	-5	0	10	20
.0	171841 4-4 147 151 155	175869 4-4 152 154 157	179727 4-4 157 157 160	182206 4-4 161 161 164	184274 4-4 165 165 168
15.0	169629 4-4 143 149 152	173652 4-4 148 152 156	177604 4-4 153 155 158	180287 4-4 157 157 160	182786 4-4 161 161 164
30.0	167627 4-4 140 147 150	171687 4-4 145 150 153	175631 4-4 150 153 156	178406 4-4 154 155 158	181052 2-4 157 158 160
45.8	165412 4-4 137 145 148	169563 4-4 143 148 151	173566 4-4 147 151 153	176359 4-4 151 153 156	176656 2-8 150 152 155
47.0	164349 4-4 138 145 148	168488 4-4 143 148 151	172450 4-4 148 151 154	174684 2-8 150 151 154	174684 2-8 148 151 154
49.0	162532 4-4 139 145 148	166603 4-4 144 148 150	170540 4-4 149 151 154	171518 2-8 149 150 152	171518 2-8 147 150 152
50.0	161623 4-4 139 145 148	165646 4-4 144 148 150	169584 4-4 149 151 153	169934 2-8 148 149 151	169934 2-8 145 149 151
51.0	160702 4-4 140 145 148	164687 4-4 145 148 150	168350 4-8 149 149 152	168350 2-8 147 148 151	168350 2-8 144 148 151
53.0	158815 4-4 140 144 147	162768 4-4 146 148 150	165182 4-8 147 147 149	165182 2-8 145 147 149	165182 2-8 142 147 149
54.0	157858 4-4 141 144 147	161796 4-4 146 148 150	163597 2-8 146 146 148	163597 2-8 144 146 148	163597 2-8 141 146 148
56.0	155899 4-4 142 144 146	159818 4-4 147 148 150	162251 4-8 148 148 150	162251 2-8 146 147 149	162251 2-8 143 147 149
57.0	154914 4-4 142 144 146	158802 4-4 147 147 150	162147 4-4 153 153 155	162249 2-8 148 149 151	162249 2-8 146 149 151
59.0	152961 4-4 143 144 146	156586 4-4 149 149 151	159392 4-4 153 153 156	161100 4-4 154 154 157	162247 2-8 152 152 154
60.0	151991 4-4 144 144 146	155409 4-4 149 149 151	158019 4-4 153 153 155	159707 4-4 154 154 156	161369 4-4 154 154 157
61.0	150987 4-4 144 144 146	154078 4-4 150 150 152	156651 4-4 152 152 155	158319 4-4 153 153 155	159960 4-4 154 154 156
63.0	148839 4-4 145 145 147	151417 4-4 149 149 152	153933 4-4 151 151 153	155558 4-4 152 152 154	157137 4-4 153 153 155
64.0	147593 4-4 146 146 148	150098 4-4 149 149 151	152582 4-4 150 150 152	154185 4-4 151 151 153	155733 4-4 153 153 155
66.0	145024 4-4 146 146 147	147482 4-4 148 148 150	149894 4-4 149 149 151	151441 4-4 150 150 152	152940 4-4 152 152 154
67.0	143753 4-4 145 145 147	146180 4-4 147 147 149	148557 4-4 149 149 150	150069 4-4 150 150 152	151554 4-4 151 151 153
68.0	142431 4-4 145 145 147	144826 4-4 147 147 148	147168 4-4 148 148 150	148654 4-4 149 149 151	150121 4-4 151 151 153
70.0	139760 4-4 144 144 146	142085 4-4 146 146 147	144351 4-4 147 147 148	145795 4-4 148 148 150	147231 4-4 150 150 152

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2194.(FT) QNH ALT. : 2271.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

LONDON HEATHROW (EGLL) - RWY 27R - CONF 3

CONF 3	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. =12801.8(FT) A.S.D.A. =12801.8(FT) T.O.D.A. =12801.8(FT) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA
TREF = 45 DC TMAX = 55 DC		**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0		-2.2 0 4-4 155 156 158	.1 12 4-4 158 158 160	.0 31 4-4 157 157 158	.3 36 2-4 156 158 159
175.0	-1.3 0 4-4 150 154 156	.1 19 4-4 151 154 156	.3 45 4-4 149 152 154	1.8 45 4-4 151 152 153	1.9 45 2-4 149 152 154
170.0	.1 25 4-4 144 149 152	1.1 45 4-4 144 150 152	1.5 49 4-8 150 150 151	1.5 49 2-8 147 149 151	1.5 49 2-8 145 149 151
165.0	1.8 45 4-4 138 146 148	.3 52 4-4 147 149 150	.2 53 2-8 145 146 148	.2 53 2-8 143 146 148	.2 53 2-8 141 146 148
160.0	.2 53 4-4 142 145 147	.2 57 4-4 150 150 151	.2 59 4-4 154 154 155	.4 60 4-4 155 155 156	.6 61 4-4 155 155 156
158.0	.3 55 4-4 143 145 147	.9 58 4-4 150 150 152	.8 60 4-4 153 153 155	1.0 61 4-4 154 154 155	1.1 62 4-4 154 154 155
156.0	.4 57 4-4 144 145 147	.3 60 4-4 150 150 152	1.4 61 4-4 153 153 154	.2 63 4-4 153 153 154	.3 64 4-4 153 153 154
154.0	.5 59 4-4 145 145 147	.9 61 4-4 150 150 151	.6 63 4-4 152 152 153	.8 64 4-4 152 152 153	.9 65 4-4 152 152 153
152.0	.3 61 4-4 146 146 148	.2 63 4-4 150 150 151	1.2 64 4-4 151 151 152	1.4 65 4-4 151 151 152	.0 67 2-4 151 151 152
150.0	1.0 62 4-4 147 147 148	.8 64 4-4 149 149 150	.5 66 4-4 150 150 151	.6 67 4-4 150 150 151	.6 68 2-4 150 150 151
148.0	.4 64 4-4 146 146 148	.1 66 4-4 148 148 150	1.1 67 4-4 149 149 150	1.2 68 4-4 149 149 150	1.1 69 2-4 150 150 151
146.0	1.1 65 4-4 146 146 148	.8 67 4-4 148 148 149	.3 69 4-4 148 148 149	.3 70 4-4 148 148 149	1.6 70 2-4 149 149 150
144.0	.5 67 4-4 145 145 147	.0 69 4-4 147 147 148	.8 70 4-4 147 147 148	.0 70 2 139 141 142	.0 70 2 137 141 142
142.0	1.1 68 4-4 145 145 146	.6 70 4-4 146 146 147	.0 70 2 136 138 139	.0 70 2 134 138 139	.0 70 2 131 138 139
140.0	.4 70 4-4 144 144 145	.0 70 4 135 135 136	.0 70 2 132 134 136	.0 70 2 129 134 136	.0 70 2 126 134 136
135.0	.0 70 4 128 128 129	.0 70 2 124 127 128	.0 70 2 121 127 128	.0 70 2 121 127 128	.0 70 2 121 127 128
130.0	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2127.(FT) QNH ALT. : 2204.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	LONDON HEATHROW	EGLL 27R
ELEVATION= 77.0(FT) T.O.R.A. =12801.8(FT) A.S.D.A. =12801.8(FT) T.O.D.A. =12801.8(FT) SLOPE = .02(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE**
TREF = 45 DC TMAX = 55 DC		**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
.0	173741 4-4 150 154 156	177808 4-4 155 156 158	181314 4-4 161 161 162	183231 4-4 165 165 166	184997 4-4 166 166 167
15.0	171612 4-4 146 151 153	175748 4-4 152 154 156	179768 4-4 157 157 159	182012 4-4 161 161 162	183902 4-4 165 165 166
30.0	169271 4-4 142 149 151	173446 4-4 148 152 154	177524 4-4 153 155 157	180246 4-4 157 158 159	182543 2-4 161 161 162
45.8	166726 4-4 138 146 148	171019 4-4 144 150 152	175154 4-4 149 152 154	176656 2-8 151 152 153	176656 2-8 148 152 153
47.0	165679 4-4 139 146 148	169949 4-4 144 149 151	174070 4-4 150 152 154	174684 8-4 151 151 152	174684 8-8 147 151 152
49.0	163897 4-4 140 146 148	168089 4-4 145 149 151	171518 4-8 150 150 151	171518 2-8 147 149 151	171518 2-8 145 149 151
50.0	162991 4-4 140 146 148	167152 4-4 146 148 150	169934 4-8 149 149 150	169934 2-8 146 148 150	169934 2-8 143 148 150
51.0	162076 4-4 141 146 148	166218 4-4 146 149 150	168350 4-8 148 148 149	168350 2-8 145 147 149	168350 2-8 142 147 149
53.0	160226 4-4 142 145 147	164340 4-4 147 149 151	165182 2-8 145 146 148	165182 2-8 143 146 148	165182 2-8 140 146 148
54.0	159289 4-4 142 145 147	163393 4-4 148 149 151	163597 2-8 144 145 147	163597 2-8 142 145 147	163597 2-8 139 145 147
56.0	157384 4-4 143 145 147	161422 4-4 149 149 151	162251 2-8 146 146 148	162251 2-8 144 146 148	162251 2-8 141 146 148
57.0	156420 4-4 144 145 147	160214 4-4 150 150 151	162249 2-8 149 149 150	162249 2-8 146 148 149	162249 2-8 144 148 149
59.0	154519 4-4 145 145 147	157640 4-4 151 151 152	160160 4-4 154 154 155	161810 4-4 156 156 157	162247 2-8 151 152 153
60.0	153449 4-4 146 146 147	156260 4-4 150 150 152	158758 4-4 153 153 155	160392 4-4 155 155 156	161991 4-4 156 156 157
61.0	152281 4-4 146 146 148	154887 4-4 150 150 151	157363 4-4 153 153 154	158979 4-4 154 154 155	160557 4-4 155 155 156
63.0	149720 4-4 147 147 149	152163 4-4 150 150 151	154592 4-4 152 152 153	156166 4-4 153 153 154	157702 4-4 154 154 155
64.0	148392 4-4 146 146 148	150812 4-4 149 149 150	153214 4-4 151 151 152	154766 4-4 152 152 153	156280 4-4 153 153 154
66.0	145759 4-4 146 146 147	148132 4-4 148 148 150	150469 4-4 150 150 151	151976 4-4 151 151 152	153445 4-4 152 152 152
67.0	144454 4-4 145 145 147	146799 4-4 148 148 149	149102 4-4 149 149 150	150586 4-4 150 150 151	152033 2-4 151 151 152
68.0	143103 4-4 145 145 146	145420 4-4 147 147 148	147689 4-4 149 149 149	149151 4-4 149 149 150	150564 2-4 150 150 151
70.0	140377 4-4 144 144 145	142631 4-4 146 146 147	144835 4-4 147 147 148	146253 4-4 148 148 149	147619 2-4 149 149 150

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 877.(FT)
/MAXI. ACCELERATION HEIGHT : 2127.(FT) QNH ALT. : 2204.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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LYON (LFLL) - RWY 18R - CONF 1 + F

CONF1+F	LYON - St EXUPERY	LFLL 18
ELEVATION= 758.0(FT) T.O.R.A. =13123.4(FT) A.S.D.A. =13320.2(FT) T.O.D.A. =13320.2(FT) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232/AA/V2527-A5** JARA MC69 19-07-01
FOR TRAINING ONLY		QNH=1013.25 (MB) GRAD1=120/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
TREF = 43 DC TMAX = 53 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA **DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0		-4.6 -2 4-4 155 163 164	-1.0 -2 4-4 160 166 166	.1 6 4-4 161 167 167	.1 24 4-4 160 165 165	
175.0	-3.2 -2 4-4 149 161 161	.1 0 4-4 154 163 163	.1 27 4-4 152 161 161	.2 43 4-4 153 161 161	2.2 43 4-4 156 159 159	45 46
170.0	.1 9 4-4 146 159 159	.1 35 4-4 145 158 158	2.8 43 4-4 149 159 159	.2 48 4-8 155 156 156	.2 48 4-8 154 154 154	49 49
165.0	.1 43 4-4 138 153 153	3.9 43 4-4 144 156 156	.3 51 4-4 152 159 159	.5 51 4-8 153 153 153	.5 51 8-8 151 151 151	52 52
160.0	.8 48 4-4 139 153 153	.6 52 4-4 147 155 155	1.0 55 4-4 154 158 158	1.1 57 4-4 159 159 159	.4 59 4-8 163 163 163	53 53
158.0	.9 50 4-4 140 153 153	.5 54 4-4 148 155 155	.8 57 4-4 155 157 157	.8 59 4-4 160 160 160	1.3 60 4-4 164 164 164	53 53
156.0	.9 52 4-4 141 153 153	.4 56 4-4 149 154 154	.7 59 4-4 156 157 157	.3 61 4-4 162 162 162	.4 62 4-4 164 164 164	53 53
154.0	.9 54 4-4 142 152 152	.2 58 4-4 150 154 154	.4 61 4-4 157 157 157	1.0 62 4-4 162 162 162	1.0 63 4-4 163 163 163	53 53
152.0	.8 56 4-4 143 151 151	.1 60 4-4 151 154 154	.1 63 4-4 159 159 159	.3 64 4-4 161 161 161	.3 65 4-4 163 163 163	53 53
150.0	.7 58 4-4 144 151 151	.1 62 4-4 152 153 153	.8 64 4-4 159 159 159	.9 65 4-4 161 161 161	.9 66 4-4 163 163 163	53 53
148.0	.6 60 4-4 145 150 150	1.0 63 4-4 153 153 153	.2 66 4-4 160 160 160	.1 67 4-4 161 161 161	1.4 67 4-4 162 162 162	53 53
146.0	.6 62 4-4 146 151 151	.8 65 4-4 154 154 154	.8 67 4-4 159 159 159	.7 68 4-4 161 161 161	2.0 68 4-4 162 162 162	53 53
144.0	.6 64 4-4 147 150 150	.5 67 4-4 155 155 155	1.3 68 4-4 159 159 159	.0 68 4 147 147 147	.0 68 4 145 145 145	53 53
142.0	.6 66 4-4 149 149 149	1.2 68 4-4 156 156 156	.0 68 4 145 145 145	.0 68 4 143 143 143	.0 68 2 141 142 142	53 53
140.0	.4 68 4-4 150 150 150	.0 68 4 143 143 143	.0 68 4 140 140 140	.0 68 138 139 139	.0 68 135 139 139	53 53
135.0	.0 68 135 137 137	.0 68 130 137 137	.0 68 127 137 137	.0 68 127 137 137	.0 68 127 137 137	53 53
130.0	.0 68 125 134 134	.0 68 125 134 134	.0 68 125 134 134	.0 68 125 134 134	.0 68 125 134 134	53 53

/MINI. ACCELERATION HEIGHT : 1014.(FT) QNH ALT. : 1772.(FT)
/MAXI. ACCELERATION HEIGHT : 2288.(FT) QNH ALT. : 3046.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	LYON - St EXUPERY	LFLL 18
ELEVATION= 758.0(FT) T.O.R.A. =13123.4(FT) A.S.D.A. =13320.2(FT) T.O.D.A. =13320.2(FT) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232/AA/V2527-A5** JARA MC69 19-07-01
FOR TRAINING ONLY		QNH=1013.25 (MB) **AIR COND. OFF** CG325% **ANTI-ICING OFF**
TREF = 43 DC TMAX = 53 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

O A T DC	-10	-5	0	10	20
-2.0	171752 4-4 149 161 161	175410 4-4 155 163 164	178973 4-4 160 166 166	181251 4-4 163 167 167	183462 4-4 167 169 169
13.0	169515 4-4 145 158 159	173217 4-4 150 160 161	176838 4-4 156 164 164	179161 4-4 159 166 166	181428 4-4 162 168 168
28.0	167344 4-4 141 156 156	171190 4-4 147 159 159	174942 4-4 152 161 161	177298 4-4 156 163 163	179587 4-4 159 165 165
43.6	164978 4-4 138 153 153	168836 4-4 143 156 156	172670 4-4 149 159 159	175158 4-4 152 161 161	177064 4-8 156 159 159
45.0	163755 4-4 138 153 153	167607 4-4 144 156 156	171440 4-4 149 159 159	173906 4-4 153 161 161	174838 4-8 156 156 156
47.0	161783 4-4 139 153 153	165619 4-4 145 156 156	169420 4-4 150 159 159	171713 4-8 154 159 159	171713 4-8 154 154 154
48.0	160799 4-4 139 153 153	164627 4-4 145 156 156	168364 4-4 151 158 158	170150 4-8 155 156 156	170150 4-8 154 154 154
49.0	159827 4-4 140 153 153	163641 4-4 146 156 156	167317 4-4 151 158 158	168587 4-8 155 155 155	168587 8-8 153 153 153
51.0	157914 4-4 141 153 153	161631 4-4 147 155 155	165252 4-4 152 159 159	165460 4-8 153 153 153	165460 8-8 150 151 151
52.0	156930 4-4 141 153 153	160603 4-4 147 155 155	163896 4-8 153 155 155	163896 4-8 152 152 152	163896 8-8 150 151 151
54.0	154910 4-4 142 152 152	158507 4-4 148 155 155	161550 4-8 154 154 154	161550 4-8 152 152 152	161550 4-8 150 150 150
55.0	153838 4-4 143 152 152	157425 4-4 148 154 154	161003 4-4 154 158 158	161548 4-8 154 154 154	161548 4-8 152 152 152
57.0	151727 4-4 144 151 151	155291 4-4 149 154 154	158840 4-4 155 157 157	161126 4-4 159 159 159	161546 4-8 157 157 157
58.0	150683 4-4 144 151 151	154233 4-4 150 154 154	157757 4-4 156 157 157	159967 4-4 160 160 160	161544 4-8 161 161 161
60.0	148617 4-4 145 150 150	152139 4-4 151 154 154	155553 4-4 157 157 157	157581 4-4 161 161 161	159251 4-4 164 164 164
61.0	147599 4-4 146 151 151	151099 4-4 152 154 154	154419 4-4 157 157 157	156320 4-4 162 162 162	157841 4-4 164 164 164
63.0	145578 4-4 147 151 151	149026 4-4 153 153 153	152063 4-4 159 159 159	153662 4-4 162 162 162	155037 4-4 163 163 163
64.0	144572 4-4 147 150 150	147926 4-4 153 153 153	150825 4-4 159 159 159	152279 4-4 161 161 161	153643 4-4 163 163 163
66.0	142576 4-4 149 149 149	145721 4-4 155 155 155	148171 4-4 160 160 160	149532 4-4 161 161 161	150874 4-4 163 163 163
67.0	141522 4-4 149 149 149	144470 4-4 155 155 155	146753 4-4 159 159 159	148103 4-4 161 161 161	149432 4-4 162 162 162
68.0	140441 4-4 150 150 150	143226 4-4 156 156 156	145345 4-4 159 159 159	146682 4-4 161 161 161	147996 4-4 162 162 162

/MINI. ACCELERATION HEIGHT : 1014.(FT) QNH ALT. : 1772.(FT)
/MAXI. ACCELERATION HEIGHT : 2288.(FT) QNH ALT. : 3046.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

LYON (LFLL) - RWY 18R - CONF 2

CONF 2	LYON - St EXUPERY	LFLL 18
ELEVATION= 758.0(FT) T.O.R.A. =13123.4(FT) A.S.D.A. =13320.2(FT) T.O.D.A. =13320.2(FT) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232/AA/V2527-A5** JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1= 90/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 43 DC TMAX = 53 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0			-2.2 -2 4-4 157 161 165	.1 -1 4-4 161 162 166	.1 21 4-4 160 163 165	
175.0	-4.5 -2 4-4 147 156 160	-.8 -2 4-4 152 159 163	.1 22 4-4 152 158 162	.2 43 4-4 152 157 160	2.1 43 4-4 156 156 158	45 46
170.0	.1 2 4-4 146 155 159	.1 34 4-4 145 154 158	2.7 43 4-4 148 156 159	.2 48 4-8 154 156 156	.2 48 4-8 152 152 154	49 49
165.0	.2 43 4-4 138 150 153	4.0 43 4-4 143 153 156	.9 50 4-4 151 155 158	.5 51 4-8 151 151 153	.5 51 4-8 149 149 151	52 52
160.0	.8 48 4-4 140 150 153	.3 52 4-4 147 151 154	.6 55 4-4 153 154 156	.1 57 4-4 159 159 162	.1 58 4-4 160 160 162	53 53
158.0	.8 50 4-4 140 150 152	.2 54 4-4 148 151 154	.3 57 4-4 155 155 157	.7 58 4-4 159 159 161	.7 59 4-4 159 159 161	53 53
156.0	.7 52 4-4 141 149 152	.1 56 4-4 149 151 153	1.1 58 4-4 155 155 158	1.3 59 4-4 158 158 161	1.3 60 4-4 158 158 161	53 53
154.0	.7 54 4-4 142 148 151	1.0 57 4-4 149 151 153	.4 60 4-4 157 157 159	.5 61 4-4 157 157 159	.5 62 4-4 157 157 159	53 53
152.0	.6 56 4-4 143 148 150	.9 59 4-4 150 151 153	1.1 61 4-4 156 156 158	1.1 62 4-4 156 156 159	1.1 63 4-4 156 156 159	53 53
150.0	.5 58 4-4 144 148 150	.6 61 4-4 152 152 153	.4 63 4-4 155 155 157	.4 64 4-4 155 155 157	.3 65 4-4 155 155 157	53 53
148.0	.4 60 4-4 146 148 149	.1 63 4-4 153 153 155	1.0 64 4-4 154 154 156	1.0 65 4-4 155 155 156	.9 66 4-4 155 155 156	53 53
146.0	.4 62 4-4 147 147 149	.8 64 4-4 153 153 155	.3 66 4-4 153 153 155	.2 67 4-4 153 153 155	.1 68 4-4 153 153 155	53 53
144.0	.3 64 4-4 148 148 149	.2 66 4-4 152 152 154	.9 67 4-4 153 153 154	.8 68 4-4 153 153 154	.0 68 4 144 144 145	53 53
142.0	1.1 65 4-4 149 149 150	.8 67 4-4 152 152 153	1.5 68 4-4 152 152 153	.0 68 4 142 142 143	.0 68 4 140 140 141	53 53
140.0	.7 67 4-4 150 150 151	1.5 68 4-4 151 151 152	.0 68 4 139 139 140	.0 68 4 138 138 138	.0 68 2 135 137 138	53 53
135.0	4.4 68 4-4 150 150 151	.0 68 4 132 132 133	.0 68 4 130 130 131	.0 68 127 130 131	.0 68 122 130 131	53 53
130.0	.0 68 123 127 128	.0 68 121 127 128	.0 68 121 127 128	.0 68 121 127 128	.0 68 121 127 128	53 53

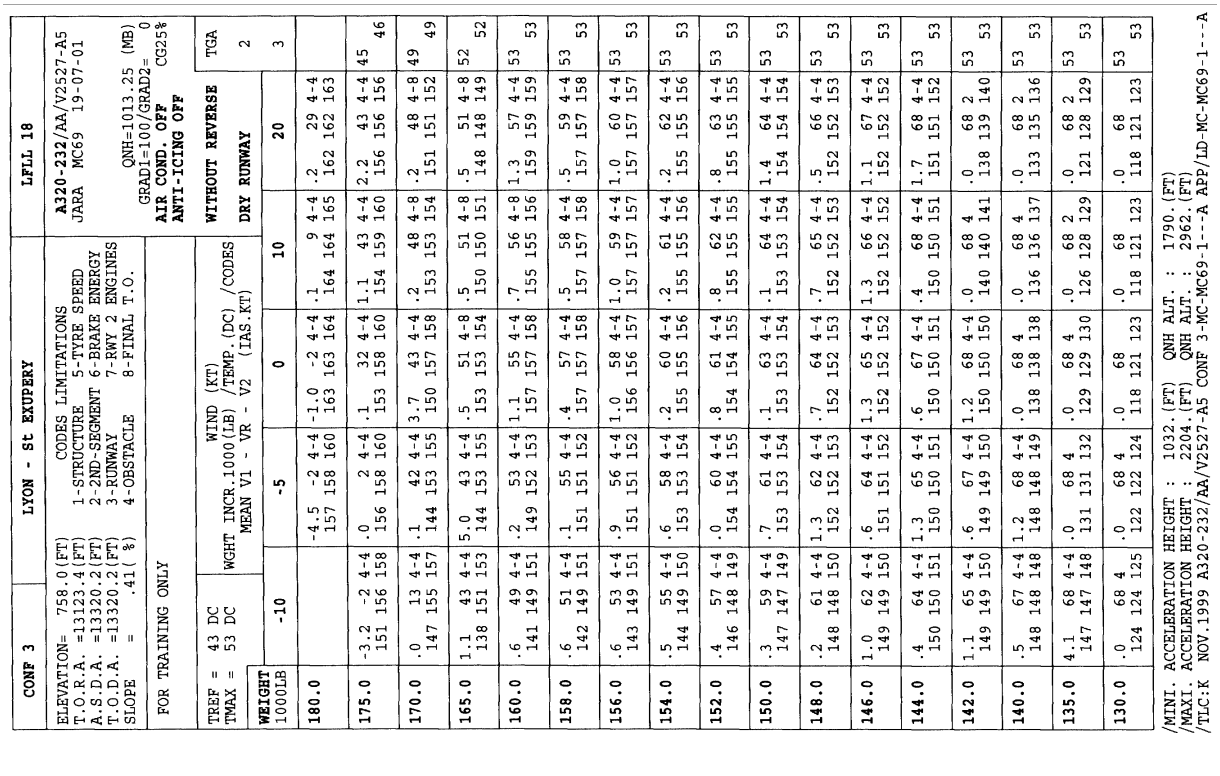
/MINI. ACCELERATION HEIGHT : 1024.(FT) QNH ALT. : 1782.(FT)
/MAXI. ACCELERATION HEIGHT : 2290.(FT) QNH ALT. : 3048.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2	LYON - St EXUPERY	LFLL 18
ELEVATION= 758.0(FT) T.O.R.A. =13123.4(FT) A.S.D.A. =13320.2(FT) T.O.D.A. =13320.2(FT) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232/AA/V2527-A5** JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 43 DC TMAX = 53 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
-2.0	170524 4-4 147 156 160	174216 4-4 152 159 163	177786 4-4 157 161 165	180200 4-4 162 163 166	182471 4-4 166 166 169
13.0	168764 4-4 144 154 157	172444 4-4 149 156 159	176033 4-4 154 160 164	178491 4-4 158 162 165	180904 4-4 162 163 166
28.0	167053 4-4 141 152 155	170824 4-4 146 155 158	174431 4-4 151 157 161	176902 4-4 154 160 163	179343 4-4 158 162 165
43.6	165112 4-4 138 150 153	168902 4-4 143 153 156	172620 4-4 148 156 159	175129 4-4 152 157 160	177064 4-8 156 156 158
45.0	163858 4-4 138 150 153	167640 4-4 143 153 156	171318 4-4 148 156 159	173803 4-4 152 157 160	174838 4-8 154 154 156
47.0	161818 4-4 139 150 153	165567 4-4 144 153 156	169160 4-4 149 155 158	171632 4-4 153 157 160	171713 4-8 152 152 155
48.0	160799 4-4 140 150 153	164512 4-4 145 153 155	168076 4-4 150 155 158	170150 4-8 154 154 156	170150 4-8 152 152 154
49.0	159793 4-4 140 150 153	163465 4-4 145 152 155	167003 4-4 150 155 158	168587 4-8 153 153 155	168587 4-8 151 151 153
51.0	157781 4-4 141 150 152	161374 4-4 146 151 154	164883 4-4 151 155 158	165460 4-8 151 151 153	165460 4-8 149 149 151
52.0	156743 4-4 141 149 152	160321 4-4 147 151 154	163809 4-4 152 155 158	163896 4-8 150 150 152	163896 4-8 148 148 150
54.0	154662 4-4 142 148 151	158194 4-4 148 151 154	161550 4-8 153 153 155	161550 4-8 150 150 152	161550 4-8 148 148 150
55.0	153601 4-4 143 148 150	157117 4-4 148 151 153	160553 4-4 153 154 156	161548 4-8 153 153 155	161548 4-8 150 150 152
57.0	151505 4-4 144 148 150	154993 4-4 149 151 153	158263 4-4 155 155 157	160054 4-4 159 159 162	161546 4-8 160 160 163
58.0	150471 4-4 144 148 150	153935 4-4 150 151 153	157071 4-4 155 155 158	158675 4-4 159 159 161	160124 4-4 160 160 162
60.0	148415 4-4 146 148 149	151768 4-4 151 151 153	154445 4-4 157 157 159	155896 4-4 158 158 160	157310 4-4 158 158 161
61.0	147401 4-4 146 147 149	150624 4-4 152 152 153	153090 4-4 156 156 158	154513 4-4 157 157 159	155908 4-4 158 158 160
63.0	145402 4-4 147 147 149	148143 4-4 153 153 155	150374 4-4 155 155 157	151756 4-4 156 156 158	153114 4-4 156 156 159
64.0	144294 4-4 148 148 149	146843 4-4 153 153 155	149020 4-4 154 154 156	150383 4-4 155 155 157	151722 4-4 156 156 158
66.0	141994 4-4 149 149 151	144214 4-4 152 152 154	146322 4-4 153 153 155	147643 4-4 154 154 156	148943 4-4 155 155 156
67.0	140701 4-4 150 150 151	142848 4-4 152 152 153	144925 4-4 153 153 154	146226 4-4 153 153 155	147508 4-4 154 154 156
68.0	139381 4-4 150 150 151	141490 4-4 151 151 152	143534 4-4 152 152 153	144815 4-4 153 153 154	146078 4-4 153 153 155

/MINI. ACCELERATION HEIGHT : 1024.(FT) QNH ALT. : 1782.(FT)
/MAXI. ACCELERATION HEIGHT : 2290.(FT) QNH ALT. : 3048.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

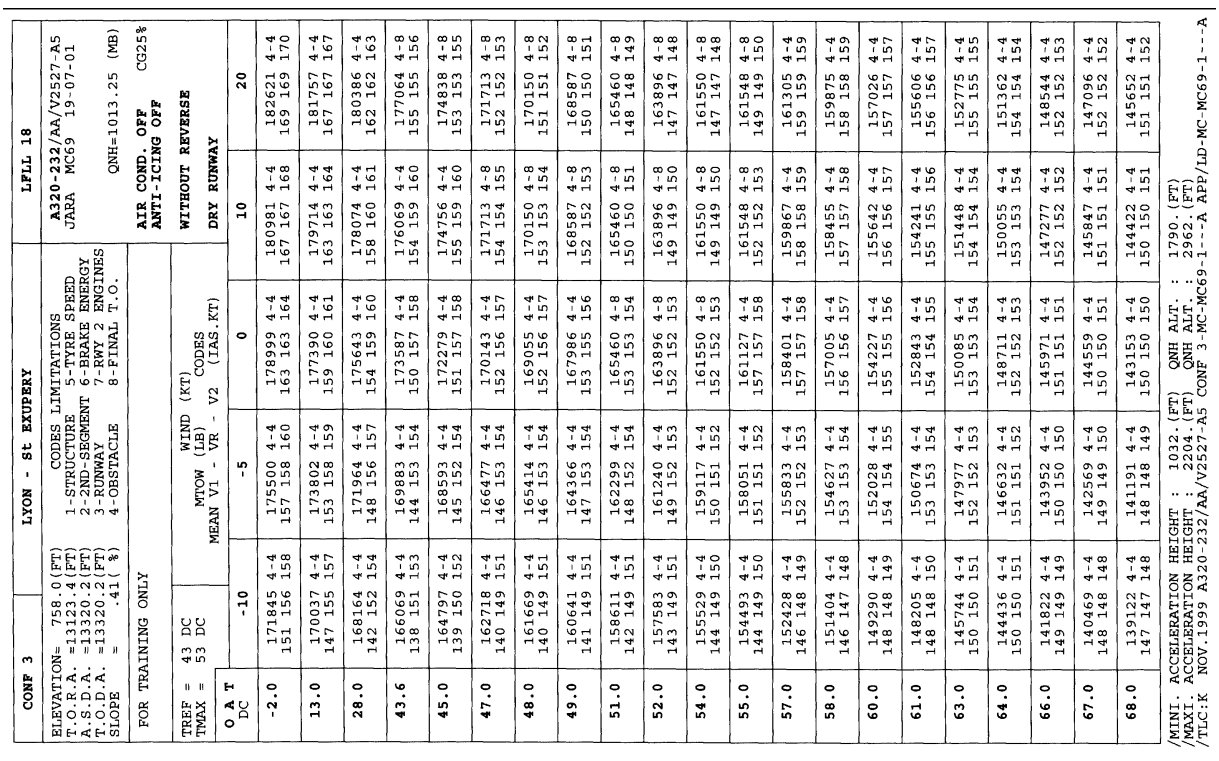
LYON (LFLL) - RWY 18R - CONF 3



CONF 3	LYON - St EXUPERY	LFLL 18
ELEVATION= 758.0(FT) T.O.R.A. =13123.4(FT) A.S.D.A. =13320.2(FT) T.O.D.A. =13320.2(FT) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=100/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 43 DC TMAX = 53 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0		-4.5 -2 4-4 -1.0 -2 4-4 .1 9 4-4 .2 29 4-4 157 158 160 163 163 164 164 164 165 162 162 163				
175.0	-3.2 -2 4-4 .0 2 4-4 .1 32 4-4 1.1 43 4-4 2.2 43 4-4 45 151 156 158 156 158 160 153 158 160 154 159 160 156 156 156 46					
170.0	.0 13 4-4 .1 42 4-4 3.7 43 4-4 .2 48 4-8 .2 48 4-8 49 147 155 157 144 153 155 150 157 158 153 153 154 151 151 152 49					
165.0	1.1 43 4-4 5.0 43 4-4 .5 51 4-8 .5 51 4-8 .5 51 4-8 52 138 151 153 144 153 155 153 153 154 150 150 151 148 148 149 52					
160.0	.6 49 4-4 .2 53 4-4 1.1 55 4-4 .7 56 4-8 1.3 57 4-4 53 141 149 151 149 152 153 157 157 158 155 155 156 159 159 159 53					
158.0	.6 51 4-4 .1 55 4-4 .4 57 4-4 .5 58 4-4 .5 59 4-4 53 142 149 151 151 151 152 157 157 158 157 157 158 157 157 158 53					
156.0	.6 53 4-4 .9 56 4-4 1.0 58 4-4 1.0 59 4-4 1.0 60 4-4 53 143 149 151 151 151 152 156 156 157 157 157 157 157 157 157 53					
154.0	.5 55 4-4 .6 58 4-4 .2 60 4-4 .2 61 4-4 .2 62 4-4 53 144 149 150 153 153 154 155 155 156 155 155 156 155 155 156 53					
152.0	.4 57 4-4 .0 60 4-4 .8 61 4-4 .8 62 4-4 .8 63 4-4 53 146 148 149 154 154 155 154 155 155 155 155 155 155 155 155 53					
150.0	.3 59 4-4 .7 61 4-4 .1 63 4-4 .1 64 4-4 1.4 64 4-4 53 147 147 149 153 153 154 153 153 154 153 153 154 154 154 154 53					
148.0	.2 61 4-4 1.3 62 4-4 .7 64 4-4 .7 65 4-4 .5 66 4-4 53 148 148 150 152 152 153 152 152 153 152 152 153 152 152 153 53					
146.0	1.0 62 4-4 .6 64 4-4 1.3 65 4-4 1.3 66 4-4 1.1 67 4-4 53 149 149 150 151 151 152 152 152 152 152 152 152 152 152 152 53					
144.0	.4 64 4-4 1.3 65 4-4 .6 67 4-4 .4 68 4-4 1.7 68 4-4 53 150 150 151 150 150 151 150 150 151 150 150 151 151 151 152 53					
142.0	1.1 65 4-4 .6 67 4-4 1.2 68 4-4 .0 68 4-4 .0 68 4-4 53 149 149 150 149 149 150 150 150 150 140 140 141 138 139 140 53					
140.0	.5 67 4-4 1.2 68 4-4 .0 68 4-4 .0 68 4 .0 68 2 53 148 148 148 148 148 149 138 138 138 136 136 137 133 135 136 53					
135.0	4.1 68 4-4 .0 68 4 .0 68 4 .0 68 2 .0 68 2 53 147 147 148 131 131 132 129 129 130 126 128 129 121 128 129 53					
130.0	.0 68 4 .0 68 4 .0 68 .0 68 .0 68 53 124 124 125 122 122 124 118 121 123 118 121 123 118 121 123 53					

/MINI. ACCELERATION HEIGHT : 1032.(FT) QNH ALT. : 1790.(FT)
/MAXI. ACCELERATION HEIGHT : 2204.(FT) QNH ALT. : 2962.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A



CONF 3	LYON - St EXUPERY	LFLL 18
ELEVATION= 758.0(FT) T.O.R.A. =13123.4(FT) A.S.D.A. =13320.2(FT) T.O.D.A. =13320.2(FT) SLOPE = .41(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 43 DC TMAX = 53 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-2.0	171845 4-4 151 156 158	175500 4-4 157 158 160	178999 4-4 163 163 164	180981 4-4 167 167 168	182621 4-4 169 169 170
13.0	170037 4-4 147 155 157	173802 4-4 153 158 159	177390 4-4 159 160 161	179714 4-4 163 163 164	181757 4-4 167 167 167
28.0	168164 4-4 142 152 154	171964 4-4 148 156 157	175643 4-4 154 159 160	178074 4-4 158 160 161	180386 4-4 162 162 163
43.6	166069 4-4 138 151 153	169883 4-4 144 153 154	173587 4-4 150 157 158	176069 4-4 154 159 160	177064 4-8 155 155 156
45.0	164797 4-4 139 150 152	168593 4-4 145 152 154	172279 4-4 151 157 158	174756 4-4 155 159 160	174838 4-8 153 153 155
47.0	162718 4-4 140 149 151	166477 4-4 146 153 154	170143 4-4 152 156 157	171713 4-8 154 154 155	171713 4-8 152 152 153
48.0	161669 4-4 140 149 151	165414 4-4 146 153 154	169055 4-4 152 156 157	170150 4-8 153 153 154	170150 4-8 151 151 152
49.0	160641 4-4 141 149 151	164366 4-4 147 153 154	167986 4-4 153 155 156	168587 4-8 152 152 153	168587 4-8 150 150 151
51.0	158611 4-4 142 149 151	162299 4-4 148 152 154	165460 4-8 153 153 154	165460 4-8 150 150 151	165460 4-8 148 148 149
52.0	157583 4-4 143 149 151	161240 4-4 149 152 153	163896 4-8 152 152 153	163896 4-8 149 149 150	163896 4-8 147 147 148
54.0	155529 4-4 144 149 150	159117 4-4 150 151 152	161550 4-8 152 152 153	161550 4-8 149 149 150	161550 4-8 147 147 148
55.0	154493 4-4 144 149 150	158051 4-4 151 151 152	161127 4-4 157 157 158	161548 4-8 152 152 153	161548 4-8 149 149 150
57.0	152428 4-4 146 148 149	155833 4-4 152 152 153	158401 4-4 157 157 158	159867 4-4 158 158 159	161305 4-4 159 159 159
58.0	151404 4-4 146 147 148	154627 4-4 153 153 154	157005 4-4 156 156 157	158455 4-4 157 157 158	159875 4-4 158 158 159
60.0	149290 4-4 148 148 149	152028 4-4 154 154 155	154227 4-4 155 155 156	155642 4-4 156 156 157	157026 4-4 157 157 157
61.0	148205 4-4 148 148 150	150674 4-4 153 153 154	152843 4-4 154 154 155	154241 4-4 155 155 156	155606 4-4 156 156 157
63.0	145744 4-4 150 150 151	147977 4-4 152 152 153	150085 4-4 153 153 154	151448 4-4 154 154 154	152775 4-4 155 155 155
64.0	144436 4-4 150 150 151	146632 4-4 151 151 152	148711 4-4 152 152 153	150055 4-4 153 153 154	151362 4-4 154 154 154
66.0	141822 4-4 149 149 149	143952 4-4 150 150 150	145971 4-4 151 151 151	147277 4-4 152 152 152	148544 4-4 152 152 153
67.0	140469 4-4 148 148 148	142569 4-4 149 149 150	144559 4-4 150 150 151	145847 4-4 151 151 151	147096 4-4 152 152 152
68.0	139122 4-4 147 147 148	141191 4-4 148 148 149	143153 4-4 150 150 150	144422 4-4 150 150 151	145652 4-4 151 151 152

/MINI. ACCELERATION HEIGHT : 1032.(FT) QNH ALT. : 1790.(FT)
/MAXI. ACCELERATION HEIGHT : 2204.(FT) QNH ALT. : 2962.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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MARSEILLE (LFML) - RWY 32R - CONF 1 + F

CONF1+F	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. =11482.9(FT) A.S.D.A. =11482.9(FT) T.O.D.A. =11482.9(FT) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=190/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
for training only		**WITHOUT REVERSE** TGA
TREF = 45 DC TMAX = 55 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0	.1 5 2-6 140 158 158	.1 24 2-6 142 158 158	.1 36 2-6 144 159 159	.3 38 2-6 145 160 160	.1 40 2-6 46 147 160 160
175.0	.1 28 6-6 136 154 155	.7 45 2-6 139 155 155	1.9 45 2-6 141 156 156	2.0 45 2-6 142 156 156	2.1 45 2-6 48 49 144 156 156
170.0	.9 45 6-6 134 153 153	1.6 49 8-8 138 153 153	1.6 49 8-8 139 153 153	1.6 49 8-8 142 153 153	1.6 49 8-8 51 52 142 153 153
165.0	.2 53 8-8 135 150 150	.2 53 8-8 136 150 150	.2 53 8-8 139 150 150	.2 53 8-8 139 150 150	.2 53 8-8 55 55 139 150 150
160.0	.8 59 2-6 138 151 151	.6 62 2-6 146 156 156	.9 64 2-6 153 161 161	.3 65 2-6 158 164 164	.4 65 2-2 55 55 159 165 165
158.0	.7 61 2-6 139 151 151	.4 64 2-6 147 156 156	.4 66 2-6 154 161 161	.7 66 2-2 158 164 164	.7 66 2-2 55 55 159 164 164
156.0	.7 63 2-6 140 151 151	.2 66 2-6 148 156 156	.9 67 2-6 155 162 162	1.1 67 2-2 158 163 163	1.1 67 2-2 55 55 158 163 163
154.0	.6 65 2-6 141 152 152	1.1 67 2-6 148 157 157	1.4 68 2-6 156 162 162	1.4 68 2-2 157 162 162	1.4 68 2-2 55 55 157 162 162
152.0	.5 67 2-6 142 152 152	.8 69 2-6 149 157 157	.1 70 2-2 155 161 161	.1 70 2-2 156 161 161	.1 70 2-2 55 55 155 161 161
150.0	.3 69 2-6 143 152 152	1.6 70 2-6 150 157 157	.0 70 2 147 154 154	.0 70 2 145 154 154	.0 70 2 55 55 144 154 154
148.0	1.2 70 2-6 144 152 152	.0 70 2 143 150 150	.0 70 2 140 150 150	.0 70 2 139 150 150	.0 70 2 55 55 139 150 150
146.0	.0 70 2 139 147 147	.0 70 2 137 147 147	.0 70 2 136 147 147	.0 70 2 136 147 147	.0 70 2 55 55 136 147 147
144.0	.0 70 2 134 143 143	.0 70 2 133 143 143	.0 70 2 133 143 143	.0 70 2 133 143 143	.0 70 2 55 55 133 143 143
142.0	.0 70 2 130 140 140	.0 70 2 130 140 140	.0 70 2 130 140 140	.0 70 2 130 140 140	.0 70 2 55 55 130 140 140
140.0	.0 70 128 139 139	.0 70 128 139 139	.0 70 128 139 139	.0 70 128 139 139	.0 70 55 55 128 139 139
135.0	.0 70 127 136 136	.0 70 127 136 136	.0 70 127 136 136	.0 70 127 136 136	.0 70 55 55 127 136 136
130.0	.0 70 125 133 133	.0 70 125 133 133	.0 70 125 133 133	.0 70 125 133 133	.0 70 55 55 125 133 133

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2308.(FT) QNH ALT. : 2377.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. =11482.9(FT) A.S.D.A. =11482.9(FT) T.O.D.A. =11482.9(FT) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
for training only		**WITHOUT REVERSE**
TREF = 45 DC TMAX = 55 DC	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
.0	181102 2-6 142 159 159	183986 2-6 147 163 163	186698 2-6 152 167 167	188503 2-6 155 170 170	190243 2-6 159 173 173
15.0	178197 6-6 138 156 156	181452 2-6 144 160 160	184381 2-6 149 164 164	186222 2-6 152 167 167	187952 2-6 155 170 170
30.0	174588 6-6 136 154 155	179153 2-6 141 157 157	182161 2-6 146 161 161	184091 2-6 150 164 164	186005 2-6 153 166 166
45.8	170735 6-6 134 152 153	175531 6-6 138 155 155	176653 8-8 140 155 156	176653 8-8 141 155 156	176653 8-8 143 155 156
47.0	170022 6-6 134 152 153	174721 8-8 139 155 155	174721 8-8 140 155 155	174721 8-8 141 155 155	174721 8-8 143 155 155
49.0	168833 6-6 134 152 152	171555 8-8 138 153 153	171555 8-8 139 153 153	171555 8-8 141 153 153	171555 8-8 141 153 153
50.0	168246 6-6 135 152 152	169971 8-8 137 153 153	169971 8-8 139 153 153	169971 8-8 141 153 153	169971 8-8 141 153 153
51.0	167645 6-6 135 151 152	168387 8-8 137 152 152	168387 8-8 139 152 152	168387 8-8 140 152 152	168387 8-8 140 152 152
53.0	165218 8-8 134 150 150	165218 8-8 136 150 150	165218 8-8 139 150 150	165218 8-8 139 150 150	165218 8-8 139 150 150
54.0	163632 8-8 134 150 150	163632 8-8 135 150 150	163632 8-8 138 150 150	163632 8-8 138 150 150	163632 8-8 138 150 150
56.0	162261 8-8 134 149 149	162261 8-8 136 149 149	162261 8-8 138 149 149	162261 8-8 138 149 149	162261 8-8 138 149 149
57.0	162259 2-8 136 150 150	162259 2-8 138 150 150	162259 2-8 139 150 150	162259 2-8 139 150 150	162259 2-8 139 150 150
59.0	160760 2-6 138 151 151	162257 2-8 142 153 153	162257 2-8 143 153 153	162257 2-8 142 153 153	162257 2-8 141 153 153
60.0	159732 2-6 138 151 151	162255 2-8 145 155 155	162255 2-8 145 155 155	162255 2-8 145 155 155	162255 2-8 143 155 155
61.0	158725 2-6 139 151 151	161687 2-6 145 156 156	162253 2-8 147 157 157	162253 2-8 148 157 157	162253 2-8 147 157 157
63.0	156651 2-6 140 151 151	159499 2-6 146 156 156	162097 2-6 152 161 161	162250 2-8 154 161 161	162250 2-8 154 161 161
64.0	155644 2-6 140 151 151	158390 2-6 147 156 156	160939 2-6 153 161 161	161859 2-6 157 164 164	161997 2-2 159 166 166
66.0	153592 2-6 141 152 152	156205 2-6 148 156 156	158405 2-6 154 161 161	158712 2-2 158 164 164	158712 2-2 159 164 164
67.0	152508 2-6 142 152 152	155085 2-6 148 157 157	156906 2-6 155 162 162	157069 2-2 157 163 163	157069 2-2 158 163 163
68.0	151430 2-6 142 152 152	153946 2-6 149 157 157	155403 2-6 156 162 162	155427 2-2 157 162 162	155427 2-2 156 162 162
70.0	149173 2-6 144 152 152	151579 2-6 150 157 157	152142 2-2 155 161 161	152142 2-2 156 161 161	152142 2-2 155 161 161

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2308.(FT) QNH ALT. : 2377.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

MARSEILLE (LFML) - RWY 32R - CONF 2

CONF 2	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. =11482.9(FT) A.S.D.A. =11482.9(FT) T.O.D.A. =11482.9(FT) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=110/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
for training only		WITHOUT REVERSE
TREF = 45 DC TMAX = 55 DC	MTOW (LB) - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
.0	181753 2-6 140 158 161	184408 2-6 145 162 166	186817 2-6 151 167 170	188422 2-6 155 170 173	189854 2-6 159 174 176
15.0	179542 2-6 136 155 158	182365 2-6 142 159 162	184954 2-6 147 163 166	186685 2-6 151 167 169	188266 2-6 155 170 173
30.0	177444 2-6 134 152 156	180455 2-6 139 156 159	183224 2-6 144 160 164	185041 2-6 148 164 167	186705 2-6 152 167 170
45.8	175156 2-6 131 150 153	176653 2-8 133 152 155	176653 2-8 136 152 155	176653 2-8 139 152 155	176653 2-8 140 152 155
47.0	174097 2-6 131 150 153	174721 2-8 133 151 154	174721 2-8 137 151 154	174721 2-8 139 151 154	174721 2-8 140 151 154
49.0	171555 2-8 131 149 152	171555 2-8 133 149 152	171555 2-8 137 149 152	171555 2-8 138 149 152	171555 2-8 138 149 152
50.0	169971 2-8 130 149 151	169971 2-8 134 149 151	169971 2-8 137 149 151	169971 2-8 138 149 151	169971 2-8 138 149 151
51.0	168387 2-8 130 148 151	168387 2-8 133 148 151	168387 2-8 137 148 151	168387 2-8 137 148 151	168387 2-8 137 148 151
53.0	165218 2-8 130 146 149	165218 2-8 134 146 149	165218 2-8 135 146 149	165218 2-8 135 146 149	165218 2-8 135 146 149
54.0	163632 2-8 130 146 148	163632 2-8 134 146 148	163632 2-8 135 146 148	163632 2-8 135 146 148	163632 2-8 135 146 148
56.0	162261 2-8 131 147 149	162261 2-8 134 147 149	162261 2-8 136 147 149	162261 2-8 136 147 149	162261 2-8 136 147 149
57.0	162259 2-8 133 148 151	162259 2-8 135 148 151	162259 2-8 137 148 151	162259 2-8 137 148 151	162259 2-8 137 148 151
59.0	161713 2-6 137 150 153	162257 2-8 139 151 154	162257 2-8 140 151 154	162257 2-8 140 151 154	162257 2-8 140 151 154
60.0	160586 2-6 138 150 153	162255 2-8 142 153 156	162255 2-8 143 153 156	162255 2-8 142 153 156	162255 2-8 142 153 156
61.0	159511 2-6 138 150 153	161978 2-6 144 155 157	162253 2-8 146 155 158	162253 2-8 146 155 158	162253 2-8 145 155 158
63.0	157236 2-6 139 150 153	159586 2-6 145 155 157	161587 2-6 151 159 162	162037 2-2 153 160 163	162037 2-2 154 160 163
64.0	156104 2-6 140 151 153	158392 2-6 146 155 157	160333 2-6 152 159 162	160445 2-2 153 160 162	160445 2-2 153 160 162
66.0	153867 2-6 141 151 153	156001 2-6 147 155 157	157260 2-2 151 158 161	157260 2-2 151 158 161	157260 2-2 151 158 161
67.0	152702 2-6 142 151 153	154753 2-6 148 155 158	155668 2-2 151 157 160	155668 2-2 151 157 160	155668 2-2 150 157 160
68.0	151537 2-6 142 151 153	153506 2-6 148 155 158	154075 2-2 151 157 159	154075 2-2 151 157 159	154075 2-2 149 157 159
70.0	149120 2-6 144 151 153	150890 2-2 149 155 157	150890 2-2 150 155 157	150890 2-2 149 155 157	150890 2-2 147 155 157

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2151.(FT) QNH ALT. : 2220.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. =11482.9(FT) A.S.D.A. =11482.9(FT) T.O.D.A. =11482.9(FT) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=110/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
for training only		WITHOUT REVERSE
TREF = 45 DC TMAX = 55 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY TGA 2 3

WEIGHT 1000LB	-10	-5	0	10	20	TGA
180.0	.1 11 2-6 137 156 159	.2 31 2-6 139 156 159	.3 37 2-6 141 157 160	.3 39 2-6 143 157 160	.3 40 2-6 145 157 160	46
175.0	.3 45 2-6 131 150 153	1.8 45 2-6 134 152 155	2.0 45 2-6 137 152 155	2.1 45 2-6 140 152 155	2.2 45 2-6 141 152 155	48 49
170.0	1.6 49 2-8 131 149 152	1.6 49 2-8 134 149 152	1.6 49 2-8 137 149 152	1.6 49 2-8 138 149 152	1.6 49 2-8 138 149 152	51 52
165.0	.2 53 2-8 130 146 149	.2 53 2-8 134 146 149	.2 53 2-8 136 146 149	.2 53 2-8 136 146 149	.2 53 2-8 136 146 149	55 55
160.0	.6 60 2-6 138 150 153	.8 62 2-6 145 155 157	.3 64 2-6 152 159 162	.4 64 2-2 153 160 162	.4 64 2-2 153 160 162	55 55
158.0	.4 62 2-6 139 150 153	.4 64 2-6 146 155 157	.8 65 2-6 152 159 161	.9 65 2-2 153 159 162	.9 65 2-2 152 159 162	55 55
156.0	.1 64 2-6 140 151 153	.0 66 2-6 147 155 157	1.3 66 2-2 152 158 161	1.3 66 2-2 153 158 161	1.3 66 2-2 151 158 161	55 55
154.0	1.0 65 2-6 140 151 153	.8 67 2-6 148 155 158	.1 68 2-2 151 157 159	.1 68 2-2 151 157 159	.1 68 2-2 150 157 159	55 55
152.0	.7 67 2-6 142 151 153	.2 69 2-6 149 155 157	.5 69 2-2 151 156 158	.5 69 2-2 150 156 158	.5 69 2-2 149 156 158	55 55
150.0	.3 69 2-6 143 151 153	.9 70 2-2 149 155 157	.9 70 2-2 150 155 157	.9 70 2-2 149 155 157	.9 70 2-2 148 155 157	55 55
148.0	1.1 70 2-6 144 151 153	.0 70 2 141 149 150	.0 70 2 139 149 150	.0 70 2 138 149 150	.0 70 2 138 149 150	55 55
146.0	.0 70 2 137 145 147	.0 70 2 135 145 147	.0 70 2 134 145 147	.0 70 2 134 145 147	.0 70 2 134 145 147	55 55
144.0	.0 70 2 131 142 143	.0 70 2 131 142 143	.0 70 2 131 142 143	.0 70 2 131 142 143	.0 70 2 131 142 143	55 55
142.0	.0 70 2 128 138 140	.0 70 2 128 138 140	.0 70 2 128 138 140	.0 70 2 128 138 140	.0 70 2 128 138 140	55 55
140.0	.0 70 2 125 135 137	.0 70 2 125 135 137	.0 70 2 125 135 137	.0 70 2 125 135 137	.0 70 2 125 135 137	55 55
135.0	.0 70 122 129 131	.0 70 122 129 131	.0 70 122 129 131	.0 70 122 129 131	.0 70 122 129 131	55 55
130.0	.0 70 121 127 128	.0 70 121 127 128	.0 70 121 127 128	.0 70 121 127 128	.0 70 121 127 128	55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2151.(FT) QNH ALT. : 2220.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

MARSEILLE (LFML) - RWY 32R - CONF 3

CONF 3	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. =11482.9(FT) A.S.D.A. =11482.9(FT) T.O.D.A. =11482.9(FT) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=110/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
for training only		WITHOUT REVERSE
TREF = 45 DC TMAX = 55 DC	WIND (KT) WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

WEIGHT 1000LB	-10	-5	0	10	20	TGA
180.0	.1 19 2-6 137 156 158	.2 34 2-6 139 157 158	.2 38 2-6 142 157 158	.4 39 2-6 144 158 159	.3 40 2-6 145 158 159	46
175.0	1.4 45 2-6 131 151 153	1.9 45 2-6 134 152 153	2.0 45 2-6 138 152 154	2.1 45 2-6 140 152 154	2.1 45 2-6 140 152 154	48 49
170.0	1.6 49 2-8 130 149 151	1.6 49 2-8 134 149 151	1.6 49 2-8 137 149 151	1.6 49 2-8 137 149 151	1.6 49 2-8 137 149 151	51 52
165.0	.2 53 2-8 130 146 148	.2 53 2-8 134 146 148	.2 53 2-8 134 146 148	.2 53 2-8 134 146 148	.2 53 2-8 134 146 148	55 55
160.0	1.2 60 2-6 139 152 153	.8 62 2-6 147 157 158	.8 63 2-2 154 161 162	.8 63 2-2 156 161 162	.8 63 2-2 154 161 162	55 55
158.0	.8 62 2-6 140 152 153	.3 64 2-6 149 157 158	1.2 64 2-2 154 160 161	1.2 64 2-2 155 160 161	1.2 64 2-2 153 160 161	55 55
156.0	.4 64 2-6 142 152 153	1.0 65 2-6 150 157 158	.0 66 2-2 154 159 159	.0 66 2-2 153 159 159	.0 66 2-2 151 159 159	55 55
154.0	.0 66 2-6 143 152 153	.4 67 2-6 151 158 159	.4 67 2-2 153 158 159	.4 67 2-2 151 158 159	.4 67 2-2 150 158 159	55 55
152.0	.8 67 2-6 144 153 154	.9 68 2-2 151 157 158	.9 68 2-2 152 157 158	.9 68 2-2 150 157 158	.9 68 2-2 149 157 158	55 55
150.0	.3 69 2-6 146 153 154	1.3 69 2-2 151 156 157	1.3 69 2-2 151 156 157	1.3 69 2-2 149 156 157	1.3 69 2-2 148 156 157	55 55
148.0	1.0 70 2-6 146 153 154	1.7 70 2-2 151 155 156	1.7 70 2-2 150 155 156	1.7 70 2-2 148 155 156	1.7 70 2-2 147 155 156	55 55
146.0	.0 70 2 137 145 146	.0 70 2 135 145 146	.0 70 2 134 145 146	.0 70 2 134 145 146	.0 70 2 134 145 146	55 55
144.0	.0 70 2 130 141 142	.0 70 2 130 141 142	.0 70 2 130 141 142	.0 70 2 130 141 142	.0 70 2 130 141 142	55 55
142.0	.0 70 2 127 137 139	.0 70 2 127 137 139	.0 70 2 127 137 139	.0 70 2 127 137 139	.0 70 2 127 137 139	55 55
140.0	.0 70 2 124 134 136	.0 70 2 124 134 136	.0 70 2 124 134 136	.0 70 2 124 134 136	.0 70 2 124 134 136	55 55
135.0	.0 70 2 121 126 128	.0 70 2 121 126 128	.0 70 2 121 126 128	.0 70 2 121 126 128	.0 70 2 121 126 128	55 55
130.0	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	.0 70 118 121 123	55 55

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2087.(FT) QNH ALT. : 2156.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	MARSEILLE	LFML 32R
ELEVATION= 69.0(FT) T.O.R.A. =11482.9(FT) A.S.D.A. =11482.9(FT) T.O.D.A. =11482.9(FT) SLOPE = -.51(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
for training only		WITHOUT REVERSE
TREF = 45 DC TMAX = 55 DC	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
.0	182378 2-6 141 160 162	184712 2-6 147 165 166	186724 2-6 154 169 170	187891 2-6 159 173 173	188486 2-2 162 175 175
15.0	180634 2-6 138 157 159	183184 2-6 144 162 163	185408 2-6 151 166 167	186732 2-6 155 170 170	187875 2-6 160 173 173
30.0	178555 2-6 135 154 156	181343 2-6 140 159 160	183815 2-6 147 163 164	185338 2-6 151 166 167	186653 2-6 155 170 170
45.8	176281 2-6 131 151 153	176653 2-8 133 151 153	176653 2-8 137 151 153	176653 2-8 139 151 153	176653 2-8 139 151 153
47.0	174721 8-6 132 150 152	174721 8-6 140 150 152	174721 8-8 137 150 152	174721 8-8 138 150 152	174721 8-8 138 150 152
49.0	171555 2-8 130 149 151	171555 2-8 133 149 151	171555 2-8 137 149 151	171555 2-8 137 149 151	171555 2-8 137 149 151
50.0	169971 2-8 129 148 150	169971 2-8 133 148 150	169971 2-8 136 148 150	169971 2-8 136 148 150	169971 2-8 136 148 150
51.0	168387 2-8 130 147 149	168387 2-8 134 147 149	168387 2-8 136 147 149	168387 2-8 136 147 149	168387 2-8 136 147 149
53.0	165218 2-8 130 146 148	165218 2-8 134 146 148	165218 2-8 134 146 148	165218 2-8 134 146 148	165218 2-8 134 146 148
54.0	163632 2-8 130 145 147	163632 2-8 134 145 147	163632 2-8 134 145 147	163632 2-8 134 145 147	163632 2-8 134 145 147
56.0	162261 2-8 131 146 148	162261 2-8 135 146 148	162261 2-8 135 146 148	162261 2-8 135 146 148	162261 2-8 135 146 148
57.0	162259 2-8 133 148 149	162259 2-8 136 148 149	162259 2-8 136 148 149	162259 2-8 136 148 149	162259 2-8 136 148 149
59.0	162257 8-6 138 152 153	162257 2-8 140 152 153	162257 2-8 140 152 153	162257 2-8 140 152 153	162257 2-8 140 152 153
60.0	161159 2-6 139 152 153	162255 2-8 143 154 156	162255 2-8 145 154 156	162255 2-8 143 154 156	162255 2-8 142 154 156
61.0	159965 2-6 140 152 153	162074 2-6 147 157 158	162253 2-8 149 157 159	162253 2-8 148 157 159	162253 2-8 147 157 159
63.0	157610 2-6 141 152 153	159580 2-6 148 157 158	160777 2-2 154 161 162	160777 2-2 155 161 162	160777 2-2 154 161 162
64.0	156426 2-6 142 152 153	158297 2-6 149 157 158	159192 2-2 154 160 161	159192 2-2 154 160 161	159192 2-2 153 160 161
66.0	154027 2-6 143 152 153	155710 2-6 150 158 158	156022 2-2 154 159 159	156022 2-2 152 159 159	156022 2-2 151 159 159
67.0	152821 2-6 144 153 154	154398 2-6 151 158 159	154437 2-2 153 158 159	154437 2-2 151 158 159	154437 2-2 150 158 159
68.0	151557 2-6 145 153 154	152851 2-2 151 157 158	152851 2-2 151 157 158	152851 2-2 150 157 158	152851 2-2 149 157 158
70.0	149013 2-6 146 153 154	149681 2-2 151 155 156	149681 2-2 149 155 156	149681 2-2 148 155 156	149681 2-2 146 155 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 869.(FT)
/MAXI. ACCELERATION HEIGHT : 2087.(FT) QNH ALT. : 2156.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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PARIS ORLY (LFPO) - RWY 08 - CONF 1 + F

CONF1+F	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =10892.4(FT) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=160/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0			-2.9 0 4-4 161 161 162	-1.0 0 4-4 165 165 165	.1 5 4-4 166 166 166	45
175.0		-1.4 0 4-4 156 156 156	.1 13 4-4 157 157 158	.1 29 4-4 157 157 158	.0 44 4-4 158 158 158	47 48
170.0	-.3 0 4-4 150 152 153	.1 20 4-4 150 152 153	.2 43 4-4 151 153 153	2.6 45 4-4 154 154 154	4.9 45 4-4 157 157 157	50 51
165.0	.2 23 4-4 144 150 150	.3 45 4-4 145 150 151	4.8 45 4-4 151 152 153	.9 52 4-4 157 157 157	.9 52 4-8 152 152 152	54 54
160.0	.7 45 4-4 140 148 148	.0 52 4-4 147 148 148	.5 55 4-4 155 155 155	.7 56 4-8 156 156 156	1.0 57 4-4 158 158 158	54 54
158.0	.7 48 4-4 141 147 147	.3 54 4-4 148 148 148	1.2 56 4-4 155 155 155	.1 58 4-4 156 156 156	.3 59 4-4 157 157 157	54 54
156.0	.5 51 4-4 142 146 146	.1 56 4-4 149 149 149	.5 58 4-4 154 154 154	.8 59 4-4 156 156 156	1.0 60 4-4 156 156 156	54 54
154.0	.1 54 4-4 143 145 145	1.1 57 4-4 150 150 150	1.2 59 4-4 154 154 154	.2 61 4-4 155 155 155	.3 62 4-4 155 155 155	54 54
152.0	.4 56 4-4 144 145 145	.8 59 4-4 151 151 151	.6 61 4-4 153 153 153	.9 62 4-4 154 154 154	1.0 63 4-4 154 154 154	54 54
150.0	.6 58 4-4 144 144 144	.2 61 4-4 150 150 150	.1 63 4-4 153 153 153	.3 64 4-4 153 153 153	.4 65 4-4 153 153 153	54 54
148.0	.6 60 4-4 146 146 146	1.0 62 4-4 150 150 150	.8 64 4-4 152 152 152	1.0 65 4-4 152 152 152	1.1 66 4-4 153 153 153	54 54
146.0	.5 62 4-4 147 147 147	.5 64 4-4 150 150 150	.3 66 4-4 151 151 151	.4 67 4-4 151 151 151	.4 68 4-4 153 153 153	54 54
144.0	.2 64 4-4 147 147 147	.0 66 4-4 149 149 149	1.0 67 4-4 150 150 150	1.1 68 4-4 151 151 151	1.0 69 4-4 153 153 153	54 54
142.0	.9 65 4-4 146 146 146	.8 67 4-4 149 149 149	.3 69 4-4 149 149 149	1.7 69 4-4 150 150 150	.0 69 4 141 141 141	54 54
140.0	.5 67 4-4 146 146 146	.2 69 4-4 148 148 148	.0 69 4 140 140 140	.0 69 138 139 139	.0 69 136 139 139	54 54
135.0	3.0 69 4-4 145 145 145	.0 69 133 136 136	.0 69 130 136 136	.0 69 128 136 136	.0 69 127 136 136	54 54
130.0	.0 69 126 134 134	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	54 54

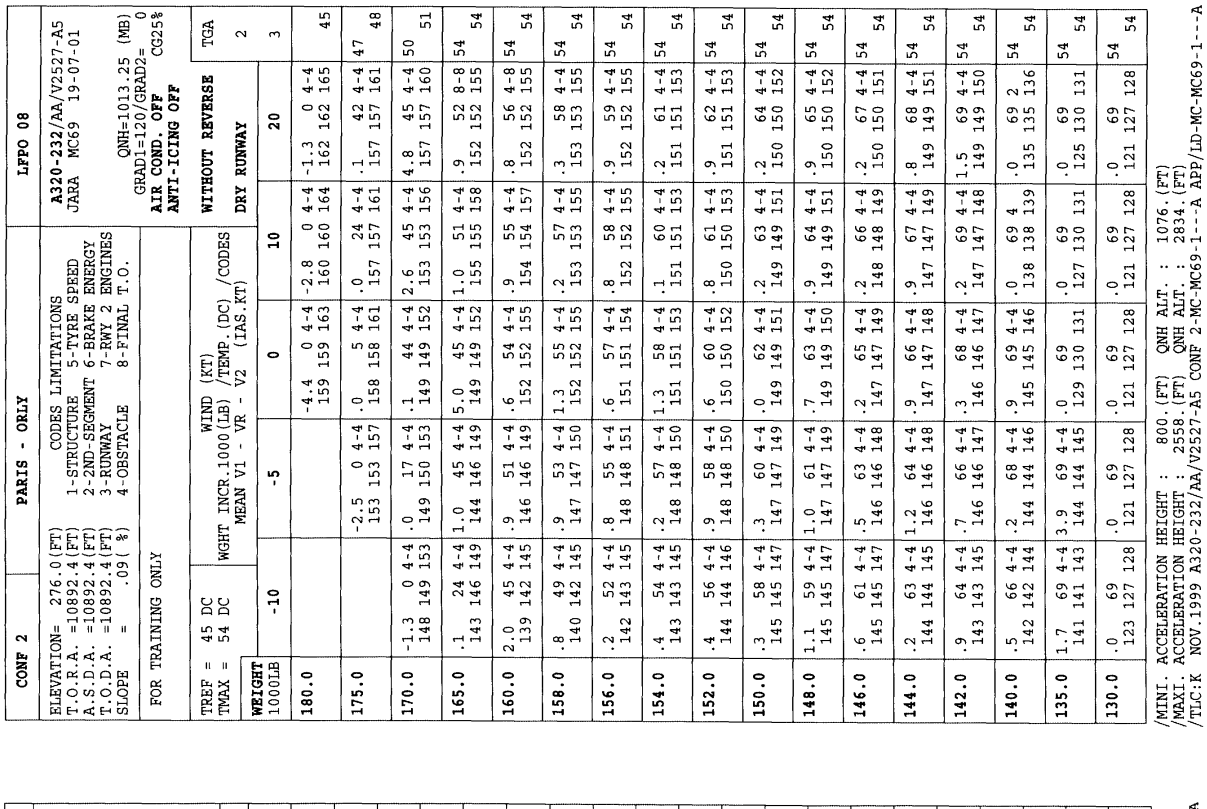
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2351.(FT) QNH ALT. : 2627.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =10892.4(FT) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 45 DC TMAX = 54 DC	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
.0	169735 4-4 150 152 153	173639 4-4 156 156 156	177146 4-4 161 161 162	179033 4-4 165 165 165	180675 4-4 167 167 167
15.0	166692 4-4 146 150 151	170932 4-4 152 153 153	174739 4-4 157 157 157	177003 4-4 161 161 161	178959 4-4 164 164 164
30.0	163820 4-4 143 149 150	168296 4-4 148 151 152	172505 4-4 154 154 154	174914 4-4 157 157 157	177114 4-4 161 161 161
45.1	160685 4-4 140 148 148	165312 4-4 145 150 151	169779 4-4 150 152 153	172581 4-4 154 154 154	174853 4-4 157 157 157
47.0	159431 4-4 140 147 148	164014 4-4 146 150 150	168412 4-4 151 152 152	170987 4-4 155 155 155	173176 4-4 158 158 158
48.0	158691 4-4 141 147 147	163239 4-4 146 149 150	167575 4-4 151 152 152	169973 4-4 155 155 155	172156 4-4 159 159 159
49.0	157947 4-4 141 147 147	162455 4-4 146 149 149	166718 4-4 152 152 152	168981 4-4 156 156 156	170602 4-8 157 157 157
51.0	156450 4-4 142 146 146	160864 4-4 147 148 148	164724 4-4 153 153 153	166928 4-4 157 157 157	167449 4-8 154 154 154
52.0	155693 4-4 142 146 146	160039 4-4 147 148 148	163708 4-4 153 153 153	165872 4-4 157 157 157	165872 4-8 152 152 152
54.0	154115 4-4 143 145 145	158298 4-4 148 148 148	161655 4-4 154 154 154	162717 4-8 153 153 153	162717 4-8 150 150 150
55.0	153288 4-4 143 145 145	157228 4-4 149 149 149	160507 4-4 155 155 155	161999 4-8 155 155 155	161999 4-8 151 151 151
57.0	151563 4-4 144 144 144	155064 4-4 150 150 150	157831 4-4 154 154 154	159432 4-4 157 157 157	160997 4-4 158 158 158
58.0	150642 4-4 144 144 144	153952 4-4 150 150 150	156511 4-4 154 154 154	158101 4-4 156 156 156	159651 4-4 157 157 157
59.0	149634 4-4 145 145 145	152796 4-4 151 151 151	155203 4-4 154 154 154	156783 4-4 156 156 156	158311 4-4 157 157 157
61.0	147537 4-4 146 146 146	150241 4-4 150 150 150	152617 4-4 153 153 153	154168 4-4 155 155 155	155655 4-4 156 156 156
62.0	146473 4-4 147 147 147	148980 4-4 150 150 150	151340 4-4 153 153 153	152869 4-4 154 154 154	154331 4-4 155 155 155
64.0	144157 4-4 147 147 147	146487 4-4 150 150 150	148810 4-4 152 152 152	150288 4-4 153 153 153	151698 4-4 154 154 154
65.0	142941 4-4 146 146 146	145255 4-4 150 150 150	147551 4-4 152 152 152	149000 4-4 152 152 152	150386 4-4 153 153 153
67.0	140529 4-4 146 146 146	142811 4-4 149 149 149	145037 4-4 150 150 150	146425 4-4 151 151 151	147775 4-4 153 153 153
68.0	139232 4-4 146 146 146	141492 4-4 148 148 148	143687 4-4 150 150 150	145053 4-4 153 153 153	146389 4-4 153 153 153
69.0	137950 4-4 145 145 145	140184 4-4 148 148 148	142343 4-4 149 149 149	143686 4-4 150 150 150	145013 4-4 153 153 153

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2351.(FT) QNH ALT. : 2627.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

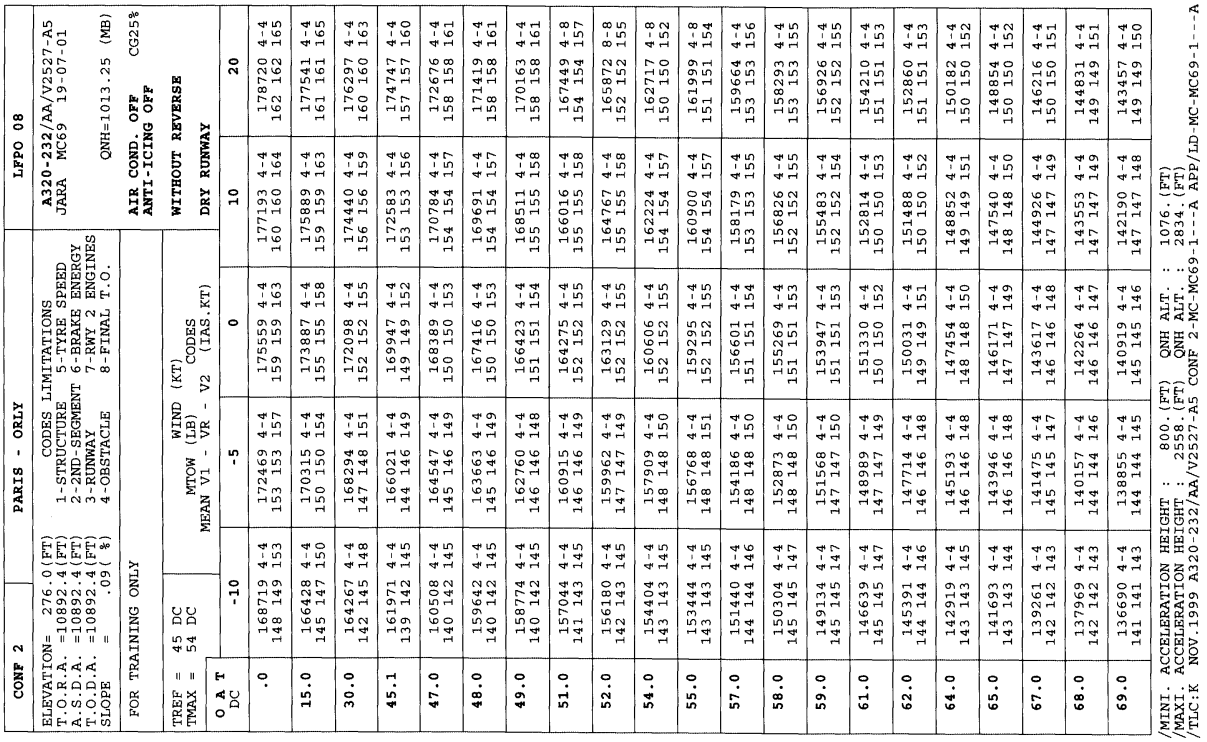
PARIS ORLY (LFPO) - RWY 08 - CONF 2



CONF 2	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =10892.4(FT) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0			-4.4 0 4-4 159 159 163	-2.8 0 4-4 160 160 164	-1.3 0 4-4 162 162 165	45
175.0		-2.5 0 4-4 153 153 157	.0 5 4-4 158 158 161	.0 24 4-4 157 157 161	.1 42 4-4 157 157 161	48
170.0	-1.3 0 4-4 148 149 153	.0 17 4-4 149 150 153	.1 44 4-4 149 149 152	2.6 45 4-4 153 153 156	4.8 45 4-4 157 157 160	50 51
165.0	.1 24 4-4 143 146 149	1.0 45 4-4 144 146 149	5.0 45 4-4 149 149 152	1.0 51 4-4 155 155 158	.9 52 8-8 152 152 155	54 54
160.0	2.0 45 4-4 139 142 145	.9 51 4-4 146 146 149	.6 54 4-4 152 152 155	.9 55 4-4 154 154 157	.8 56 4-8 152 152 155	54 54
158.0	.8 49 4-4 140 142 145	.9 53 4-4 147 147 150	1.3 55 4-4 152 152 155	.2 57 4-4 153 153 155	.3 58 4-4 153 153 155	54 54
156.0	.2 52 4-4 142 143 145	.8 55 4-4 148 148 151	.6 57 4-4 151 151 154	.8 58 4-4 152 152 155	.9 59 4-4 152 152 155	54 54
154.0	.4 54 4-4 143 143 145	.2 57 4-4 148 148 150	1.3 58 4-4 151 151 153	.1 60 4-4 151 151 153	.2 61 4-4 151 151 153	54 54
152.0	.4 56 4-4 144 144 146	.9 58 4-4 148 148 150	.6 60 4-4 150 150 152	.8 61 4-4 150 150 153	.9 62 4-4 151 151 153	54 54
150.0	.3 58 4-4 145 145 147	.3 60 4-4 147 147 149	.0 62 4-4 149 149 151	.2 63 4-4 149 149 151	.2 64 4-4 150 150 152	54 54
148.0	1.1 59 4-4 145 145 147	1.0 61 4-4 147 147 149	.7 63 4-4 149 149 150	.9 64 4-4 149 149 151	.9 65 4-4 150 150 152	54 54
146.0	.6 61 4-4 145 145 147	.5 63 4-4 146 146 148	.2 65 4-4 147 147 149	.2 66 4-4 148 148 149	.2 67 4-4 150 150 151	54 54
144.0	.2 63 4-4 144 144 145	1.2 64 4-4 146 146 148	.9 66 4-4 147 147 148	.9 67 4-4 147 147 149	.8 68 4-4 149 149 151	54 54
142.0	.9 64 4-4 143 143 145	.7 66 4-4 146 146 147	.3 68 4-4 146 146 147	.2 69 4-4 147 147 148	1.5 69 4-4 149 149 150	54 54
140.0	.5 66 4-4 142 142 144	.2 68 4-4 144 144 146	.9 69 4-4 145 145 146	.0 69 4 138 138 139	.0 69 2 135 135 136	54 54
135.0	1.7 69 4-4 141 141 143	3.9 69 4-4 144 144 145	.0 69 129 130 131	.0 69 127 130 131	.0 69 125 130 131	54 54
130.0	.0 69 123 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2558.(FT) QNH ALT. : 2834.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

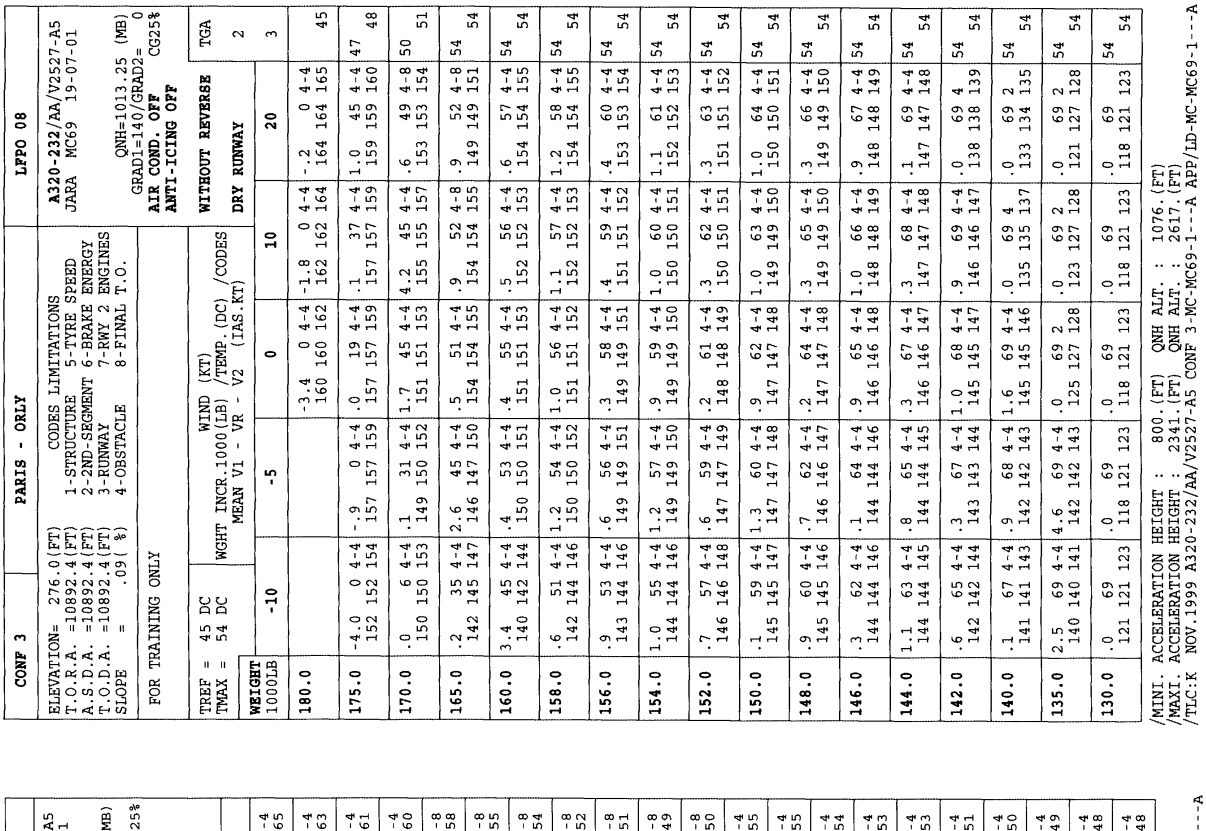


CONF 2	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =10892.4(FT) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
.0	168719 4-4 148 149 153	172469 4-4 153 153 157	175559 4-4 159 159 163	177193 4-4 160 160 164	178720 4-4 162 162 165
15.0	166428 4-4 145 147 150	170315 4-4 150 150 154	173887 4-4 155 155 158	175889 4-4 159 159 163	177541 4-4 161 161 165
30.0	164267 4-4 142 145 148	168294 4-4 147 148 151	172098 4-4 152 152 155	174440 4-4 156 156 159	176297 4-4 160 160 163
45.1	161971 4-4 139 142 145	166021 4-4 144 146 149	169947 4-4 149 149 152	172583 4-4 153 153 156	174747 4-4 157 157 160
47.0	160508 4-4 140 142 145	164547 4-4 145 146 149	168389 4-4 150 150 153	170784 4-4 154 154 157	172676 4-4 158 158 161
48.0	159642 4-4 140 142 145	163663 4-4 145 146 149	167416 4-4 150 150 153	169691 4-4 154 154 157	171419 4-4 158 158 161
49.0	158774 4-4 140 142 145	162760 4-4 146 146 148	166423 4-4 151 151 154	168511 4-4 155 155 158	170163 4-4 158 158 161
51.0	157044 4-4 141 143 145	160915 4-4 146 146 149	164275 4-4 152 152 155	166016 4-4 155 155 158	167449 4-8 154 154 157
52.0	156180 4-4 142 143 145	159962 4-4 147 147 149	163129 4-4 152 152 155	164767 4-4 155 155 158	165872 8-8 152 152 155
54.0	154404 4-4 143 143 145	157909 4-4 148 148 150	160606 4-4 152 152 155	162224 4-4 154 154 157	162717 4-8 150 150 152
55.0	153444 4-4 143 143 145	156768 4-4 148 148 151	159295 4-4 152 152 155	160900 4-4 154 154 157	161999 4-8 151 151 154
57.0	151440 4-4 144 144 146	154186 4-4 148 148 150	156601 4-4 151 151 154	158179 4-4 153 153 155	159664 4-4 153 153 156
58.0	150304 4-4 145 145 147	152873 4-4 148 148 150	155269 4-4 151 151 153	156826 4-4 152 152 155	158293 4-4 153 153 155
59.0	149134 4-4 145 145 147	151568 4-4 147 147 150	153947 4-4 151 151 153	155483 4-4 152 152 154	156926 4-4 152 152 155
61.0	146639 4-4 145 145 147	148989 4-4 147 147 149	151330 4-4 150 150 152	152814 4-4 150 150 153	154210 4-4 151 151 153
62.0	145391 4-4 144 144 146	147714 4-4 146 146 148	150031 4-4 149 149 151	151488 4-4 150 150 152	152860 4-4 151 151 153
64.0	142919 4-4 143 143 145	145193 4-4 146 146 148	147454 4-4 148 148 150	148852 4-4 149 149 151	150182 4-4 150 150 152
65.0	141693 4-4 143 143 144	143946 4-4 146 146 148	146171 4-4 147 147 149	147540 4-4 148 148 150	148854 4-4 150 150 152
67.0	139261 4-4 142 142 143	141475 4-4 145 145 147	143617 4-4 146 146 148	144926 4-4 147 147 149	146216 4-4 150 150 151
68.0	137969 4-4 142 142 143	140157 4-4 144 144 146	142264 4-4 146 146 147	143553 4-4 147 147 149	144831 4-4 149 149 151
69.0	136690 4-4 141 141 143	138855 4-4 144 144 145	140919 4-4 145 145 146	142190 4-4 147 147 148	143457 4-4 149 149 150

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2558.(FT) QNH ALT. : 2834.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

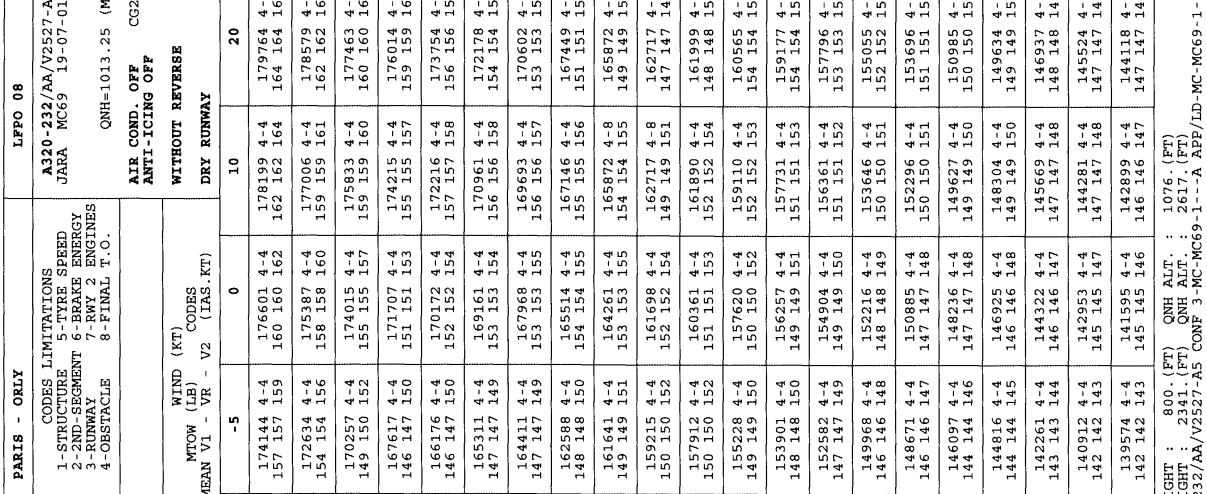
PARIS ORLY (LFPO) - RWY 08 - CONF 3



CONF 3	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =10892.4(FT) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=140/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0			-3.4 0 4-4 160 160 162	-1.8 0 4-4 162 162 164	-.2 0 4-4 164 164 165	45
175.0	-4.0 0 4-4 152 152 154	-.9 0 4-4 157 157 159	.0 19 4-4 157 157 159	.1 37 4-4 157 157 159	1.0 45 4-4 159 159 160	47 48
170.0	.0 6 4-4 150 150 153	.1 31 4-4 149 150 152	1.7 45 4-4 151 151 153	4.2 45 4-4 155 155 157	.6 49 4-8 153 153 154	50 51
165.0	.2 35 4-4 142 145 147	2.6 45 4-4 146 147 150	.5 51 4-4 154 154 155	.9 52 4-8 154 154 155	.9 52 4-8 149 149 151	54 54
160.0	3.4 45 4-4 140 142 144	.4 53 4-4 150 150 151	.4 55 4-4 151 151 153	.5 56 4-4 152 152 153	.6 57 4-4 154 154 155	54 54
158.0	.6 51 4-4 142 144 146	1.2 54 4-4 150 150 152	1.0 56 4-4 151 151 152	1.1 57 4-4 152 152 153	1.2 58 4-4 154 154 155	54 54
156.0	.9 53 4-4 143 144 146	.6 56 4-4 149 149 151	.3 58 4-4 149 149 151	.4 59 4-4 151 151 152	.4 60 4-4 153 153 154	54 54
154.0	1.0 55 4-4 144 144 146	1.2 57 4-4 149 149 150	.9 59 4-4 149 149 150	1.0 60 4-4 150 150 151	1.1 61 4-4 152 152 153	54 54
152.0	.7 57 4-4 146 146 148	.6 59 4-4 147 147 149	.2 61 4-4 148 148 149	.3 62 4-4 150 150 151	.3 63 4-4 151 151 152	54 54
150.0	.1 59 4-4 145 145 147	1.3 60 4-4 147 147 148	.9 62 4-4 147 147 148	1.0 63 4-4 149 149 150	1.0 64 4-4 150 150 151	54 54
148.0	.9 60 4-4 145 145 146	.7 62 4-4 146 146 147	.2 64 4-4 147 147 148	.3 65 4-4 149 149 150	.3 66 4-4 149 149 150	54 54
146.0	.3 62 4-4 144 144 146	.1 64 4-4 144 144 146	.9 65 4-4 146 146 148	1.0 66 4-4 148 148 149	.9 67 4-4 148 148 149	54 54
144.0	1.1 63 4-4 144 144 145	.8 65 4-4 144 144 145	.3 67 4-4 146 146 147	.3 68 4-4 147 147 148	.1 69 4-4 147 147 148	54 54
142.0	.6 65 4-4 142 142 144	.3 67 4-4 143 143 144	1.0 68 4-4 145 145 147	.9 69 4-4 146 146 147	.0 69 4 138 138 139	54 54
140.0	.1 67 4-4 141 141 143	.9 68 4-4 142 142 143	1.6 69 4-4 145 145 146	.0 69 4 135 135 137	.0 69 2 133 134 135	54 54
135.0	2.5 69 4-4 140 140 141	4.6 69 4-4 142 142 143	.0 69 2 125 127 128	.0 69 2 123 127 128	.0 69 2 121 127 128	54 54
130.0	.0 69 121 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2341.(FT) QNH ALT. : 2617.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A



CONF 3	PARIS - ORLY	LFPO 08
ELEVATION= 276.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =10892.4(FT) SLOPE = .09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
.0	170956 4-4 152 152 154	174144 4-4 157 157 159	176601 4-4 160 160 162	178199 4-4 162 162 164	179764 4-4 164 164 165
15.0	168650 4-4 148 149 151	172634 4-4 154 154 156	175387 4-4 158 158 160	177006 4-4 159 159 161	178579 4-4 162 162 163
30.0	166065 4-4 144 146 149	170257 4-4 149 150 152	174015 4-4 155 155 157	175833 4-4 159 159 160	177463 4-4 160 160 161
45.1	163373 4-4 140 141 144	167617 4-4 146 147 150	171707 4-4 151 151 153	174215 4-4 155 155 157	176014 4-4 159 159 160
47.0	161934 4-4 141 143 146	166176 4-4 146 147 150	170172 4-4 152 152 154	172216 4-4 157 157 158	173754 4-8 156 156 158
48.0	161093 4-4 141 143 146	165311 4-4 147 147 149	169161 4-4 153 153 154	170961 4-4 156 156 158	172178 4-8 154 154 155
49.0	160253 4-4 141 143 146	164411 4-4 147 147 149	167968 4-4 153 153 155	169693 4-4 156 156 157	170602 4-8 153 153 154
51.0	158578 4-4 142 144 146	162588 4-4 148 148 150	165514 4-4 154 154 155	167146 4-4 155 155 156	167449 4-8 151 151 152
52.0	157741 4-4 143 143 145	161641 4-4 149 149 151	164261 4-4 153 153 155	165872 4-8 154 154 155	165872 4-8 149 149 151
54.0	155993 4-4 144 144 146	159215 4-4 150 150 152	161698 4-4 152 152 154	162717 4-8 149 149 151	162717 4-8 147 147 149
55.0	155027 4-4 144 144 146	157912 4-4 150 150 152	160361 4-4 151 151 153	161890 4-4 152 152 154	161999 4-8 148 148 150
57.0	152742 4-4 146 146 148	155228 4-4 149 149 150	157620 4-4 150 150 152	159110 4-4 152 152 153	160565 4-4 154 154 155
58.0	151436 4-4 145 145 147	153901 4-4 148 148 150	156257 4-4 149 149 151	157731 4-4 151 151 153	159177 4-4 154 154 155
59.0	150141 4-4 145 145 147	152582 4-4 147 147 149	154904 4-4 149 149 150	156361 4-4 151 151 152	157796 4-4 153 153 154
61.0	147584 4-4 144 144 146	149968 4-4 146 146 148	152216 4-4 148 148 149	153646 4-4 150 150 151	155055 4-4 152 152 153
62.0	146321 4-4 144 144 146	148671 4-4 146 146 147	150885 4-4 147 147 148	152296 4-4 150 150 151	153696 4-4 151 151 153
64.0	143821 4-4 143 143 145	146097 4-4 144 144 146	148236 4-4 147 147 148	149627 4-4 149 149 150	150985 4-4 150 150 151
65.0	142581 4-4 142 142 144	144816 4-4 144 144 145	146925 4-4 146 146 148	148304 4-4 149 149 150	149634 4-4 149 149 150
67.0	140113 4-4 141 141 143	142261 4-4 143 143 144	144322 4-4 146 146 147	145669 4-4 147 147 148	146937 4-4 148 148 149
68.0	138800 4-4 141 141 142	140912 4-4 142 142 143	142953 4-4 145 145 147	144281 4-4 147 147 148	145524 4-4 147 147 148
69.0	137498 4-4 140 140 141	139574 4-4 142 142 143	141595 4-4 145 145 146	142899 4-4 146 146 147	144118 4-4 147 147 148

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1076.(FT)
/MAXI. ACCELERATION HEIGHT : 2341.(FT) QNH ALT. : 2617.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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PARIS ORLY (LFPO) - RWY 25 - CONF 1 + F

CONF1+F | **PARIS - ORLY** | **LFPO 25**

ELEVATION= 286.0(FT)
T.O.R.A. =11975.1(FT)
A.S.D.A. =11975.1(FT)
T.O.D.A. =12171.9(FT)
SLOPE = .12(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-232/AA/V2527-A5
JARA MC69 19-07-01

QNH=1013.25 (MB)
GRAD1=120/GRAD2= 0

FOR TRAINING ONLY

AIR COND. OFF CG25%
ANTI-ICING OFF

TREF = 45 DC
TMAX = 54 DC

WGHT INCR.1000(LB) /TEMP.(DC) /CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE

WEIGHT 1000LB	-10	-5	0	10	20	TGA
					DRY RUNWAY	2
						3
180.0		-1.7 0 4-4 153 163 163	.0 12 4-4 154 163 164	.1 29 4-4 154 162 162	.1 36 4-4 155 161 161	45
175.0	-.4 0 4-4 147 159 160	.1 21 4-4 147 158 159	.2 45 4-4 148 157 157	1.7 45 4-4 152 157 157	1.8 45 4-4 153 156 156	47 48
170.0	.1 29 4-4 140 153 154	1.4 45 4-4 142 154 154	.6 49 4-8 150 155 155	.6 49 8-8 152 153 153	.6 49 8-8 147 153 153	50 51
165.0	2.5 45 4-4 137 152 152	.9 51 4-4 145 154 154	.8 52 4-8 152 152 152	.8 52 8-8 149 151 151	.8 52 8-8 143 151 151	54 54
160.0	.1 53 4-4 140 151 151	.8 56 4-4 147 155 155	1.0 59 4-4 154 159 159	.9 61 4-4 160 161 161	.4 63 4-4 164 164 164	54 54
158.0	.1 55 4-4 141 151 151	.6 58 4-4 148 155 155	.7 61 4-4 156 159 159	.6 63 4-4 161 161 161	1.0 64 4-4 163 163 163	54 54
156.0	.0 57 4-4 142 151 151	.4 60 4-4 149 155 155	.5 63 4-4 157 159 159	.2 65 4-4 162 162 162	.2 66 4-4 163 163 163	54 54
154.0	1.0 58 4-4 142 151 151	.3 62 4-4 150 155 155	.2 65 4-4 158 159 159	.8 66 4-4 161 161 161	.8 67 4-4 162 162 162	54 54
152.0	.9 60 4-4 143 151 151	.1 64 4-4 151 155 155	1.0 66 4-4 158 159 159	1.4 67 4-4 161 161 161	1.3 68 4-4 162 162 162	54 54
150.0	.8 62 4-4 144 151 151	1.0 65 4-4 152 155 155	.5 68 4-4 159 159 159	.5 69 4-4 160 160 160	1.8 69 4-4 161 161 161	54 54
148.0	.7 64 4-4 145 151 151	.8 67 4-4 153 155 155	1.1 69 4-4 159 159 159	.0 69 4 153 153 153	.0 69 4 151 151 151	54 54
146.0	.6 66 4-4 147 151 151	.4 69 4-4 154 155 155	.0 69 4 150 150 150	.0 69 4 148 148 148	.0 69 4 147 147 147	54 54
144.0	.4 68 4-4 148 151 151	.0 69 4 149 149 149	.0 69 4 146 146 146	.0 69 4 145 145 145	.0 69 2 142 143 143	54 54
142.0	1.3 69 4-4 148 152 152	.0 69 4 144 144 144	.0 69 4 142 142 142	.0 69 4 141 141 141	.0 69 2 138 140 140	54 54
140.0	.0 69 4 143 143 143	.0 69 4 141 141 141	.0 69 137 139 139	.0 69 131 139 139	.0 69 129 139 139	54 54
135.0	.0 69 127 136 136	.0 69 127 136 136	.0 69 127 136 136	.0 69 127 136 136	.0 69 127 136 136	54 54
130.0	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2344.(FT) QNH ALT. : 2630.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F | **PARIS - ORLY** | **LFPO 25**

ELEVATION= 286.0(FT)
T.O.R.A. =11975.1(FT)
A.S.D.A. =11975.1(FT)
T.O.D.A. =12171.9(FT)
SLOPE = .12(%)

CODES LIMITATIONS
1-STRUCTURE 5-TYRE SPEED
2-2ND-SEGMENT 6-BRAKE ENERGY
3-RUNWAY 7-RWY 2 ENGINES
4-OBSTACLE 8-FINAL T.O.

A320-232/AA/V2527-A5
JARA MC69 19-07-01

QNH=1013.25 (MB)

AIR COND. OFF CG25%
ANTI-ICING OFF

FOR TRAINING ONLY

TREF = 45 DC
TMAX = 54 DC

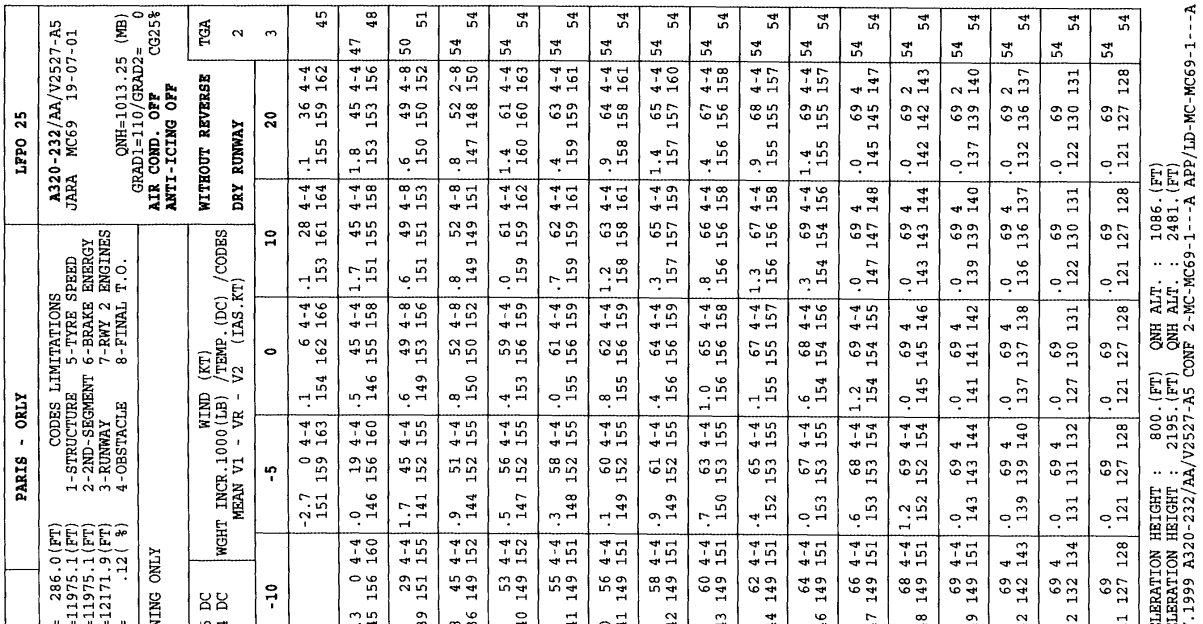
MTOW (LB) CODES
MEAN V1 - VR - V2 (IAS.KT)

WITHOUT REVERSE

OAT DC	-10	-5	0	10	20
				DRY RUNWAY	
.0	174609 4-4 147 159 160	178270 4-4 153 163 163	181739 4-4 158 166 166	184001 4-4 161 168 168	186112 4-4 164 171 171
15.0	172136 4-4 143 156 156	175911 4-4 149 159 160	179603 4-4 154 163 163	181925 4-4 157 165 165	184137 4-4 160 167 167
30.0	169958 4-4 140 153 153	173766 4-4 145 156 157	177509 4-4 151 160 160	179947 4-4 154 162 162	182308 4-4 157 165 165
45.1	167512 4-4 137 152 152	171424 4-4 142 154 154	175221 4-4 148 157 157	176724 4-8 152 157 157	176724 8-8 152 156 156
47.0	165899 4-4 137 151 152	169780 4-4 143 154 154	173567 4-4 148 157 157	173707 4-8 149 155 155	173707 8-8 149 155 155
48.0	164958 4-4 138 151 151	168808 4-4 143 154 154	172132 4-8 149 157 157	172132 8-8 153 154 154	172132 8-8 148 154 154
49.0	164009 4-4 138 151 151	167834 4-4 144 154 154	170556 4-8 150 155 155	170556 8-8 152 153 153	170556 8-8 146 153 153
51.0	162066 4-4 139 151 151	165877 4-4 145 154 154	167404 4-8 152 153 153	167404 8-8 150 152 152	167404 8-8 144 152 152
52.0	161093 4-4 139 151 151	164899 4-4 145 154 154	165827 4-8 152 152 152	165827 8-8 148 151 151	165827 8-8 142 151 151
54.0	159125 4-4 140 151 151	162672 4-8 146 154 154	162672 4-8 150 150 150	162672 8-8 146 150 150	162672 8-8 140 150 150
55.0	158104 4-4 141 151 151	161872 4-4 147 155 155	161987 4-8 151 151 151	161987 8-8 149 150 150	161987 8-8 144 150 150
57.0	156005 4-4 142 151 151	159728 4-4 148 155 155	161984 4-8 154 155 155	161984 4-8 153 153 153	161984 4-8 152 152 152
58.0	154972 4-4 142 151 151	158628 4-4 148 155 155	161982 4-8 154 158 158	161982 4-8 155 155 155	161982 4-8 153 153 153
59.0	153948 4-4 143 151 151	157535 4-4 149 155 155	161042 4-4 154 159 159	161980 4-8 157 157 157	161980 4-8 155 155 155
61.0	151872 4-4 144 151 151	155363 4-4 150 155 155	158738 4-4 156 159 159	160949 4-4 160 161 161	161978 4-8 161 161 161
62.0	150816 4-4 144 151 151	154280 4-4 150 155 155	157602 4-4 156 159 159	159792 4-4 160 161 161	161824 4-4 164 164 164
64.0	148715 4-4 145 151 151	152062 4-4 151 155 155	155357 4-4 157 159 159	157405 4-4 161 162 162	159021 4-4 163 163 163
65.0	147675 4-4 146 151 151	150958 4-4 152 155 155	154176 4-4 158 159 159	156177 4-4 162 162 162	157610 4-4 163 163 163
67.0	145549 4-4 147 151 151	148753 4-4 153 155 155	151834 4-4 159 159 159	153392 4-4 161 161 161	154770 4-4 162 162 162
68.0	144434 4-4 148 151 151	147608 4-4 154 155 155	150520 4-4 159 159 159	151931 4-4 161 161 161	153271 4-4 162 162 162
69.0	143337 4-4 148 152 152	146432 4-4 154 155 155	149082 4-4 159 159 159	150462 4-4 160 160 160	151782 4-4 161 161 161

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2344.(FT) QNH ALT. : 2630.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

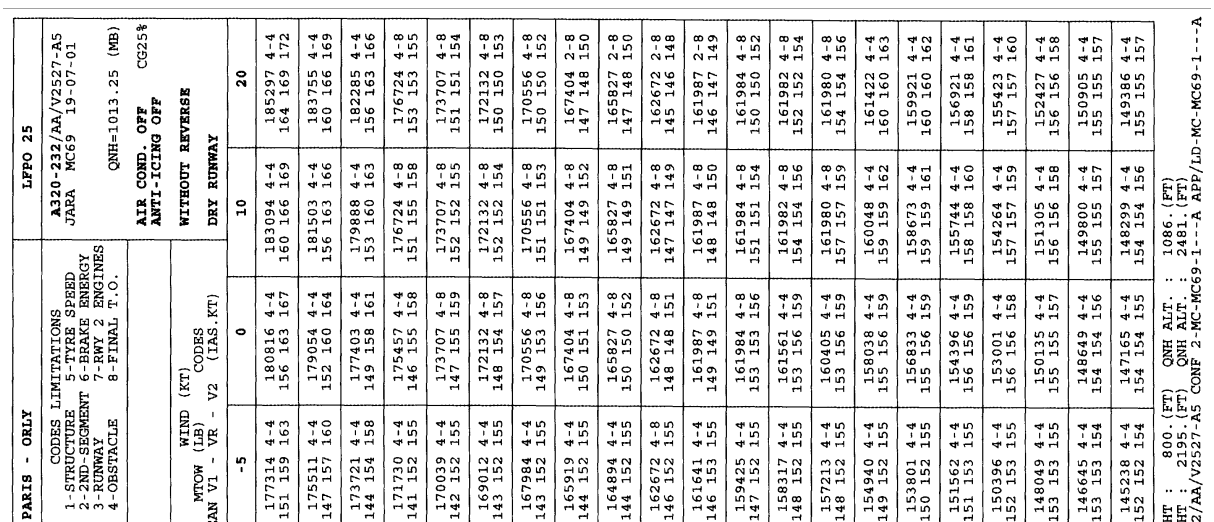
PARIS ORLY (LFPO) - RWY 25 - CONF 2



CONF 2	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. =11975.1(FT) A.S.D.A. =11975.1(FT) T.O.D.A. =12171.9(FT) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=110/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

WEIGHT 1000LB	-10	-5	0	10	20	TGA
180.0		-2.7 0 4-4 151 159 163	.1 6 4-4 154 162 166	.1 28 4-4 153 161 164	.1 36 4-4 155 159 162	45
175.0	-1.3 0 4-4 145 156 160	.0 19 4-4 146 156 160	.5 45 4-4 146 155 158	1.7 45 4-4 151 155 158	1.8 45 4-4 153 153 156	47 48
170.0	.1 29 4-4 139 151 155	1.7 45 4-4 141 152 155	.6 49 4-8 149 153 156	.6 49 4-8 151 151 153	.6 49 4-8 150 150 152	50 51
165.0	2.8 45 4-4 136 149 152	.9 51 4-4 144 152 155	.8 52 4-8 150 150 152	.8 52 4-8 149 149 151	.8 52 2-8 147 148 150	54 54
160.0	.2 53 4-4 140 149 152	.5 56 4-4 147 152 155	.4 59 4-4 153 156 159	.0 61 4-4 159 159 162	1.4 61 4-4 160 160 163	54 54
158.0	.1 55 4-4 141 149 151	.3 58 4-4 148 152 155	.0 61 4-4 155 156 159	.7 62 4-4 159 159 161	.4 63 4-4 159 159 161	54 54
156.0	1.0 56 4-4 141 149 151	.1 60 4-4 149 152 155	.8 62 4-4 155 156 159	1.2 63 4-4 158 158 161	.9 64 4-4 158 158 161	54 54
154.0	.9 58 4-4 142 149 151	.9 61 4-4 149 152 155	.4 64 4-4 156 156 159	.3 65 4-4 157 157 159	1.4 65 4-4 157 157 160	54 54
152.0	.7 60 4-4 143 149 151	.7 63 4-4 150 153 155	1.0 65 4-4 156 156 158	.8 66 4-4 156 156 158	.4 67 4-4 156 156 158	54 54
150.0	.6 62 4-4 144 149 151	.4 65 4-4 152 153 155	.1 67 4-4 155 155 157	1.3 67 4-4 156 156 158	.9 68 4-4 155 155 157	54 54
148.0	.4 64 4-4 146 149 151	.0 67 4-4 153 153 155	.6 68 4-4 154 154 156	.3 69 4-4 154 154 156	1.4 69 4-4 155 155 157	54 54
146.0	.3 66 4-4 147 149 151	.6 68 4-4 153 153 154	1.2 69 4-4 154 154 155	.0 69 4 147 147 148	.0 69 4 145 145 147	54 54
144.0	.1 68 4-4 148 149 151	1.2 69 4-4 152 152 154	.0 69 4 145 145 146	.0 69 4 143 143 144	.0 69 2 142 142 143	54 54
142.0	.9 69 4-4 149 149 151	.0 69 4 143 143 144	.0 69 4 141 141 142	.0 69 4 139 139 140	.0 69 2 137 139 140	54 54
140.0	.0 69 4 142 142 143	.0 69 4 139 139 140	.0 69 4 137 137 138	.0 69 4 136 136 137	.0 69 2 132 136 137	54 54
135.0	.0 69 4 132 132 134	.0 69 4 131 131 132	.0 69 127 130 131	.0 69 122 130 131	.0 69 122 130 131	54 54
130.0	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2195.(FT) QNH ALT. : 2481.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A



CONF 2	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. =11975.1(FT) A.S.D.A. =11975.1(FT) T.O.D.A. =12171.9(FT) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
.0	173711 4-4 145 156 160	177314 4-4 151 159 163	180816 4-4 156 163 167	183094 4-4 160 166 169	185297 4-4 164 169 172
15.0	171762 4-4 142 153 157	175511 4-4 147 157 160	179054 4-4 152 160 164	181503 4-4 156 163 166	183755 4-4 160 166 169
30.0	169938 4-4 139 151 154	173721 4-4 144 154 158	177403 4-4 149 158 161	179888 4-4 153 160 163	182285 4-4 156 163 166
45.1	167837 4-4 136 149 152	171730 4-4 141 152 155	175457 4-4 146 155 158	176724 4-8 151 155 158	176724 4-8 153 153 155
47.0	166181 4-4 137 149 152	170039 4-4 142 152 155	173707 4-8 147 155 159	173707 4-8 152 152 155	173707 4-8 151 151 154
48.0	165203 4-4 137 149 152	169012 4-4 143 152 155	172132 4-8 148 154 157	172132 4-8 152 152 154	172132 4-8 150 150 153
49.0	164225 4-4 138 149 152	167984 4-4 143 152 155	170556 4-8 149 153 156	170556 4-8 151 151 153	170556 4-8 150 150 152
51.0	162230 4-4 139 149 152	165919 4-4 144 152 155	167404 4-8 150 151 153	167404 4-8 149 149 152	167404 2-8 147 148 150
52.0	161214 4-4 139 149 152	164894 4-4 144 152 155	165827 4-8 150 150 152	165827 4-8 149 149 151	165827 2-8 147 148 150
54.0	159153 4-4 140 149 152	162672 4-8 146 152 155	162672 4-8 148 148 151	162672 4-8 147 147 149	162672 2-8 145 146 148
55.0	158100 4-4 141 149 151	161641 4-4 146 153 155	161987 4-8 149 149 151	161987 4-8 148 148 150	161987 2-8 146 147 149
57.0	155974 4-4 142 149 151	159425 4-4 147 152 155	161984 4-8 153 153 156	161984 4-8 151 151 154	161984 4-8 150 150 152
58.0	154891 4-4 142 149 151	158317 4-4 148 152 155	161561 4-4 153 156 159	161982 4-8 154 154 156	161982 4-8 152 152 154
59.0	153804 4-4 143 149 151	157213 4-4 148 152 155	160405 4-4 153 156 159	161980 4-8 157 157 159	161980 4-8 154 154 156
61.0	151648 4-4 144 149 151	154940 4-4 149 152 155	158038 4-4 155 156 159	160048 4-4 159 159 162	161422 4-4 160 160 163
62.0	150595 4-4 144 149 151	153801 4-4 150 152 155	156833 4-4 155 156 159	158673 4-4 159 159 161	159921 4-4 160 160 162
64.0	148443 4-4 146 149 151	151562 4-4 151 153 155	154396 4-4 156 156 159	155744 4-4 158 158 160	156921 4-4 158 158 161
65.0	147354 4-4 146 149 151	150396 4-4 152 153 155	153001 4-4 156 156 158	154264 4-4 157 157 159	155423 4-4 157 157 160
67.0	145167 4-4 147 149 151	148049 4-4 153 153 155	150135 4-4 155 155 157	151305 4-4 156 156 158	152427 4-4 156 156 158
68.0	144064 4-4 148 149 151	146645 4-4 153 153 154	148649 4-4 154 154 156	149800 4-4 155 155 157	150905 4-4 155 155 157
69.0	142911 4-4 149 149 151	145238 4-4 152 152 154	147165 4-4 154 154 155	148299 4-4 154 154 156	149386 4-4 155 155 157

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2195.(FT) QNH ALT. : 2481.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS ORLY (LFPO) - RWY 25 - CONF 3

CONF 3	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. =11975.1(FT) A.S.D.A. =11975.1(FT) T.O.D.A. =12171.9(FT) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0		-1.8 0 4-4 155 163 165	.1 15 4-4 157 164 166	.2 32 4-4 156 163 164	.0 37 4-4 157 160 161	45
175.0	-.2 0 4-4 149 159 161	.1 29 4-4 147 157 159	1.6 45 4-4 148 158 159	1.7 45 4-4 154 154 156	1.8 45 4-4 153 153 154	47 48
170.0	.1 38 4-4 139 152 154	3.0 45 4-4 142 154 156	.6 49 4-8 152 152 154	.6 49 4-8 151 151 152	.6 49 4-8 149 149 151	50 51
165.0	4.0 45 4-4 137 150 152	.8 52 4-8 146 155 156	.8 52 4-8 150 150 151	.8 52 4-8 148 148 149	.8 52 2-8 146 147 148	54 54
160.0	.1 54 4-4 141 151 152	.0 57 4-4 150 155 156	.6 59 4-4 158 158 159	.7 60 4-8 160 160 161	.6 61 4-4 161 161 162	54 54
158.0	1.0 55 4-4 142 151 152	.8 58 4-4 150 155 156	.0 61 4-4 159 159 160	1.4 61 4-4 161 161 161	1.1 62 4-4 161 161 161	54 54
156.0	.8 57 4-4 143 151 152	.5 60 4-4 152 155 156	.6 62 4-4 159 159 160	.4 63 4-4 159 159 160	.1 64 4-4 159 159 160	54 54
154.0	.5 59 4-4 145 151 152	.1 62 4-4 153 155 156	1.1 63 4-4 158 158 159	.9 64 4-4 158 158 159	.6 65 4-4 158 158 159	54 54
152.0	.3 61 4-4 146 151 152	.8 63 4-4 154 155 156	.2 65 4-4 157 157 158	1.4 65 4-4 158 158 158	1.1 66 4-4 158 158 158	54 54
150.0	1.1 62 4-4 147 151 152	.3 65 4-4 156 156 157	.8 66 4-4 156 156 157	.5 67 4-4 156 156 157	.1 68 4-4 156 156 156	54 54
148.0	.8 64 4-4 148 151 152	.9 66 4-4 155 155 156	1.3 67 4-4 155 155 156	1.0 68 4-4 155 155 156	.5 69 4-4 155 155 156	54 54
146.0	.5 66 4-4 150 151 152	.0 68 4-4 154 154 154	.3 69 4-4 154 154 154	1.5 69 4-4 155 155 155	.0 69 4 145 145 146	54 54
144.0	.1 68 4-4 152 152 153	.5 69 4-4 153 153 153	.0 69 4-4 144 144 145	.0 69 4 142 142 143	.0 69 2 139 141 142	54 54
142.0	.7 69 4-4 152 152 152	.0 69 4 142 142 143	.0 69 4 139 139 140	.0 69 4 138 138 139	.0 69 2 135 137 138	54 54
140.0	.0 69 4 141 141 142	.0 69 4 138 138 139	.0 69 4 136 136 137	.0 69 134 135 136	.0 69 2 132 134 135	54 54
135.0	.0 69 4 131 131 133	.0 69 4 129 129 131	.0 69 4 128 128 129	.0 69 2 125 127 128	.0 69 2 121 127 128	54 54
130.0	.0 69 4 123 123 125	.0 69 4 121 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2138.(FT) QNH ALT. : 2424.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

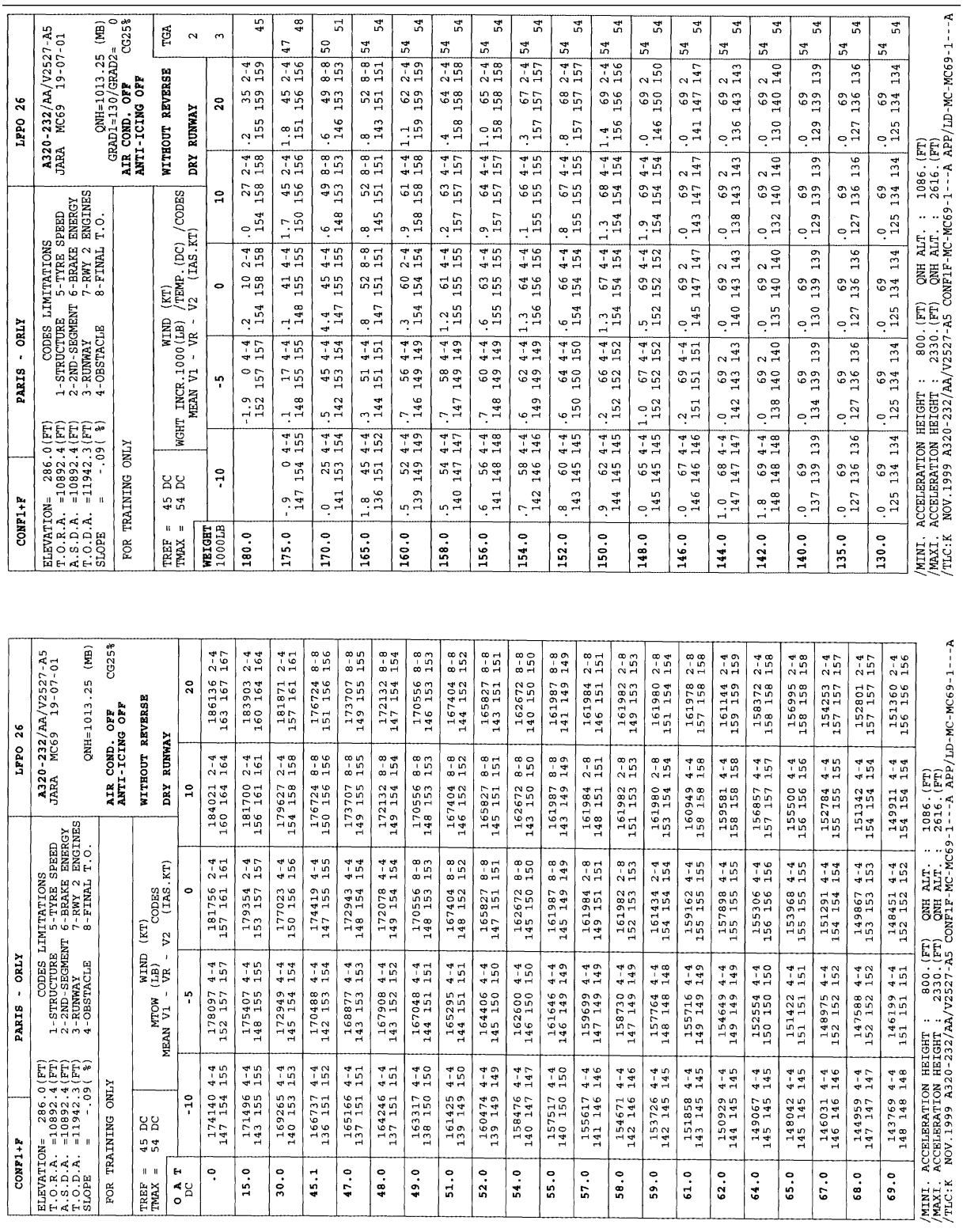
CONF 3	PARIS - ORLY	LFPO 25
ELEVATION= 286.0(FT) T.O.R.A. =11975.1(FT) A.S.D.A. =11975.1(FT) T.O.D.A. =12171.9(FT) SLOPE = .12(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
.0	174757 4-4 149 159 161	178155 4-4 155 163 165	181309 4-4 161 167 169	183293 4-4 165 169 170	185164 4-4 169 170 171
15.0	173145 4-4 145 156 158	176682 4-4 151 160 162	180059 4-4 157 164 166	182150 4-4 161 167 168	184157 4-4 165 170 170
30.0	171288 4-4 140 153 155	174980 4-4 146 157 159	178492 4-4 152 161 162	180783 4-4 156 164 165	182892 4-4 160 167 167
45.1	168964 4-4 137 150 152	172948 4-4 142 154 156	176579 4-4 148 158 159	176724 4-8 154 154 156	176724 4-8 153 153 154
47.0	167323 4-4 138 150 152	171151 4-4 143 154 156	173707 4-8 150 155 156	173707 4-8 152 152 154	173707 4-8 151 151 152
48.0	166359 4-4 138 150 152	170092 4-4 144 154 156	172132 4-8 151 153 155	172132 4-8 151 151 153	172132 4-8 150 150 151
49.0	165352 4-4 139 151 152	169023 4-4 144 155 156	170556 4-8 152 152 154	170556 4-8 151 151 152	170556 4-8 149 149 151
51.0	163252 4-4 140 151 153	166869 4-4 146 155 156	167404 4-8 150 150 152	167404 4-8 149 149 150	167404 4-8 148 148 149
52.0	162218 4-4 140 151 152	165756 4-4 146 155 156	165827 4-8 150 150 151	165827 4-8 148 148 149	165827 2-8 146 147 148
54.0	160099 4-4 141 151 152	162672 4-8 148 151 153	162672 4-8 148 148 149	162672 4-8 146 146 148	162672 2-8 144 145 147
55.0	159002 4-4 142 151 152	161987 4-8 148 153 154	161987 4-8 148 148 150	161987 4-8 147 147 148	161987 2-8 145 146 147
57.0	156754 4-4 143 151 152	160041 4-4 150 155 156	161984 4-8 154 154 155	161984 4-8 151 151 152	161984 4-8 149 149 150
58.0	155627 4-4 144 151 152	158843 4-4 150 155 156	161814 4-4 157 159 160	161982 4-8 154 154 155	161982 4-8 152 152 153
59.0	154522 4-4 145 151 152	157646 4-4 151 155 156	160562 4-4 158 158 159	161980 4-8 159 159 160	161980 4-8 155 155 156
61.0	152281 4-4 146 151 152	155275 4-4 153 155 156	158008 4-4 159 159 160	159350 4-4 161 161 161	160568 4-4 161 161 162
62.0	151127 4-4 147 151 152	154051 4-4 153 155 156	156614 4-4 159 159 160	157865 4-4 160 160 160	159067 4-4 161 161 161
64.0	148827 4-4 148 151 152	151579 4-4 155 155 156	153683 4-4 158 158 158	154899 4-4 158 158 159	156068 4-4 159 159 160
65.0	147682 4-4 149 151 152	150339 4-4 156 156 157	152221 4-4 157 157 158	153417 4-4 158 158 158	154571 4-4 158 158 159
67.0	145300 4-4 151 151 152	147464 4-4 154 154 155	149295 4-4 155 155 156	150460 4-4 156 156 157	151577 4-4 157 157 157
68.0	144077 4-4 152 152 153	146002 4-4 154 154 154	147808 4-4 155 155 155	148956 4-4 155 155 156	150057 4-4 156 156 156
69.0	142718 4-4 152 152 152	144543 4-4 153 153 153	146324 4-4 154 154 154	147456 4-4 155 155 155	148540 4-4 155 155 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2138.(FT) QNH ALT. : 2424.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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PARIS ORLY (LFPO) - RWY 26 - CONF 1 + F



CONF1+F	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =11942.3(FT) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01
FOR TRAINING ONLY	QNH=1013.25 (MB)	GRAD1=130/GRAD2= 0
TREF = 45 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	AIR COND. OFF CG25% ANTI-ICING OFF WITHOUT REVERSE DRY RUNWAY

OAT DC	-10	-5	0	10	20
.0	174140 4-4 147 154 155	178097 4-4 152 157 157	181756 2-4 157 161 161	184021 2-4 160 164 164	186136 2-4 163 167 167
15.0	171496 4-4 143 155 155	175407 4-4 148 155 155	179354 2-4 153 157 157	181700 2-4 156 161 161	183903 2-4 160 164 164
30.0	169265 4-4 140 153 153	172949 4-4 145 154 154	177023 4-4 150 156 156	179627 2-4 154 158 158	181871 2-4 157 161 161
45.1	166737 4-4 136 151 152	170488 4-4 142 153 154	174419 4-4 147 155 155	176724 8-8 150 156 156	176724 8-8 151 156 156
47.0	165166 4-4 137 151 151	168877 4-4 143 153 153	172943 4-4 148 154 154	173707 8-8 149 155 155	173707 8-8 149 155 155
48.0	164246 4-4 137 151 151	167908 4-4 143 152 152	172078 4-4 149 154 154	172132 8-8 149 154 154	172132 8-8 147 154 154
49.0	163317 4-4 138 150 150	167048 4-4 144 151 151	170556 8-8 148 153 153	170556 8-8 148 153 153	170556 8-8 146 153 153
51.0	161425 4-4 139 149 150	165295 4-4 144 151 151	167404 8-8 148 152 152	167404 8-8 146 152 152	167404 8-8 144 152 152
52.0	160474 4-4 139 149 149	164406 4-4 145 150 150	165827 8-8 147 151 151	165827 8-8 145 151 151	165827 8-8 143 151 151
54.0	158476 4-4 140 147 147	162600 4-4 146 150 150	162672 8-8 145 150 150	162672 8-8 143 150 150	162672 8-8 140 150 150
55.0	157517 4-4 140 150 150	161646 4-4 146 149 149	161987 8-8 145 149 149	161987 8-8 143 149 149	161987 8-8 141 149 149
57.0	155617 4-4 141 146 146	159699 4-4 147 149 149	161984 2-8 148 151 151	161984 2-8 146 151 151	161984 2-8 146 151 151
58.0	154671 4-4 142 146 146	158730 4-4 147 149 149	161982 2-8 152 153 153	161982 2-8 151 153 153	161982 2-8 149 153 153
59.0	153726 4-4 142 145 145	157764 4-4 148 148 148	161434 2-4 154 154 154	161980 2-8 153 154 154	161980 2-8 151 154 154
61.0	151858 4-4 143 145 145	155716 4-4 149 149 149	159162 4-4 155 155 155	160949 4-4 158 158 158	161978 2-8 157 158 158
62.0	150929 4-4 144 145 145	154649 4-4 149 149 149	157898 4-4 155 155 155	159581 4-4 158 158 158	161144 2-4 159 159 159
64.0	149067 4-4 145 145 145	152554 4-4 150 150 150	155306 4-4 156 156 156	156857 4-4 157 157 157	158372 2-4 158 158 158
65.0	148042 4-4 145 145 145	151422 4-4 151 151 151	153968 4-4 155 155 155	155500 4-4 156 156 156	156995 2-4 158 158 158
67.0	146031 4-4 146 146 146	148975 4-4 152 152 152	151291 4-4 154 154 154	152784 4-4 155 155 155	154253 2-4 157 157 157
68.0	144959 4-4 147 147 147	147588 4-4 152 152 152	149867 4-4 153 153 153	151342 4-4 154 154 154	152801 2-4 157 157 157
69.0	143769 4-4 148 148 148	146199 4-4 151 151 151	148451 4-4 152 152 152	149911 4-4 154 154 154	151360 2-4 156 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2330.(FT) QNH ALT. : 2616.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =11942.3(FT) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01
FOR TRAINING ONLY	QNH=1013.25 (MB)	GRAD1=130/GRAD2= 0
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	AIR COND. OFF CG25% ANTI-ICING OFF WITHOUT REVERSE DRY RUNWAY

WEIGHT 1000LB	-10	-5	0	10	20	TGA 2	TGA 3
180.0		-1.9 0 4-4 152 157 157	.2 10 2-4 154 158 158	.0 27 2-4 154 158 158	.2 35 2-4 155 159 159	45	
175.0	-.9 0 4-4 147 154 155	.1 17 4-4 148 155 155	.1 41 4-4 148 155 155	1.7 45 2-4 150 156 156	1.8 45 2-4 151 156 156	47	48
170.0	.0 25 4-4 141 153 154	.5 45 4-4 142 153 154	4.4 45 4-4 147 155 155	.6 49 8-8 148 153 153	.6 49 8-8 146 153 153	50	51
165.0	1.8 45 4-4 136 151 152	.3 51 4-4 144 151 151	.8 52 8-8 147 151 151	.8 52 8-8 145 151 151	.8 52 8-8 143 151 151	54	54
160.0	.5 52 4-4 139 149 149	.7 56 4-4 146 149 149	.3 60 2-4 154 154 154	.9 61 4-4 158 158 158	1.1 62 2-4 159 159 159	54	54
158.0	.5 54 4-4 140 147 147	.7 58 4-4 147 149 149	1.2 61 4-4 155 155 155	.2 63 4-4 157 157 157	.4 64 2-4 158 158 158	54	54
156.0	.6 56 4-4 141 148 148	.7 60 4-4 148 149 149	.6 63 4-4 155 155 155	.9 64 4-4 157 157 157	1.0 65 2-4 158 158 158	54	54
154.0	.7 58 4-4 142 146 146	.6 62 4-4 149 149 149	1.3 64 4-4 156 156 156	.1 66 4-4 155 155 155	.3 67 2-4 157 157 157	54	54
152.0	.8 60 4-4 143 145 145	.6 64 4-4 150 150 150	.6 66 4-4 154 154 154	.8 67 4-4 155 155 155	.8 68 2-4 157 157 157	54	54
150.0	.9 62 4-4 144 145 145	.2 66 4-4 152 152 152	1.3 67 4-4 154 154 154	1.3 68 4-4 154 154 154	1.4 69 2-4 156 156 156	54	54
148.0	.0 65 4-4 145 145 145	1.0 67 4-4 152 152 152	.5 69 4-4 152 152 152	1.9 69 4-4 154 154 154	.0 69 2 146 150 150	54	54
146.0	.0 67 4-4 146 146 146	.2 69 4-4 151 151 151	.0 69 2 145 147 147	.0 69 2 143 147 147	.0 69 2 141 147 147	54	54
144.0	1.0 68 4-4 147 147 147	.0 69 2 142 143 143	.0 69 2 140 143 143	.0 69 2 138 143 143	.0 69 2 136 143 143	54	54
142.0	1.8 69 4-4 148 148 148	.0 69 2 138 140 140	.0 69 2 135 140 140	.0 69 2 132 140 140	.0 69 2 130 140 140	54	54
140.0	.0 69 137 139 139	.0 69 134 139 139	.0 69 130 139 139	.0 69 129 139 139	.0 69 129 139 139	54	54
135.0	.0 69 127 136 136	.0 69 127 136 136	.0 69 127 136 136	.0 69 127 136 136	.0 69 127 136 136	54	54
130.0	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	54	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2330.(FT) QNH ALT. : 2616.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS ORLY (LFPO) - RWY 26 - CONF 2

CONF 2	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =11942.3(FT) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=110/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

WEIGHT 1000LB	-10	-5	0	10	20	TGA
						2 3
180.0		-2.4 0 2-4 150 153 157	.1 9 2-4 153 156 159	.0 29 2-4 152 156 159	.1 36 2-4 152 157 160	45
175.0	-1.4 0 4-4 145 150 153	.1 17 4-4 146 151 154	.1 45 2-4 146 151 154	1.7 45 2-4 148 152 155	1.8 45 2-4 147 152 155	47 48
170.0	.1 24 4-4 140 148 151	1.1 45 4-4 141 148 151	.6 49 2-8 146 150 152	.6 49 2-8 145 150 152	.6 49 2-8 143 150 152	50 51
165.0	2.0 45 4-4 136 145 148	.8 51 4-4 143 147 150	.8 52 2-8 144 147 150	.8 52 2-8 142 147 150	.8 52 2-8 139 147 150	54 54
160.0	.8 52 4-4 139 145 147	.9 56 2-4 146 146 148	.9 59 4-4 153 153 155	.9 60 2-8 153 153 156	1.4 61 2-4 156 156 158	54 54
158.0	.9 54 4-4 140 144 147	.8 58 4-4 147 147 149	.2 61 4-4 153 153 155	.4 62 4-4 153 153 155	.5 63 2-4 155 155 157	54 54
156.0	.9 56 4-4 141 144 146	.7 60 4-4 148 148 150	.8 62 4-4 152 152 155	1.1 63 4-4 153 153 155	1.1 64 2-4 155 155 157	54 54
154.0	1.0 58 4-4 142 143 145	.3 62 4-4 149 149 151	.1 64 4-4 151 151 153	.3 65 4-4 151 151 153	.3 66 2-4 154 154 156	54 54
152.0	.1 61 4-4 143 143 145	1.0 63 4-4 149 149 151	.7 65 4-4 151 151 153	.9 66 4-4 151 151 153	.9 67 2-4 153 153 155	54 54
150.0	1.1 62 4-4 144 144 145	.3 65 4-4 149 149 151	1.4 66 4-4 150 150 152	.0 68 2-4 150 150 152	1.4 68 2-4 153 153 155	54 54
148.0	.9 64 4-4 145 145 146	1.0 66 4-4 149 149 151	.6 68 4-4 149 149 150	.6 69 2-4 150 150 151	1.9 69 2-4 152 152 154	54 54
146.0	.5 66 4-4 146 146 148	.3 68 4-4 148 148 149	1.1 69 4-4 148 148 150	.0 69 2 142 145 146	.0 69 2 140 145 146	54 54
144.0	1.3 67 4-4 147 147 148	.9 69 4-4 147 147 148	.0 69 2 139 142 143	.0 69 2 137 142 143	.0 69 2 134 142 143	54 54
142.0	.6 69 4-4 146 146 147	.0 69 2 137 138 140	.0 69 2 134 138 140	.0 69 2 131 138 140	.0 69 2 128 138 140	54 54
140.0	.0 69 4 135 135 137	.0 69 2 132 135 137	.0 69 2 128 135 137	.0 69 2 125 135 137	.0 69 2 125 135 137	54 54
135.0	.0 69 124 130 131	.0 69 122 130 131	.0 69 122 130 131	.0 69 122 130 131	.0 69 122 130 131	54 54
130.0	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2180.(FT) QNH ALT. : 2466.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =11942.3(FT) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 45 DC TMAX = 54 DC	MTOW (LB) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
.0	173580 4-4 145 150 153	177588 2-4 155 158 157	181352 2-4 155 158 161	183696 2-4 159 162 165	185793 2-4 163 165 168
15.0	171316 4-4 142 149 152	175365 4-4 146 151 154	179246 2-4 151 155 158	181721 2-4 155 159 162	183975 2-4 159 162 165
30.0	169215 4-4 139 147 150	173312 4-4 144 150 153	177273 2-4 148 153 156	179923 2-4 152 156 159	182269 2-4 156 160 163
45.1	166977 4-4 136 145 148	171072 4-4 141 148 151	175100 4-4 146 151 154	176724 2-8 148 152 155	176724 2-8 147 152 155
47.0	165398 4-4 137 145 148	169495 4-4 142 148 151	173523 2-4 146 151 153	173707 2-8 147 151 153	173707 2-8 145 151 153
48.0	164473 4-4 137 145 147	168564 4-4 142 148 151	172132 2-8 146 150 153	172132 2-8 146 150 153	172132 2-8 143 150 153
49.0	163549 4-4 137 145 147	167630 4-4 143 148 151	170556 2-8 146 150 152	170556 2-8 145 150 152	170556 2-8 143 150 152
51.0	161701 4-4 138 145 147	165762 4-4 143 147 150	167404 2-8 145 148 150	167404 2-8 143 148 150	167404 2-8 140 148 150
52.0	160776 4-4 139 145 147	164815 4-4 144 147 149	165827 2-8 144 147 150	165827 2-8 141 147 150	165827 2-8 139 147 150
54.0	158896 4-4 140 144 147	162672 2-8 144 146 148	162672 2-8 142 146 148	162672 2-8 139 146 148	162672 2-8 137 146 148
55.0	157927 4-4 140 144 146	161875 2-4 145 146 148	161987 2-8 143 146 149	161987 2-8 140 146 149	161987 2-8 138 146 149
57.0	155952 4-4 141 143 145	159845 2-4 146 146 148	161984 2-8 148 149 151	161984 2-8 146 149 151	161984 2-8 144 149 151
58.0	154976 4-4 142 143 145	158830 4-4 147 147 149	161982 8-4 151 151 153	161982 8-4 149 151 153	161982 8-8 147 151 153
59.0	153996 4-4 142 143 145	157802 4-4 147 147 149	160934 4-4 153 153 155	161980 2-8 152 153 155	161980 2-8 150 153 155
61.0	152054 4-4 143 143 145	155499 4-4 148 148 150	158203 4-4 153 153 155	159845 4-4 154 154 156	161368 2-4 156 156 158
62.0	151071 4-4 144 144 145	154272 4-4 149 149 151	156825 4-4 152 152 155	158444 4-4 153 153 155	159940 2-4 155 155 158
64.0	148901 4-4 145 145 146	151640 4-4 150 150 152	154083 4-4 151 151 153	155658 4-4 152 152 154	157104 2-4 155 155 157
65.0	147790 4-4 145 145 147	150310 4-4 149 149 151	152719 4-4 151 151 153	154270 4-4 151 151 153	155697 2-4 154 154 156
67.0	145282 4-4 147 147 148	147658 4-4 148 148 150	149995 4-4 149 149 151	151485 2-4 151 151 152	152889 2-4 153 153 155
68.0	143917 4-4 146 146 148	146257 4-4 148 148 149	148560 4-4 149 149 150	150030 2-4 150 150 152	151421 2-4 153 153 155
69.0	142558 4-4 146 146 147	144865 4-4 147 147 148	147133 4-4 148 148 150	148575 2-4 150 150 151	149940 2-4 152 152 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2180.(FT) QNH ALT. : 2466.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

PARIS ORLY (LFPO) - RWY 26 - CONF 3

CONF 3	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =11942.3(FT) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=130/GRAD2= 0 **AIR COND. OFF** CG25$ **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 45 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0	-4.5 0 4-4 148 152 154	-.5 0 2-4 153 156 157	.0 23 2-4 153 157 158	.2 34 2-4 153 157 159	.3 37 2-4 153 158 159	45
175.0	.0 3 4-4 147 152 154	.0 30 4-4 146 152 153	1.7 45 2-4 147 153 154	1.8 45 2-4 148 152 154	1.8 45 2-4 146 152 154	47 48
170.0	.1 34 4-4 139 147 149	2.5 45 4-4 142 149 151	.6 49 2-8 145 149 151	.6 49 2-8 143 149 151	.6 49 2-8 141 149 151	50 51
165.0	3.2 45 4-4 137 144 146	.8 52 2-8 145 147 148	.8 52 2-8 142 147 148	.8 52 2-8 140 147 148	.8 52 2-8 137 147 148	54 54
160.0	.3 54 4-4 140 145 147	.5 58 4-4 149 149 150	.4 60 2-4 153 153 154	.5 61 2-4 156 156 157	.1 62 2-4 158 158 159	54 54
158.0	.4 56 4-4 141 144 146	1.2 59 4-4 149 149 151	1.0 61 2-4 152 152 153	1.0 62 2-4 155 155 156	.7 63 2-4 158 158 159	54 54
156.0	.5 58 4-4 143 143 145	.6 61 4-4 150 150 151	.2 63 2-4 151 151 152	.1 64 2-4 154 154 155	1.2 64 2-4 157 157 158	54 54
154.0	.6 60 4-4 144 144 145	1.2 62 4-4 149 149 150	.8 64 2-4 151 151 152	.7 65 2-4 154 154 155	.3 66 2-4 157 157 157	54 54
152.0	.5 62 4-4 145 145 147	.5 64 4-4 148 148 149	.0 66 2-4 150 150 151	1.3 66 2-4 153 153 154	.8 67 2-4 156 156 157	54 54
150.0	.1 64 4-4 147 147 148	1.1 65 4-4 147 147 148	.7 67 4-4 150 150 151	.4 68 2-4 152 152 153	1.3 68 2-4 156 156 156	54 54
148.0	.7 65 4-4 146 146 147	.4 67 4-4 146 146 147	1.2 68 2-4 149 149 150	.9 69 2-4 152 152 153	1.8 69 2-4 155 155 155	54 54
146.0	.1 67 4-4 145 145 146	1.0 68 4-4 145 145 147	1.8 69 2-4 149 149 149	.0 69 2 141 144 146	.0 69 2 138 144 146	54 54
144.0	.7 68 4-4 144 144 145	1.5 69 4-4 145 145 146	.0 69 2 136 140 142	.0 69 2 134 140 142	.0 69 2 132 140 142	54 54
142.0	1.3 69 4-4 143 143 144	.0 69 2 134 137 138	.0 69 2 131 137 138	.0 69 2 128 137 138	.0 69 2 127 137 138	54 54
140.0	.0 69 4 134 134 135	.0 69 2 130 134 135	.0 69 2 126 134 135	.0 69 2 124 134 135	.0 69 2 124 134 135	54 54
135.0	.0 69 2 122 127 128	.0 69 2 121 127 128	.0 69 2 121 127 128	.0 69 2 121 127 128	.0 69 2 121 127 128	54 54
130.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2124.(FT) QNH ALT. : 2410.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	PARIS - ORLY	LFPO 26
ELEVATION= 286.0(FT) T.O.R.A. =10892.4(FT) A.S.D.A. =10892.4(FT) T.O.D.A. =11942.3(FT) SLOPE = -.09(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25$ **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 45 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
.0	175453 4-4 148 152 154	179494 2-4 153 156 157	182851 2-4 159 162 163	184734 2-4 163 165 166	186302 2-4 167 169 170
15.0	173233 4-4 144 151 153	177375 4-4 150 153 155	181168 2-4 155 159 160	183235 2-4 159 163 163	185014 2-4 163 166 167
30.0	170774 4-4 140 148 151	175011 4-4 146 152 153	179060 2-4 151 155 157	181460 2-4 155 159 160	183444 2-4 159 163 164
45.1	168228 4-4 137 144 146	172455 4-4 142 149 151	176654 2-4 147 153 154	176724 2-8 147 152 154	176724 2-8 145 152 154
47.0	166642 4-4 137 144 146	170905 4-4 143 149 151	173707 2-8 146 150 152	173707 2-8 145 150 152	173707 2-8 142 150 152
48.0	165743 4-4 138 145 148	169995 4-4 143 149 151	172132 2-8 146 150 151	172132 2-8 144 150 151	172132 2-8 142 150 151
49.0	164839 4-4 138 146 148	169089 4-4 144 149 151	170556 2-8 145 149 151	170556 2-8 143 149 151	170556 2-8 140 149 151
51.0	163033 4-4 139 146 148	167256 4-4 145 148 150	167404 2-8 143 147 149	167404 2-8 140 147 149	167404 2-8 138 147 149
52.0	162130 4-4 139 146 148	165827 2-8 145 147 148	165827 2-8 142 147 148	165827 2-8 140 147 148	165827 2-8 137 147 148
54.0	160302 4-4 140 145 147	162672 2-8 143 145 147	162672 2-8 140 145 147	162672 2-8 137 145 147	162672 2-8 135 145 147
55.0	159353 4-4 141 145 146	161987 2-8 144 145 147	161987 2-8 140 145 147	161987 2-8 138 145 147	161987 2-8 135 145 147
57.0	157432 4-4 142 144 146	161465 2-4 148 148 150	161984 2-8 146 149 150	161984 2-8 144 149 150	161984 2-8 142 149 150
58.0	156475 4-4 143 143 145	160480 4-4 149 149 150	161982 2-8 150 151 152	161982 2-8 148 151 152	161982 2-8 146 151 152
59.0	155517 4-4 143 143 145	159218 4-4 149 149 151	161861 2-4 153 153 154	161980 2-8 152 154 155	161980 2-8 150 154 155
61.0	153600 4-4 144 144 146	156591 4-4 150 150 151	159023 2-4 152 152 153	160457 2-4 156 156 157	161630 2-4 159 159 160
62.0	152545 4-4 145 145 147	155213 4-4 149 149 150	157616 2-4 152 152 153	159010 2-4 155 155 156	160146 2-4 158 158 159
64.0	150064 4-4 147 147 148	152473 4-4 148 148 149	154819 2-4 151 151 152	156138 2-4 154 154 155	157183 2-4 157 157 158
65.0	148735 4-4 146 146 147	151110 4-4 147 147 148	153432 2-4 151 151 152	154706 2-4 154 154 155	155723 2-4 157 157 158
67.0	146083 4-4 145 145 146	148388 4-4 146 146 147	150664 4-4 150 150 151	151847 2-4 153 153 154	152779 2-4 156 156 157
68.0	144687 4-4 144 144 145	146961 4-4 145 145 147	149216 2-4 149 149 150	150388 2-4 152 152 153	151285 2-4 156 156 156
69.0	143299 4-4 143 143 144	145544 4-4 145 145 146	147777 2-4 149 149 149	148899 2-4 152 152 153	149790 2-4 155 155 155

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1086.(FT)
/MAXI. ACCELERATION HEIGHT : 2124.(FT) QNH ALT. : 2410.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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TOULOUSE (LFBO) - RWY 15R - CONF 1 + F

CONF1+F	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =11680.0(FT) T.O.D.A. =11483.0(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=130/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0		-2.4 -1 4-4 153 157 157	.2 6 2-4 156 159 159	.0 23 2-4 155 159 159	.3 33 2-4 156 160 160	
175.0	-1.3 -1 4-4 148 155 155	.1 13 4-4 149 155 156	.0 38 4-4 149 155 155	1.7 44 2-4 151 156 156	1.9 44 2-4 152 156 156	47 47
170.0	.0 21 4-4 142 155 155	.1 44 4-4 143 153 154	4.0 44 4-4 148 155 155	1.2 48 8-8 150 154 154	1.2 48 8-8 148 154 154	50 50
165.0	1.4 44 4-4 137 151 152	.1 50 4-4 145 151 151	1.5 51 8-8 148 152 152	1.5 51 8-8 147 152 152	1.5 51 8-8 145 152 152	53 54
160.0	.3 51 4-4 139 150 150	.4 55 4-4 147 149 149	.1 59 4-4 154 154 154	.8 60 4-4 158 158 158	.6 61 2-8 158 158 158	54 54
158.0	.4 53 4-4 140 150 150	.5 57 4-4 148 149 149	.9 60 4-4 155 155 155	.0 62 4-4 157 157 157	.2 63 4-4 158 158 158	54 54
156.0	.4 55 4-4 141 151 151	.5 59 4-4 149 149 149	.5 62 4-4 156 156 156	.7 63 4-4 157 157 157	.8 64 4-4 158 158 158	54 54
154.0	.5 57 4-4 142 146 146	.4 61 4-4 150 150 150	1.1 63 4-4 156 156 156	1.3 64 4-4 156 156 156	.1 66 4-4 157 157 157	54 54
152.0	.6 59 4-4 143 146 146	.3 63 4-4 151 151 151	.4 65 4-4 154 154 154	.6 66 4-4 156 156 156	.7 67 4-4 157 157 157	54 54
150.0	.7 61 4-4 144 145 145	.0 65 4-4 152 152 152	1.1 66 4-4 154 154 154	1.2 67 4-4 155 155 155	1.2 68 4-4 157 157 157	54 54
148.0	.8 63 4-4 145 145 145	.8 66 4-4 152 152 152	.3 68 4-4 153 153 153	.4 69 4-4 155 155 155	1.8 69 4-4 156 156 156	54 54
146.0	.8 65 4-4 146 146 146	.1 68 4-4 151 151 151	.9 69 4-4 153 153 153	.0 69 2 146 148 148	.0 69 2 144 148 148	54 54
144.0	.7 67 4-4 147 147 147	.7 69 4-4 151 151 151	.0 69 2 143 145 145	.0 69 2 141 145 145	.0 69 2 139 145 145	54 54
142.0	.4 69 4-4 148 148 148	.0 69 4 142 142 142	.0 69 2 138 141 141	.0 69 2 135 141 141	.0 69 2 133 141 141	54 54
140.0	.0 69 4 140 140 140	.0 69 136 139 139	.0 69 133 139 139	.0 69 130 139 139	.0 69 129 139 139	54 54
135.0	.0 69 129 136 136	.0 69 127 136 136	.0 69 127 136 136	.0 69 127 136 136	.0 69 127 136 136	54 54
130.0	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	54 54

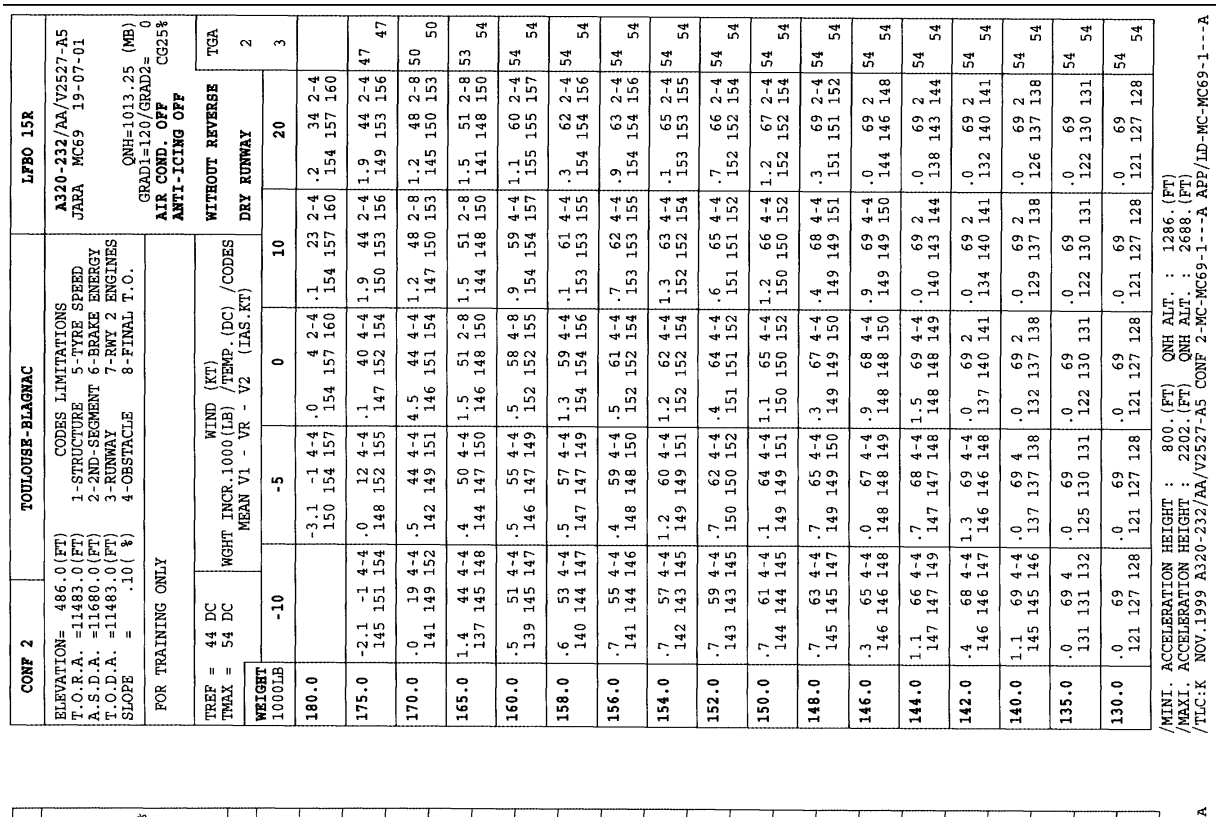
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2316.(FT) QNH ALT. : 2802.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =11680.0(FT) T.O.D.A. =11483.0(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-1.0	173660 4-4 148 155 155	177575 4-4 153 157 157	181291 2-4 158 160 160	183605 2-4 161 164 164	185756 2-4 164 167 167
14.0	171061 4-4 143 156 157	174935 4-4 149 155 156	178865 2-4 154 158 158	181261 2-4 157 160 160	183513 2-4 160 164 164
29.0	168845 4-4 140 153 153	172545 4-4 146 154 154	176579 4-4 151 156 156	179193 2-4 154 158 158	181484 2-4 157 161 161
44.4	166319 4-4 137 151 152	169994 4-4 142 153 154	173938 4-4 148 155 155	176627 4-4 151 156 156	176785 8-8 152 156 156
46.0	165088 4-4 137 151 151	168733 4-4 143 154 154	172777 4-4 148 154 154	174347 8-8 150 155 155	174347 8-8 150 155 155
47.0	164140 4-4 138 151 151	167759 4-4 143 152 152	171892 4-4 149 154 154	172779 8-8 150 154 154	172779 8-8 149 154 154
49.0	162211 4-4 138 150 150	165987 4-4 144 151 151	169642 8-8 149 153 153	169642 8-8 149 153 153	169642 8-8 147 153 153
50.0	161251 4-4 139 150 150	165091 4-4 145 151 151	168073 8-8 149 152 152	168073 8-8 147 152 152	168073 8-8 145 152 152
52.0	159335 4-4 140 150 150	163287 4-4 145 150 150	164934 8-8 147 151 151	164934 8-8 145 151 151	164934 8-8 143 151 151
53.0	158366 4-4 140 150 150	162366 4-4 146 150 150	163364 8-8 146 150 150	163364 8-8 144 150 150	163364 8-8 142 150 150
55.0	156363 4-4 141 151 151	160449 4-4 147 149 149	161733 8-8 147 150 150	161733 8-8 145 150 150	161733 8-8 143 150 150
56.0	155446 4-4 141 146 146	159472 4-4 147 149 149	161731 2-8 149 151 151	161731 2-8 148 151 151	161731 2-8 146 151 151
57.0	154486 4-4 142 146 146	158494 4-4 148 149 149	161729 2-8 152 152 152	161729 2-8 150 152 152	161729 2-8 148 152 152
59.0	152582 4-4 143 146 146	156500 4-4 149 149 149	160106 4-4 154 154 154	161726 4-8 155 155 155	161726 2-8 153 155 155
60.0	151644 4-4 143 145 145	155465 4-4 149 149 149	158940 4-4 155 155 155	160750 4-4 158 158 158	161724 2-8 157 157 157
62.0	149769 4-4 144 145 145	153402 4-4 150 150 150	156451 4-4 156 156 156	158015 4-4 157 157 157	159540 4-4 159 159 159
63.0	148817 4-4 145 145 145	152338 4-4 151 151 151	155120 4-4 156 156 156	156654 4-4 157 157 157	158163 4-4 158 158 158
65.0	146841 4-4 146 146 146	150027 4-4 152 152 152	152443 4-4 154 154 154	153941 4-4 156 156 156	155429 4-4 158 158 158
66.0	145821 4-4 146 146 146	148819 4-4 152 152 152	151108 4-4 154 154 154	152594 4-4 156 156 156	154071 4-4 157 157 157
68.0	143635 4-4 148 148 148	146094 4-4 151 151 151	148328 4-4 153 153 153	149790 4-4 155 155 155	151243 4-4 157 157 157
69.0	142415 4-4 148 148 148	144715 4-4 151 151 151	146929 4-4 153 153 153	148379 4-4 155 155 155	149820 4-4 156 156 156

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2316.(FT) QNH ALT. : 2802.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

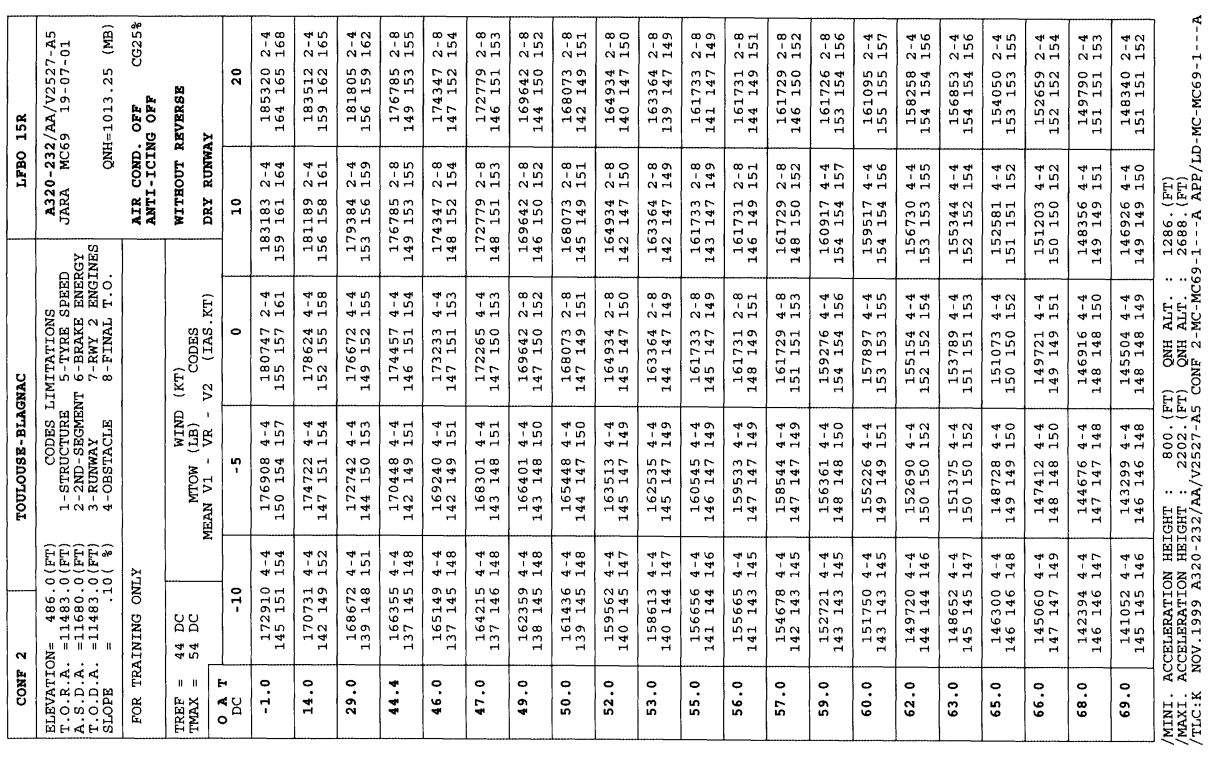
TOULOUSE (LFBO) - RWY 15R - CONF 2



CONF 2	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =11680.0(FT) T.O.D.A. =11483.0(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0		-3.1 -1 4-4 150 154 157	.0 4 2-4 154 157 160	.1 23 2-4 154 157 160	.2 34 2-4 154 157 160	
175.0	-2.1 -1 4-4 145 151 154	.0 12 4-4 148 152 155	.1 40 4-4 147 152 154	1.9 44 2-4 150 153 156	1.9 44 2-4 149 153 156	47 47
170.0	.0 19 4-4 141 149 152	.5 44 4-4 142 149 151	4.5 44 4-4 146 151 154	1.2 48 2-8 147 150 153	1.2 48 2-8 145 150 153	50 50
165.0	1.4 44 4-4 137 145 148	4 50 4-4 144 147 150	1.5 51 2-8 146 148 150	1.5 51 2-8 144 148 150	1.5 51 2-8 141 148 150	53 54
160.0	.5 51 4-4 139 145 147	.5 55 4-4 146 147 149	.5 58 4-8 152 152 155	.9 59 4-4 154 154 157	1.1 60 2-4 155 155 157	54 54
158.0	.6 53 4-4 140 144 147	.5 57 4-4 147 147 149	1.3 59 4-4 154 154 156	.1 61 4-4 153 153 155	.3 62 2-4 154 154 156	54 54
156.0	.7 55 4-4 141 144 146	.4 59 4-4 148 148 150	.5 61 4-4 152 152 154	.7 62 4-4 153 153 155	.9 63 2-4 154 154 156	54 54
154.0	.7 57 4-4 142 143 145	1.2 60 4-4 149 149 151	1.2 62 4-4 152 152 154	1.3 63 4-4 152 152 154	.1 65 2-4 153 153 155	54 54
152.0	.7 59 4-4 143 143 145	.7 62 4-4 150 150 152	.4 64 4-4 151 151 152	.6 65 4-4 151 151 152	.7 66 2-4 152 152 154	54 54
150.0	.7 61 4-4 144 144 145	.1 64 4-4 149 149 151	1.1 65 4-4 150 150 152	1.2 66 4-4 150 150 152	1.2 67 2-4 152 152 154	54 54
148.0	.7 63 4-4 145 145 147	.7 65 4-4 149 149 150	.3 67 4-4 149 149 150	.4 68 4-4 149 149 151	.3 69 2-4 151 151 152	54 54
146.0	.3 65 4-4 146 146 148	.0 67 4-4 148 148 149	.9 68 4-4 148 148 150	.9 69 4-4 149 149 150	.0 69 2 144 146 148	54 54
144.0	1.1 66 4-4 147 147 149	.7 68 4-4 147 147 148	1.5 69 4-4 148 148 149	.0 69 2 140 143 144	.0 69 2 138 143 144	54 54
142.0	.4 68 4-4 146 146 147	1.3 69 4-4 146 146 148	.0 69 2 137 140 141	.0 69 2 134 140 141	.0 69 2 132 140 141	54 54
140.0	1.1 69 4-4 145 145 146	.0 69 4 137 137 138	.0 69 2 132 137 138	.0 69 2 129 137 138	.0 69 2 126 137 138	54 54
135.0	.0 69 4 131 131 132	.0 69 125 130 131	.0 69 122 130 131	.0 69 122 130 131	.0 69 122 130 131	54 54
130.0	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2202.(FT) QNH ALT. : 2688.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A



CONF 2	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =11680.0(FT) T.O.D.A. =11483.0(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-1.0	172910 4-4 145 151 154	176908 4-4 150 154 157	180747 2-4 155 157 161	183183 2-4 159 161 164	185320 2-4 164 165 168
14.0	170731 4-4 142 149 152	174722 4-4 147 151 154	178624 4-4 152 155 158	181189 2-4 156 158 161	183512 2-4 159 162 165
29.0	168672 4-4 139 148 151	172742 4-4 144 150 153	176672 4-4 149 152 155	179384 2-4 153 156 159	181805 2-4 156 159 162
44.4	166355 4-4 137 145 148	170448 4-4 142 149 151	174457 4-4 146 151 154	176785 2-8 149 153 155	176785 2-8 149 153 155
46.0	165149 4-4 137 145 148	169240 4-4 142 149 151	173233 4-4 147 151 153	174347 2-8 148 152 154	174347 2-8 147 152 154
47.0	164215 4-4 137 146 148	168301 4-4 143 148 151	172265 4-4 147 150 153	172779 2-8 148 151 153	172779 2-8 146 151 153
49.0	162359 4-4 138 145 148	166401 4-4 143 148 150	169642 2-8 147 150 152	169642 2-8 146 150 152	169642 2-8 144 150 152
50.0	161436 4-4 139 145 148	165448 4-4 144 147 150	168073 2-8 147 149 151	168073 2-8 145 149 151	168073 2-8 142 149 151
52.0	159562 4-4 140 145 147	163513 4-4 145 147 149	164934 2-8 145 147 150	164934 2-8 142 147 150	164934 2-8 140 147 150
53.0	158613 4-4 140 144 147	162535 4-4 145 147 149	163364 2-8 144 147 149	163364 2-8 142 147 149	163364 2-8 139 147 149
55.0	156656 4-4 141 144 146	160545 4-4 146 147 149	161733 2-8 145 147 149	161733 2-8 143 147 149	161733 2-8 141 147 149
56.0	155665 4-4 141 143 145	159533 4-4 147 147 149	161731 2-8 148 149 151	161731 2-8 146 149 151	161731 2-8 144 149 151
57.0	154678 4-4 142 143 145	158544 4-4 147 147 149	161729 4-8 151 151 153	161729 2-8 148 150 152	161729 2-8 146 150 152
59.0	152721 4-4 143 143 145	156361 4-4 148 148 150	159276 4-4 154 154 156	160917 4-4 154 154 157	161726 2-8 153 154 156
60.0	151750 4-4 143 143 145	155226 4-4 149 149 151	157897 4-4 153 153 155	159517 4-4 154 154 156	161095 2-4 155 155 157
62.0	149720 4-4 144 144 146	152690 4-4 150 150 152	155154 4-4 152 152 154	156730 4-4 153 153 155	158258 2-4 154 154 156
63.0	148652 4-4 145 145 147	151375 4-4 150 150 152	153789 4-4 151 151 153	155344 4-4 152 152 154	156853 2-4 154 154 156
65.0	146300 4-4 146 146 148	148728 4-4 149 149 150	151073 4-4 150 150 152	152581 4-4 151 151 152	154050 2-4 153 153 155
66.0	145060 4-4 147 147 149	147412 4-4 148 148 150	149721 4-4 149 149 151	151203 4-4 150 150 152	152659 2-4 152 152 154
68.0	142394 4-4 146 146 147	144676 4-4 147 147 148	146916 4-4 148 148 150	148356 4-4 149 149 151	149790 2-4 151 151 153
69.0	141052 4-4 145 145 146	143299 4-4 146 146 148	145504 4-4 148 148 149	146926 4-4 149 149 150	148340 2-4 151 151 152

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2202.(FT) QNH ALT. : 2688.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

TOULOUSE (LFBO) - RWY 15R - CONF 3

CONF 3	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =11680.0(FT) T.O.D.A. =11483.0(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=130/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(LB) WIND (KT) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA **DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0		-1.1 -1 4-4 154 157 158	.1 18 2-4 155 157 159	.2 32 2-4 154 158 159	.2 36 2-4 154 158 159
175.0	-.2 -1 4-4 148 153 155	.1 25 4-4 147 152 154	1.1 44 2-4 148 153 154	1.9 44 2-4 150 153 154	2.0 44 2-4 47 148 153 154 47
170.0	.1 30 4-4 140 149 151	1.9 44 4-4 143 150 152	1.2 48 2-8 147 150 151	1.2 48 2-8 145 150 151	1.2 48 2-8 50 143 150 151 50
165.0	2.6 44 4-4 137 146 149	.9 51 4-4 146 148 149	1.5 51 2-8 144 147 149	1.5 51 2-8 142 147 149	1.5 51 2-8 53 139 147 149 54
160.0	.9 52 4-4 140 145 147	.1 57 4-4 149 149 150	.1 59 4-4 152 152 153	.3 60 2-4 155 155 155	.1 61 2-4 54 157 157 158 54
158.0	.1 55 4-4 142 144 146	.8 58 4-4 150 150 151	.7 60 4-4 152 152 153	.8 61 2-4 154 154 155	.6 62 2-4 54 157 157 157 54
156.0	.1 57 4-4 143 144 146	.2 60 4-4 150 150 151	1.3 61 4-4 152 152 153	1.4 62 2-4 154 154 154	1.2 63 2-4 54 156 156 157 54
154.0	.2 59 4-4 144 144 146	.9 61 4-4 149 149 150	.5 63 4-4 151 151 152	.6 64 2-4 153 153 153	.3 65 2-4 54 156 156 156 54
152.0	.1 61 4-4 145 145 147	.1 63 4-4 148 148 149	1.1 64 4-4 151 151 152	1.1 65 2-4 152 152 153	.8 66 2-4 54 155 155 156 54
150.0	1.0 62 4-4 146 146 147	.8 64 4-4 148 148 149	.4 66 4-4 150 150 151	.3 67 2-4 151 151 152	1.3 67 2-4 54 155 155 155 54
148.0	.4 64 4-4 146 146 147	.1 66 4-4 147 147 148	1.0 67 4-4 149 149 150	.8 68 2-4 151 151 151	.4 69 2-4 54 153 153 154 54
146.0	1.1 65 4-4 145 145 146	.7 67 4-4 147 147 148	.1 69 4-4 148 148 149	1.4 69 2-4 150 150 151	.0 69 2 54 143 147 147 54
144.0	.4 67 4-4 144 144 145	1.3 68 4-4 147 147 147	.0 69 2 140 142 143	.0 69 2 138 142 143	.0 69 2 54 136 142 143 54
142.0	1.1 68 4-4 144 144 145	1.9 69 4-4 146 146 147	.0 69 2 134 138 140	.0 69 2 132 138 140	.0 69 2 54 129 138 140 54
140.0	1.7 69 4-4 143 143 144	.0 69 4 135 135 136	.0 69 2 129 135 136	.0 69 2 126 135 136	.0 69 2 54 125 135 136 54
135.0	.0 69 4 129 129 130	.0 69 2 126 128 129	.0 69 2 121 128 129	.0 69 2 121 128 129	.0 69 2 54 121 128 129 54
130.0	.0 69 4 121 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 54 118 121 123 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2154.(FT) QNH ALT. : 2640.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	TOULOUSE-BLAGNAC	LFBO 15R
ELEVATION= 486.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =11680.0(FT) T.O.D.A. =11483.0(FT) SLOPE = .10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 44 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

O A T DC	-10	-5	0	10	20
-1.0	174839 4-4 148 153 155	178890 4-4 154 157 158	182387 2-4 159 161 162	184310 2-4 163 165 166	185952 2-4 168 169 169
14.0	172629 4-4 145 150 153	176733 4-4 150 154 156	180657 2-4 156 158 159	182798 2-4 160 162 163	184610 2-4 164 166 167
29.0	170234 4-4 141 149 151	174450 4-4 146 152 153	178490 2-4 152 155 156	181011 2-4 156 159 160	183057 2-4 160 163 163
44.4	167549 4-4 137 146 149	171812 4-4 143 150 152	175991 4-4 148 153 154	176785 2-8 149 153 154	176785 2-8 147 153 154
46.0	166362 4-4 138 146 149	170625 4-4 143 150 152	174347 2-8 148 151 153	174347 2-8 149 151 153	174347 2-8 144 151 153
47.0	165454 4-4 138 146 148	169702 4-4 144 149 151	172779 2-8 148 150 152	172779 2-8 146 150 152	172779 2-8 143 150 152
49.0	163643 4-4 139 146 148	167839 4-4 145 149 150	169642 2-8 146 149 150	169642 2-8 144 149 150	169642 2-8 141 149 150
50.0	162736 4-4 139 146 148	166901 4-4 145 148 150	168073 2-8 145 148 150	168073 2-8 143 148 150	168073 2-8 140 148 150
52.0	160907 4-4 140 145 147	164934 4-8 146 147 149	164934 2-8 143 147 148	164934 2-8 141 147 148	164934 2-8 138 147 148
53.0	159978 4-4 141 145 147	163364 4-8 146 146 148	163364 2-8 142 146 147	163364 2-8 140 146 147	163364 2-8 137 146 147
55.0	158068 4-4 142 144 146	161733 4-8 147 147 149	161733 2-8 143 147 148	161733 2-8 141 147 148	161733 2-8 139 147 148
56.0	157102 4-4 142 144 146	161135 4-4 148 148 150	161731 2-8 146 148 150	161731 2-8 144 148 150	161731 2-8 141 148 150
57.0	156142 4-4 143 144 146	160083 4-4 149 149 150	161729 2-8 149 150 152	161729 2-8 147 150 152	161729 2-8 145 150 152
59.0	154241 4-4 144 144 146	157605 4-4 150 150 152	160060 4-4 152 152 153	161659 2-4 155 155 156	161726 2-8 153 155 156
60.0	153302 4-4 145 145 146	156227 4-4 150 150 151	158654 4-4 152 152 153	160255 2-4 155 155 155	161504 2-4 158 158 158
62.0	150996 4-4 146 146 147	153486 4-4 148 148 150	155865 4-4 151 151 152	157429 2-4 154 154 154	158622 2-4 157 157 157
63.0	149743 4-4 146 146 148	152123 4-4 148 148 149	154480 4-4 151 151 152	155997 2-4 153 153 154	157177 2-4 156 156 157
65.0	147096 4-4 145 145 146	149418 4-4 147 147 148	151732 4-4 151 151 151	153148 2-4 152 152 153	154301 2-4 156 156 156
66.0	145780 4-4 145 145 146	148076 4-4 147 147 148	150367 4-4 150 150 151	151740 2-4 152 152 153	152830 2-4 155 155 156
68.0	143055 4-4 144 144 145	145303 4-4 147 147 147	147540 4-4 149 149 149	148834 2-4 151 151 151	149866 2-4 154 154 154
69.0	141687 4-4 143 143 144	143910 4-4 146 146 147	146117 4-4 148 148 149	147377 2-4 150 150 151	148385 2-4 153 153 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1286.(FT)
/MAXI. ACCELERATION HEIGHT : 2154.(FT) QNH ALT. : 2640.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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TOULOUSE (LFBO) - RWY 15L - CONF 1 + F

CONF1+F	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=140/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0				-4.9 -1 4-4 164 164 164	-3.1 -1 4-4 165 165 165	
175.0		-4.8 -1 4-4 157 157 158	-1.8 -1 4-4 163 163 164	.1 -1 4-4 164 164 164	.1 16 4-4 46 163 163 163	47
170.0	-3.6 -1 4-4 152 152 153	.0 0 4-4 157 157 158	.0 25 4-4 156 156 156	.1 41 4-4 156 156 156	1.9 44 4-4 50 159 159 159	50
165.0	.1 6 4-4 150 150 151	.2 31 4-4 149 150 150	2.2 44 4-4 151 151 152	4.7 44 4-4 155 155 155	.5 50 4-4 53 157 157 157	54
160.0	.1 34 4-4 143 147 148	2.7 44 4-4 146 149 149	.6 51 4-4 154 154 154	.1 53 4-4 155 155 155	.5 54 4-4 54 157 157 157	54
158.0	.3 44 4-4 141 147 147	.2 50 4-4 148 148 148	.3 53 4-4 153 153 153	.8 54 4-4 155 155 155	1.2 55 4-4 54 156 156 156	54
156.0	.2 47 4-4 141 146 146	.2 52 4-4 149 149 149	1.0 54 4-4 153 153 153	.2 56 4-4 154 154 154	.6 57 4-4 54 156 156 156	54
154.0	.6 49 4-4 142 145 145	.1 54 4-4 150 150 150	.4 56 4-4 152 152 152	.9 57 4-4 154 154 154	1.3 58 4-4 54 155 155 155	54
152.0	.2 52 4-4 143 144 144	1.0 55 4-4 150 150 150	1.1 57 4-4 152 152 152	.2 59 4-4 153 153 153	.6 60 4-4 54 154 154 154	54
150.0	.5 54 4-4 144 144 144	.4 57 4-4 150 150 150	.5 59 4-4 152 152 152	1.0 60 4-4 153 153 153	.1 62 4-4 54 153 153 153	54
148.0	.5 56 4-4 145 145 145	1.2 58 4-4 149 149 149	1.3 60 4-4 151 151 151	.4 62 4-4 152 152 152	.8 63 4-4 54 152 152 152	54
146.0	.3 58 4-4 146 146 146	.6 60 4-4 149 149 149	.7 62 4-4 151 151 151	1.2 63 4-4 151 151 151	.2 65 4-4 54 151 151 151	54
144.0	1.1 59 4-4 146 146 146	.2 62 4-4 148 148 148	.2 64 4-4 150 150 150	.6 65 4-4 150 150 150	1.0 66 4-4 54 150 150 150	54
142.0	.8 61 4-4 146 146 146	1.0 63 4-4 150 150 150	1.0 65 4-4 149 149 149	.1 67 4-4 149 149 149	.3 68 4-4 54 149 149 149	54
140.0	.5 63 4-4 145 145 145	.5 65 4-4 148 148 148	.5 67 4-4 148 148 148	.8 68 4-4 148 148 148	1.0 69 4-4 54 148 148 148	54
135.0	.8 67 4-4 145 145 145	.5 69 4-4 145 145 145	2.9 69 4-4 147 147 147	4.4 69 4-4 147 147 147	.0 69 131 136 136	54
130.0	3.3 69 4-4 144 144 144	.0 69 129 134 134	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	54

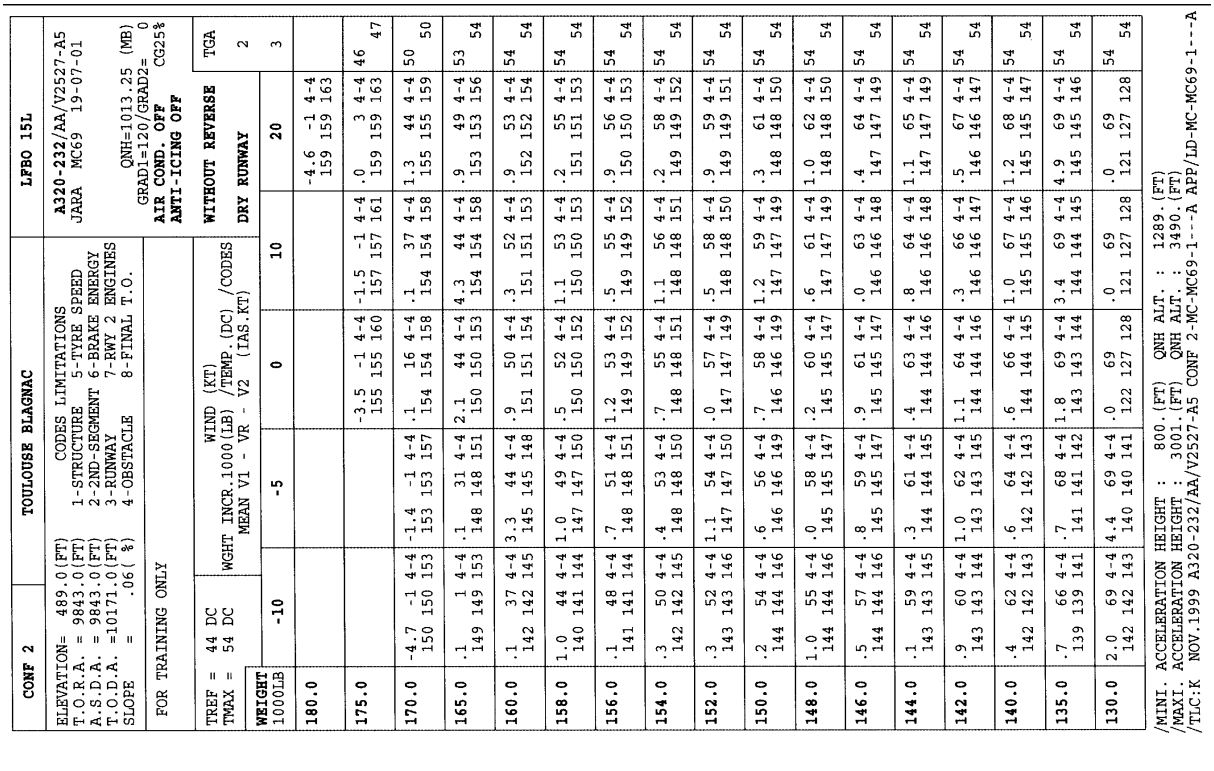
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 3057.(FT) QNH ALT. : 3546.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 44 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-1.0	166421 4-4 152 152 153	170185 4-4 157 157 158	173202 4-4 163 163 164	175072 4-4 164 164 164	176910 4-4 165 165 165
14.0	163617 4-4 147 149 150	167865 4-4 153 153 153	171504 4-4 158 158 159	173450 4-4 161 161 162	175296 4-4 163 163 164
29.0	161010 4-4 144 148 149	165543 4-4 149 150 151	169516 4-4 155 155 155	171829 4-4 158 158 159	173776 4-4 160 160 161
44.4	158254 4-4 140 146 147	162657 4-4 146 149 149	167179 4-4 151 151 152	169605 4-4 155 155 155	171844 4-4 159 159 159
46.0	157105 4-4 141 146 147	161581 4-4 146 148 149	165917 4-4 152 152 152	168218 4-4 156 156 156	170359 4-4 159 159 159
47.0	156247 4-4 141 146 146	160768 4-4 147 148 148	164865 4-4 152 152 152	167155 4-4 156 156 156	169145 4-4 158 158 158
49.0	154634 4-4 142 145 145	159116 4-4 147 148 148	162770 4-4 153 153 153	164897 4-4 156 156 156	166708 4-4 157 157 157
50.0	153837 4-4 142 145 145	158220 4-4 148 148 148	161726 4-4 154 154 154	163696 4-4 156 156 156	165493 4-4 157 157 157
52.0	152248 4-4 143 144 144	156193 4-4 149 149 149	159481 4-4 154 154 154	161283 4-4 155 155 155	163060 4-4 157 157 157
53.0	151438 4-4 144 144 144	155162 4-4 149 149 149	158266 4-4 153 153 153	160057 4-4 155 155 155	161825 4-4 157 157 157
55.0	149571 4-4 145 145 145	152991 4-4 150 150 150	155731 4-4 153 153 153	157500 4-4 154 154 154	159249 4-4 156 156 156
56.0	148503 4-4 145 145 145	151730 4-4 150 150 150	154412 4-4 152 152 152	156172 4-4 154 154 154	157908 4-4 156 156 156
57.0	147429 4-4 146 146 146	150444 4-4 150 150 150	153106 4-4 152 152 152	154855 4-4 154 154 154	156579 4-4 156 156 156
59.0	145141 4-4 146 146 146	147901 4-4 149 149 149	150526 4-4 152 152 152	152248 4-4 153 153 153	153950 4-4 155 155 155
60.0	143979 4-4 146 146 146	146646 4-4 149 149 149	149252 4-4 151 151 151	150961 4-4 153 153 153	152648 4-4 154 154 154
62.0	141649 4-4 145 145 145	144164 4-4 148 148 148	146732 4-4 151 151 151	148413 4-4 152 152 152	150065 4-4 153 153 153
63.0	140477 4-4 145 145 145	142985 4-4 150 150 150	145484 4-4 150 150 150	147150 4-4 151 151 151	148782 4-4 152 152 152
65.0	138142 4-4 145 145 145	140511 4-4 148 148 148	143008 4-4 149 149 149	144633 4-4 150 150 150	146234 4-4 151 151 151
66.0	136987 4-4 145 145 145	139306 4-4 147 147 147	141778 4-4 148 148 148	143384 4-4 149 149 149	144967 4-4 150 150 150
68.0	134583 4-4 145 145 145	136780 4-4 146 146 146	139198 4-4 147 147 147	140767 4-4 148 148 148	142315 4-4 149 149 149
69.0	133335 4-4 144 144 144	1355507 4-4 145 145 145	137898 4-4 147 147 147	139447 4-4 147 147 147	140977 4-4 148 148 148

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 3057.(FT) QNH ALT. : 3546.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

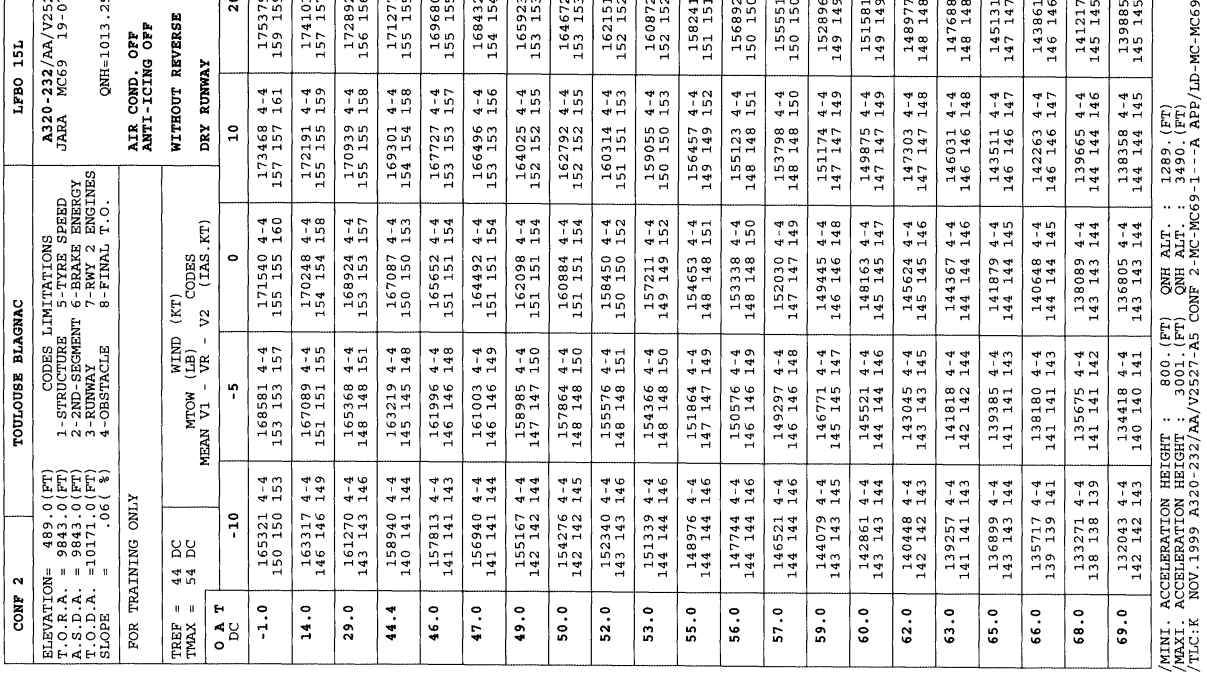
TOULOUSE (LFBO) - RWY 15L - CONF 2



CONF 2	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 / 3

WEIGHT 1000LB	-10	-5	0	10	20	TGA
180.0					-4.6 -1 4-4 159 159 163	
175.0			-3.5 -1 4-4 155 155 160	-1.5 -1 4-4 157 157 161	.0 3 4-4 159 159 163	46 47
170.0	-4.7 -1 4-4 150 150 153	-1.4 -1 4-4 153 153 157	.1 16 4-4 154 154 158	.1 37 4-4 154 154 158	1.3 44 4-4 155 155 159	50 50
165.0	.1 1 4-4 149 149 153	.1 31 4-4 148 148 151	2.1 44 4-4 150 150 153	4.3 44 4-4 154 154 158	.9 49 4-4 153 153 156	53 54
160.0	.1 37 4-4 142 142 145	3.3 44 4-4 145 145 148	.9 50 4-4 151 151 154	.3 52 4-4 151 151 153	.9 53 4-4 152 152 154	54 54
158.0	1.0 44 4-4 140 141 144	1.0 49 4-4 147 147 150	.5 52 4-4 150 150 152	1.1 53 4-4 150 150 153	.2 55 4-4 151 151 153	54 54
156.0	.1 48 4-4 141 141 144	.7 51 4-4 148 148 151	1.2 53 4-4 149 149 152	.5 55 4-4 149 149 152	.9 56 4-4 150 150 153	54 54
154.0	.3 50 4-4 142 142 145	.4 53 4-4 148 148 150	.7 55 4-4 148 148 151	1.1 56 4-4 148 148 151	.2 58 4-4 149 149 152	54 54
152.0	.3 52 4-4 143 143 146	1.1 54 4-4 147 147 150	.0 57 4-4 147 147 149	.5 58 4-4 148 148 150	.9 59 4-4 149 149 151	54 54
150.0	.2 54 4-4 144 144 146	.6 56 4-4 146 146 149	.7 58 4-4 146 146 149	1.2 59 4-4 147 147 149	.3 61 4-4 148 148 150	54 54
148.0	1.0 55 4-4 144 144 146	.0 58 4-4 145 145 147	.2 60 4-4 145 145 147	.6 61 4-4 147 147 149	1.0 62 4-4 148 148 150	54 54
146.0	.5 57 4-4 144 144 146	.8 59 4-4 145 145 147	.9 61 4-4 145 145 147	.0 63 4-4 146 146 148	.4 64 4-4 147 147 149	54 54
144.0	.1 59 4-4 143 143 145	.3 61 4-4 144 144 145	.4 63 4-4 144 144 146	.8 64 4-4 146 146 148	1.1 65 4-4 147 147 149	54 54
142.0	.9 60 4-4 143 143 144	1.0 62 4-4 143 143 145	1.1 64 4-4 144 144 146	.3 66 4-4 146 146 147	.5 67 4-4 146 146 147	54 54
140.0	.4 62 4-4 142 142 143	.6 64 4-4 142 142 143	.6 66 4-4 144 144 145	1.0 67 4-4 145 145 146	1.2 68 4-4 145 145 147	54 54
135.0	.7 66 4-4 139 139 141	.7 68 4-4 141 141 142	1.8 69 4-4 143 143 144	3.4 69 4-4 144 144 145	4.9 69 4-4 145 145 146	54 54
130.0	2.0 69 4-4 142 142 143	4.4 69 4-4 140 140 141	.0 69 122 127 128	.0 69 121 127 128	.0 69 121 127 128	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 3001.(FT) QNH ALT. : 3490.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

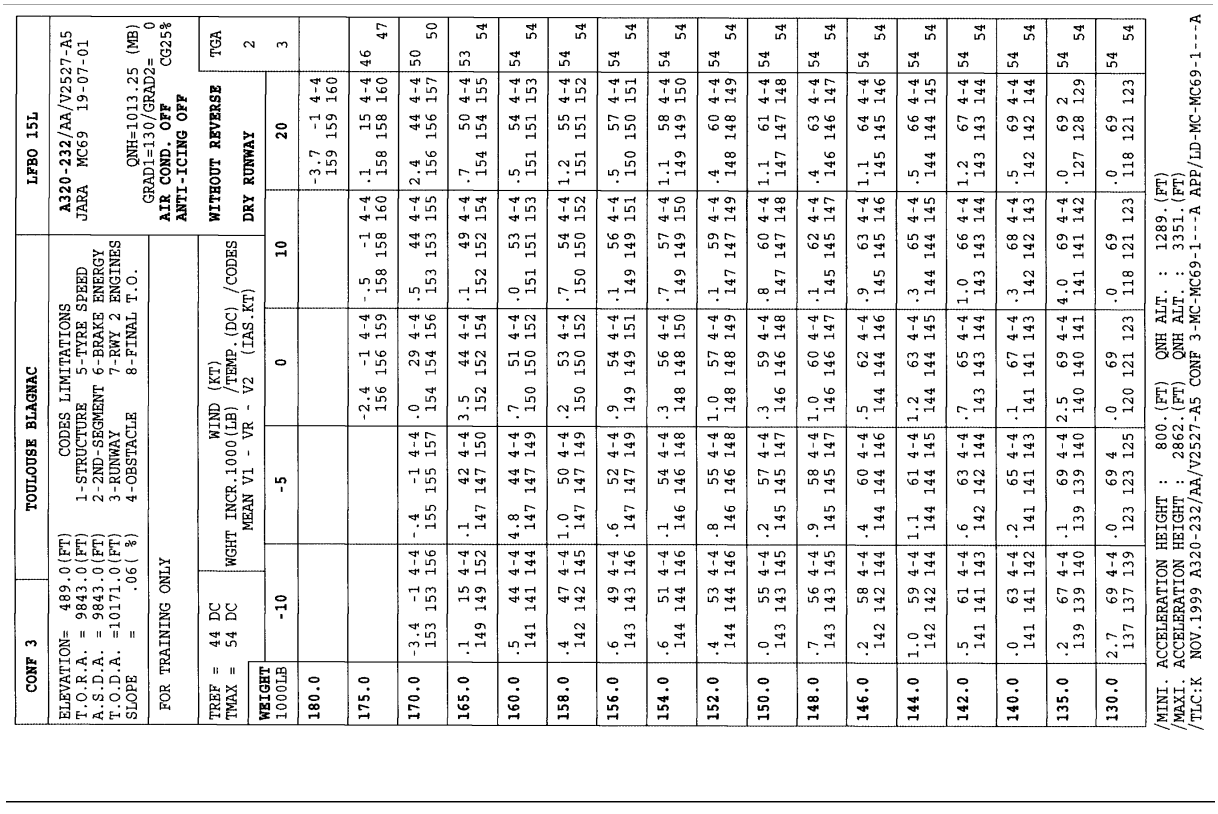


CONF 2	TOULOUSE BLAGNAC	LFBO 15L
ELEVATION= 489.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-1.0	165321 4-4 150 150 153	168581 4-4 153 153 157	171540 4-4 155 155 160	173468 4-4 157 157 161	175379 4-4 159 159 163
14.0	163317 4-4 146 146 149	167089 4-4 151 151 155	170248 4-4 154 154 158	172191 4-4 155 155 159	174103 4-4 157 157 161
29.0	161270 4-4 143 143 146	165368 4-4 148 148 151	168924 4-4 153 153 157	170939 4-4 155 155 158	172892 4-4 156 156 159
44.4	158940 4-4 140 141 144	163219 4-4 145 145 148	167087 4-4 150 150 153	169301 4-4 154 154 158	171277 4-4 155 155 159
46.0	157813 4-4 141 141 143	161996 4-4 146 146 148	165652 4-4 151 151 154	167727 4-4 153 153 157	169680 4-4 155 155 158
47.0	156940 4-4 141 141 144	161003 4-4 146 146 149	164492 4-4 151 151 154	166496 4-4 153 153 156	168432 4-4 154 154 157
49.0	155167 4-4 142 142 144	158985 4-4 147 147 150	162098 4-4 151 151 154	164025 4-4 152 152 155	165923 4-4 153 153 156
50.0	154276 4-4 142 142 145	157864 4-4 148 148 150	160884 4-4 151 151 154	162792 4-4 152 152 155	164672 4-4 153 153 155
52.0	152340 4-4 143 143 146	155576 4-4 148 148 151	158450 4-4 150 150 152	160314 4-4 151 151 153	162151 4-4 152 152 155
53.0	151339 4-4 144 144 146	154366 4-4 148 148 150	157211 4-4 149 149 152	159055 4-4 150 150 153	160872 4-4 152 152 154
55.0	148976 4-4 144 144 146	151864 4-4 147 147 149	154653 4-4 148 148 151	156457 4-4 149 149 152	158241 4-4 151 151 153
56.0	147744 4-4 144 144 146	150576 4-4 146 146 149	153338 4-4 148 148 150	155123 4-4 148 148 151	156892 4-4 150 150 153
57.0	146521 4-4 144 144 146	149297 4-4 146 146 148	152030 4-4 147 147 149	153798 4-4 148 148 150	155551 4-4 150 150 152
59.0	144079 4-4 143 143 145	146771 4-4 145 145 147	149445 4-4 146 146 148	151174 4-4 147 147 149	152896 4-4 149 149 151
60.0	142861 4-4 143 143 144	145521 4-4 144 144 146	148163 4-4 145 145 147	149875 4-4 147 147 149	151581 4-4 149 149 151
62.0	140448 4-4 142 142 143	143045 4-4 143 143 145	145624 4-4 145 145 146	147303 4-4 147 147 148	148977 4-4 148 148 150
63.0	139257 4-4 141 141 143	141818 4-4 142 142 144	144367 4-4 144 144 146	146031 4-4 146 146 148	147688 4-4 148 148 150
65.0	136899 4-4 143 143 144	139385 4-4 141 141 143	141879 4-4 144 144 145	143511 4-4 146 146 147	145131 4-4 147 147 149
66.0	135717 4-4 139 139 141	138180 4-4 141 141 143	140648 4-4 144 144 145	142263 4-4 146 146 147	143861 4-4 146 146 148
68.0	133271 4-4 138 138 139	135675 4-4 141 141 142	138089 4-4 143 143 144	139665 4-4 144 144 146	141217 4-4 145 145 147
69.0	132043 4-4 142 142 143	134418 4-4 140 140 141	136805 4-4 143 143 144	138358 4-4 144 144 145	139885 4-4 145 145 146

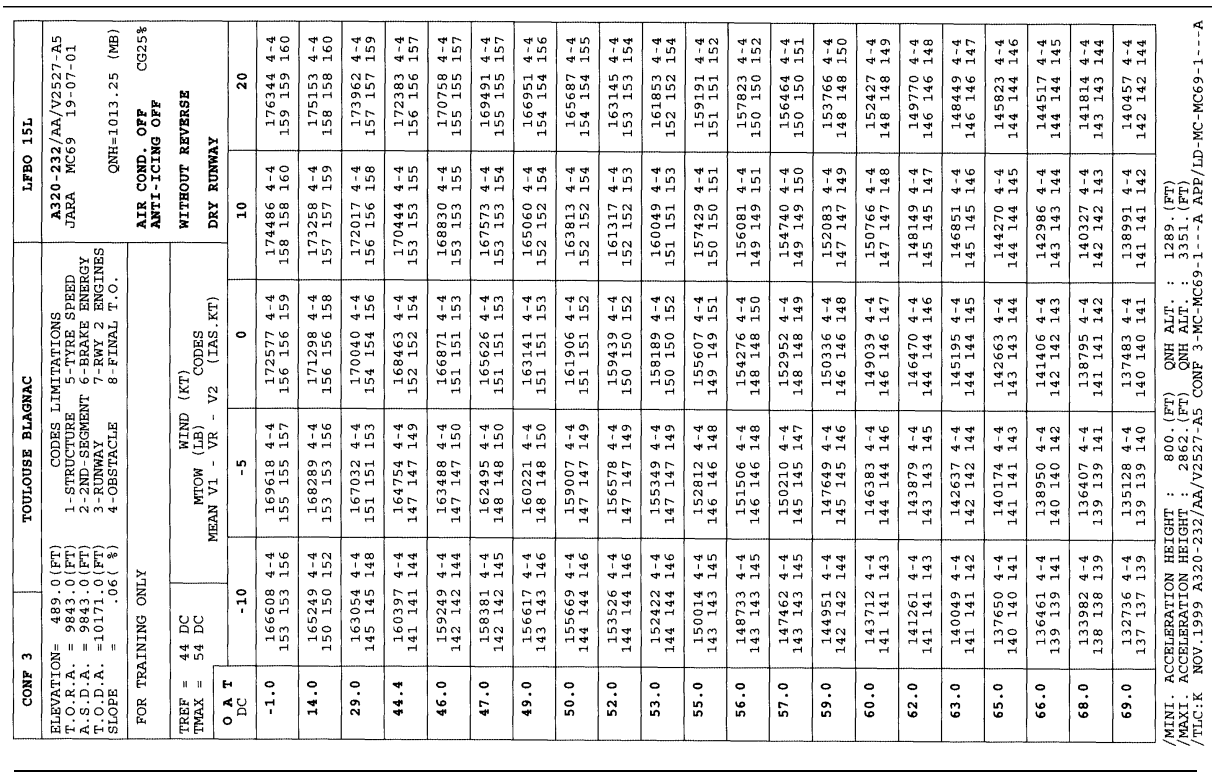
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 3001.(FT) QNH ALT. : 3490.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

TOULOUSE (LFBO) - RWY 15L - CONF 3



CONF 3	TOULOUSE BLAGNAC					LFBO 15L				
ELEVATION= 489.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.					A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=130/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF				
FOR TRAINING ONLY										
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)					WITHOUT REVERSE				TGA
WEIGHT 1000LB	-10	-5	0	10		DRY RUNWAY	20			2 3
180.0								-3.7 -1 4-4 159 159 160		
175.0			-2.4 -1 4-4 156 156 159	.5 -1 4-4 158 158 160		.1 15 4-4 158 158 160				46 47
170.0	-3.4 -1 4-4 153 153 156	-.4 -1 4-4 155 155 157	.0 29 4-4 154 154 156	.5 44 4-4 153 153 155		2.4 44 4-4 156 156 157				50 50
165.0	.1 15 4-4 149 149 152	.1 42 4-4 147 147 150	3.5 44 4-4 152 152 154	.1 49 4-4 152 152 154		.7 50 4-4 154 154 155				53 54
160.0	.5 44 4-4 141 141 144	4.8 44 4-4 147 147 149	.7 51 4-4 150 150 152	.0 53 4-4 151 151 153		.5 54 4-4 151 151 153				54 54
158.0	.4 47 4-4 142 142 145	1.0 50 4-4 147 147 149	.2 53 4-4 150 150 152	.7 54 4-4 150 150 152		1.2 55 4-4 151 151 152				54 54
156.0	.6 49 4-4 143 143 146	.6 52 4-4 147 147 149	.9 54 4-4 149 149 151	.1 56 4-4 149 149 151		.5 57 4-4 150 150 151				54 54
154.0	.6 51 4-4 144 144 146	.1 54 4-4 146 146 148	.3 56 4-4 148 148 150	.7 57 4-4 149 149 150		1.1 58 4-4 149 149 150				54 54
152.0	.4 53 4-4 144 144 146	.8 55 4-4 146 146 148	1.0 57 4-4 148 148 149	.1 59 4-4 147 147 149		.4 60 4-4 148 148 149				54 54
150.0	.0 55 4-4 143 143 145	.2 57 4-4 145 145 147	.3 59 4-4 146 146 148	.8 60 4-4 147 147 148		1.1 61 4-4 147 147 148				54 54
148.0	.7 56 4-4 143 143 145	.9 58 4-4 145 145 147	1.0 60 4-4 146 146 147	.1 62 4-4 145 145 147		.4 63 4-4 146 146 147				54 54
146.0	.2 58 4-4 142 142 144	.4 60 4-4 144 144 146	.5 62 4-4 144 144 146	.9 63 4-4 145 145 146		1.1 64 4-4 145 145 146				54 54
144.0	1.0 59 4-4 142 142 144	1.1 61 4-4 144 144 145	1.2 63 4-4 144 144 145	.3 65 4-4 144 144 145		.5 66 4-4 144 144 145				54 54
142.0	.5 61 4-4 141 141 143	.6 63 4-4 142 142 144	.7 65 4-4 143 143 144	1.0 66 4-4 143 143 144		1.2 67 4-4 143 143 144				54 54
140.0	.0 63 4-4 141 141 142	.2 65 4-4 141 141 143	.1 67 4-4 141 141 143	.3 68 4-4 142 142 143		.5 69 4-4 142 142 144				54 54
135.0	.2 67 4-4 139 139 140	.1 69 4-4 139 139 140	2.5 69 4-4 140 140 141	4.0 69 4-4 141 141 142		.0 69 2 127 128 129				54 54
130.0	2.7 69 4-4 137 137 139	.0 69 4 123 123 125	.0 69 120 121 123	.0 69 118 121 123		.0 69 118 121 123				54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 2862.(FT) QNH ALT. : 3351.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A



CONF 3	TOULOUSE BLAGNAC					LFBO 15L				
ELEVATION= 489.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = .06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.					A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF				
FOR TRAINING ONLY										
TREF = 44 DC TMAX = 54 DC	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)					WITHOUT REVERSE				
O A T DC	-10	-5	0	10	20	DRY RUNWAY				
-1.0	166608 4-4 153 153 156	169618 4-4 155 155 157	172577 4-4 156 156 159	174486 4-4 158 158 160	176344 4-4 159 159 160					
14.0	165249 4-4 150 150 152	168289 4-4 153 153 156	171298 4-4 156 156 158	173258 4-4 157 157 159	175153 4-4 158 158 160					
29.0	163054 4-4 145 145 148	167032 4-4 151 151 153	170040 4-4 154 154 156	172017 4-4 156 156 158	173962 4-4 157 157 159					
44.4	160397 4-4 141 141 144	164754 4-4 147 147 149	168463 4-4 152 152 154	170444 4-4 153 153 155	172383 4-4 156 156 157					
46.0	159249 4-4 142 142 144	163488 4-4 147 147 150	166871 4-4 151 151 153	168830 4-4 153 153 155	170758 4-4 155 155 157					
47.0	158381 4-4 142 142 145	162495 4-4 148 148 150	165626 4-4 151 151 153	167573 4-4 153 153 154	169491 4-4 155 155 157					
49.0	156617 4-4 143 143 146	160221 4-4 148 148 150	163141 4-4 151 151 153	165060 4-4 152 152 154	166951 4-4 154 154 156					
50.0	155669 4-4 144 144 146	159007 4-4 147 147 149	161906 4-4 151 151 152	163813 4-4 152 152 154	165687 4-4 154 154 155					
52.0	153526 4-4 144 144 146	156578 4-4 147 147 149	159439 4-4 150 150 152	161317 4-4 152 152 153	163145 4-4 153 153 154					
53.0	152422 4-4 144 144 146	155349 4-4 147 147 149	158189 4-4 150 150 152	160049 4-4 151 151 153	161853 4-4 152 152 154					
55.0	150014 4-4 143 143 145	152812 4-4 146 146 148	155607 4-4 149 149 151	157429 4-4 150 150 151	159191 4-4 151 151 152					
56.0	148733 4-4 143 143 145	151506 4-4 146 146 148	154276 4-4 148 148 150	156081 4-4 149 149 151	157823 4-4 150 150 152					
57.0	147462 4-4 143 143 145	150210 4-4 145 145 147	152952 4-4 148 148 149	154740 4-4 149 149 150	156464 4-4 150 150 151					
59.0	144951 4-4 142 142 144	147649 4-4 145 145 146	150336 4-4 146 146 148	152083 4-4 147 147 149	153766 4-4 148 148 150					
60.0	143712 4-4 141 141 143	146383 4-4 144 144 146	149039 4-4 146 146 147	150766 4-4 147 147 148	152427 4-4 148 148 149					
62.0	141261 4-4 141 141 143	143879 4-4 143 143 145	146470 4-4 144 144 146	148149 4-4 145 145 147	149770 4-4 146 146 148					
63.0	140049 4-4 141 141 142	142637 4-4 142 142 144	145195 4-4 144 144 145	146851 4-4 145 145 146	148449 4-4 146 146 147					
65.0	137650 4-4 140 140 141	140174 4-4 141 141 143	142663 4-4 143 143 144	144270 4-4 144 144 145	145823 4-4 144 144 146					
66.0	136461 4-4 139 139 141	138950 4-4 140 140 142	141406 4-4 142 142 143	142986 4-4 143 143 144	144517 4-4 144 144 145					
68.0	133982 4-4 138 138 139	136407 4-4 139 139 141	138795 4-4 141 141 142	140327 4-4 142 142 143	141814 4-4 143 143 144					
69.0	132736 4-4 137 137 139	135128 4-4 139 139 140	137483 4-4 140 140 141	138991 4-4 141 141 142	140457 4-4 142 142 144					

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1289.(FT)
/MAXI. ACCELERATION HEIGHT : 2862.(FT) QNH ALT. : 3351.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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TOULOUSE (LFBO) - RWY 33R - CONF 1 + F

CONF1+F		TOULOUSE BLAGNAC		LFBO 33R
ELEVATION= 495.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = -.06(%)		CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.		A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=150/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY				WITHOUT REVERSE TGA
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(LB)	WIND (KT) MEAN V1 - VR - V2 (IAS.KT)	/TEMP.(DC) /CODES	DRY RUNWAY 2

WEIGHT 1000LB	-10	-5	0	10	20	3
180.0			-1.8 -1 4-4 159 160 161	.0 2 4-4 162 162 163	.1 16 4-4 162 162 162	
175.0	-4.1 -1 4-4 149 153 154	-.4 -1 4-4 154 156 157	.1 18 4-4 154 156 157	.0 35 4-4 154 156 156	1.0 44 4-4 156 156 156	46 47
170.0	.2 3 4-4 148 153 153	.1 26 4-4 147 152 153	1.0 44 4-4 149 153 153	3.6 44 4-4 153 155 155	1.2 48 8-8 153 154 154	50 50
165.0	.2 31 4-4 141 150 150	1.9 44 4-4 144 151 151	.1 51 4-4 152 152 152	1.5 51 4-8 152 152 152	1.5 51 8-8 150 151 151	53 54
160.0	2.7 44 4-4 138 149 149	.4 52 4-4 146 149 149	.1 56 4-4 154 154 154	.6 57 4-4 156 156 156	.6 58 4-8 158 158 158	54 54
158.0	.2 50 4-4 140 147 147	.6 54 4-4 147 148 148	.9 57 4-4 153 153 153	.1 59 4-4 156 156 156	.2 60 4-4 159 159 159	54 54
156.0	.5 52 4-4 141 146 146	.6 56 4-4 148 148 148	.4 59 4-4 153 153 153	.8 60 4-4 156 156 156	.9 61 4-4 159 159 159	54 54
154.0	.7 54 4-4 141 146 146	.5 58 4-4 149 149 149	1.1 60 4-4 153 153 153	.1 62 4-4 156 156 156	.2 63 4-4 158 158 158	54 54
152.0	.9 56 4-4 142 145 145	.2 60 4-4 149 149 149	.6 62 4-4 153 153 153	.8 63 4-4 156 156 156	.8 64 4-4 158 158 158	54 54
150.0	.1 59 4-4 144 144 144	1.0 61 4-4 148 148 148	.0 64 4-4 153 153 153	.2 65 4-4 156 156 156	.2 66 4-4 156 156 156	54 54
148.0	.0 61 4-4 144 144 144	.7 63 4-4 148 148 148	.8 65 4-4 152 152 152	.9 66 4-4 156 156 156	.8 67 4-4 156 156 156	54 54
146.0	.9 62 4-4 144 144 144	.3 65 4-4 148 148 148	.2 67 4-4 152 152 152	.2 68 4-4 154 154 154	1.4 68 4-4 155 155 155	54 54
144.0	.6 64 4-4 144 144 144	1.1 66 4-4 148 148 148	.8 68 4-4 152 152 152	.8 69 4-4 153 153 153	2.0 69 4-4 154 154 154	54 54
142.0	.3 66 4-4 143 144 144	.6 68 4-4 147 147 147	1.5 69 4-4 152 152 152	.0 69 2 141 141 141	.0 69 2 139 141 141	54 54
140.0	1.1 67 4-4 143 143 143	1.3 69 4-4 147 147 147	.0 69 138 139 139	.0 69 137 139 139	.0 69 135 139 139	54 54
135.0	3.7 69 4-4 143 143 143	.0 69 131 136 136	.0 69 128 136 136	.0 69 127 136 136	.0 69 127 136 136	54 54
130.0	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	54 54

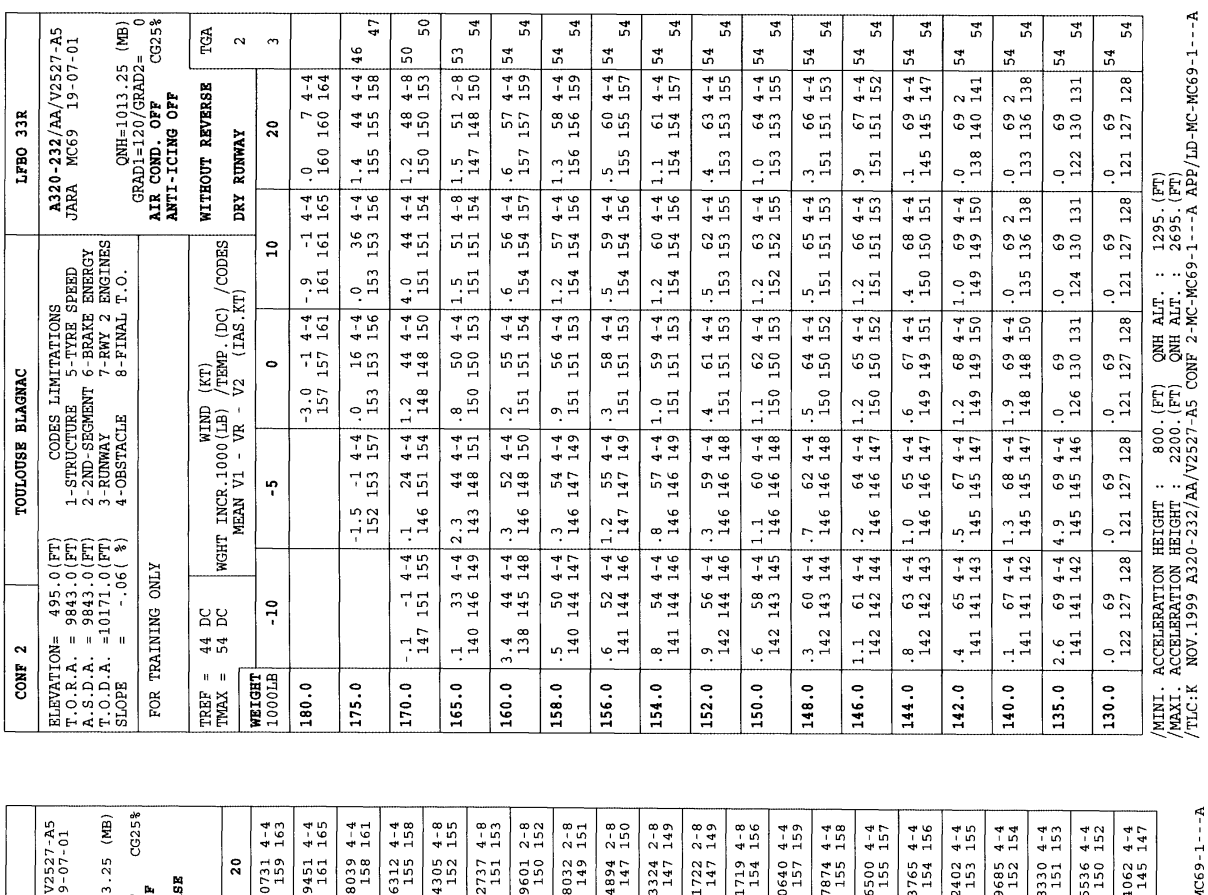
/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2303.(FT) QNH ALT. : 2798.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F		TOULOUSE BLAGNAC		LFBO 33R
ELEVATION= 495.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = -.06(%)		CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.		A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY				WITHOUT REVERSE
TREF = 44 DC TMAX = 54 DC	MTOW (LB)	WIND (KT) MEAN V1 - VR - V2 (IAS.KT)	CODES	DRY RUNWAY

O A T DC	-10	-5	0	10	20
-1.0	170913 4-4 149 153 154	174625 4-4 154 156 157	178219 4-4 159 160 161	180535 4-4 163 163 163	182534 4-4 166 166 166
14.0	168129 4-4 144 151 152	172045 4-4 150 154 154	175726 4-4 155 157 157	178096 4-4 159 159 159	180376 4-4 162 162 162
29.0	165566 4-4 141 150 151	169641 4-4 147 152 153	173531 4-4 152 155 155	175972 4-4 156 156 156	178317 4-4 159 159 159
44.4	162625 4-4 138 149 149	166860 4-4 144 151 151	170926 4-4 149 153 153	173490 4-4 152 155 155	175936 4-4 156 156 156
46.0	161519 4-4 138 148 149	165717 4-4 144 150 151	169732 4-4 149 153 153	172284 4-4 153 155 155	174305 4-8 155 155 155
47.0	160695 4-4 139 148 148	164854 4-4 144 150 150	168831 4-4 150 153 153	171351 4-4 153 154 154	172737 8-8 154 154 154
49.0	159024 4-4 139 147 148	163100 4-4 145 149 149	167000 4-4 151 152 152	169460 4-4 154 154 154	169601 8-8 152 153 153
50.0	158188 4-4 140 147 147	162217 4-4 146 149 149	166074 4-4 151 152 152	168032 4-8 154 154 154	168032 8-8 151 152 152
52.0	156486 4-4 141 146 146	160432 4-4 146 149 149	164175 4-4 152 152 152	164894 8-8 151 151 151	164894 8-8 149 151 151
53.0	155618 4-4 141 146 146	159524 4-4 147 149 149	163239 4-4 153 153 153	163324 8-8 149 150 150	163324 8-8 148 150 150
55.0	153804 4-4 142 146 146	157611 4-4 148 148 148	161211 4-4 153 153 153	161722 4-8 152 152 152	161722 8-8 148 149 149
56.0	152866 4-4 142 145 145	156631 4-4 148 148 148	160083 4-4 154 154 154	161719 4-8 155 155 155	161719 4-8 151 151 151
57.0	151934 4-4 143 145 145	155627 4-4 149 149 149	158856 4-4 153 153 153	160639 4-4 156 156 156	161717 4-8 156 156 156
59.0	150082 4-4 144 144 144	153392 4-4 149 149 149	156360 4-4 153 153 153	158051 4-4 156 156 156	159544 4-4 159 159 159
60.0	149143 4-4 144 144 144	152196 4-4 149 149 149	155088 4-4 153 153 153	156761 4-4 156 156 156	158200 4-4 159 159 159
62.0	146884 4-4 144 144 144	149833 4-4 148 148 148	152556 4-4 153 153 153	154120 4-4 156 156 156	155523 4-4 159 159 159
63.0	145730 4-4 144 144 144	148659 4-4 148 148 148	151299 4-4 153 153 153	152804 4-4 156 156 156	154182 4-4 158 158 158
65.0	143433 4-4 144 144 144	146317 4-4 148 148 148	148786 4-4 152 152 152	150201 4-4 156 156 156	151502 4-4 157 157 157
66.0	142291 4-4 143 144 144	145095 4-4 148 148 148	147506 4-4 152 152 152	148906 4-4 156 156 156	150163 4-4 156 156 156
68.0	139906 4-4 143 143 143	142551 4-4 147 147 147	144837 4-4 152 152 152	146162 4-4 154 154 154	147375 4-4 155 155 155
69.0	138700 4-4 143 143 143	141268 4-4 147 147 147	143492 4-4 152 152 152	144774 4-4 153 153 153	145966 4-4 154 154 154

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2303.(FT) QNH ALT. : 2798.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

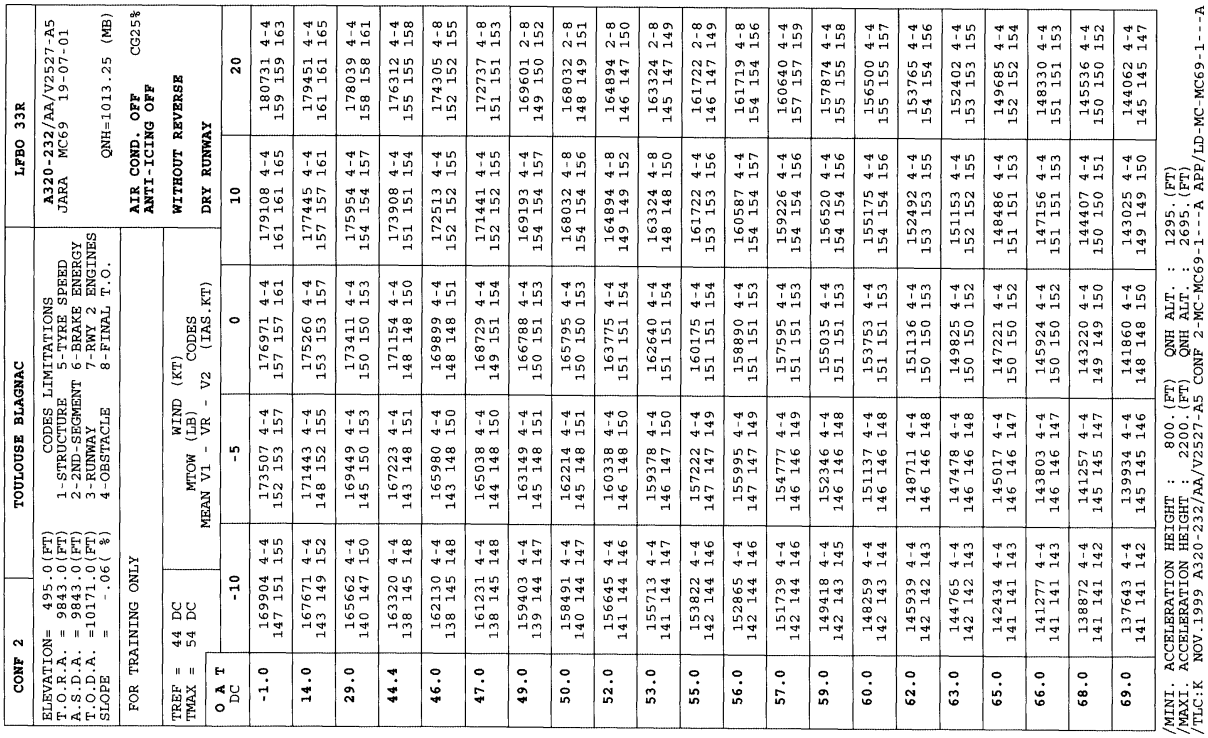
TOULOUSE (LFBO) - RWY 33R - CONF 2



CONF 2	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = -.06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=120/GRAD2= 0 AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE TGA
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0			-3.0 -1 4-4 157 157 161	-.9 -1 4-4 161 161 165	.0 7 4-4 160 160 164	
175.0		-1.5 -1 4-4 152 153 157	.0 16 4-4 153 153 156	0 36 4-4 153 153 156	1.4 44 4-4 155 155 158	46 47
170.0	-.1 -1 4-4 147 151 155	.1 24 4-4 146 151 154	1.2 44 4-4 148 148 150	4.0 44 4-4 151 151 154	1.2 48 4-8 150 150 153	50 50
165.0	.1 33 4-4 140 146 149	2.3 44 4-4 143 148 151	.8 50 4-4 150 150 153	1.5 51 4-8 151 151 154	1.5 51 2-8 147 148 150	53 54
160.0	3.4 44 4-4 138 145 148	.3 52 4-4 146 148 150	.2 55 4-4 151 151 154	.6 56 4-4 154 154 157	.6 57 4-4 157 157 159	54 54
158.0	.5 50 4-4 140 144 147	.3 54 4-4 146 147 149	.9 56 4-4 151 151 153	1.2 57 4-4 154 154 156	1.3 58 4-4 156 156 159	54 54
156.0	.6 52 4-4 141 144 146	1.2 55 4-4 147 147 149	.3 58 4-4 151 151 153	.5 59 4-4 154 154 156	.5 60 4-4 155 155 157	54 54
154.0	.8 54 4-4 141 144 146	.8 57 4-4 146 146 149	1.0 59 4-4 151 151 153	1.2 60 4-4 154 154 156	1.1 61 4-4 154 154 157	54 54
152.0	.9 56 4-4 142 144 146	.3 59 4-4 146 146 148	.4 61 4-4 151 151 153	.5 62 4-4 153 153 155	.4 63 4-4 153 153 155	54 54
150.0	.6 58 4-4 142 143 145	1.1 60 4-4 146 146 148	1.1 62 4-4 150 150 153	1.2 63 4-4 152 152 155	1.0 64 4-4 153 153 155	54 54
148.0	.3 60 4-4 142 143 144	.7 62 4-4 146 146 148	.5 64 4-4 150 150 152	.5 65 4-4 151 151 153	.3 66 4-4 151 151 153	54 54
146.0	1.1 61 4-4 142 142 144	.2 64 4-4 146 146 147	1.2 65 4-4 150 150 152	1.2 66 4-4 151 151 153	.9 67 4-4 151 151 152	54 54
144.0	.8 63 4-4 142 142 143	1.0 65 4-4 146 146 147	.6 67 4-4 149 149 151	.4 68 4-4 150 150 151	.1 69 4-4 145 145 147	54 54
142.0	.4 65 4-4 141 141 143	.5 67 4-4 145 145 147	1.2 68 4-4 149 149 150	1.0 69 4-4 149 149 150	.0 69 2 138 140 141	54 54
140.0	.1 67 4-4 141 141 142	1.3 68 4-4 145 145 147	1.9 69 4-4 148 148 150	.0 69 2 135 136 138	.0 69 2 133 136 138	54 54
135.0	2.6 69 4-4 141 141 142	4.9 69 4-4 145 145 146	.0 69 126 130 131	.0 69 124 130 131	.0 69 122 130 131	54 54
130.0	.0 69 122 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2200.(FT) QNH ALT. : 2695.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A



CONF 2	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = -.06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	A320-232/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) AIR COND. OFF CG25% ANTI-ICING OFF
FOR TRAINING ONLY		WITHOUT REVERSE
TREF = 44 DC TMAX = 54 DC	MTOW (LB) WIND (KT) CODES MEAN V1 - VR - V2 (IAS.KT)	DRY RUNWAY

OAT DC	-10	-5	0	10	20
-1.0	169904 4-4 147 151 155	173507 4-4 152 153 157	176971 4-4 157 157 161	179108 4-4 161 161 165	180731 4-4 159 159 163
14.0	167671 4-4 143 149 152	171443 4-4 148 152 155	175260 4-4 153 153 157	177445 4-4 157 157 161	179451 4-4 161 161 165
29.0	165662 4-4 140 147 150	169449 4-4 145 150 153	173411 4-4 150 150 153	175954 4-4 154 154 157	178039 4-4 158 158 161
44.4	163320 4-4 138 145 148	167223 4-4 143 148 151	171154 4-4 148 148 150	173908 4-4 151 151 154	176312 4-4 155 155 158
46.0	162130 4-4 138 145 148	165980 4-4 143 148 150	169899 4-4 148 148 151	172513 4-4 152 152 155	174305 4-8 152 152 155
47.0	161231 4-4 138 145 148	165038 4-4 144 148 150	168729 4-4 149 151 154	171441 4-4 152 152 155	172737 4-8 151 151 153
49.0	159403 4-4 139 144 147	163149 4-4 145 148 151	166788 4-4 150 151 153	169193 4-4 154 154 157	169601 2-8 149 150 152
50.0	158491 4-4 140 144 147	162214 4-4 145 148 151	165795 4-4 150 150 153	168032 4-4 154 154 156	168032 2-8 148 149 151
52.0	156645 4-4 141 144 146	160338 4-4 146 148 150	163775 4-4 151 151 154	164894 4-8 149 149 152	164894 2-8 146 147 150
53.0	155713 4-4 141 144 147	159378 4-4 146 147 150	162640 4-4 151 151 154	163324 4-8 148 148 150	163324 2-8 145 147 149
55.0	153822 4-4 142 144 146	157222 4-4 147 147 149	160175 4-4 151 151 154	161722 4-4 153 153 156	161722 2-8 146 147 149
56.0	152865 4-4 142 144 146	155995 4-4 147 147 149	158890 4-4 151 151 153	160587 4-4 154 154 157	161719 4-8 154 154 156
57.0	151739 4-4 142 144 146	154777 4-4 146 146 149	157595 4-4 151 151 153	159226 4-4 154 154 156	160640 4-4 157 157 159
59.0	149418 4-4 142 143 145	152346 4-4 146 146 148	155035 4-4 151 151 153	156520 4-4 154 154 156	157874 4-4 155 155 158
60.0	148259 4-4 142 143 144	151137 4-4 146 146 148	153753 4-4 151 151 153	155175 4-4 154 154 156	156500 4-4 155 155 157
62.0	145939 4-4 142 142 143	148711 4-4 146 146 148	151136 4-4 150 150 153	152492 4-4 153 153 155	153765 4-4 154 154 156
63.0	144765 4-4 142 142 143	147478 4-4 146 146 148	149825 4-4 150 150 152	151153 4-4 152 152 155	152402 4-4 153 153 155
65.0	142434 4-4 141 141 143	145017 4-4 146 146 147	147221 4-4 150 150 152	148486 4-4 151 151 153	149685 4-4 152 152 154
66.0	141277 4-4 141 141 143	143803 4-4 146 146 147	145924 4-4 150 150 152	147156 4-4 151 151 153	148330 4-4 151 151 153
68.0	138872 4-4 141 141 142	141257 4-4 145 145 147	143220 4-4 149 149 150	144407 4-4 150 150 151	145536 4-4 150 150 152
69.0	137643 4-4 141 141 142	139934 4-4 145 145 146	141860 4-4 148 148 150	143025 4-4 149 149 150	144062 4-4 145 145 147

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2200.(FT) QNH ALT. : 2695.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

TOULOUSE (LFBO) - RWY 33R - CONF 3

CONF 3	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = -.06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=140/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0		-4.3 -1 4-4 156 156 158	-1.4 -1 4-4 161 161 163	.0 1 4-4 163 163 165	.0 22 4-4 160 160 161	
175.0	-3.0 -1 4-4 150 153 155	.0 4 4-4 155 155 157	.1 30 4-4 153 153 155	.5 44 4-4 154 154 155	1.9 44 4-4 153 153 154	47
170.0	.1 12 4-4 147 151 153	.1 36 4-4 146 151 153	2.8 44 4-4 150 150 151	1.2 48 4-8 151 151 153	1.2 48 2-8 148 150 151	50
165.0	.0 42 4-4 139 146 149	3.8 44 4-4 144 149 151	1.1 51 4-4 151 151 153	1.5 51 4-8 147 147 149	1.5 51 2-8 145 147 149	53 54
160.0	4.7 44 4-4 138 146 148	.7 53 4-4 147 148 150	1.2 55 4-4 151 151 153	.1 57 4-4 155 155 156	.1 58 4-4 151 151 152	54
158.0	.1 52 4-4 141 145 147	.3 55 4-4 146 147 149	.6 57 4-4 151 151 153	.7 58 4-4 154 154 155	.7 59 4-4 150 150 152	54
156.0	.1 54 4-4 142 145 147	1.1 56 4-4 146 147 148	1.2 58 4-4 151 151 152	1.3 59 4-4 153 153 154	1.4 60 4-4 150 150 151	54
154.0	1.0 55 4-4 142 145 147	.6 58 4-4 146 146 148	.6 60 4-4 151 151 152	.5 61 4-4 152 152 153	.6 62 4-4 149 149 150	54
152.0	.7 57 4-4 142 144 146	.1 60 4-4 146 146 147	1.2 61 4-4 151 151 152	1.2 62 4-4 151 151 152	1.3 63 4-4 148 148 149	54
150.0	.4 59 4-4 141 143 145	.9 61 4-4 146 146 147	.5 63 4-4 150 150 151	.4 64 4-4 150 150 151	.6 65 4-4 147 147 148	54
148.0	.1 61 4-4 141 142 144	.4 63 4-4 146 146 147	1.2 64 4-4 149 149 150	1.1 65 4-4 149 149 150	1.2 66 2-4 146 146 147	54
146.0	.9 62 4-4 141 142 143	1.1 64 4-4 145 145 147	.5 66 4-4 148 148 149	.3 67 4-4 146 146 147	.4 68 4-4 145 145 146	54
144.0	.6 64 4-4 141 141 142	.5 66 4-4 145 145 147	1.1 67 4-4 147 147 148	.9 68 4-4 144 144 145	1.0 69 2-4 144 144 145	54
142.0	.2 66 4-4 140 140 142	1.2 67 4-4 145 145 146	.4 69 4-4 146 146 147	1.5 69 4-4 143 143 144	.0 69 2 136 138 140	54
140.0	.9 67 4-4 140 140 142	.6 69 4-4 145 145 146	.0 69 2 134 135 136	.0 69 2 133 135 136	.0 69 2 131 135 136	54
135.0	3.4 69 4-4 140 140 141	.0 69 2 126 127 129	.0 69 2 123 127 129	.0 69 2 121 127 129	.0 69 2 121 127 129	54
130.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2143.(FT) QNH ALT. : 2638.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	TOULOUSE BLAGNAC	LFBO 33R
ELEVATION= 495.0(FT) T.O.R.A. = 9843.0(FT) A.S.D.A. = 9843.0(FT) T.O.D.A. =10171.0(FT) SLOPE = -.06(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 44 DC TMAX = 54 DC	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

O A T DC	-10	-5	0	10	20
-1.0	172036 4-4 150 153 155	175695 4-4 156 156 158	178569 4-4 161 161 163	180188 4-4 164 164 165	182018 4-4 162 162 163
14.0	169753 4-4 146 151 153	173697 4-4 152 154 156	177114 4-4 158 158 159	178972 4-4 161 161 162	180722 4-4 159 159 160
29.0	167322 4-4 142 148 150	171322 4-4 148 152 154	175258 4-4 153 153 155	177572 4-4 156 156 158	179428 4-4 161 161 162
44.4	164607 4-4 138 146 148	168691 4-4 144 149 151	172759 4-4 150 150 151	175493 4-4 153 153 155	176787 2-8 152 153 154
46.0	163442 4-4 139 146 148	167479 4-4 144 149 151	171417 4-4 150 153 155	174129 4-4 154 154 156	174305 2-8 150 151 153
47.0	162561 4-4 139 146 148	166565 4-4 145 149 151	170538 4-4 151 151 152	172737 4-8 153 153 155	172737 2-8 149 150 152
49.0	160781 4-4 140 145 147	164733 4-4 146 149 151	168491 4-4 151 152 154	169601 4-8 150 150 151	169601 2-8 147 149 150
50.0	159889 4-4 140 145 147	163827 4-4 146 149 151	167357 4-4 151 152 153	168032 4-8 148 148 150	168032 2-8 146 148 150
52.0	158105 4-4 141 145 147	161771 4-4 147 149 151	164894 4-8 151 151 153	164894 2-8 146 146 148	164894 2-8 144 146 148
53.0	157203 4-4 142 145 147	160657 4-4 147 148 150	163324 4-8 149 149 151	163324 2-8 145 146 147	163324 2-8 143 146 147
55.0	155020 4-4 142 145 147	158322 4-4 146 147 149	161196 4-4 151 151 153	161722 2-8 146 146 148	161722 2-8 144 146 148
56.0	153846 4-4 142 144 146	157111 4-4 146 147 148	159905 4-4 151 151 153	161458 4-4 155 155 156	161719 2-8 147 148 150
57.0	152678 4-4 142 144 146	155876 4-4 146 146 148	158555 4-4 151 151 153	160089 4-4 155 155 156	161497 4-4 151 151 152
59.0	150361 4-4 141 143 145	153358 4-4 146 146 148	155886 4-4 151 151 152	157305 4-4 153 153 154	158724 4-4 150 150 152
60.0	149209 4-4 141 143 144	152107 4-4 146 146 147	154558 4-4 151 151 152	155921 4-4 153 153 154	157350 4-4 150 150 151
62.0	146906 4-4 141 142 143	149613 4-4 146 146 147	151895 4-4 150 150 152	153165 4-4 151 151 152	154623 4-4 149 149 150
63.0	145755 4-4 141 141 143	148366 4-4 146 146 147	150545 4-4 150 150 151	151793 4-4 150 150 152	153268 4-4 148 148 149
65.0	143370 4-4 141 141 142	145809 4-4 145 145 147	147857 4-4 148 148 150	149058 4-4 149 149 150	150572 4-4 147 147 148
66.0	142164 4-4 140 140 142	144533 4-4 145 145 147	146517 4-4 148 148 149	147694 4-4 148 148 149	149231 2-4 146 146 147
68.0	139669 4-4 140 140 141	141901 4-4 145 145 146	143752 4-4 146 146 147	144913 4-4 144 144 145	146441 4-4 145 145 146
69.0	138414 4-4 140 140 141	140566 4-4 145 145 146	142362 4-4 146 146 147	143533 4-4 143 143 144	145032 2-4 144 144 145

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1295.(FT)
/MAXI. ACCELERATION HEIGHT : 2143.(FT) QNH ALT. : 2638.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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TOULOUSE (LFBO) - RWY 33L - CONF 1 + F

CONF1+F	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =12467.0(FT) T.O.D.A. =11483.0(FT) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=130/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE** TGA
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20	
180.0		-2.4 -1 4-4 152 157 158	.1 5 4-4 156 161 161	.1 20 4-4 155 161 161	.3 32 4-4 156 160 160	
175.0	-1.3 -1 4-4 147 154 155	.1 13 4-4 148 155 155	.2 37 4-4 149 155 155	1.5 44 4-4 151 157 157	1.9 44 4-4 152 156 156	46 47
170.0	.0 20 4-4 141 152 153	.1 43 4-4 142 153 153	4.0 44 4-4 147 155 155	1.2 48 8-8 149 153 153	1.2 48 8-8 148 153 153	50 50
165.0	1.2 44 4-4 136 151 152	4.9 44 4-4 142 153 153	1.5 51 8-8 148 151 151	1.5 51 8-8 147 151 151	1.5 51 8-8 145 151 151	53 54
160.0	.2 51 4-4 139 149 149	.5 55 4-4 146 150 150	.8 58 2-8 153 153 153	.9 60 4-4 158 158 158	.7 61 4-8 159 159 159	54 54
158.0	.3 53 4-4 140 147 147	.4 57 4-4 147 150 150	.9 60 4-4 154 154 154	.2 62 4-4 158 158 158	.2 63 4-4 160 160 160	54 54
156.0	.4 55 4-4 140 147 147	.4 59 4-4 148 148 148	.6 62 4-4 155 155 155	.9 63 4-4 158 158 158	.8 64 4-4 160 160 160	54 54
154.0	.5 57 4-4 141 146 146	.4 61 4-4 149 150 150	.0 64 4-4 155 155 155	.2 65 4-4 157 157 157	.0 66 4-4 160 160 160	54 54
152.0	.6 59 4-4 142 145 145	.4 63 4-4 150 150 150	.7 65 4-4 154 154 154	.8 66 4-4 157 157 157	.6 67 4-4 159 159 159	54 54
150.0	.8 61 4-4 143 145 145	.2 65 4-4 151 151 151	1.4 66 4-4 154 154 154	.0 68 4-4 156 156 156	1.1 68 4-4 159 159 159	54 54
148.0	.9 63 4-4 144 145 145	1.0 66 4-4 152 152 152	.6 68 4-4 153 153 153	.6 69 4-4 156 156 156	1.7 69 4-4 159 159 159	54 54
146.0	1.0 65 4-4 145 145 145	.3 68 4-4 151 151 151	1.2 69 4-4 153 153 153	.0 69 2 146 148 148	.0 69 2 145 148 148	54 54
144.0	.9 67 4-4 146 146 146	1.0 69 4-4 151 151 151	.0 69 2 143 145 145	.0 69 2 141 145 145	.0 69 2 139 145 145	54 54
142.0	.6 69 4-4 148 148 148	.0 69 2 140 141 141	.0 69 2 138 141 141	.0 69 2 136 141 141	.0 69 2 134 141 141	54 54
140.0	.0 69 139 139 139	.0 69 136 139 139	.0 69 133 139 139	.0 69 131 139 139	.0 69 129 139 139	54 54
135.0	.0 69 129 136 136	.0 69 127 136 136	.0 69 127 136 136	.0 69 127 136 136	.0 69 127 136 136	54 54
130.0	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	.0 69 125 134 134	54 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2300.(FT) QNH ALT. : 2797.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF1+F	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =12467.0(FT) T.O.D.A. =11483.0(FT) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		**WITHOUT REVERSE**
TREF = 44 DC TMAX = 54 DC	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	**DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-1.0	173716 4-4 147 154 155	177602 4-4 152 157 158	181116 4-4 157 162 162	183330 4-4 160 165 165	185397 2-4 163 166 166
14.0	170913 4-4 143 153 153	174971 4-4 148 155 155	178676 4-4 153 159 159	180958 4-4 157 162 162	183151 4-4 160 165 165
29.0	168729 4-4 139 152 153	172512 4-4 145 154 154	176542 4-4 150 156 156	178859 4-4 154 159 159	181097 4-4 157 161 161
44.4	166122 4-4 136 151 152	169875 4-4 142 153 153	173899 4-4 147 154 154	176461 4-4 151 157 157	176788 8-8 151 156 156
46.0	164878 4-4 137 151 151	168554 4-4 142 152 152	172730 4-4 148 154 154	174296 8-8 150 155 155	174296 8-8 150 155 155
47.0	163953 4-4 137 150 151	167685 4-4 143 152 152	171829 4-4 148 154 154	172728 8-8 150 154 154	172728 8-8 149 154 154
49.0	162073 4-4 138 150 150	165939 4-4 144 151 151	169592 8-8 148 153 153	169592 8-8 149 153 153	169592 8-8 147 153 153
50.0	161129 4-4 138 149 149	165061 4-4 144 151 151	168023 8-8 148 152 152	168023 8-8 147 152 152	168023 8-8 145 152 152
52.0	159223 4-4 139 149 149	163285 4-4 145 150 150	164885 8-8 147 151 151	164885 8-8 145 151 151	164885 8-8 143 151 151
53.0	158256 4-4 140 147 147	162383 4-4 145 150 150	163315 8-8 146 150 150	163315 8-8 144 150 150	163315 8-8 142 150 150
55.0	156409 4-4 140 147 147	160469 4-4 146 150 150	161719 8-8 147 149 149	161719 8-8 145 149 149	161719 8-8 143 149 149
56.0	155449 4-4 141 146 146	159443 4-4 147 150 150	161717 2-8 149 151 151	161717 2-8 148 151 151	161717 2-8 146 151 151
57.0	154508 4-4 141 146 146	158424 4-4 147 150 150	161715 2-8 152 152 152	161715 2-8 150 152 152	161715 2-8 149 152 152
59.0	152626 4-4 142 145 145	156407 4-4 148 148 148	159958 4-4 154 155 155	161713 4-8 156 156 156	161713 2-8 154 155 155
60.0	151704 4-4 143 145 145	155415 4-4 148 150 150	158918 4-4 154 154 154	160879 4-4 158 158 158	161710 4-8 157 157 157
62.0	149858 4-4 144 145 145	153424 4-4 149 150 150	156644 4-4 155 155 155	158217 4-4 158 158 158	159652 4-4 161 161 161
63.0	148903 4-4 144 145 145	152447 4-4 150 150 150	155362 4-4 156 156 156	156855 4-4 158 158 158	158244 4-4 160 160 160
65.0	146966 4-4 145 145 145	150216 4-4 151 151 151	152702 4-4 154 154 154	154152 4-4 157 157 157	155433 4-4 160 160 160
66.0	145974 4-4 146 146 146	149014 4-4 152 152 152	151370 4-4 154 154 154	152809 4-4 157 157 157	154036 4-4 160 160 160
68.0	143836 4-4 147 147 147	146342 4-4 151 151 151	148588 4-4 153 153 153	150011 4-4 156 156 156	151147 4-4 159 159 159
69.0	142609 4-4 148 148 148	144969 4-4 151 151 151	147187 4-4 153 153 153	148581 4-4 156 156 156	149697 4-4 159 159 159

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2300.(FT) QNH ALT. : 2797.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF1F-MC-MC69-1---A APP/LD-MC-MC69-1---A

TOULOUSE (LFBO) - RWY 33L - CONF 2

CONF 2	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =12467.0(FT) T.O.D.A. =11483.0(FT) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01
FOR TRAINING ONLY		QNH=1013.25 (MB) GRAD1=120/GRAD2= 0
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**AIR COND. OFF** CG25% **ANTI-ICING OFF** **WITHOUT REVERSE** TGA **DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0		-3.3 -1 4-4 150 156 160	.0 3 2-4 154 156 160	.1 21 2-4 154 157 160	.2 33 2-4 154 157 160
175.0	-1.9 -1 4-4 145 151 155	.0 11 4-4 147 151 154	.0 39 2-4 147 150 153	1.9 44 2-4 149 153 156	1.9 44 2-4 46 149 153 156 47
170.0	.1 20 4-4 140 148 151	.6 44 4-4 141 149 152	4.3 44 2-4 146 150 152	1.2 48 2-8 147 150 153	1.2 48 2-8 50 145 150 153 50
165.0	1.5 44 4-4 136 145 147	.3 50 2-4 143 145 148	1.5 51 2-8 146 148 150	1.5 51 2-8 144 148 150	1.5 51 2-8 53 142 148 150 54
160.0	.6 51 4-4 138 145 147	.6 55 2-4 145 146 148	.3 58 4-4 152 152 155	.7 59 4-4 157 157 160	.8 60 2-4 54 154 154 156
158.0	.7 53 4-4 139 145 147	.5 57 4-4 146 146 149	1.1 59 4-4 153 153 156	1.2 60 4-4 156 156 159	1.3 61 2-4 54 154 154 156
156.0	.7 55 4-4 140 145 147	.1 59 4-4 148 149 151	.5 61 4-4 154 154 156	.4 62 2-4 151 151 153	.5 63 2-4 54 153 153 155
154.0	.6 57 4-4 141 142 143	1.0 60 4-4 148 149 151	1.2 62 4-4 154 154 157	1.0 63 2-4 150 150 152	1.1 64 2-4 54 153 153 155
152.0	.8 59 4-4 142 145 146	.9 62 4-4 149 149 151	.5 64 4-4 153 153 155	.3 65 2-4 149 149 151	.4 66 2-4 54 152 152 154
150.0	.8 61 4-4 143 145 146	.4 64 4-4 149 149 151	1.1 65 4-4 153 153 155	.9 66 4-4 149 149 151	.9 67 2-4 54 151 151 153
148.0	.8 63 4-4 144 145 146	1.1 65 4-4 149 149 151	.3 67 4-4 152 152 154	.1 68 4-4 148 148 150	.0 69 2-4 54 150 150 152
146.0	.6 65 4-4 145 145 147	.4 67 4-4 148 148 150	.9 68 4-4 152 152 153	.7 69 2-4 148 148 149	.0 69 2 54 144 146 148
144.0	.0 67 4-4 146 146 147	1.0 68 4-4 148 148 149	1.5 69 4-4 151 151 153	.0 69 2 140 143 144	.0 69 2 54 138 143 144
142.0	.7 68 4-4 146 146 147	1.6 69 4-4 147 147 149	.0 69 2 137 140 141	.0 69 2 135 140 141	.0 69 2 54 132 140 141
140.0	1.4 69 4-4 145 145 147	.0 69 2 135 137 138	.0 69 2 132 137 138	.0 69 2 129 137 138	.0 69 2 54 127 137 138
135.0	.0 69 127 130 131	.0 69 123 130 131	.0 69 122 130 131	.0 69 122 130 131	.0 69 54 122 130 131
130.0	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 121 127 128	.0 69 54 121 127 128

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2184.(FT) QNH ALT. : 2681.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 2	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =12467.0(FT) T.O.D.A. =11483.0(FT) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01
FOR TRAINING ONLY		QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
TREF = 44 DC TMAX = 54 DC	MTOW (LB) CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

O A T DC	-10	-5	0	10	20
-1.0	173083 4-4 145 151 155	176697 4-4 150 156 160	180616 2-4 155 157 160	182951 2-4 159 161 164	185004 2-4 163 164 167
14.0	170892 4-4 141 149 152	174614 4-4 146 150 153	178470 2-4 151 154 157	180944 2-4 155 158 161	183202 2-4 159 161 164
29.0	168796 4-4 138 147 150	172725 4-4 144 151 154	176513 2-4 148 152 155	179107 2-4 152 155 158	181449 2-4 156 159 162
44.4	166477 4-4 136 145 147	170521 4-4 141 149 152	174219 2-4 146 150 152	176788 2-8 149 153 156	176788 2-8 149 153 156
46.0	165236 4-4 136 144 147	169236 4-4 142 149 152	172856 4-4 146 153 156	174296 2-8 148 151 154	174296 2-8 147 151 154
47.0	164305 4-4 137 145 148	168272 4-4 142 149 152	172058 2-4 147 150 152	172728 2-8 148 151 153	172728 2-8 146 151 153
49.0	162452 4-4 138 145 147	166322 4-4 143 149 152	169592 2-8 147 149 152	169592 2-8 146 149 152	169592 2-8 144 149 152
50.0	161530 4-4 138 145 147	165272 2-4 143 145 148	168023 2-8 147 149 151	168023 2-8 145 149 151	168023 2-8 143 149 151
52.0	159679 4-4 139 145 147	163395 4-4 144 149 152	164885 2-8 143 147 150	164885 2-8 143 147 150	164885 2-8 140 147 150
53.0	158710 4-4 139 145 147	162489 2-4 145 146 148	163315 2-8 144 147 149	163315 2-8 142 147 149	163315 2-8 140 147 149
55.0	156735 4-4 140 145 147	160556 2-4 145 146 148	161719 2-8 145 147 149	161719 2-8 143 147 149	161719 2-8 141 147 149
56.0	155743 4-4 141 145 147	159533 4-4 146 146 148	161717 2-8 148 149 151	161717 2-8 146 149 151	161717 2-8 144 149 151
57.0	154623 4-4 141 142 143	158454 4-4 146 146 149	161603 4-4 152 152 154	161715 2-8 149 150 152	161715 2-8 147 150 152
59.0	152776 4-4 142 145 146	156076 4-4 148 149 151	159071 4-4 153 153 156	160653 4-4 157 157 160	161713 2-8 153 154 156
60.0	151788 4-4 143 145 146	155030 4-4 148 149 151	157845 4-4 154 154 156	159237 4-4 156 156 159	160765 2-4 154 154 156
62.0	149769 4-4 144 145 146	152858 4-4 149 149 151	155234 4-4 154 154 157	156367 2-4 151 151 153	157933 2-4 153 153 156
63.0	148763 4-4 144 145 146	151710 4-4 150 150 152	153867 4-4 154 154 156	154999 2-4 150 150 152	156528 2-4 153 153 155
65.0	146615 4-4 145 145 147	149062 4-4 149 149 151	151110 4-4 153 153 155	152279 2-4 149 149 151	153741 2-4 152 152 154
66.0	145365 4-4 146 146 148	147732 4-4 149 149 150	149736 4-4 153 153 155	150932 4-4 149 149 151	152360 2-4 152 152 154
68.0	142708 4-4 146 146 147	144980 4-4 148 148 149	146909 4-4 152 152 153	148128 4-4 148 148 150	149484 2-4 151 151 153
69.0	141368 4-4 145 145 147	143591 4-4 147 147 149	145493 4-4 151 151 153	146717 2-4 148 148 149	148049 2-4 150 150 152

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2184.(FT) QNH ALT. : 2681.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 2-MC-MC69-1---A APP/LD-MC-MC69-1---A

TOULOUSE (LFBO) - RWY 33L - CONF 3

CONF 3	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =12467.0(FT) T.O.D.A. =11483.0(FT) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) GRAD1=130/GRAD2= 0 **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 44 DC TMAX = 54 DC	WGHT INCR.1000(LB) /TEMP.(DC) /CODES MEAN V1 - VR - V2 (IAS.KT)	**WITHOUT REVERSE** TGA **DRY RUNWAY** 2 3

WEIGHT 1000LB	-10	-5	0	10	20
180.0		-1.1 -1 2-4 153 155 157	.1 17 2-4 154 157 158	.2 31 2-4 154 158 159	.0 36 2-4 154 158 159
175.0	.0 -1 4-4 147 153 155	.1 25 4-4 147 154 155	.8 44 2-4 147 155 157	1.9 44 2-4 150 153 154	1.9 44 2-4 46 148 153 154 47
170.0	.2 30 4-4 140 148 150	2.0 44 4-4 142 150 152	1.2 48 2-8 147 150 151	1.2 48 2-8 145 150 151	1.2 48 2-8 50 143 150 151 50
165.0	2.7 44 4-4 136 145 148	.8 51 2-4 145 148 150	1.5 51 2-8 144 147 149	1.5 51 2-8 142 147 149	1.5 51 2-8 53 140 147 149 54
160.0	.1 53 4-4 140 145 147	.1 57 4-4 148 148 150	.1 59 4-4 155 155 156	.0 60 2-4 154 154 155	1.2 60 2-4 54 157 157 158 54
158.0	.2 55 4-4 141 145 147	.8 58 4-4 149 149 150	.6 60 4-4 154 154 155	.6 61 2-4 154 154 155	.3 62 2-4 54 156 156 157 54
156.0	.2 57 4-4 142 145 147	.5 60 4-4 150 150 152	1.2 61 4-4 154 154 155	1.2 62 2-4 153 153 154	.9 63 2-4 54 156 156 156 54
154.0	.3 59 4-4 143 145 147	1.2 61 4-4 150 150 151	.4 63 4-4 154 154 155	.4 64 2-4 152 152 153	.0 65 2-4 54 155 155 155 54
152.0	.4 61 4-4 145 145 147	.5 63 4-4 150 150 151	1.0 64 4-4 154 154 154	1.0 65 2-4 152 152 153	.6 66 2-4 54 154 154 155 54
150.0	.1 63 4-4 146 146 147	1.1 64 4-4 149 149 150	.2 66 4-4 153 153 154	.1 67 2-4 151 151 152	1.1 67 2-4 54 154 154 154 54
148.0	.8 64 4-4 146 146 147	.4 66 4-4 149 149 150	.8 67 4-4 150 150 151	.7 68 2-4 150 150 151	.2 69 2-4 54 153 153 153 54
146.0	.2 66 4-4 145 145 146	1.0 67 4-4 148 148 149	.1 69 2-4 147 147 148	1.2 69 2-4 150 150 151	.0 69 2 54 143 147 147 54
144.0	.8 67 4-4 144 144 145	.2 69 4-4 147 147 148	.0 69 2 140 142 143	.0 69 2 138 142 143	.0 69 2 54 136 142 143 54
142.0	.1 69 4-4 143 143 144	.0 69 2 137 138 140	.0 69 2 134 138 140	.0 69 2 132 138 140	.0 69 2 54 130 138 140 54
140.0	.0 69 2 135 135 136	.0 69 2 132 135 136	.0 69 2 129 135 136	.0 69 2 127 135 136	.0 69 2 54 125 135 136 54
135.0	.0 69 2 124 128 129	.0 69 2 121 128 129	.0 69 2 121 128 129	.0 69 2 121 128 129	.0 69 2 54 121 128 129 54
130.0	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 118 121 123	.0 69 54 118 121 123 54

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2139.(FT) QNH ALT. : 2636.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

CONF 3	TOULOUSE BLAGNAC	LFBO 33L
ELEVATION= 497.0(FT) T.O.R.A. =11483.0(FT) A.S.D.A. =12467.0(FT) T.O.D.A. =11483.0(FT) SLOPE = -.10(%)	CODES LIMITATIONS 1-STRUCTURE 5-TYRE SPEED 2-2ND-SEGMENT 6-BRAKE ENERGY 3-RUNWAY 7-RWY 2 ENGINES 4-OBSTACLE 8-FINAL T.O.	**A320-232**/AA/V2527-A5 JARA MC69 19-07-01 QNH=1013.25 (MB) **AIR COND. OFF** CG25% **ANTI-ICING OFF**
FOR TRAINING ONLY		
TREF = 44 DC TMAX = 54 DC	MTOW (LB) WIND (KT) MEAN V1 - VR - V2 CODES (IAS.KT)	**WITHOUT REVERSE** **DRY RUNWAY**

OAT DC	-10	-5	0	10	20
-1.0	174998 4-4 147 153 155	178915 2-4 153 155 157	182253 2-4 159 161 162	184110 2-4 163 165 166	185703 2-4 167 168 169
14.0	172777 4-4 144 151 153	176757 4-4 150 156 157	180516 2-4 155 158 159	182546 2-4 159 162 163	184342 2-4 163 165 166
29.0	170338 4-4 140 148 150	174445 4-4 146 153 155	178327 2-4 151 155 156	180736 2-4 155 159 160	182724 2-4 159 162 163
44.4	167653 4-4 136 145 148	171882 4-4 142 150 152	175766 4-4 147 155 157	176788 2-8 149 153 154	176788 2-8 147 153 154
46.0	166434 4-4 137 145 147	170629 4-4 142 150 152	174296 2-8 147 151 153	174296 2-8 147 151 153	174296 2-8 145 151 153
47.0	165529 4-4 137 145 147	169686 4-4 143 150 152	172728 2-8 147 150 152	172728 2-8 146 150 152	172728 2-8 144 150 152
49.0	163715 4-4 138 145 147	167790 4-4 144 150 152	169592 2-8 146 149 150	169592 2-8 144 149 150	169592 2-8 142 149 150
50.0	162814 4-4 139 145 148	166763 2-4 144 146 148	168023 2-8 145 148 150	168023 2-8 143 148 150	168023 2-8 141 148 150
52.0	161005 4-4 140 145 147	164885 4-8 145 150 151	164885 2-8 143 147 148	164885 2-8 141 147 148	164885 2-8 139 147 148
53.0	160076 4-4 140 145 147	163315 2-8 145 146 147	163315 2-8 142 146 147	163315 2-8 140 146 147	163315 2-8 138 146 147
55.0	158159 4-4 141 145 147	161719 2-8 146 146 148	161719 2-8 143 146 148	161719 2-8 141 146 148	161719 2-8 139 146 148
56.0	157186 4-4 142 145 147	161107 4-4 148 148 149	161717 2-8 146 148 150	161717 2-8 144 148 150	161717 2-8 142 148 150
57.0	156220 4-4 142 145 147	160077 4-4 148 148 150	161715 2-8 149 150 152	161715 2-8 147 150 152	161715 2-8 145 150 152
59.0	154320 4-4 143 145 147	157610 4-4 150 150 151	160055 4-4 155 155 156	161450 2-4 155 155 156	161713 2-8 154 155 156
60.0	153380 4-4 144 145 147	156476 4-4 150 150 152	158632 4-4 154 154 155	160015 2-4 154 154 155	161221 2-4 157 157 158
62.0	151324 4-4 145 145 147	153825 4-4 150 150 151	155802 4-4 154 154 155	157202 2-4 153 153 154	158327 2-4 156 156 157
63.0	150100 4-4 146 146 147	152468 4-4 150 150 151	154394 4-4 154 154 155	155809 2-4 153 153 154	156902 2-4 156 156 156
65.0	147486 4-4 145 145 147	149768 4-4 149 149 150	151602 4-4 153 153 154	152980 2-4 152 152 153	154042 2-4 155 155 155
66.0	146174 4-4 145 145 146	148430 4-4 149 149 150	150215 4-4 153 153 154	151564 2-4 151 151 152	152610 2-4 154 154 155
68.0	143447 4-4 143 143 144	145657 4-4 147 147 148	147468 2-4 147 147 148	148661 2-4 150 150 151	149656 2-4 153 153 154
69.0	142076 4-4 143 143 144	144239 4-4 147 147 148	146062 2-4 147 147 148	147217 2-4 150 150 151	148177 2-4 153 153 153

/MINI. ACCELERATION HEIGHT : 800.(FT) QNH ALT. : 1297.(FT)
/MAXI. ACCELERATION HEIGHT : 2139.(FT) QNH ALT. : 2636.(FT)
/TLC:K NOV.1999 A320-232/AA/V2527-A5 CONF 3-MC-MC69-1---A APP/LD-MC-MC69-1---A

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CHAPTER 05

- MASTER MINIMUM EQUIPMENT LIST -

1.05.01 - INTRODUCTION

1.05.02 - PRESENTATION

1.05.21 - EXTRACTS : AIR CONDITIONNING

1.05.27 - EXTRACTS : FLIGHT CONTROLS

1.05.34 - EXTRACTS : NAVIGATION

1.05.49 - EXTRACTS : AUXILIARY POWER UNIT

1.05.80 - EXTRACTS :

- STARTING
- ENGINE

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This extract of the Airbus MMEL (Master Minimum Equipment List) is to be used for training purposes only.

It includes the pages which may be consulted during sessions and LOFT to familiarize trainees with MMEL presentation and use.

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PREAMBLE

OBJECTIVES

An airplane is being type certificated with all required equipments in operating conditions. If deviations from this type certificated configuration and equipment required by the operating rules were not permitted, the aircraft could not be flown in revenue service unless such equipment was operable.
Experience has proven that the operation of every system or component installed on the aircraft is not necessary, in specific conditions and during limited period, when the remaining instruments and equipment provide an acceptable level of safety. Therefore, certain conditional deviations from the original requirement are authorized to permit continued or uninterrupted operation of the aircraft in revenue flight : they are published in the MINIMUM EQUIPMENT LIST (MEL) related to applicable regulations specific operations or airlines particular definitions.

TO FACILITATE THE PREPARATION OF MINIMUM EQUIPMENT LIST FOR OPERATIONS THE MANUFACTURER PROPOSES A MASTER MINIMUM EQUIPMENT LIST (MMEL) FOR APPROVAL TO THE DGAC.

THIS MMEL IS THE REGULAR BASIS ALLOWING OPERATORS TO UTILIZE THE AIRCRAFT WHEN SOME SYSTEMS OR COMPONENTS ARE INOPERATIVE, IN SPECIFIED CONDITIONS AND FOR A LIMITED PERIOD OF TIME, UNDER THE CONDITION THAT AN ACCEPTABLE SAFETY LEVEL BE MAINTAINED BY APPROPRIATE DESIGN REDUNDANCIES, PROCEDURES AND LIMITATIONS.

THIS MMEL CANNOT IN ANY CASE BE USED AS A MEL, DUE TO THE FACT THAT IT IS NOT RELATED TO OPERATIONAL REQUIREMENTS, SPECIFIC OPERATIONS OR AIRLINES PARTICULAR DEFINITIONS.

PRINCIPLES

For the sake of brevity, the MEL does not include obviously required items such as wings, control surfaces, engines, landing gear, etc... or items which do not affect the airworthiness of the aircraft such as galley equipment, entertainment systems, passenger convenience items, etc...

THUS, ALL ITEMS WHICH ARE RELATED TO THE AIRWORTHINESS OF THE AIRCRAFT AND NOT INCLUDED IN THE LIST ARE AUTOMATICALLY REQUIRED TO BE OPERATIVE FOR EACH FLIGHT.

(EMMEL01.PCX)

UNLESS OTHERWISE SPECIFIED IN THE EXCEPTIONS COLUMN, the MMEL does not define "where or when" an inoperative item is to be repaired or replaced but rather indicates those instruments and items of equipment that may be inoperative for certain flight conditions, with the intent that no revenue flight can take off from an airport with inoperative equipment other than that specified.

The failure of instruments or items of equipment in excess of those allowed to be inoperative by the MEL causes the aircraft to be unairworthy. The MEL makes no distinction between what is required for the flight between origin and destination (including the intermediate stops) and what is required for a flight beyond the scheduled arrival point.

However, as MEL is intended to provide for continued operation of the aircraft for a limited period with inoperative equipments, it is important that the operator make repairs at the first airport where repairs or replacements reasonably may be made, since additional malfunctions may require the aircraft to be taken out of service.

MEL utilization implies that the aircraft is operated within the framework of a controlled and sound program of repairs and parts replacement.

Air carriers are responsible for exercising the necessary operational control to assure that no aircraft is dispatched or flown with one or more MEL item inoperative for an indefinite period and without first determining that any interface or interrelationship between inoperative systems or components will not result in a degradation in the level of safety and/or an undue increase in crew workload.

The exposure to additional failures during operation with failed inoperative systems or components must also be considered to determine that an acceptable level of safety is being maintained.

This MMEL may not deviate from requirements of the flight manual limitations section, emergency procedures, or airworthiness directives, unless the flight manual or airworthiness directive provides otherwise.

HANDLING OF ECAM MAINTENANCE STATUS

At the head of each ATA chapter of this MMEL, the related MAINT STS message(s) on ECAM is (are) listed with the indication of the associated dispatch status.

MAINT STS indicate the presence of a category of failure which can only be identified by the interrogation of CFDS.

Operators must implement procedures to manage MAINT STS and associated maintenance messages, to handle faults recording and repair within 10 days. The 10 days limitation does not apply to the following messages : DAR, DMU, QAR. It is left to the operator to define the role devoted to flight crew and/or maintenance personnel in these procedures, however guidelines given in 01-00 p 6 can be used.

(EMMEL02.PCX)

CAT2, CAT3 SINGLE, CAT3 DUAL AUTOMATIC APPROACH AND LANDING

- Required equipment are listed in AFM 4.03.00 page 8, and FCOM 4.05.70.
- Equipment to be operative to get CAT2, CAT3 SINGLE, or CAT3 DUAL capability displayed on FMAs are also listed in FCOM 4.05.70.

The MMEL does not include these requirements, refer to AFM, and FCOM.

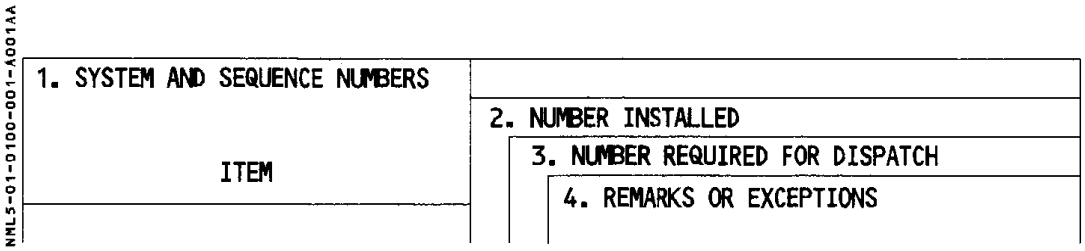
REDUCED VERTICAL SEPARATION MINIMUM (RVSM)

Minimum equipment/functions required to begin RVSM operations are listed in AFM 4.03.00 page 11 and FCOM 2.04.50 page 1.
The MMEL does not include these requirements, refer to AFM and FCOM.

(EMMEL03.PCX)

GENERAL

A "R" in the margin indicates a change, addition or deletion in the adjacent text for the current revision of that page only. The "R" is dropped at the next revision of that page.



COLUMN 1 : "ITEM"

It lists the equipment, components, systems or functions, for which dispatch conditions apply.
System numbers are based on Air Transport Association (ATA) specification number 100.
"(If Installed)" in the ITEM column indicates that the listed item is not applicable to all models or configurations. This does not imply that the airplane may be operated, in accordance with the MMEL, with the item removed.

Note : One single computer may include several functions. The corresponding MMEL entry is either the computer itself if fully inoperative or each function separately. If several functions are inoperative, reference must be made to each one.

COLUMN 2 : "NUMBER INSTALLED"

It indicates, for a given item, the quantity of equipment, components, systems or functions, installed on the airplane.
This quantity reflects the airplane type certificated configuration and, therefore required for all flight conditions, unless otherwise indicated in column 3 in conjunction with exceptions or remarks listed in column 4, if necessary.
"Dash" symbol indicates that a variable quantity is installed.
No indication (blank indication) is associated with the wording "as required by regulations" in column 4 (if any)

(EMMEL04.PCX)

COLUMN 3 : "NUMBER REQUIRED FOR DISPATCH"

It indicates, for a given item, the minimum quantity of equipment, components, systems or functions which must be operative for dispatch, under the conditions listed in column 4 (if any).
"Dash" symbol indicates that a variable quantity is required for dispatch.
No indication (blank indication) is associated with the wording "As required by regulations" in column 4.
It indicates that the number required for dispatch is not known since depending on local regulations.

COLUMN 4 : "REMARKS OR EXCEPTIONS"

* Asterisk requires inoperative equipment, component, system or function to be placarded in the cockpit to inform crewmembers of the equipment condition. Unless otherwise specified herein, placard wording and location will be determined by the operator.
(o) Symbol identifies a crew operational procedure
(m) Symbol indicates a requirement for a specific maintenance procedure which must be accomplished prior to operation with the listed item inoperative. Normally these procedures are accomplished by maintenance personnel ; however, if approved by national authorities, other personnel may be qualified and authorized to perform certain functions. Procedures requiring specialized knowledge or skill, or requiring the use of tools or test equipment should be accomplished by maintenance personnel.
The sastifactory accomplishment of all maintenance procedures, regardless who performs them, is the responsibility of the operator.

Note : Both symbols (o) and (m) used singularly, or in combination, require the appropriate procedures to be established, published, and complied with, if flight is accomplished with one item inoperative.

Different possibilities may be considered for an item. They will be identified by a), b), c)...
Within one possibility, different conditions may be required.
They will be identified by 1), 2), 3)...
References given in column 4 (ex : Refer to 21-23) are to bring attention to certain interrelationships between the subject item and other MMEL items.
These references are intended to assist with compliance, but do not relieve the operator of responsibility for determining such interrelationships, as stated in the preamble.
"Note" in column 4 indicates additional information and references for crewmember or maintenance consideration. Notes are not a part of the provisos.

(EMMEL05.PCX)

DEFINITIONS

1) "Inoperative" means a listed item of equipment is unserviceable or malfunctioning to the extent that it does not accomplish its intended purpose, or is not consistently functioning within its designed operating limits or tolerances.
Some systems have been designed to be fault tolerant and are monitored by digital computers which transmit fault messages to the CFDS. The presence of this category of fault messages does not mean that the system is inoperative.

2) The Centralized Fault Display System (CFDS) indicates the identity of faulty system for maintenance purpose and is not required for dispatch of the aircraft.

3) "VMC" (Visual Meteorological Conditions) – Under IFR or VFR the crew must maintain Visual Meteorological conditions.

4) "Icing Conditions" means an atmospheric environment that may cause ice to form on the airplane or powerplant.

5) "As required by regulations" means that the listed item must comply with applicable operational regulations.

6) "ER" refers to operations according to "Extended Range operations of two engine airplanes" requirements.

7) "Days" – Some items have a time interval given in the remarks column of the MMEL. Except if otherwise specified, "days" must be considered as "calendar days" excluding the calendar day the malfunction was recorded.

(EMMEL06.PCX)

Generally, information provided by means of Temporary Revisions are incorporated in the next normal revision.
In certain remote cases, some Temporary Revisions must remain in the manual even after incorporation of later normal revisions (provisional informations which will never be incorporated in the manual, for example).
They are numbered with index letter Z (ex : 01-52/01Z ISSUE 01)
Cancellation of such Temporary Revisions is indicated by :
– either the "LETTER OF TRANSMITTAL" of a normal revision, or
– the "FILING INSTRUCTIONS – TEMPORARY REVISIONS" when a Temporary Revision is superseded by a new Temporary Revision.

DEFINITIONS OF NOTES LEVEL USED IN SECTION 01

GENERAL

To avoid difficulties to know the applicability of a "NOTE" related with either a single item or a group of items, or a part of an item, in the section 01 of the MMEL, three levels have been defined, as explained below.

NOTE LEVEL 1

21-31 PRESSURE CONTROL AND MONITORING				***NOTE*** ***The whole pressurization system may be inoperative for a non-pressurized flight. Refer to FCOM.***
31-01 Automatic Cabin Pressure Control System	2	1	(o)	One may be inoperative provided cabin pressure indications are available on ECAM in manual mode.
31-02 Cabin Pressure Manual Control System	1	1		

Written in bold italics characters and delimitated by two bold lines the upper of which contains the title NOTE (see the example above), this note is applicable to all items listed below and related with the associated system or subsystem.

(EMMEL07.PCX)

NOTE LEVEL 2

20-02	Cabin signs (No Smoking/Fasten Seat Belt)	–	–	*NOTE* *AUTO function may be inoperative.* a) One or more signs may be inoperative and passengers may be carried provided : 1) Passenger Address system is operative, can be clearly heard throughout the cabin during the flight, and is used to alert the cabin attendants when seat belts should be fastened and smoking is prohibited, and 2) Call and cabin interphone systems are operative - or - b) No seat may be occupied from which a passenger cannot see a readily legible "No Smoking/Fasten Seat Belt" sign, and that seat must be blocked.
			*	
			*	

Written in normal italics characters and delimitated by two lines the upper of which contains the title NOTE (see the example above), this note is applicable to all remarks or exceptions, in column 4, related with a specific item.

(EMMEL08.PCX)

NOTE LEVEL 3

44-01 Stabilizer actuator electrical motor	3	2	a) Motor 3 may be inoperative, - or - b) Except for ER operations motor 2 may be inoperative. *Note : With motor 2 inoperative, ELAC 1 pitch channel is inoperative. Refer to 27-93-01.*

Written in normal italics characters and located below a specific remark or exception, in column 4, (see the example above) this note is applicable only to that specific remark or exception associated with a given item.

HOW TO INSERT A REVISION

FILING INSTRUCTIONS

Use the filing instructions as follows :

REMOVE :

The page must be removed. It may be replaced by a new page if associated with an INSERT instruction. If not, the page is cancelled.

INSERT :

The page must be inserted. If not associated with a REMOVE instruction, the page is new for the operator fleet and does not replace an existing one.

The column NOTE indicates EFECTIVITY CHANGE ONLY if the page is revised due to an effectivity change and not due to technical content.

LIST OF EFFECTIVE PAGES (LEP)

The manual after revision must comply with the LEP, which lists all the pages that are in the manual. The new pages are indicated by N and the revised pages by R.

Two additional documents are available :

- the "Letter of Transmittal" which gives some additional general instructions, if necessary.
- the "Highlights" which gives a short explanation on the technical changes for revised pages, and indicates the validation criteria added (removed) for new pages.

(EMMEL09.PCX)

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AIR CONDITIONNING

A319/320/321
MASTER MINIMUM EQUIPMENT LIST

MASTER MINIMUM EQUIPMENT LIST

AIR CONDITIONING

1. SYSTEM AND SEQUENCE NUMBERS / ITEM	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS	
21-52 AIR COOLING SYSTEM				
52-01 Air conditioning pack	2	1	*(o)	a) Except for ER operations, one may be inoperative provided : 1) flight altitude is limited to 31000 ft, and 2) ECAM warning ZONE REGUL FAULT is not present, and 3) affected pack pb sw is set at OFF and pack valve is checked closed on ECAM
				- or -
	2	2	(o)	b) One may be operated on heat exchanger cooling only (air cycle machine failure) provided 1) corresponding pack controller is fully operational and 2) TAT indication is available, and 3) the affected pack is not operated until airborne and the TAT is less than 12° C, and 4) affected PACK OUTLET TEMP indication is available
				- or -
	2	0		c) Except for ER operations both may be inoperative for a non-pressurized flight Refer to FCOM
52-02 Air cond pack ram air inlet flap	2	0	(m)	a) One or both may be inoperative in open position provided they are not loose
	2	0		b) One or both may be inoperative in closed position provided the associated pack(s) is (are) considered inoperative. Refer to 21-52-01

(E21A.PCX)

AIR CONDITIONNING (CONT'D)

21-52 AIR COOLING SYSTEM

52-01 Air conditioning pack

a)
During cockpit preparation :
PACK FLOW . . . . . HI

In flight :

If BLOWER and EXTRACT pb sw are set at OVRD, cabin altitude may reach about 9700 ft (EXCESS CAB ALT warning may occur).

b)
Operate the pack in "heat exchanger cooling only" configuration at TAT equal or less than 12°C. If the non affected pack fails, limit the altitude at 31000 ft and check that pack outlet temperature is not too high to obtain correct conditioning of zones.
If temperature is too high close air conditioning pack at the end of descent before landing.

21-61 PACK TEMPERATURE CONTROL

61-01 Pack controller primary channel

- If primary channel is failed pack flow is fixed at the value reached at the time of failure.
- If primary and secondary channels are failed the pack outlet temperature is controlled by the anti-ice valve to a nominal value of 15°C.

AIR CONDITIONNING (END)

A319/320/321
MASTER MINIMUM EQUIPMENT LIST

ECAM WARNINGS / MMEL ENTRY

AIR CONDITIONING

ECAM WARNING	DISPATCH CONDITION	REMARK
AIR		
PACK 1 (2) FAULT or OVHT or OFF	Refer to MMEL 21-52-01	
PACK 1 + 2 FAULT	Refer to FCOM 2-04-20	
PACK 1 (2) REGUL FAULT	Refer to MMEL 21-61-01	
FWD CRG VENT FAULT (if installed)	Refer to MMEL 21-28-01	
AFT CRG VENT FAULT (If Installed)	Refer to MMEL 21-28-04	
COND		
CKPT (FWD CAB) (AFT CAB) (FWD CRG) (If Installed) DUCT OVHT	Refer to MMEL 21-63-02	
AFT CRG DUCT OVHT (If Installed)	Refer to MMEL 21-43-02	
HOT AIR FAULT	Refer to MMEL 21-63-03 and	If TRIM AIR SYS FAULT warning not present
	Refer to MMEL 21-43-01 and	If FWD cargo heating installed
	Refer to MMEL 21-43-02	If AFT cargo heating installed
	Refer to MMEL 21-63-02	If TRIM AIR SYS FAULT warning present
TRIM AIR SYS FAULT		Note : If trim air valves are closed when this warning is triggered, it can be disregarded.
	Refer to MMEL 21-63-02, or	AFT CAB/FWD CAB/CKPT TRIM VALVE message displayed on ECAM
	Refer to MMEL 21-63-03 and Refer to MMEL 21-43-01	TRIM AIR HI PR message displayed on ECAM
ZONE REGUL FAULT	Refer to MMEL 21-63-01, a) and Refer to MMEL 21-43-01, or	If the message CAB ZONE AT FIXED TEMPERATURE is displayed
	Refer to MMEL 21-63-01, c) and Refer to MMEL 21-43-01	If the message PACKS AT FIXED TEMPERATURE is displayed
L + R CAB FAN FAULT	Refer to MMEL 21-21-01	
LAV + GALLEY FAN FAULT	Refer to MMEL 21-23-01	
FWD CRG ISOL VALVE (If Installed)	Refer to MMEL 21-28-02	
AFT CRG ISOL VALVE (If Installed)	Refer to MMEL 21-28-05	
FWD CRG HEAT FAULT (If Installed)	Refer to MMEL 21-43-01	
AFT CRG HEAT FAULT (If Installed)	Refer to MMEL 21-43-02	

(E21C.PCX)

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FLIGHT CONTROLS

A319/320/321 MASTER MINIMUM EQUIPMENT LIST

MASTER MINIMUM EQUIPMENT LIST
FLIGHT CONTROLS

1. SYSTEM AND SEQUENCE NUMBERS ITEM	2. RECTIFICATION INTERVAL	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH		5. REMARKS OR EXCEPTIONS
27-51 FLAPS ELECTRICAL CONTROL AND MONITORING					
51-01 Slat and flap control system (SFCS)					
A) FLAP channel	C	2	1	*	**(m)** SFCS N° 2 flap channel may be inoperative provided : 1) Slats and flaps are operable on SFCS 1, and 2) Operation of SFCS 1 WTB's is confirmed by test before each flight, and 3) All ELAC, SEC, LGCIU, RA, FAC and ADIRS are operative. *Note : Minimum idle on ground function is inoperative.* *Refer to 73-20-03.*
B) SLAT channel	C	2	1	*	**(m)** SFCS N° 2 slat channel may be inoperative provided : 1) Slats and flaps are operable on SFCS 1, and 2) Operation of SFCS 1 WTB's are confirmed by test before each flight, and 3) All ELAC, SEC, LGCIU, RA, FAC and ADIRS are operative.
51-02 Flap wing tip brakes solenoids	C	4	2		**(m)** One or two solenoids associated with SFCC 2 may be inoperative provided operation of SFCC 1 WTB's is confirmed by test before each flight.

(E27-51A.PCX)

FLIGHT CONTROLS (CONT'D)

A319/320/321 MASTER MINIMUM EQUIPMENT LIST | MAINTENANCE PROCEDURES | FLIGHT CONTROLS

27-51-01B	SFCC 2 SLAT CHANNEL – SFCC TEST PROCEDURE	
ACCESS ZONE :	ACCESS ITEM :	
GSE :		
ASSOCIATED CIRCUIT BREAKERS		
FIN	DESIGNATION	LOCATION
7CV	FLIGHT CONTROLS / SLT / CTL / SYS 2	121VU R21
8CV	FLIGHT CONTROLS / FLP / CTL AND/ MONG / SYS 2	121VU Q21
R 11CV	FLIGHT CONTROLS/WTB/SLT/SYS 2	121VU P19

PROCEDURE

1 – Energize the aircraft.

2 – Enter CFDS menu mode for SFCC 1.

R . Select SYSTEM REPORT/TEST

R . Select F/CTL

R . Select SFCC 1

R . Select SYSTEM STATUS SLT

. Check for class 1 and class 2 faults. "NO FAULTS" should be presented except SLT 1 no SFCC 2 data

R . Select RETURN until SYSTEM REPORT/TEST F/CTL page is shown

3 – Open SFCC 2 Circuit Breaker 7 CV.

Note : If SFCC2 has applied the WTBs due to a system 2 electrical fault (i.e. not a mechanical failure), the WTBs must be reset via CFDS before the appropriate SFCC2 C/B(s) are opened. If reset is unsuccessful, open C/B 11 CV.

R 4 – Make a test of SFCC 1 slats WTB :

a) Pressurize the yellow, blue and green hydraulic systems.
Note : Wait until the hydraulic pressure of the three systems has stabilized before entering CFDS.

b) Open C/B 8CV (keep C/B 7CV opened)

c) Select FLAPS 3

d) Enter CFDS menu mode for SFCC1.

. Select SYSTEM REPORT/TEST
. Select F/CTL
. Select SFCC 1
. Select NEXT PAGE
. Select SLT TEST/RESET

e) Request a WTB/POB TEST. Follow instructions as presented by CFDS. If the test is failed results will be presented, otherwise "NO FAULTS" will be presented.
Note : If the test is unsuccessful after 3 attempts (CFDS TEST INVALID result), do a new attempt with a ground power cart connected or with engine driven pumps on.
Engine crank may be made to drive related pumps.
If the test is performed with engines running, CFDS is inhibited 3 min after first engine start. Apply the following procedure to keep CFDS available :
. C/B FWS/FWC 1/SPLY (3WW on 49VU F01 or E02) . . . . . open
. C/B CFDS/CFDIU/SPLY (2TW on 121VU J18) . . . . . open
. C/B CFDS/CFDIU/BACK UP (8TW on 121VU J17) . . . . . open
. C/B EIS/FWC 2/SPLY (2WW on 121VU Q07) . . . . . open
. Start chrono. After 40 seconds, close C/B 2TW and 8TW
. Wait for CFDS initialization.
. Close C/B 3WW.
. Perform the test.
. Close C/B 2WW after the test has been performed.

f) Close C/B 8CV (keep C/B 7CV opened for dispatch).

g) Restore aircraft to required configuration.

(E27-51B.PCX)

FLIGHT CONTROLS (CONT'D)

A319/320/321 MASTER MINIMUM EQUIPMENT LIST

MASTER MINIMUM EQUIPMENT LIST
FLIGHT CONTROLS

1. SYSTEM AND SEQUENCE NUMBERS ITEM	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
27-93 ELEVATOR AILERON COMPUTER (ELAC)			
93-01 ELAC	2	1	***(o)(m)** Except for ER operations, ELAC 1 or any ELAC 1 function may be inoperative provided : 1) Both accelerometers associated with ELAC 2 are operative, and 2) All sidesticks transducers associated with ELAC 2 and the three SEC's are operative, and 3) All SEC, SFCC, LGCIU, RA, ADIRS and FAC are operative, and 4) All roll spoilers (surfaces 2, 3, 4 and 5) are operative, and 5) TR 1 and TR 2 are operative, and 6) DC TIE contactor 1 is checked closed. *Note : Except if ELAC pitch channel is failed, LAF is in degraded mode. Refer to 27-64-02.*
93-02 ELAC FAULT light	2	1	*
93-03 ELAC indication on ECAM flight control page	2	0	
93-04 Pitch normal law	1	1	

(E27-93A.PCX)

FLIGHT CONTROLS (CONT'D)

D) Surfaces 1 and 2

SEC 3 . . . . . OFF
C/B FLIGHT CONTROLS/SEC3/SPLY (121 VU Q19) . . . . . PULL
Performance penalty with two pairs of ground spoilers inoperative :

Takeoff Performance

Method

The method explained hereafter allows the determination of the MTOW and associated speeds (V1, VR, V2), by applying decrements on the MTOW and associated speeds computed in normal conditions.
The method is based on the use of RTOW charts established at optimum V2/VS, optimum V1/VR, minimum V1. It should not be used with takeoff charts computed with other conditions.
This method is not applicable with tailwind.

Note : The MTOW and associated speeds (V1, VR, V2) determined by this method may be retained for takeoff on wet runways provided all thrust reversers are operative, and used.
Takeoff with present failure case and one or more thrust reversers inoperative is not recommended on wet runway.

How to proceed ?
– Read, in 0 kt wind column of the takeoff chart computed in normal condition, the MTOW and associated speeds (V1, VR, V2) corresponding to the actual temperature, even in case of headwind (the method does not take into account the headwind benefit on takeoff performance).
– Apply the QNH and/or bleed corrections, if any, to determine the MTOW.
– Enter the following tables to determine the MTOW and speed decrements.
– Applying these decrements, calculate the MTOW and associated speeds corresponding to the actual temperature.

Note : If the actual TOW determined in normal conditions (without failure) is lower than the MTOW calculated using above method, the speeds associated with the actual TOW may be retained provided they are all lower than the speeds calculated using above method.

– Perform the takeoff using full thrust.

Note : Do not extrapolate below the shortest runway lenght provided by the tables.

(E27-93B.PCX)

FLIGHT CONTROLS (CONT'D)

A319/320/321
MASTER MINIMUM EQUIPMENT LIST

OPERATIONAL PROCEDURES
FLIGHT CONTROLS

DECREMENTS (ΔW, ΔV1, ΔVR, ΔV2) WHEN TWO PAIRS OF SPOILERS ARE INOPERATIVE

RUNWAY LENGTH (m)	CONFIGURATION											
	1 + F				2				3			
	ΔW kg/lb (×1,000)	ΔV1 kt	ΔVR kt	ΔV2 kt	ΔW kg/lb (×1,000)	ΔV1 kt	ΔVR kt	ΔV2 kt	ΔW kg/lb (×1,000)	ΔV1 kt	ΔVR kt	ΔV2 kt
1500	2.0/4.4	2	0	0	2.0/4.4	2	0	0	2.0/4.4	2	0	0
2000	1.0/2.2	2	1	1	1.0/2.2	2	1	1	1.0/2.2	3	2	2
2500	1.0/2.2	2	1	1	1.0/2.2	2	1	1	1.0/2.2	2	1	1
3000	1.0/2.2	2	2	2	1.0/2.2	2	1	1	0.5/1.1	2	2	2
3500	1.0/2.2	6	4	4	0.5/1.1	6	4	4	0.5/1.1	1	1	1
4000 and above	0.5/1.1	4	2	2	0.5/1.1	1	1	1	0.5/1.1	0	0	0

Note :

1) Check that the corrected V1 is above the minimum V1 value shown on the RTOW chart (due to VMCG limitation). If the corrected V1 is lower than minimum V1, take this last value as V1, and further decrease the weight by 2,000 kg (4,410 lb) per kt difference between both values.

2) Check that the corrected VR is above the minimum VR value shown on the RTOW chart (due to VMCA limitation). If the corrected VR is lower than minimum VR, takeoff is not possible.

3) Check that the corrected V2 is above the minimum V2 value shown on the RTOW chart (due to VMCA limitation). If the corrected V2 is lower than minimum V2, takeoff is not possible.

4) Check that the corrected V2 is above the minimum V2 due to VMU limitation (see "MINIMUM V2 LIMITED BY VMU" tables in FCOM 2.02.20). If the corrected V2 is lower than minimum V2, takeoff is not possible.

5) If the actual takeoff weight is lower than the corrected maximum takeoff weight (determined after application of the decrements) the speeds associated with the actual takeoff weight (determined in normal condition without failure) may be retained provided they are all lower than the corrected speeds determined using herabove method.

Landing Performance

Multiply the required landing distance by 1.1.

(E27.93C.PCX)

92-13 Spoilers/Speedbrakes indication on ECAM F/CTL and WHEEL page

During cockpit preparation :

– If surface 1 affected :
CAUTION : Aircraft must be stopped.
YELLOW ELEC PUMP . . . . . ON
PTU . . . . . CHECK AUTO
SPD BRK . . . . . FULL
Check visually surface 1 slightly extends (approximately 6°).
YELLOW ELEC PUMP . . . . . OFF

– If surface 3 affected :
BLUE ELEC PUMP . . . . . CHECK AUTO
BLUE PUMP OVRD . . . . . ON
Move the stick from left stop to right stop and check visually the correct movement of surface 3.
BLUE ELEC PUMP . . . . . OFF then AUTO

– If surface 2, 4 or 5 affected :
YELLOW ELEC PUMP . . . . . ON
PTU . . . . . CHECK AUTO
Move the stick from left stop to right stop and check visually the correct movement of surfaces 2, 4 and 5.
YELLOW ELEC PUMP . . . . . OFF

27-93 ELEVATOR AILERON COMPUTER (ELAC)

93-01 ELAC

Note : In case of ELAC1 FAULT warning, after the maintenance procedure has been applied, the warning C/B TRIPPED ON R ELEC BAY and C/B TRIPPED ON OVHD PNL are triggered.

During cockpit preparation :
1 – Check that elevator and roll spoilers control is operative through the SEC's :
YELLOW ELEC PUMP . . . . . ON
PTU . . . . . CHECK AUTO
BLUE ELEC PUMP . . . . . CHECK AUTO
BLUE PUMP OVRD . . . . . ON
ELAC 1 . . . . . ON
ELAC 2 . . . . . ON
SEC 1, 2 and 3 . . . . . ON
After 5 seconds do the following checks :

(E27-93D.PCX)

FLIGHT CONTROLS (CONT'D)

. 1 a) Check elevator control through SEC 1 and spoilers control through SEC 1 and SEC 3 :
BLUE ELEC PUMP . . . . . OFF then AUTO
Wait for hydraulic circuit depressurization and check on ECAM F/CTL page that blue elevator actuator symbol becomes amber.
After 5 seconds :
BLUE PUMP OVRD . . . . . ON
ELAC 1 . . . . . OFF
ELAC 2 . . . . . OFF
SEC 2 . . . . . OFF
Move the CAPT stick from right stop to left stop, then from forward stop to aft stop (each stop applied during 3 seconds). Check on ECAM F/CTL page the correct movement of spoilers 2 + 3 + 4 and the full travel of both elevators.
If an expected spoiler or elevator movement does not occur, do not attempt any reset : maintenance action is due. Perform same check from F/O Stick.

. 1 b) Check elevator control through SEC 2 and spoilers control through SEC 2 and SEC 3 :
ELAC 1 . . . . . ON
ELAC 2 . . . . . ON
SEC 2 . . . . . ON
After 5 seconds :
YELLOW ELEC PUMP . . . . . OFF
Wait for hydraulic circuits depressurization and check on ECAM F/CTL page that yellow and green elevator actuators symbols become amber.
After 5 seconds :
YELLOW ELEC PUMP . . . . . ON
ELAC 1 . . . . . OFF
ELAC 2 . . . . . OFF
SEC 1 . . . . . OFF
Move the CAPT stick from right stop to left stop, then from forward stop to aft stop (each stop applied during 3 seconds). Check on ECAM F/CTL page the correct movement of spoilers 2 + 5 and the full travel of both elevators.
If an expected spoiler or elevator movement does not occur, do not attempt any reset : maintenance action is due. Perform same check from F/O Stick.

. 1 c) Return to normal configuration :
YELLOW ELEC PUMP . . . . . OFF
BLUE ELEC PUMP . . . . . OFF then AUTO
ELAC 1 . . . . . ON
ELAC 2 . . . . . ON
SEC 1 . . . . . ON
Set ELAC 1 pb sw at OFF only if required by ECAM.

(E27-93E.PCX)

FLIGHT CONTROLS (END)

2 – Check of DC TIE contactor 1 operation.
Aircraft supplied either by APU generator or by external power : check on ECAM ELEC page link between DC BUS 1 and DC BAT BUS.

(E27-93F.PCX)

NAVIGATION

A319/320/321
MASTER MINIMUM EQUIPMENT LIST

MASTER MINIMUM EQUIPMENT LIST
NAVIGATION

1. SYSTEM AND SEQUENCE NUMBERS ITEM	2. RECTIFICATION INTERVAL	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS OR EXCEPTIONS	
34-10 AIR DATA INERTIAL REFERENCE SYSTEM (ADIRS)					
10-01 ADIRS					
A) IR	C	3	2	**(o)**	a) IR2 may be inoperative - or -
	C	3	3	**(o)**	b) NAV mode may be inoperative in IR1 or IR2.
B) ADR	C	3	2	**(o)**	ADR 2 or 3 may be inoperative.
10-02 ADIRS CDU					
A) Mode rotary selector	C	3	2	*	ADIRS 2 mode rotary selector may be inoperative provided associated ADIRS is considered inoperative. Refer to 34-10-01
B) DATA selector	C	1	0	*	a) May be inoperative provided MCDU 1 and MCDU 2 are operative - or -
	C	1	0		b) May be inoperative provided navigation is not planned on inertial data.
C) Sys selector	C	1	0	*	a) May be inoperative provided : 1) MCDU 1 and MCDU 2 are operative, and 2) IRS initialization is available through FMGS - or -
	C	1	0		b) May be inoperative provided navigation is not planned on inertial data.

(E34-10A.PCX)

NAVIGATION (CONT'D)

34-10 AIR DATA INERTIAL REFERENCE SYSTEM (ADIRS)

10-01 ADIRS

A) IR

a)
Set corresponding IR mode rotary selector at OFF.
If IR 2 affected :
ATT HDG selector . . . . . F/O 3
AIR DATA SELECTOR . . . . . F/O 3

b)
– If IR1 NAV mode is inoperative :
ATT HDG selector . . . . . CAPT 3
IR1 mode selector . . . . . ATT
– If IR2 NAV mode is inoperative :
ATT HDG selector . . . . . F/O 3
IR2 mode selector . . . . . ATT

B) ADR

Set corresponding ADR pb sw at OFF.

– If ADR2 inoperative.
AIR DATA SELECTOR . . . . . F/O 3
Open C/B ADIRS/ADIRU/2/26VAC AND AOA (121VU N09)
– If ADR3 inoperative :
Open C/B ADIRS/ADIRU/3/26VAC AND AOA (121VU N08)

After engine start :
Use RCL pb sw on ECAM CTL panel, in order to recall ADR FAULT warning.
Check that ECAM does not display the associated "ADR . . . . OFF" procedure.

34-13 AIR DATA (indication on PFD)

13-06 Other air data related indications

If V1, F, S, Green Dot or VAPP are inoperative, fill a data card. (for F, S, Green Dot or VAPP, Refer to FCOM 2-02).

(E34-10B.PCX)

NAVIGATION (CONT'D)

A319/320/321
MASTER MINIMUM EQUIPMENT LIST

MASTER MINIMUM EQUIPMENT LIST
NAVIGATION

	1. SYSTEM AND SEQUENCE NUMBERS / ITEM	2. RECTIFICATION INTERVAL	3. NUMBER INSTALLED	4. NUMBER REQUIRED FOR DISPATCH	5. REMARKS OR EXCEPTIONS	
	34-30 LANDING AND TAXIING AIDS					
	34-01 Paravisual Indicator (PVI) (If Installed)	D	—	0		
	35-01 Head up display (If Installed)	D	—	0	*	
R	36-01 ILS		—	—		***As required by regulations***
	34-40 INDEPENDENT POSITION DETERMINING					
	41-01 Weather radar system		—	—		***As required by regulations***
	41-02 Predictive Windshear Detection System (If Installed)					Refer to 22-66-03
	42-01 Radio altimeter system	C	2	1	**(o)**	One may be inoperative provided both FCU channels, all ELAC, SEC, ADIRS, SFCC, LGCIU and FAC are operative. *Note : If radio altimeter 1 is inoperative GPWS is inoperative.* *Refer to 34-48-01.*
	42-02 Automatic call-out	C	1	0		
	43-01 TCAS (If Installed)		—	—		***As required by regulations***
	48-01 GPWS		—	—		***As required by regulations***
R	48-02 EGPWS (If Installed)		—	—		***As required by regulations***
R	48-03 GPWS FAULT light		—	—		***As required by regulations***

(E34-40A.PCX)

NAVIGATION (CONT'D)

34-22 STANDBY ATTITUDE AND HEADING

22-01 Standby attitude indicator

During cockpit preparation :

ATT HDG sel . . . . . CAPT 3
R Check normal display on CAPT PFD, ND and RMI VOR
ATT HDG sel . . . . . F/O 3
R Check normal display on F/O PFD, ND
ATT HDG sel . . . . . NORM
EIS DMC . . . . . CAPT 3
R Check normal display on CAPT PFD, ND
EIS DMC . . . . . F/O 3
R Check normal display on F/O PFD, ND
EIS DMC . . . . . NORM

22-02 Standby compass

During cockpit preparation :

ATT HDG sel . . . . . CAPT 3
R Check normal display on CAPT PFD, ND and RMI VOR
ATT HDG sel . . . . . F/O 3
R Check normal display on F/O PFD, ND
ATT HDG sel . . . . . NORM
EIS DMC . . . . . CAPT 3
R Check normal display on CAPT PFD, ND
EIS DMC . . . . . F/O 3
R Check normal display on F/O PFD, ND
EIS DMC . . . . . NORM
CAPT PFD/ND . . . . . XFR
Check that CAPT PFD and ND images are interchanged
CAPT PFD/ND . . . . . XFR
F/O PFD/ND . . . . . XFR
Check that F/O PFD and ND images are interchanged
F/O PFD/ND . . . . . XFR

34-40 INDEPENDENT POSITION DETERMINING

42-01 Radio altimeter system

– If R/A1 inoperative.
C/B COM NAV/RAD ALTM/1 (121VU K11) . . . . . PULL
– If R/A2 inoperative.
C/B COM NAV/RAD ALTM/2 (121VU K12) . . . . . PULL

(E34-40B.PCX)

NAVIGATION (END)

A319/320/321
MASTER MINIMUM EQUIPMENT LIST

ECAM WARNINGS / MMEL ENTRY

NAVIGATION

ECAM WARNING	DISPATCH CONDITION	REMARK
NAV		
HDG/ATT/ALTI DISCREPANCY	Refer to MMEL 34-10-01	
ADR FAULT	Refer to MMEL 34-10-01	
IR FAULT	Refer to MMEL 34-10-01	
RA 1 (2) FAULT	Refer to MMEL 34-42-01	
ILS 1 (2) FAULT	Refer to MMEL 34-36-01	
GPWS FAULT	Refer to MMEL 34-48-01	
OVER SPEED		Not applicable
TCAS FAULT (If Installed)	Refer to MMEL 34-43-01	
PRED W/S DET FAULT (if istalled)	Refer to MMEL 34-41-02	
F/CTL		
ADR DISAGREE		Not applicable
IR DISAGREE		Not applicable

(E34.PCX)

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AUXILIARY POWER UNIT

A319/320/321
MASTER MINIMUM EQUIPMENT LIST

MASTER MINIMUM EQUIPMENT LIST
AUXILIARY POWER UNIT

1. SYSTEM AND SEQUENCE NUMBERS ITEM	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH		4. REMARKS OR EXCEPTIONS
49-00 MESSAGES DISPLAYED ON ECAM MAINT STATUS				
00-01 APU				Dispatch with this MAINT STATUS is granted.
49-10 POWER PLANT				
10-01 APU	1	0	* **(m)**	— *NOTE* — *Any of the APU equipment may be inoperative on an APU inoperative or considered to be inoperative.* May be inoperative (for ER operations, for one flight) provided : 1) Master switch is in OFF position, and 2) Procedures are not depending upon its availability, and 3) Maintenance procedure is applied in case of APU on speed autoshutdown if APU does not accelerate up to 50 % N during the first restart attempt.

(E49A.PCX)

AUXILIARY POWER UNIT (END)

A319/320/321 MASTER MINIMUM EQUIPMENT LIST	OPERATIONAL PROCEDURES	
	APU	

49-30 ENGINE FUEL AND CONTROL

30-01 APU fuel pump

If not required, APU may be used with the APU fuel pump inoperative. For APU start and operation, pressurize the LH fuel manifold with at least one fuel tank pump.

30-02 APU LP valve

b)
Check on ECAM FUEL page that APU LP valve is indicated closed.

(E49B.PCX)

STARTING

A319/320/321
MASTER MINIMUM EQUIPMENT LIST

MASTER MINIMUM EQUIPMENT LIST
STARTING

REV 21

1. SYSTEM AND SEQUENCE NUMBERS ITEM	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
80-11 PNEUMATIC STARTER AND VALVE SYSTEM			
11-01 Start valve	2	1	**(o)(m)** One may be inoperative provided the start valve is manually closed after engine start.
11-02 MAN START control	2	0	*
11-03 ENG FAULT light on pedestal	2	0	*
11-04 Start valve position indication on ECAM lower display	2	0	**(m)** One or both may be inoperative provided the start valve is checked closed after engine start.

(E80A.PCX)

STARTING (END)

80-11 PNEUMATIC STARTER AND VALVE SYSTEM

11-01 Start valve

A) Valve

Engine start with start valve manual operation :

Advise ground crew to prepare for manual start valve operation
AUDIO CONTROL PANEL . . . . . CAB

– When ground crew member is ready, order "START 1 or 2"
ENG MOD SEL . . . . . IGN/START
MASTER sw . . . . . ON
START VALVE . . . . . ORDER "OPEN AND KEEP OPEN"

– When N2 at 50 % :
START AIR VALVE . . . . . ORDER CLOSURE
Continue with normal procedure.

Note : Starter assisted engine relight is not possible.

(E80B.PCX)

ENGINE

A319/320/321
MASTER MINIMUM EQUIPMENT LIST

ECAM WARNINGS / MMEL ENTRY

ENGINE

ECAM WARNING	DISPATCH CONDITION	REMARK
ENG		
FUEL FILTER CLOG	NO DISPATCH, or	Actual warning
	Refer to MMEL 73-30-03	False warning
FUEL CTL FAULT	NO DISPATCH	
HP FUEL VALVE	NO DISPATCH	
REVERSER FAULT	Refer to MMEL 78-30-01	
REV PRESSURIZED	NO DISPATCH	
REV SWITCH FAULT	Refer to MMEL 78-30-08	
REVERSE UNLOCKED	NO DISPATCH	
EIU FAULT	NO DISPATCH	
OIL FILTER CLOG	NO DISPATCH	
OIL LO PR	NO DISPATCH, or	Actual warning
	Refer to MMEL 79-33-02	False warning
OIL HI TEMP	NO DISPATCH	
N1/N2/EGT OVERLIMIT		Not applicable
N1/N2/EGT/FF DISCREPANCY	NO DISPATCH	
LOW N1	NO DISPATCH	
START VALVE FAULT	Refer to MMEL 80-11-01	
START FAULT	NO DISPATCH	
ENG DUAL FAILURE		Not applicable
ENG FAIL		Not applicable
After ENG SHUT DOWN		Not applicable
ONE TLA FAULT	Refer to MMEL 76-11-01	
THR LEVER FAULT	NO DISPATCH	
THR LEVER DISAGREE	NO DISPATCH	
IGN FAULT	Refer to MMEL 74-31-01, or	Actual warning
	Refer to MMEL 74-31-03	False warning
FLEX TEMP NOT SET	Refer to MMEL 73-20-05	
ENG STALL		Not applicable
COMPRESSOR VANE	NO DISPATCH	
OVSPD PROT FAULT	NO DISPATCH	
CTL VALVE FAULT	NO DISPATCH, or	If HPTC or RACC valve(s) affected
	Refer to MMEL 73-11-02	If BSV(s) affected
SENSOR/PROBES FAULT	NO DISPATCH	

(E80C.PCX)

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