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CHAPTER 00

- GENERAL INFORMATION -

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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, RTOLW, ...)

02 - COMMENTS - QUESTIONS - SUGGESTIONS

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 Standards Department
FAX : 33.(0)5.62.11.07.40

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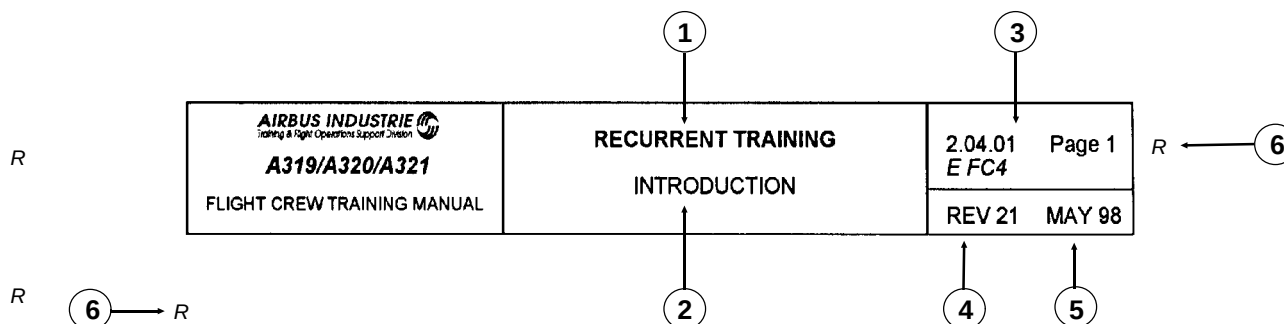
The FCTM is divided into two volumes :

Volume 1 : Training Support

Volume 2 : Training Syllabi

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04 - PAGINATION



- ① Chapter title
- ② Section title
- ③ FCTM volume number - Chapter number - Section number - Page number

NOTE : Chapter number and course type number is the same

Examples : - Chapter **04** is dedicated to the **E FC4** (Recurrent Training)

- Chapter **10** is dedicated to the **E F10** (ETOPS course)

- ④ Revision number
- ⑤ Revision date

- ⑥ An "R" in front of a line indicates that the line has been revised
An "R" 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.

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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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CHAPTER 02

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01 - GENERAL

A. PHILOSOPHY OF THE COURSE

The Flight Crew Transition Course is based on the following three principles :

- Systematic approach to instruction
- Learning by doing
- Training to proficiency

a. Systematic approach to instruction :

The task of training must be considered as a whole and an instruction system must be defined to achieve the training objectives. These objectives are determined by a task analysis. Methods and means necessary to implement the instruction system are chosen for their qualities and adaptability to the objectives.

Each phase in the training system is intended to fulfil part of the objectives.

b. Learning by doing :

It is very important that practical exercises are included in each training phase. Practical system training is provided as soon as possible to :

- ensure that the theoretical knowledge is retained
- train the crew members in their respective tasks in the cockpit environment.

c. Training to proficiency :

At the end of the training program, each crew must be capable of carrying out his tasks safely and efficiently, in accordance with the training objectives. Therefore, it is not possible to permit a trainee to move up from one phase to the next until he has acquired the skills necessary to complete the objectives.

d. Crew training - Crew Resource Management (CRM)

The ACRM (Airbus Crew Resource Management) is integrated into the technical training through 7 CRM topics studied during the ACRM workshop. Each topic could be part of the briefing or debriefing of a session depending on crew's performance and various opportunities.

- The debriefing of a topic can be done every time it could enhance the trainee's performance
- The briefing of a topic (if not already debriefed) is scheduled in accordance with the table provided in the Trainee's file

B. PREREQUISITES

Defined by clause 16 in aircraft purchase contract and entry level requirements as specified in the Airbus Training Policy.

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02 - TYPE RATING COURSE DESCRIPTION

A. TRANSITION COURSE :

- The basic Transition course (called Regular Course) is declined in several versions (called Adapted Courses) according to the needs of the Airlines and the background of the pilot in order to achieve the training objectives.
Adapted courses are designed from the Regular Transition course by adding extra training (briefing and simulator sessions).

- The Regular and Adapted courses are available with additional days of "Language" option for pilots with no English, no fluent English or insufficient knowledge in technical English.

These extra days are mainly spread over the Ground phase as the systems are studied with projected CBT.

An extra day is proposed before the Progress check in the Normal phase and another one before the Skill test in the Abnormal/Emergency phase, both dedicated to a spare session if needed.

NOTE : Spare sessions are performed on instructor's request.

Computerised codes are used to identify the various aircraft and courses. Here under the meaning of the main codes :

a. Aircraft Codes

B = A310	F = A340	H = A321
D = A300-600	G = A330	J = A319
E = A320		

b. Course Codes

		CBT athome	Language option
Regular Course <i>Experienced jet qualified line pilots</i>	E F2RA2	E F2RA4	E F2RA7
Adapted Jet Familiarization Course <i>Pilots with no previous experience on jet aircraft</i>	E F2JA2	E F2JA4	E F2JA7
Adapted Crew Course <i>Pilots with no practice of crew co-ordination and flight deck management</i>	E F2KA2	E F2KA4	E F2KA7
Adapted Line Familiarization Course <i>Pilots with no practice of operation in a line environment.</i>	E F2LA2	E F2LA4	E F2LA7

B. CROSS CREW QUALIFICATION COURSE (CCQ) :

Refer to CCQ FCTM chapter (Instructor's FCTM only)

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02 - TYPE RATING COURSE DESCRIPTION (END)

C. A319/A320/A321 SAME TYPE RATING :

The Same Type Rating is the term used by Airbus Industrie to assign a single type rating for different Airbus aircraft.

Same Type Rating permits the carry-over of total credit for crew qualifying from one variant of aircraft type to another, based on common cockpit and flight characteristics.

After completion of an A320 Transition or CCQ course, the A319/A320/A321 Same Type Rating needs only stand up lecture and / or CBT study to highlight the differences between the aircraft.

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D. FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE

Refer to "First Type Rating On Multi-pilot Airplane Course" FCTM chapter (Instructor's FCTM only)

03 - COURSE ORGANISATION

A. DESCRIPTION

The instruction concept utilised by Airbus Industrie uses a program divided into phases, each of which generally corresponds to part of the objectives.

In an effort to produce a single syllabus set satisfying all the regulatory authorities requirements (JAA, FAA, CAA, etc.) the sessions take place in various airports.

a. Ground course phase

- Welcome : general introduction presenting Airbus Training Centre and the course,
- cockpit familiarization session in a Full Flight Simulator.

The ground school phase consists of integrated training using :

- a Computer Based Training (CBT) workstation
- FMGS trainer (F3D)
- ECAM (FBS) trainer
- Fixed Base Simulator
- Doors and slides trainer

b. Normal operation phase

Having studied each system of the aircraft separately during the Ground course, the trainee is invited to study integration of these systems and subsequent procedures, as well as aircraft handling in Normal situations. Normal situations here must be understood as flying the aircraft without any internal failure.

The objective is to apply normal procedures with respect of task sharing and crew coordination.

The sessions are scheduled in FBS to study the procedures and in FFS to apply the procedures and practice aircraft handling in normal operations.

A progress check at the end of the Normal phase allows the instructor to evaluate if Trainee's knowledge and skills fulfil the requirements to start the Abnormal phase.

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03 - COURSE ORGANISATION (CONT'D)

A. DESCRIPTION (END)

c. Abnormal/emergency operation phase :

Knowing now how to handle the aircraft in normal situations, the trainees are invited to study the aircraft in abnormal/emergency operations, experiencing several failure cases. The objective is to apply the abnormal/emergency procedures with respect of task sharing and crew coordination.

R Sessions are scheduled in FBS to study the procedures and in FFS to practice aircraft handling. The last FFS session is a maneuver check to evaluate knowledge and skills in normal / abnormal operations (*1st step of the Skill test*)

d. LOFT (Line Oriented Flight Training) phase

The aim of the LOFT sessions exercise is to give trainees experience in operating the aircraft in real time flying scenarios
 [Refer to LOFT briefing - FCTM Vol 1 "Normal Operation Briefings" chapter.]

R The last session is a LOE (Line Oriented Evaluation) FFS (*2nd step of the Skill test*)

e. Phase 5 : Base training

Base training if applicable.
 [Refer to Base Training Briefing - FCTM Vol 1 "Normal Operation Briefings" chapter.]

03 - COURSE ORGANISATION (END)

B. INSTUCTOR BRIEFING

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The instructor will make a briefing whose duration is stated in the table below within a reasonable time frame before each FBS and FFS session :

R
R
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R
R
R

Briefing duration per session :			
PHASES	BRIEFING		
	FBS	FFS	ACRM (if any)
Ground	0:30 to 1:00	-	-
Normal / Abnormal	1:30	1:30	At instructor's discretion ⁽¹⁾
• Skill test session	-	0:30	-
LOFT / LOE	-	1:00	At instructor's discretion ⁽¹⁾

Except during the Ground phase⁽²⁾, a debriefing is to be done after each FBS and FFS session. Duration of the debriefing is left at instructor's discretion according to Trainees' performance.

(1) As a part of the normal session briefing duration

(2) No debriefing required except on students and/or instructor request

The instructors are advised to use all available tools that can support the learning process significantly i. e. FMGS trainer, ACRM briefings and others. They must brief the Trainees before the first session of the Normal phase to prepare the session using the FCOM and FCTM (Take-off data and flight plan if necessary)

04 - CRITERIA OF PROFICIENCY

A. CBT

a. Test :

On completion of this phase, a multiple choice test will be completed. The minimum level required, to be declared proficient, is determined by the Airline (usually between 70% and 80%)

b. Unsatisfactory test :

Corrective action using the CBT will be determined by the instructor in coordination with Airbus Industrie Training Director. The student will then undertake another test.

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04 - CRITERIA OF PROFICIENCY (END)

B. FBS AND FFS NOTATIONS

The procedure to assess the Trainees is defined in the ADOPT specific booklet provided during the Instructor ADOPT training. The Trainee's file includes :

- 1 grade sheet per session
- 1 summary sheet
- 1 ACRM follow up



Regular course

- E F2R -

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R

Training device time sharing per phase Page 03

EF2RA2 - Regular Course daily footprint Page 04

EF2RA7 - Regular + Language Course daily footprint Page 06

EF2RA4 - CBT at Home Regular Course daily footprint..... Page 08

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R **01 - TRAINING DEVICE TIME SHARING PER PHASE**

R **N. B. :** except when notified, the allocated time is mentioned per crew

R R R R			(With Language option)
	Total Duration	25 working days	30 working days
R R	GROUND PHASE	11 working days	16 working days
	CBT : - Aircraft system study + review.....	35:45 / trainee	58:45 / trainee
	- Test (Systems + Perfo).....	3:00 / trainee	4:00 / trainee
R	FMGS TRAINER : - 3 sessions.....	6:00 (3 x 2:00)	
	- 1 session.....	3:00	
R	ECAM TRAINER : 3 sessions.....	6:00 (3 x 2:00)	
R	FBS : 2 sessions.....	2:00 3:00	
	FFS : 1 familiarization session (Introduction to A320).....	0:45	
NORMAL PHASE		5 working days	
	FBS : 2 sessions.....	6:00 (2 x 3:00)	
	FFS : 3 sessions.....	9:00 (3 x 3:00)	
ABNORMAL - EMERGENCY PHASE		6 working days	
	FBS : 2 sessions.....	6:00 (2 x 3:00)	
	FFS : 4 sessions (1).....	12:00 (4 x 3:00)	
LOFT PHASE		3 working days	
	FFS : 3 sessions (1).....	9:00 (3 x 3:00)	
In the aircraft :			
BASE TRAINING PHASE		1 working day	
(if applicable i.e. French DGAC rule)			
	1 flight.....	1:30 / trainee	
R	(1) Including the Skill test		

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02 - REGULAR COURSE

TRAINING DAILY FOOTPRINT (GROUND PHASE)

DAY 1 7:30 Welcome 2:30 CBT : - Introduction 0:20 - Aircraft general 0:15 - EIS - ECAM 1:45 - APU 0:40 - EIS - EFIS 1:15 <i>FFS 0</i> 0:45	DAY 2 6:45 CBT : - Autoflight 3:45 - Pneumatic 1:00 <i>ECAM 1</i> 2:00	DAY 3 7:15 CBT : - Air conditioning 1:00 - Electric 2:15 - Hydraulic 1:15 - Fire protection 0:45 <i>FMGS 1</i> 2:00
DAY 4 6:50 CBT : - Doors 0:30 - Navigation 1:50 - Press / Vent 1:00 - Power plant 1:30 <i>ECAM 2</i> 2:00	DAY 5 6:30 CBT : - Fuel 1:00 - Landing gear 1:00 - Flight controls 2:30 <i>FMGS 2</i> 2:00	DAY 6 7:10 CBT : - Communication 0:40 - Oxygen 0:30 - Safety and cabin trainer 2:00 <i>ECAM 3</i> 2:00 <i>FMGS 3</i> 2:00
DAY 7 6:30 CBT : - Lights 0:30 - Ice & rain protection 0:30 <i>FMGS 4</i> 3:00 <i>V PREP FBS briefing</i> 0:30 <i>V PREP FBS</i> 2:00	DAY 8 7:00 CBT : - Performance	DAY 9 5:30 CBT : - TCAS 1:30 <i>V0 FBS briefing</i> 1:00 <i>V0 FBS</i> 3:00
DAY 10 6:00 CBT : - Review 1:30 - System test 2:00 - Performance test 1:00 Aircraft visit 1:30	DAY 11 7:00 Airbus Crew Resource Management (ACRM)	

NOTE : System study timing to be considered as an average

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R **02 - REGULAR COURSE (END)**

R TRAINING DAILY FOOTPRINT (NORMAL, ABNORMAL, LOFT, EVALUATION PHASES)

DAY 12 <i>N1 FBS</i>	DAY 13 <i>N2 FBS</i>	DAY 14 <i>N3 FFS</i>
DAY 15 <i>N4 FFS</i>	DAY 16 <i>N5 FFS</i> (Progress check)	DAY 17 <i>F1 FBS</i>
DAY 18 <i>F2 FBS</i>	DAY 19 <i>F3 FFS</i>	DAY 20 <i>F4 FFS</i>
DAY 21 <i>F5 FFS</i>	DAY 22 <i>F6 FFS - SKILL TEST</i> (4 hour session)	DAY 23 <i>LOFT 1 FFS</i> (might be performed in a FBS if FFS not available)
DAY 24 <i>LOFT 2 FFS</i>	DAY 25 <i>LOE FFS</i> (Line Oriented Evaluation)	

 = Abnormal / Emergency sessions

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03 - REGULAR + LANGUAGE COURSE

TRAINING DAILY FOOTPRINT (GROUND PHASE)

DAY 1 Welcome 2:30 Projected CBT : - Aircraft general - ECAM	DAY 2 Projected CBT : - ECAM - APU - EFIS - Autoflight <i>FFS 0 0:45</i>	DAY 3 Projected CBT : - Autoflight <i>ECAM 1 2:00</i>
DAY 4 Projected CBT : - Autoflight - Electric	DAY 5 Projected CBT : - Electric - Pneumatic - Air conditioning - Pressu <i>FMGS 1 2:00</i>	DAY 6 Projected CBT : - Pressu. - Vent. - Hydraulic - Fire protection - Flight controls
DAY 7 Projected CBT : - Flight controls - Power plant <i>ECAM 2 2:00</i>	DAY 8 Projected CBT : - Power plant - Ice & rain protection - Fuel - Landing gear <i>FMGS 2 2:00</i>	DAY 9 Projected CBT : - Landing gear - Navigation <i>ECAM 3 2:00</i>
DAY 10 <i>FMGS 3 2:00</i> <i>FMGS 4 3:00</i>	DAY 11 Projected CBT : - Performance <i>V PREP FBS briefing 0:30</i> <i>V PREP FBS 2:00</i>	DAY 12 Projected CBT : - Performance (end)
DAY 13 Projected CBT : - TCAS <i>V0 FBS briefing 1:00</i> <i>V0 FBS 3:00</i>	Optional day Projected CBT : Completion of system study if needed	DAY 14 Projected CBT : - Doors - Safety and cabin trainer
DAY 15 Projected CBT : - Review - System test 2:00 - Performance test 2:00 Aircraft visit 1:30	DAY 16 Airbus Crew Resource Management (ACRM)	NOTE : When requested by the instructor, a spare session is performed on Day 14.

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R **03 - REGULAR + LANGUAGE COURSE (END)**

R TRAINING DAILY FOOTPRINT (NORMAL, ABNORMAL, LOFT, EVALUATION PHASES)

DAY 17 <i>N1 FBS</i>	DAY 18 <i>N2 FBS</i>	DAY 19 <i>N3 FFS</i>
DAY 20 <i>N4 FFS</i>	DAY 21 <i>N5 FFS</i> (Progress check)	DAY 22 <i>F1 FBS</i>
DAY 23 <i>F2 FBS</i>	DAY 24 <i>F3 FFS</i>	DAY 25 <i>F4 FFS</i>
DAY 26 <i>F5 FFS</i>	DAY 27 <i>F6 FFS - SKILL TEST</i> (4 hour session)	DAY 28 <i>LOFT 1 FFS</i> (might be performed in a FBS if FFS not available)
DAY 29 <i>LOFT 2 FFS</i>	DAY 30 <i>LOE FFS</i> (Line Oriented Evaluation)	

R **NOTE :** When requested by the instructor, spare sessions for the Language course are
 R performed :

- R - the day before the Progress check (Normal phase)
 R - the day before the Skill test (Abnormal / Emergency phase)
 R

 = Abnormal / Emergency sessions

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R **04 - CBT AT HOME REGULAR COURSE**

R TRAINING DAILY FOOTPRINT (GROUND PHASE)

R R R R R R R R R R R R R R	DAY 1 5:15 Welcome 2:30 <i>FFS 0 (1)</i> 0:45 <i>ECAM 1</i> 2:00	DAY 2 6:00 <i>FMGS 1</i> 2:00 <i>FMGS 2</i> 2:00 <i>ECAM 2</i> 2:00	DAY 3 4:00 <i>FMGS 3</i> 2:00 <i>ECAM 3</i> 2:00
	DAY 4 5:30 <i>FMGS 4</i> 3:00 <i>V PREP FBS briefing</i> 0:30 <i>VPREP FBS</i> 2:00	DAY 5 7:00 CBT : - Performance	DAY 6 7:00 CBT : - TCAS 2:00 Cabin trainer 1:00 <i>V0 FBS briefing</i> 1:00 <i>V0 FBS</i> 3:00
	DAY 7 6:00 CBT : - Review 1:30 - System test 2:00 - Performance test 1:00 Aircraft visit 1:30	DAY 8 7:00 Airbus Crew Resource Management (ACRM)	

(1) FFS 0 must be performed before Day 6

NOTE : The sequence of the Ground course may be slightly modified due to the availability of the equipments.

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04 - CBT AT HOME REGULAR COURSE (END)

TRAINING DAILY FOOTPRINT (NORMAL, ABNORMAL, LOFT, EVALUATION PHASES)

DAY 9 <i>N1 FBS</i>	DAY 10 <i>N2 FBS</i>	DAY 11 <i>N3 FFS</i>
DAY 12 <i>N4 FFS</i>	DAY 13 <i>N5 FFS</i> (Progress check)	DAY 14 <i>F1 FBS</i>
DAY 15 <i>F2 FBS</i>	DAY 16 <i>F3 FFS</i>	DAY 17 <i>F4 FFS</i>
DAY 18 <i>F5 FFS</i>	DAY 19 <i>F6 FFS - SKILL TEST</i> (4 hour session)	DAY 20 <i>LOFT 1 FFS</i> (might be performed in a FBS if FFS not available)
DAY 21 <i>LOFT 2 FFS</i>	DAY 22 <i>LOE FFS</i> (Line Oriented Evaluation)	^

 = Abnormal / Emergency sessions

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FFS SYLLABUS :

Familiarization FFS (FFS 0) syllabus Page 03

FBS SYLLABI :

Preparation FBS (V PREP) syllabus..... Page 05

V0 FBS syllabus Page 07

ECAM TRAINER SYLLABI :

ECAM 1 syllabus Page 09

ECAM 2 syllabus Page 11

ECAM 3 syllabus Page 13

FMGS TRAINER SYLLABI :

FMGS 1 syllabus Page 15

FMGS 2 syllabus Page 27

FMGS 3 syllabus Page 37

FMGS 4 syllabus Page 49

NOTE : *Instructors' FCTM includes the "Session Guides"*

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FFS 0 TAKE-OFF DATA
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 15 R

WIND CALM

VISI CAVOK

CEILING

TEMP 14°C

DEW POINT ... 10°C

QNH 1013 hPa/29.92 inHg

QFE 995 hPa/29.38 inHg

RWY COND ... DRY

Observations...: AIR COND ON

INIT NEXT PAGE

ZFCG/ZFW

BLOCK

PERF PAGE

IAE CFM

 V1

 VR

 V2

 FLEX

 DRT

T/O FLAPS

T/O C.G.

NOTE :
F/PLN :

LOCAL FLIGHT

TRAFFIC PATTERNS

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FFS 0 SESSION GUIDE

01 - SESSION OBJECTIVE

This session is called "Aircraft Familiarization" in order to avoid any confusion with the first FBS session.

The only objective of this session is to DEMISTIFY the Fly-by-Wire system, the fixed thrust levers philosophy and the glass cockpit principle.

02 - TRAINING TOPICS

A. REVIEW

Not applicable.

B. INTRODUCE

Not applicable.

03 - SESSION PROFICIENCY CRITERIA

Not applicable.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

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FFS 0 SESSION GUIDE (END)

04 - SESSION GUIDE

Although there is no need to rush, 45 minutes to introduce the A320 is not much : don't waste time ! There is no need to show how to use the lights, seats, armrests, etc...

Ask your trainees to sit down, adjust the height of the seat to a reasonable value, help with the armrest and pedals adjustment.

Point out on the PFD's:

- On speed scale mention S / F / 0 marks briefly.
- Usual display of attitude (FD's OFF).
- Altitude and vertical speed indications.
- Heading scale and reference line.
- Omit FMA indications
- Dim to zero the ND's and point out on the Upper ECAM the N1 / EPR (if applicable) indication and disregard the other parameters.
- Dim to zero the lower ECAM.
- Deselect both FD's.
- DO NOT initialize the FMGC's.
- Provide the trainees with average values for :

- Initial target pitch attitude	: 15° nose up
- Acceleration pitch attitude	: 10° nose up
- Level off target pitch attitude	: 2.5° nose up
- Average N1 setting for level flight	: 250 kt require some 55% to 60% N1.

The trainee will conduct a fully visual pattern using the skill he has developed on his previous aircraft, the instructor being there only to help and never to criticize.

NOTE : Second part - Trainee 2 as PF

At trainee's discretion fly a fully automatic blue circuit or repeat same exercise as for Trainee 1.

- 7 : Concerning the stick free speed variations, there is no need to stress too much at this stage the main features of the Fly-by-Wire ; the important message to deliver is :

This is an aircraft, which means that basic handling principles apply.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

PREPARATION (V PREP) FBS TAKE-OFF DATA
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 33 L

WIND CALM

VISI CAVOK

CEILING

TEMP 14° C

DEW POINT ... 10° C

QNH 1010 hPa/29.92 inHg

QFE 992 hPa/29.38 inHg

RWY COND ... DRY

Observations : AIR COND ON

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ZFCG/ZFW

BLOCK

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IAE CFM

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V2	133	134

FLEX	56	52

DRT		

T/O FLAPS

T/O C.G.

—TOGA—

—DRT—

NOTE :
F/PLN :

LFBO 33 L

FISTO SID

LMG - AMB

DIR VILRO

NO STAR

VIA EPR

LFPO ILS 26

ALTN : LFPG 26 - POGN SID - CLM -

NO STAR - NO VIA - LFPG ILS 27

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R

PREPARATION (V PREP) FBS SESSION GUIDE

01 - SESSION OBJECTIVE

- Introduce and practice the Preliminary cockpit preparation.
- Introduce and practice SOPs and task sharing.
- Introduce and practice "After landing", "Parking" and "Securing the aircraft".

02 - TRAINING TOPICS

A. REVIEW

- FMGS preparation.

B. INTRODUCE

- Simulator and installation safety.
- Task sharing, crew coordination and communication.
- Preliminary cockpit preparation.
- Autoland
- After landing, parking and securing the aircraft.

R

03 - SESSION PROFICIENCY CRITERIA

Not applicable.

04 - SESSION GUIDE

- 1 : During open book preparation, instructor will address the listed items during the panel scanning. For this session no external power - no APU (cold aircraft). Emphasize location and importance of circuit breaker panels and C/B organization on the panels.
- 3 : Explain how to correctly adjust the seat, armrests, rudder pedals (the pilot eye should be in line with the red and white balls). The trainee should memorize the adjustments.
- 4 : Locate the listed equipments even if not installed in the simulator.
- 5 : Explain scan sequences and areas of responsibility (CAPT/FO, PF/PNF).
- 6 : Explain how to tune frequencies and STD BY NAV keys.
Transfer of control ("SEL" white light).
Use "call function" from instructor panel to simulate selcall.
- 8 : OXY MASK TEST : not only test function but demonstrate how to use, how to restore normal use of microphone.

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	REGULAR COURSE GROUND COURSE SYLLABI	2.02.03 Page 6B <i>E F2R</i>
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R

PREPARATION (V PREP) FBS SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- 10 : ACP : transmission keys, reception knobs, passenger address, how to adjust
Use of "call function" from instructor panel and explain reset function.

R

- Init final : INIT APP 1 RWY 15R. Insert ILS 15R.

R

Prepare autoland with ABRK LO.

R

Release. Observe subsequently ECAM memos and FMA during autoland to full stop.

R

Continue with next item.

R

INSTRUCTOR ONLY

INSTRUCTOR ONLY

V0 FBS TAKE-OFF DATA
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 15 R

WIND 200°/5 kt

VISI CAVOK

CEILING

TEMP 20°C

DEW POINT ... 10°C

QNH 1018 hPa/30.07 inHg

QFE 1000 hPa/29.54 inHg

RWY COND ... DRY

Observations : AIR COND ON

INIT NEXT PAGE

ZFCG/ZFW

BLOCK

PERF PAGE

IAE CFM

 V1

 VR

 V2

 FLEX

 DRT

T/O FLAPS

T/O C.G.

NOTE :
1st part : Trainee 1

LFBO 15 R

LACOU SID

Return to NOPTA

LFBO 15 R VIA NOPTA

2nd part : Trainee 2

LFBO 33 L

SID AFRIC

Return to ADIMA

LFBO 33 L

ALTN : LACOU SID - MIRBA STAR

LFBD 23

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	REGULAR COURSE GROUND COURSE SYLLABI	2.02.03 Page 8A <i>E F2R</i> REV 23 JUL 99

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V0 FBS SESSION GUIDE

01 - SESSION OBJECTIVE

- Practice various types of cockpit preparation
- Practice SOPs and task sharing
- Practice the ECAM in a flight environment
- Put into practice skills learnt during CBT, FMGS and ECAM trainer sessions
- Provide a synthesis of the ground course.

02 - TRAINING TOPICS

A. REVIEW

- Preliminary cockpit preparation
- FMGS preparation.
- ECAM procedures through the review of some malfunctions.
- Task sharing, crew coordination and communication.
- Announcement and call outs.

B. INTRODUCE

- Transit cockpit preparation
- Performance calculation practice.
- Normal take-off
- Descent and approach preparation
- ILS approach
- Normal check lists
- CRM skills

03 - SESSION PROFICIENCY CRITERIA

- Knowledge of aircraft systems operation.
- Understanding of task sharing in normal operation.

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V0 FBS SESSION GUIDE (END)

04 - SESSION GUIDE

Performance Data :

TOW	T/O flaps	Air cond	Anti-ice	Eng	V1	VR	V2	Flex
<i>LFBO 15 R</i>								
	1 + F	ON		IAE	124	134	134	57
				CFM	124	134	134	52
<i>LFBO 33 L</i>								
	2	ON		IAE	124	133	133	52
				CFM	124	134	134	52

- 1 : FMGS initialization :
PF prepares the FMGS entirely and PNF follows and checks.
- 4 : Explain the brake check and the F/CTL checks.
- 6 : Insert the malfunction when crew workload is low
Demonstrate task sharing and crew communication during malfunction.
- 9, 22 : Joining a holding pattern offers the opportunity to the crew to complete all actions and preparation for the approach.
- 10, 23 : ILS approach on RWY 15 R (first part) or 33 L (second part) gives a chance to introduce the CRM skills during normal operations. For the final intercept turn, it might become necessary to insert a speed constraint or to activate the approach phase prior to commencing the turn.
- 13 : Init the aircraft at LFBO 33 L (threshold) before the FMGS initialization .
- 14 : Insert a wing fuel difference of 800 kg. Crew is advised by ground crew, but there is no chance for balancing prior to departure.
- 18 : Insert fuel difference of 1500 kg when crew workload is low, leading the crew to perform the QRH fuel imbalance procedure.
- 19 : The malfunction should be inserted for the PNF

ECAM 1 FBS TAKE-OFF DATA

INIT PAGE		ATIS	
CO RTE	FROM/TO	TRIP DIST	
	LFBO/LFBO		RWY 15 R
ALTN/CO RTE		CRZ WIND	WIND Calm
			VISI CAVOK
FLT NBR		ALTN	CEILING
[Airline ID] 231			TEMP 18°C
LAT	LONG	ALTN DIST	DEW POINT ... 16°C
4338.1N	0122.1E		QNH 1018 hPa
COST INDEX		FL to ALTN	QFE 1000 hPa
30			RWY COND ... DRY
CRZ FL/TEMP	TROPO		Observations :
FL 100 / -7°C	36 090		

INIT NEXT PAGE	PERF PAGE	T/O FLAPS	NOTE :
ZFCG/ZFW	IAE CFM	2	F/PLN :
28.3%-58 t	V1 151 150		LFBO 15 R
28.3%-127 600 lb	VR 151 150	T/O C.G.	FISTO SID
	V2 153 151	26.6%	DIR NOPTA
BLOCK	FLEX 43 42	—TOGA—	VIA NOPTA
10 t	DRT	FLEX	LFBO ILS 15 R
22 000 lb		—DRT—	

ECAM 1 TRAINER DATA

Airport selection : - select LFBO/LFBO
 INIT load : - select GW 58 t (10 t FOB - CTR TK empty)
 - set OAT of 15°C
 - set QNH 1013 hPa

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ECAM 1 SESSION GUIDE

01 - SESSION OBJECTIVE

- Description of ECAM features
- Use of ECAM

02 - TRAINING TOPICS

A. REVIEW

- Display management priorities and cross transfer logic
- ECAM memo logic
- Warning inhibition features
- ECAM system pages

B. INTRODUCE

- ECAM procedures.
- Announcement and call outs.
- Relationship ECAM - QRH.
- ECAM reconfiguration

03 - SESSION PROFICIENCY CRITERIA

(Not applicable)

04 - SESSION GUIDE

R ■ ECAM trainer or FBS (if applicable) in situation A

Situation A : Aircraft on ground before engine start

General :

- External electrical power connected,
- Engines not running.

Overhead Panel :

- No amber lights (except pack and GEN fault lights),
- IRS on NAV and already aligned,
- 1 PFD, 1 ND and 2 ECAM displays are used (dim the others if applicable - FBS).
- Select or insert FPLN and performance data (dim screen - FBS)
- FD's ON,
- Target ALT 10000 ft.
- Flaps and speed brakes retracted

R

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R **ECAM 1 SESSION GUIDE (CONT'D)**

04 - SESSION GUIDE (CONT'D)

- INSTRUCTOR ONLY
- R ■ 1 : • Quick introduction to :
- R - Engine and Warning Display (EWD)
- R - System Display (SD - system pages, permanent data, status page)
- R - ECP functions
- R - ECAM color coding and different warning levels
- R - ECAM failure classification
- R - Aircraft system clock (functions and adjustment)
- 2 : • Point out and comment :
- Cross transfer logic : - PFD / ND
- EWD / SD
- SD / ND
- 3 : APU ECAM page comes up automatically.
- Comment APU start sequence and ECAM indications (memo, system page)
- Call BLEED page and turn APU bleed to ON.
- Comment the supply sequence (PACK 1 - XBLEED - PACK 2).
- Observe ECAM memo
- 4 : ENG start selector to IGN / START - ENG page comes up automatically.
- Comment the ENG page presentation
- R Point out the NWS STRG DISC green memo (becomes amber after first engine
- R started) if a normal push-back is conducted.
- 5 : ENG start selector to NORMAL :
- observe WHEEL page is automatically displayed on SD.
- FLEX TEMP is calculated and displayed on EWD.
- T/O memo displayed after 2 min
- F/CTL check calls F/CTL page
- APU BLEED OFF then master switch OFF. (memo)
- Call BLEED page. Explain manual call of system page
- Wing anti ice ON :
- observe memo and ECAM page.

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R **ECAM 1 SESSION GUIDE (CONT'D)**

04 - SESSION GUIDE (CONT'D)

- ECAM trainer or FBS (if applicable) in situation B

R **Situation B : Aircraft on ground (after engine start)**

General :

- Engines running,
- External electrical power disconnected,
- APU OFF.

- R MCDU dimmed if applicable (FBS) :
- All parameters as prepared for situation A

- R ■ 6 : • Set take-off power with parking brake selected on PARK.
 R FBS is frozen (position freeze) :
 R - observe the red warning (explain park brake is not T/O memo item).
 R ENG page comes up automatically on SD (on T/O power setting).

- R ■ 7 : • Instructor inserts NAV ADR 3 FAULT at 60 kt :
 R - explain T.O INHIBIT magenta memo message.
 R Observe STS reminder on EWD (it appears if any status exists).

- R ■ 8 : Level 2 warning (master caution) occurs when inhibition is released.
 R Observe Cruise page (cruise phase must be achieved).

- R ■ ECAM trainer or FBS (if applicable) in situation C

Situation C : Aircraft in flight

- Cruise with AP and A/THR engaged
- L/G and Flaps retracted
- FL 100, STD altimeter setting
- Position and fuel freeze (FBS)

- 9 : System page review and use of ECAM control panel

- 10 : • Instructor turns off the upper ECAM DU :
 - review the EWD priority.
 Explain how to use the ECP in this configuration (system page, status, clear)
 • Restore the upper ECAM DU

- 11 : • Instructor freezes the training device (FBS)
 Explain various types of disconnection and associated alert/cancellation of alert (unwanted/manual)

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ECAM 1 SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

- 12 : Explain loss of redundancy
Classified as level 1 caution
- 13 : Diagonal on DU and reconfiguration
Classified as level 2 caution
- 14 : How to use the paper check list (QRH) ?
Refer to QRH (2.12) DISPLAY UNIT FAILURE
- 15 : Perform ECAM actions
Revert to memo display on EWD
CLR STS
Explain ECP system selection inhibition (DC ESS BUS FAULT)
Explain use of the ALL key for system review and how to return to cruise page (call STS and clear STS)
Restore malfunction and affected systems

- FBS in approach
or
ECAM trainer : 2 000 ft preselected and activated by clicking phase 6 on ECAM trainer synoptic

Aircraft in approach (FBS)
Simulator Status INIT APP1
ECAM trainer is at 2 000 ft

- AP2 and A/THR engaged
- Approach phase activated (not applicable to ECAM trainer)
- Approach modes armed (not applicable to ECAM trainer)
- ALT target 2000 ft (ECAM trainer),
- Speed managed (FBS)
- ILS p/b selected to ON,
- Flaps retracted.

- 16 : Commence descent - position freeze (FBS)
Select IDLE power (FBS)
Maintain ALT - select IDLE power (ECAM trainer)
Extend half speed brakes in order to observe the memo green/amber change, if power is above idle (vary the thrust levers accordingly).
Retract speed brakes after demo.

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ECAM 1 SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- 17 : Position release (FBS)

ECAM trainer : pre-select 1200 ft and activate by clicking phase 6 on ECAM trainer synoptic.

Select appropriate speed (145 kt) and activate (ECAM trainer).

Extend flaps 1 and flaps 2 in sequence

Extend landing gear and observe :

 - WHEEL page appears on SD,
 - LDG MEMO appears on EWD (RA conditions made).

Select AUTO BRAKE LOW :

 - Observe feed back on EWD memo and system display.
- 18 : Observe LDG INHIBIT memo below 800 ft (FBS)

ECAM trainer : activate phase 7 on ECAM trainer synoptic and observe the LDG INHIBIT memo.
- 19 : DOOR/OXY page is displayed after engine shut down (FBS)

ECAM trainer : activate phase 8 and 9 subsequently on ECAM trainer synoptic, shut down the engines and observe DOOR/OXY page.

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R **ECAM 2 SESSION GUIDE**

01 - SESSION OBJECTIVE

- Description of ECAM features
- Use of ECAM

02 - TRAINING TOPICS

A. REVIEW

- ECAM system pages
- ECAM memo
- Use of QRH

B. INTRODUCE

- ECAM warning architecture.
- ECAM malfunction classification.
- ECAM malfunction presentation.
- Study of several system malfunctions.
- R • Aircraft dispatch with malfunctions - Introduction of MMEL use.

03 - SESSION PROFICIENCY CRITERIA

(Not applicable)

04 - SESSION GUIDE

- R ■ ECAM trainer or FBS (if applicable) in situation A

Situation A : Aircraft on ground before engine start

General :

- External electrical power connected,
- Engines not running.
- R - APU running
- R - APU bleed on

Overhead Panel :

- R - No amber lights (except GEN fault lights),
- R - IRS on NAV and already aligned,
- R - 1 PFD, 1 ND and 2 ECAM displays are used (dim the others if applicable - FBS).
- R - Select or insert FPLN and performance data (dim screen - FBS)
- FD's ON,
- Target ALT 10000 ft.
- Flaps and speed brakes retracted

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R **ECAM 2 SESSION GUIDE (CONT'D)**

04 - SESSION GUIDE (CONT'D)

- R ■ 1 : • Select AIR PACK 1 (2) OVHT and insert prior to cockpit preparation.
 R Check the ECAM indications and status page.
 R Point out the use of the MMEL or MEL for aircraft dispatch.
 Point out and explain the EMER cancellation p/b.
 Point out the RECALL (RCL) p/b features.
 • Restore the faulty pack.

- R ■ ECAM trainer or FBS (if applicable) in situation C

Situation C : Aircraft in flight

Cruise with AP and A/THR engaged
 L/G and Flaps retracted
 FL 100, STD altimeter setting
 Position and fuel freeze (FBS)

- R ■ 2 : • Unfreeze fuel (FBS).
 Decrease fuel in one wing to obtain the imbalance advisory.
 Explain advisory philosophy but do not treat the advisory (demo purpose).

- R ■ 3 : • Select CAB PR SYS 1 FAULT and insert.
 R Review **level 1 caution** (no chime, colour, awareness - loss of redundancy)
 overcoming the advisory
then
 R • Select CAB PR SYS 1 + 2 FAULT and insert.
 R Explain **level 2 caution** (single chime, master caution colour, independant
 R malfunction) overcoming the level 1 caution
 R Do not clear the ECAM.
 R *then ...*
 R • Select APU FIRE (extinguishable) and insert
 R Explain **Level 3 warning** (CRC, master warning, colour, text priority, overflow)
 R overcoming the level 2 caution.
 R Perform ECAM actions and observe automatic return to level 2 caution when level 3
 R conditions are cancelled (fire extinguished).
 R CAB PR SYS 1 + 2 FAULT has priority again.
 R Clear ECAM and restore all systems.
 R Fuel should be balanced prior to continue.

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R **ECAM 2 SESSION GUIDE (END)**

04 - SESSION GUIDE (END)

- R ■ 6 : • Select HYD G RSVR LO LVL and insert :
 - observe and note associated lights on overhead panel.
 Perform ECAM actions.
 Explain transition logic from independant to primary and to secondary failures.
 Point out the associated displays :
 - Analyse HYD page on ECAM SD.
 - Analyse secondary failures (affected systems) on WHEEL page and on FCTL page.
 - Analyse aircraft STS.
 Point out and comment the colour coding on STS.
- R • Do not restore hydraulic green system malfunction.
- R ■ 7 : • Select HYD B RSVR OVHT and insert.
 Perform ECAM actions.
- R ■ 8 : Explain sound logic (AP OFF warning and cavalry charge then CRC).
 Recall ECAM EWD indications (LAND ASAP, overflow, status).
 Point out and review relationship ECAM versus QRH (speed and landing distance increments, flaps position and special procedures).
 Explain approach procedure philosophy.
- R • Restore green and blue hydraulic malfunctions and affected systems.
- R ■ 9 : • Select ENG 1 FAIL (flame out) and insert.
 Explain ECAM indications.
 Point out LAND ASAP amber on EWD.
 Perform ECAM actions.
- R ■ 10 : • Select ENG 1 FIRE (extinguishable) and insert.
 Explain LAND ASAP amber to red indication (priority logic ENG FIRE versus ENG FAIL).
 Review status page.
 • Restore ENG and affected systems.
- R ■ 11 : • Select ELEC GEN 1 FAULT and insert.
 Perform ECAM actions.
 Analyse STS.
 • Restore.
- R ■ 12 : • Select NAV ADR 2 + 3 FAULT and insert.
 Perform ECAM actions.
 Point out that ADRs are numbered 1 - 3 - 2 .
 • Restore ADRs.

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ECAM 3 FBS TAKE-OFF DATA

INIT PAGE		ATIS	
CO RTE	FROM/TO	TRIP DIST	RWY 33 L
TSLHR	LFBO/EGLL		WIND
ALTN/CO RTE		CRZ WIND	VISI CAVOK
			CEILING
FLT NBR		ALTN	TEMP 9°C
[Airline ID] 233			DEW POINT ... 7°C
LAT	LONG	ALTN DIST	QNH 1010 hPa
4338.1N	00122.1E		QFE 992 hPa
COST INDEX		FL to ALTN	RWY COND ... DRY
30			Observations : _____
CRZ FL/TEMP	TROPO		_____
FL 280 / -41°C	32 400		_____

INIT NEXT PAGE	PERF PAGE	T/O FLAPS	NOTE :
ZFCG/ZFW	IAE CFM	1 + F	F/PLN :
28.4%-53 t	V1 154 159		LFBO 33 L
28.4%-116 600 lb	VR 154 159	T/O C.G.	FISTO SID - LMG
	V2 154 159	— TOGA —	UG 21 - MOU - AVLON
BLOCK	FLEX 45 45	FLEX	UM 976 - BRY
15 t	DRT	— DRT —	UM 733 - GURLU
33 000 lb			BIG STAR
			EGLL ILS 27 L

ECAM 2 TRAINER DATA

Airport selection : - select LFBO/LFBO
 INIT load : - select GW 58 t (10 t FOB - CTR TK uplifted)
 - set OAT of 15°C
 - set QNH 1013 hPa

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ECAM 3 SESSION GUIDE

01 - SESSION OBJECTIVE

- Description of ECAM features
- Use of ECAM

02 - TRAINING TOPICS

A. REVIEW

- ECAM utilisation and procedures.
- Task sharing, crew coordination and communication.
- ECAM and paper check list.

B. INTRODUCE

- Failure of ECAM components
- Study of several system malfunctions
- Computer reset.

03 - SESSION PROFICIENCY CRITERIA

- Apply crew coordination and task sharing.
- Perform ECAM procedure accurately without omission.
- Interpret correctly ECAM pages and system indications.

04 - SESSION GUIDE

R ■ ECAM trainer or FBS (if applicable) in situation C

Situation C : Aircraft in flight

Cruise with AP and A/THR engaged
 L/G and Flaps retracted
 FL 100, STD altimeter setting
 Position and fuel freeze (FBS)

R

- R ■ 1 : • Select FWS SDAC 1 + 2 FAULT (ATA 31) and insert
 R Explain the loss of cautions. Some system pages information are available
 Scan all system pages
 R Disregard ENG 1 (and ENG 2) APPR IDLE ONLY messages (idle is not affected).
 R Select ELEC GEN 1 FAULT and insert as an example.
 R Notice no warning (scan overhead panel).
 R • Restore SDAC malfunction and affected systems.

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R **ECAM 3 SESSION GUIDE (CONT'D)**

04 - SESSION GUIDE (CONT'D)

- R ■ 2 : • Select FWS FWC 1 + 2 FAULT (ATA 31) and insert
Point out there are no warnings and indications
R Select ENG 1 FIRE and insert as an example.
Explain how to monitor the aircraft systems in order to detect any malfunction
• Restore FWC malfunction and affected systems
- R ■ 3 : • Select F/CTL SEC 1 FAULT and insert
Explain and emphasize computer reset procedure
R Point out the use of QRH or ECAM for computer reset
R • Reset should be successful
- R ■ 4 : • Select AUTO FLT RUD TRV LIM SYS fault and insert
Explain partial loss of FAC
R 1st RUD TRV LIM loss - loss of redundancy (level 1)
R 2nd RUD TRV LIM loss - loss of RUD TRV LIM SYS (level 2)
R FAC reset as an ECAM action becomes necessary.
R • Reset should be successful
- R ■ 5 : • Select HYD B RSVR LO LVL and insert
Perform ECAM actions.
Analyse HYD system page and STS display.
R Point out the loss of blue actuators
R • Restore malfunction and affected systems
- R ■ 6 : • Select F/CTL SLATS LOCKED (WTB) and insert
R Reduce speed to Green Dot
R Crew should select flaps 1
R Explain ECAM and PFD indications
R Point out once more the use of QRH procedures and tables
R Point out the landing distance factor may change upon establishing landing CONFIG.
R Restore the slat system and affected systems, if applicable.
- R ■ 7 : • Select F/CTL FLAP SYS 1 FAULT and insert (FBS - c/b B7 OVHD panel).
R Explain ECAM indications on EWD and status
R Select F/CTL FLAP SYS 2 FAULT (gives F/CTL FLAPS FAULT) and insert
R (FBS - pitch control page 3)
R Explain FLAPS FAULT indications on EWD, PFD and STS
R Point out the use of QRH paper procedures and tables
R Restore malfunction and affected systems, if applicable.

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R **ECAM 3 SESSION GUIDE (END)**

04 - SESSION GUIDE (END)

- R ■ 8 : • Select ENG 2 FIRE (extinguishable) and insert
 Point out and review warning indications, primary/independent, priority
 Perform ECAM actions.
 Review task sharing, crew coordination and communication in case of fire.
 Confirmation items.
 • Restore the malfunction and affected systems
- R ■ 9 : • Select SMOKE AFT CARGO SMOKE and insert
 Review task sharing, crew coordination and communication
 • Restore cargo smoke
- R ■ 10 : • Select ELEC AC BUS 1 FAULT and insert
 Review task sharing, crew coordination and communication
 Analyse the system pages and aircraft STS.
 • Restore the electrical malfunction and affected systems
- 11 : Select Wing Anti Ice ON
 Observe BLEED page. Select wing anti-ice OFF
 Start APU and select APU Bleed ON
- R : • Select AIR ENG 1 BLEED LEAK and insert
 Perform ECAM actions.
 Review task sharing, crew coordination and communication
 Analyse the system page and aircraft STS.
 • Restore the air malfunction (ENG 1 BLEED p/b must be reset)
- 12 : • Unfreeze fuel (FBS)
 • Insert fuel difference of more than 1.5 t and activate (ECAM trainer)
 Point out and explain relationship ECAM versus QRH or paper check-list
 Perform FUEL LEAK paper check-list
 • Restore fuel imbalance after having done the check-list

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FMGS SYLLABUS 1

This session is designed to make you more familiar with the MCDU interface.

The guideline enables you to :

STUDY, USE and REVIEW through a STANDARD PREPARATION sequence the main families of MCDU pages like : NAVIGATION, RADIO NAVIGATION (NAVAIDS) and PERFORMANCE. However, some MCDU pages detailed hereafter are not included in the regular flow of the preparation but, thanks to the following description, the trainee should still recognize it. This type of presentation is necessary to acquire the sufficient knowledge for the next syllabus.

>>>>> SYLLABUS SUMMARY

1.) How to start the Freeplay and ...
Freeplay preparation

2.) FMGS PREPARATION :

>> A/C STATUS check

>> INIT A Page : - Insertions >

>> FPLN Page : - Insertions and Revisions >
- Study of DATA pages >
- Flight plan check & review >
- SEC flight plan study >

>> RAD NAV Page : - How to tune & check nav aids ?
- How to STORE or DESELECT ?

>> INIT B Page : - Insertions and revisions >

>> PERF Page : - Insertions and Revisions >

HOW TO START FREEPLAY : (if power is off) ?

STEP1 : Locate the switch at the rear panel of the mock-up and select it to ON.

STEP2 : Wait until the computer has completed its automatic initialization sequence (no mouse click, no keyboard input).

STEP3 : Select CAPT/FO and units then click "OK".
Wait till the PFD is displayed on screen.

(FMGS1A.PCX)

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FMGS SYLLABUS 1 (CONT'D)

>>>>> FREEPLAY PREPARATION

> On the Pedestal

THR LEVER : Check > Idle
 Flaps LEVER : Check > Retracted

> On the Screen

ENG masters : Check > Off
 SPEED BRAKE : Check > Ret
 STORE MEMO Icon > Locate
 Memorizes actual freeplay status (Mouse click)
 RECALL MEMO Icon > Locate
 Returns to memorized status (Mouse click)
 FREEZE (UNFREEZE) Icon > Locate
 Freezes or unfreezes flight simulation. Unfreeze is necessary
 before any further modification or entry.

HOW TO CHECK UNFREEZE ?

>> Icon White = | FREEZE | >> Icon Grey = | UNFREEZE |
 SPEED UP Icon > Locate
 Multiplies by 5 the speed until 5 NM inbound to
 next waypoint then returns to normal speed.

>>>>> FMGS INITIALIZATION

Notes :

- 1.) All data between brackets [...] must be typed exactly as given to avoid a "FORMAT ERROR" message.
- 2.) It is recommended to read comments (if any) prior to action.
- 3.) The initialization of the FMS will tell the freeplay trainer software to set the environmental factors and where to position the airplane.

 A/C STATUS page is normally displayed at power up
 If not :

[DATA] Key > Depress
 < A/C STATUS > Select
 Then: a/c Version, Engine Version and
 ACTIVE DATABASE > Check
 If not valid >
 DATABASE (valid) > Select
 (FMGS1B.PCX)

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FMGS SYLLABUS 1 (CONT'D)

>>>>> NAVIGATION

[INIT] Page

[INIT] Key > Depress

Observe navigation fields : - Coroute - From/To
 - Altn Route - Altn
 - Position (Lat & Long)

Other fields like : - Flt Nbr
 - Cost Index - Wind
 - Crz Lvl - Tropo

FROM/TO field : Insert > [LFBO/LFPO]

If available 1st Company route page is displayed >

Use next page key for next one >

To accept one of them, use Insert* >

To create your own, our exercise today is as following :

< RETURN Select

ALTN Insert > [LFPG]

Alternate COROUTE : NONE is stored

< RETURN Select

LAT: Adjust parking position (E10) > [4337.8N]

Use slew (up/down) keys to adjust >

Then transfer up/down arrows to LONG by pressing LSK 4R >

LONG: (up and down keys adjust position) > [00122.5E]

ALIGN IRS > Depress

[DATA] Key > Depress

< POSITION MONITOR Select

Check IRS in NAV >

[INIT] Key > Depress

FLT NBR: Insert > [AI320]

COST INDEX : Insert > [30]

CRZ LVL: Insert > [310]

Observe defaulted ISA Temperature >

TROPO (Default): > [36090]

(FMGS1C.PCX)

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FMGS SYLLABUS 1 (CONT'D)

[FPLN] Page

[FPLN] Key > Depress
 Observe the available information displayed on FPLN - A Page >

Ex: distance to destination (bottom line) >

TYPE a waypoint (LL) > [4345.ON/00122.OE]

LSK 2L (in discontinuity) Insert
 LL01 point is created

After LL01, Insert > [TLB]

Observe ND (select NAV/range 40/80) >

[DATA] Key > Depress

Observe on < WAYPOINTS

< NAVAIDS

Left Side : < RUNWAYS

< ROUTES

< A/C STATUS

Access to Data Base Waypoints, Nav aids, Runways and Routes >

Observe on STORED WAYPOINTS >

STORED NAVAIDS >

Right Side : STORED RUNWAYS >

STORED ROUTES >

POSITION MONITOR >

Possibility to store Waypoints, Nav aids, Runways and Routes >

< WAYPOINTS Select

Type and Insert > [SULIT]

Observe Database information >

[DATA] Key > Depress

< RUNWAYS Select

Type and Insert > [LFBO15R]

Observe Database information >

[DATA] Key > Depress

< ROUTES Select

FROM/TO: Insert > [LFBO/LFPO]

Observe database information >

Use NEXT PAGE to display different coroutes if applicable >

(FMGS1D.PCX)

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FMGS SYLLABUS 1 (CONT'D)

>>>>> DEPARTURE PREPARATION

[FPLN] Key > Depress
 LATERAL revision at departure (LSK 1L) > Select
 < DEPARTURE Select
 Observe runway data (length, ILS ident, freq and course) >
 Runway: < 15R Select
 SID: Scroll with up/down arrows then < FISTO4A Select
 ND in Plan mode and appropriate range ... >
 Observe temporary flight plan (yellow on FPLN page and ND) >
 INSERT* (AMBER) > Select
 LLO1 and SULIT points listed after SID > Clear
 Type and Insert after FISTO (in discontinuity) [LMG]
 Type and Insert after LMG (in discontinuity) > [AMB]
 For duplicate names page select *AMB/113.7 >
 Type and Insert after AMB > [CDN]
 For duplicate names page select *CDN/116.1 >

[DATA] Key > Depress
 [AIRPORT] Key > Depress
 Other access to FPLN page, from airport to
 next airport: (DEP then DEST then ALTN DEST then again DEP) >
 Press again for next airport >

>>>>> REVISION PAGES

[FPLN] Key > Depress
 LATERAL REVISION from TOU (LSK 3L) > Depress
 Geographic coordinates are available on top >
 Observe possibilities of lateral revision from a normal waypoint >
 < RETURN Select
 LATERAL REVISION from [1000] (LSK 2L) > Depress
 This point is a Pseudo Waypoint. Some revisions are not
 available from this type of WPT >
 < RETURN Select
 VERTICAL REVISION at TOU (LSK 3R) > Depress
 EFOB and EXTRA fuel at this point are provided after
 weight and CG insertions >
 Observe possibilities of vertical revisions. Constraints and
 access to WIND and STEP PRED pages >
 < RETURN Select
 VERTICAL REVISION at [1000] (LSK 2R) > Depress
 All revisions previously displayed on right hand part are
 missing now (Pseudo Wpt) >
 < RETURN Select
 (FMGS1E.PCX)

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FMGS SYLLABUS 1 (CONT'D)

>>>>> RADIO NAVIGATION

[RAD NAV] Page

[RAD NAV] Key > Depress
 VOR 1: TOU/117.7 already autotuned (displayed in small font)
 VOR 1: Insert > [TOU]
 Check on duplicate names page position and freq then insert >
 VOR 1: TOU displayed in large font now (manual tuned) >
 VOR 2: Insert > [117.7]

VOR 2: 117.7 in large font. No duplicate names page >
 VOR 1: Insert course [148]
 Select ROSE VOR mode (EFIS Control panel)
 and check course 148 on ND >
 Select ARC or NAV mode. VOR/ADF selectors to VOR >
 Identify on ND (bottom line) >

ILS: Check or Insert > [TBS]
 Press ILS p/b on EFIS control panel >
 Check identifier, frequency and course on MCDU : TBS/110.70/145 >
 Identify on PFD (bottom left) >

ADF 2: Insert > [TOE]
 VOR/ADF selector on ADF 2 >
 Check frequency and identify on ND (bottom line) >
 ADF 1: Insert frequency > [423.0]
 VOR/ADF selector to ADF 1 >
 Check frequency and identify on ND (bottom line) >

[PROG] Key > Depress
 Observe modifiable VOR field (bottom line) >
 VOR 2: Insert either freq or ident > [AGN] or [114.8]

[DATA] Key > Depress
 < NAVAIDS Select
 IDENT Insert > [TOU]

Observe information stored in the data base >
 Try other examples: i.e. type and insert in ident field:
 [TBS] (ILS/110.7/145°) - [TOE] (NDB/415)

(FMGS1G.PCX)

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R

FMGS SYLLABUS 1 (CONT'D)

>>>>> HOW TO DESELECT A NAVAID ?

[DATA] Key > Depress
 POSITION MONITOR > Select
 SEL NAVAIDS > Select
 Observe MAN tuning of TOU VOR (MAN) and ILS (auto) >
 You may deselect an unserviceable VOR >
 Example : Insert > [LMG]
 To restore LMG, insert (same field) > [CLR] (MCDU Key)

>>>>> HOW TO STORE A NAVAID ?

[DATA] Key > Depress
 STORED NAVAIDS > Select
 Insert IDENT name > [XXX]
 Insert CLASS > [VORDME]
 Observe required information to create this navaid >

>>>>> PERFORMANCE

As for navigation, computer needs basic parameters to
 calculate predictions (speed, time, fuel ...): ex. Cost index,
 Weight, Wind etc. >

[INIT A] Page
 [INIT] Key > Depress
 Cost index: Check inserted > [30]
 CRZ FL: Check inserted > [310]
 WIND > Select
 HISTORY WIND page is displayed >
 TYPE Wind > [270/30/50]
 Observe new title : WIND >
 * INSERT > Depress

[INIT B] Page

[INIT] Key > Depress
 NEXT PAGE Key > Depress
 INIT B page is displayed: change preset values if required >
 ZFWCG/ZFW Insert > [27.0/48]
 BLOCK Fuel > [10]
 Observe calculated values >
 RTE RSV change (6%) > [/6]
 Observe result >
 FINAL/TIME change (45 mn) > [/45]
 Observe result >

(FMGS1H.PCX)

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FMGS SYLLABUS 1 (CONT'D)

[PERF] Page
 [PERF] Key > Depress
 TAKE-OFF page is displayed >
 V1, VR, V2: Insert > [124]-[131]-[131]
 TRANS ALT: If necessary modify > [5000]
 THR RED/ACC altitudes > [2000/3500]
 T/OFF shift if applicable (in meters) > Insert
 (In case of displaced threshold due to closed taxiway, works ...)
 FLAPS/THS settings: Insert > [2/0.5UP]
 FLEX: (Air Cond /On) > [52]
 ENG OUT ACC > [2000]
 NEXT PHASE > Select

CLIMB Page: review information and preset >
 SPD: Insert speed > [230]
 To clear this speed, reselect managed field *250 >
 NEXT PHASE > Select

CRUISE Page: review information and preset >
 SPD/MACH Insert > [.82]
 Observe other STEP ALTS access >
 NEXT PHASE > Select

DESCENT Page
 ECON Insert > [/300]
 Observe active mode MANAGED >
 NEXT PHASE > Select

APPROACH Page: observe preset and empty fields >
 NEXT PHASE > Select

GO AROUND Page: observe and insert or change parameters >
 < THR RED : Type > [1990]
 Observe both values at 1990 ft >

[FPLN] Key > Depress
 [FPLN] Page A : Observe TIME, SPEED/ALT fields >

[FPLN] Page B NEXT PAGE Key > Depress
 Observe EFOB, WIND fields

[FUEL PRED] > Depress
 Observe predictions. Some items are only available
 after engine start >

[PROG] Key > Depress
 Observe performance fields: Crz, Opt and Rec Max FL >

(FMGS1I.PCX)

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FMGS SYLLABUS 1 (CONT'D)

Review in sequence all previous pages and change some parameters at your convenience.

>>>>> I - NAVIGATION Review

[INIT] Key

[FPLN] Key

LAT and VERT Revisions

[AIRPORT] Key

[SEC FPLN] Key

< SEC FPLN

PERF >

[DATA] Key

< WAYPOINTS

< RUNWAYS

< ROUTES

< A/C STATUS

STORED WAYPOINTS >

STORED RUNWAYS >

STORED ROUTES >

POSITION MONITOR >

>>>>> II - RADIO NAVIGATION Review

[RAD/NAV] Key

VOR 1 - VOR 2 - ILS and courses

ADF1 - ADF2

[PROG] Key

VOR 1 AND VOR 2 (if applicable)

[DATA] Key

< NAVAIDS

STORED NAVAIDS >

[DATA] Key

POSITION MONITOR >

SELECT NAVAIDS >

(FMGS1J.PCX)

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FMGS SYLLABUS 1 (END)

>>>>> III - PERFORMANCE Review

[INIT] Key

[NEXT PAGE] Key

INIT B Page

[PERF] Key

TAKE-OFF PERF Page

NEXT PAGE >

CLIMB Page

SAME action until GO AROUND PHASE

[FPLN] Key

[NEXT PAGE]

FOB - WIND Fields

[FUEL PRED] Key

[PROG PAGE] Key

THIS IS THE END OF A320 FMGS SYLL&BUS 1 *****

(FMGS1K.PCX)

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FMGS SYLLABUS 2

This session is designed to use FMGS interfaces, MCDU,FCU and FMS displays through standard operating procedures, cockpit (FMS) preparation, simulated flight, approach preparation ...

HOW TO START FREEPLAY: (if power is off) ?

STEP1 : Locate the switch at the rear panel of the mock-up and select it to ON.

STEP2 : Wait until the computer has completed its automatic initialization sequence (no mouse click, no keyboard input).

STEP3 : Select CAPT/FO and units then click "OK".
Wait till the PFD is displayed on screen.

>>>>> FREEPLAY PREPARATION

> On the Pedestal

THR LEVER : Check > Idle

Flaps LEVER : Check > Retracted

> On the screen

ENG masters : Check > Off

SPEED BRAKE : Check > Retracted

STORE MEMO Icon > Locate

Memorizes actual freeplay status (by Mouse click) >

RECALL MEMO Icon > Locate

Returns to memorized status (by Mouse click) >

FREEZE (UNFREEZE) Icon > Locate

Freezes or unfreezes flight simulation. Unfreeze is necessary before any further modification or entry.

SPEED UP Icon > Locate

Multiplies by 5 the speed until 5 NM inbound to next waypoint then normal speed.

>>>>> FMGS INITIALIZATION

Notes :

- 1.) All data between brackets [...] must be typed exactly as given to avoid a "FORMAT ERROR " message.
- 2.) It is recommended to read comments (if any) prior to action.
- 3.) The initialization of the FMS will tell the freeplay trainer software to set the environmental factors and where to position the airplane

(FMGS2A.PCX)

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R

FMGS SYLLABUS 2 (CONT'D)

A/C STATUS page is normally displayed at power up.

If not displayed :

[DATA] Page :

< A/C STATUS > Select

DATABASE CHECK :

ACTIVE DATABASE > Check

If not valid ...

DATABASE (valid) > Select

[INIT] Page :

FROM/TO > [LFBO/LFBD]

COROUTE Page > RETURN Press

ALTN > [LFBT]

NONE is displayed - Press > RETURN

FLT NBR > [AI320]

PARKING LAT (E10) > [4337.8N]

Use up and down key to adjust then press LONG (LSK 4R) >

PARK LONG (E10) Adjust > [00122.5E]

ALIGN IRS > Prompt Press

COST INDEX > [30]

CRZ LVL > [140/-15]

[FPLN] Page :

LATERAL revision (LSK 1L) at LFBO :

< DEPARTURE Select

Runway > 15R Select

SID > LACOU4A scroll with arrows then > Select

*INSERT > Press

Type and Insert after LACOU (Freq 116.8) > [SAU]

Lateral revision at LFBD > Press

ARRIVAL > Select

ILS 23 > Select

< APP VIAS Press

LIBRU > Select

*INSERT > Press

FPLN Discontinuity (if any) > Clear

TOTAL CALCULATED DISTANCE > Check

Your flight plan is built completely now. Check it >

ND DISPLAY SELECTOR > Plan

ND MODE RANGE SELECTOR > As desired

CSTR P/B > Off

Using up and down slew keys, review flight plan from

origin on ND and MCDU (check track and distance) >

Cross check it with documentation >

FPLN DISCONTINUITY (between LIBRU and SAU) > Clear

(FMGS2B.PCX)

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FMGS SYLLABUS 2 (CONT'D)

[SEC FPLN] Page :

COPY ACTIVE > Press
 LATERAL revision at LFBO15R (LSK 1L) then ... DEPARTURE >
 Change Runway : 15L > Select

[RAD NAV] Page :

Tune, if desired, Navaids for navigation crosscheck >
 Identify them on ND. Select VOR/ADF selectors as appropriate on
 EFIS control panel >
 VOR 1 (or 2) Insert > [TOU]
 CRS Insert > [338]
 ILS > Check and Identify
 ADF 1 (or 2) > As desired

[INIT] B Page (Init and next page) :

Access to Init B page to initialize performance data >
 ZFW CG/ZFW > [25.6/45.3]
 [99600 lb]
 BLOCK (Fuel) > [10]
 [22600 lb]
 BLUE ITEMS > Check or Modify
 GREEN ITEMS > Check

[PERF] Page :

V1 > [130]
 VR > [135]
 V2 > [136]
 TRANS ALT > [5000]
 THR RED/ACC > [1990/3500]
 T/O SHIFT (in meters) > [300]
 In case of displaced threshold (closed taxiway, works ...) >
 FLAPS/THS > [2/1.0UP]
 FLX T/O TEMP > [52]
 ENG OUT ACC > [1990]
 F, S, and Green dot speeds > Check
 NEXT PHASE > Press
 PRESEL Climb speed > [230]
 Select and check all perf pages using ... NEXT PHASE >

ATC > Cleared to destination LFBD, LACOU ... SID, climb Fl 120,
 level change on route, squawk 3646

(FMGS2C.PCX)

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FMGS SYLLABUS 2 (CONT'D)

>>>>>> COCKPIT PREPARATION :

FCU Target Alt > [12000]
 PFD : 12000 blue check >
 FCU settings > Check
 SPD, HDG windows are dashed now. ALT window 12000, V/S dashed >
 FD > On
 ILS p/b > As required
 ND Mode Selector and Range > As appropriate
 ADF/VOR Selectors > As appropriate for departure
 SPEED Selector > Pull
 Check on FCU selected speed (100 kt) >
 Crosscheck it on PFD (blue) >
 SPEED Selector > Push
 Check on FCU dashed window and light >
 Crosscheck managed speed on PFD - V2 (magenta) >
 STORE MEMO Icon > Click
 Preparation is now memorized.
 Click on RECALL MEMO if take-off repetition is required >
 ENGINE MASTERS (on screen) > On
 FLAPS SELECTOR (pedestal) Select > [2]

>>>>>> TAKE OFF :

TAKE-OFF POWER Set > Flex
 FREEZE Icon > Click
 FMA : Read and announce "| MAN FLEX | - | SRS | - | RWY |" >
 Observe "SPEED SEL 230" blue (Preselected climb speed) >
 UNFREEZE Icon > Click
 Observe simulated take off >
 POSITIVE CLIMB >> AP1 Engage
 LANDING GEAR (Click Icon on screen) > Up
 FREEZE Icon > Click
 FMA : Check NAV green >
 UNFREEZE Icon > Click
 AT THR RED Alt :
 FMA : LVR CLB is flashing white (FMA 1st column).
 THR levers set > Climb
 FMA : Read and announce "| THR CLB |"
 AT ACC Alt :
 FMA : Read and announce "| CLB |"
 Observe new target speed (selected - blue) 230 kt >
 SPEED > F [Flaps 1]
 SPEED > S [Flaps 0]
 TRANSITION Alt - BARO Ref > Pull STD

ATC > Resume normal speed, recleared Fl 140.

(FMGS2D.PCX)

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FMGS SYLLABUS 2 (CONT'D)

>>>>>> CLIMB :

SPEED Selector > Push
 FCU Target Alt Set > [14000]
 PFD : Check FL140 blue and speed (250) managed (magenta) >
 ALT Selector > Pull
 FMA : Read and announce "| OPCLB |"
 HEADING Selector > Pull
 FMA : Read and announce "| HDG |"
 Observe :
 Value displayed on FCU >
 Heading indexes are blue on PFD and ND >

HEADING set > [300]
 V/S Selector Set and Pull > [+1000]
 FMA : Read and announce "| SPEED | - | V/S +1000 |" >
 FCU Alt Selector > Pull
 FMA : Read and announce "| THR CLB | - | OPCLB |" >
 [RADNAV] Page > Select
 Clear manually tuned Navaids to restore autotuning function >

AT FL100 : Observe target speed change (ECON CLIMB) >

ATC > Resume normal navigation.

INTERCEPT Heading > Set and Push
 A HDG to intercept the common leg dashed line should be selected >
 Check NAV blue on FMA >
 Intercept point is displayed on ND.
 ACTIVE LEG > Check
 Check that the "TO WPT" displayed on ND is the next WPT
 to overfly. If necessary, clear unwanted points or use
 DIR TO Key to resume navigation to next WPT >

(FMGS2E.PCX)

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FMGS SYLLABUS 2 (CONT'D)

>>>>> CRUISE :

Reaching FL 140 :

FMA : Read and announce "| ALTCRZ* | then | ALTCRZ | (green)" >

ATC > Cleared direct SAU, join hold at SAU

[DIR TO] Page :

TYPE and INSERT (Freq 116.8) > [SAU]

*SAU > Select

[FPLN] Page :

LATERAL Revision at > [SAU]

< HOLD Select

Check or modify :

INB CRS : 219°

TURN : R

TIME : 1.5/5

Observe hold temporary display on ND then ... Insert* >

ATC > Cleared FL 100

LFBD Runway in use 23, expect ILS APP, Wind 270°/15 kt,

QNH 1013, TEMP 15° - DP 12°.

FCU target Alt set > [10000] then Push

FMA : Read and announce "| SPEED | - | DES |" >

PFD : Check FL100 blue >

(FMGS2F.PCX)

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FMGS SYLLABUS 2 (CONT'D)

>>>>> APPROACH PREPARATION :

[FPLN] Page :

Perform a LATERAL revision at destination >

ARRIVAL > Press

Check Approach and VIA's >

[PROG] Page :

ACCURACY CHECK perform ...

VOR 1 manually tune > [BDX]

BRG/DIST field Insert > [BDX]

Crosscheck result with raw data on ND >

If positive, Map is reliable >

[PERF] Page :

Insert landing parameters into approach page >

QNH > [1013]

TEMP > [15]

WIND > [270/15]

TRANS ALT Check > [5000]

MDA > [351]

OTHER PARAMETERS > As required

NEXT PHASE > Press

Check or modify THR RED/ACC - ENG OUT ACC Alt >

[RAD NAV] Page :

Tune NAVAIDS as appropriate for arrival and identify them on ND >

[FUEL PRED] Page :

Check fuel at Destination / Alternate / Extra fuel >

[FPLN] Page :

Lateral Revision at ... HOLD

HOLD > Select

Check LAST EXIT time and fuel >

ATC > Cleared 5000 ft, QNH 1013, SAU - LIBRU - BE

(FMGS2G.PCX)

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FMGS SYLLABUS 2 (CONT'D)

>>>>> DESCENT and APPROACH :

QNH Set > [1013]
 FCU ALT Selector > Set [5000] and Pull
 FMA : Read and announce "| THR IDLE | - | OPDES |"
 PFD : Check 5000 blue >

[FPLN] Page :
 Exit the hold if applicable >
 < IMMEDIATE EXIT Press
 APPROACH C/L > Complete

ATC > After SAU direct BE, descent 2000 ft on QNH 1013.

FCU ALT Selector > Set [2000] and Pull
 FMA : Check | THR IDLE | - | OPDES |
 PFD : Check 2000 blue >

[DIR TO] Page :
 TYPE and INSERT > [BE]

[PROG] Page :
 ACCURACY CHECK Perform again ...
 BRG/DIST to BDX > Read
 Crosscheck result with raw data on ND >
 If positive, Map is still reliable >

ATC > AT 2000 ft on QNH 1013 cleared for Approach.
 Note : Freeze simulation at your convenience >

APPROACH MODE > Arm
 ILS p/b > ON
 AP2 > Engage
 FMA : Read "| G/S | - | LOC |(blue) | CAT ... | MDA ... | AP 1+2 |"

[PERF] Page :
 APPROACH PHASE at 15 NM from BDX > Activate and Confirm
 AT GREEN DOT Select > [Flaps 1]

>>>>> LOC INTERCEPTION :

Crosscheck interception with ROSE ILS on ND if desired >
 FMA : Read and announce "| LOC* |" then "| LOC |(green)"
 G/S Active - Select > [Flaps 2]
 LDG GEAR > Down
 FMA : Read and announce "| G/S* |" then "| G/S | (green)"
 FCU Go around Alt set > [4000]
 Select Flaps > [3 then Full]
 (FMGS2H.PCX)

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FMGS SYLLABUS 2 (END)

```
>>>>>> MONITOR final approach :
FMA : Read and announce "| LAND |" (below 400 ft AGL) >
Read and announce "| THR IDLE | - | FLARE |" (40 ft AGL) >
Read and announce "| ROLL OUT |" (After touch down) >
THR Levers Set > ..... Idle
```

HAPPY LANDING !

```
>>>>>> REVIEW
```

Use RECALL MEMO Icon to recover parameters just before start >

Cockpit preparation:

```
[INIT]
[FPLN]
< DEPARTURE
[RAD NAV]
[PERF]
[INIT] Page B
```

Approach preparation sequence :

```
[FPLN]
ARRIVAL >
[PROG]
[PERF]
[RADNAV]
[FUEL PRED]
```

```
THIS IS THE END OF A320 FMGS SYLLABUS 2 *****
*****
```

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FMGS SYLLABUS 3

This session is designed to use FMGS interface including MCDU, FCU and EFIS display

HOW TO START FREEPLAY: (if power is off) ?

STEP1 : Locate the switch at the rear panel of the mock-up and select it to ON.

STEP2 : Wait until the computer has completed its automatic initialization sequence (no mouse click, no keyboard input).

STEP3 : Select CAPT/FO and units then click "OK".
Wait till the PFD is displayed on screen.

>>>>> FREEPLAY PREPARATION

> On the Pedestal

THR LEVER : Check > Idle
Flaps LEVER : Check > Retracted

> On the Screen

ENG masters : Check > Off
SPEED BRAKE : Check > Retracted
STORE MEMO Icon > Locate
Memorizes actual freeplay status (by Mouse click) >
RECALL MEMO Icon > Locate
Returns to memorized status (by Mouse click) >
FREEZE (UNFREEZE) Icon > Locate
Freezes or unfreezes flight simulation. Unfreeze is necessary before any further modification or entry.

SPEED UP Icon > Locate
Multiplies by 5 the speed until 5 NM inbound to next waypoint then normal speed.

>>>>> FMGS INITIALIZATION

Notes :

- 1.) All data between brackets [...] must be typed exactly as given to avoid a FORMAT ERROR message.
- 2.) It is recommended to read comments (if any) prior to action.
- 3.) The initialization of the FMS will tell the freeplay trainer software to set the environmental factors and where to position the airplane.

(FMGS3A.PCX)

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FMGS SYLLABUS 3 (CONT'D)

A/C STATUS page is normally displayed at power up.

If not displayed :

[DATA] Page :

< A/C STATUS Select then:

ACTIVE DATABASE, a/c version and engine version > Check
 DATABASE (valid) > Select

[INIT] Page :

FROM/TO > [LFPO/LFBD]

ALTN > [LFBO]

* Insert Altn Coroute : EVAL3A >

FLT NBR > [AI320]

PARKING LAT/LONG > Check

ALIGN IRS > Depress

COST INDEX > [30]

CRZ FL > [290]

Check defaulted t [°C] (ISA) - 43°C displayed in small figures >

MODIFY TEMPERATURE > [/-47°]

Do not forget the separator "/" and "-"

WIND > Select

HISTORY WIND > Select then Insert

[FPLN] Page :

ND PLAN MODE > Select

ND RANGE > As appropriate

LATERAL revision at LFPO :

Insert Runway 07 - PTV7V SID >

Observe departure in yellow dashed line on ND then *Insert >

INSERT after PTV > New Waypoints LCA [112.1] then LMG [114.5] >

Clear any discontinuity before LMG >

FPLN page bottom line: Read total distance to destination >

CSTR PUSH BUTTON > Off

FPLN > Review

Scroll FPLN : verify FPLN WPTS - Tracks - Distances on

MCDU Page and ND PLAN Mode. Crosscheck with documentation >

[SEC FPLN] Page :

Prepare the other runway on SEC FPLN ...

COPY ACTIVE > Press

Lateral revision at LFPO07 - change runway (08 i/o 07) >

Observe that PTV7V SID is kept >

Check SEC FPLN routing (white and green) on ND PLAN mode >

Adjust range >

Secondary PERF and SEC INIT B Pages could be prepared as well.

(FMGS3B.PCX)

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FMGS SYLLABUS 3 (CONT'D)

[FPLN] Page :
Scroll and clear discontinuity after PTV >

[RAD NAV] Page :
Identify all nav aids on ND or PFD >
VOR 1 : Tune > [BT]-[108.8]
COURSE > [164]
ILS : Ident - Frequency - Course > Check
ADF 1 : Manually Tune > [OYE]-[349]
ADF 2 : Manually Tune > [ORW]-[402]

[INIT] B Page :
ZFWCG/ZFW > [28/48]
FUEL > [10]
After a short delay computations appear : check >

[PROG] Page :
Observe Progress Page >
Check Optimum Flight Level (OPT) >
Check Recommended Maximum Flight Level (REC MAX) >

[PERF] Page :
V1 > [121]
VR > [131]
V2 > [133]
FLAPS/THS > [2/1UP]
FLEX TEMP > [52]
TRANS ALT > [4000]
THR RED/ACC > [1790/2290]
ENG OUT ACC > [1790]
NEXT PHASE > Press
PRESEL Climb Speed > [280]
PERF Take-off Page > Display

(FMGS3C.PCX)

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FMGS SYLLABUS 3 (CONT'D)

>>>>> COCKPIT PREPARATION :

FCU Settings > Check
 FCU Target Alt > [13000]
 FD's > On
 ILS > As Required
 CSTR P/B > On
 ND Mode Selector and Range > As Required
 ADF/VOR Selectors > As Required for Departure
 ENGINE MASTERS (on screen) > On
 FLAPS SELECTOR (pedestal) > [2]

STORE MEMO > Click

ATC > Clearance :
 Take off runway 08 (first 600 m unusable).
 Taxiway two. Cleared to destination LFBD via
 PTV7V SID, cross PTV at or below FL 060 Climb
 initially to FL130. Level change en route.
 Squawk 3646.

Runway 08 is already prepared in SEC FPLN.

[SEC FPLN] Page :

ACTIVATE SEC > Select

[FPLN] Page :
 VERTICAL Revision at PTV >
 ALT CSTR Insert > [-6000]

[PERF] Page :

Check or revise previous TAKE OFF DATA, lost
 after runway change (use same performance) >
 T/O SHIFT > [600]

You are ready for Take-off now >

STORE MEMO Icon > Click
 Preparation is memorized. Click on RECALL MEMO if
 take-off repetition is required.

(FMGS3D.PCX)

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FMGS SYLLABUS 3 (CONT'D)

>>>>> TAKE OFF

THR LEVERS set > Flex detent
FREEZE Icon > Click
FMA > Read
UNFREEZE Icon > Click

>>>>> POSITIVE CLIMB

AP1 > Engage
LANDING GEAR (Click on screen) > Up
Check NAV green on FMA >

At THR RED ALT > Climb Power
Read FMA >
At ACC ALT > FMA
Retract Flaps in Sequence >

Note :

You may use freeze then unfreeze function to observe
quietly PFD indications >
You may also use RECALL MEMO for take-off repetition >

>>>>> Crossing 4000 ft (TRANS ALT) :
BARO REF is flashing on PFD.
ALTIMETER Setting Selector > Pull STD

>>>>> CLIMB

PFD : Check ALT on FMA and FLO60 target in magenta >
Observe :
MCDU [PERF] CLB Page >
MCDU [FPLN] Pages A and B >
Review Predictions EFOB/Wind >
ND : Set ARC Mode and Range to 80 NM >
Observe routing >

ATC > Recleared to climb to FL 190. No speed restriction.

FCU ALT Selector (Set and Pull) > [19 000]
PFD : FL190 blue
FMA : | THR CLB | | OP CLB |
Observe FLO60 CSTR is now disregarded (Open Mode) >

(FMGS3E.PCX)

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FMGS SYLLABUS 3 (CONT'D)

[FPLN] Page :

Clear SPD LIM displayed on MCDU [FPLN] Page (right hand key) >

Observe new target speed on PFD >

Crosscheck on PERF Climb Page >

ATC > After PTV recleared to climb to FL 270 final level.

(AT PTV) FCU ALT Selector (Set and Push) > [27 000]

FMA : | CLB |

PFD : FL270 blue >

[PROG] Page :

CRZ FL Insert > [270]

ALTCRZ (blue) replaces ALT (blue) on FMA.

[RAD NAV] Page :

Clear all tuned Nav aids to restore autotuning >

ATC > Turn right 10 degrees.

HDG Selector (Pull and Set) > [10° right]

Read FMA : Observe | CLB | | NAV | change to | OPCLB | | HDG | >

Observe on ND initial routing (dashed line) >

Observe information of lateral offset (Ex : .3R) >

ATC > Resume normal navigation.

Select heading to intercept dashed line (common leg - on ND) >

HDG Selector > Push

FMA : Check NAV (blue) then NAV (green) >

CAUTION :

Check that you are intercepting the active leg >

TO WPT displayed on ND should be ahead and the next WPT.

When NAV green ...

ALT Selector > Push

FMA : Read | CLB |

ATC > Expedite climb to FL 240, then normal climb to FL 270.

EXPEDITE P/B > Push

The airplane is climbing now at G-dot speed.

Passing thru FL240, resume normal climb (speed) >

ALT Selector > Push

(FMGS3F.PCX)

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FMGS SYLLABUS 3 (CONT'D)

>>>>> CRUISE

Reaching Cruising Flight Level ...

FMA : Read | SPEED | | ALTCRZ* | then | ALTCRZ | (green) >

[PERF] Page > Check CRZ phase

>>>>> NAVAID Deselection Exercise :

[DATA] Page :

POSITION MONITOR > Select

SEL NAVAIDS > Press

Insert NAVAID identifier to be deselected >

EX : Type and Insert > [MEN]-[115.3]

[PROG] Page :

ACCURACY HIGH/LOW > Check

Read VOR 1 ident (probably LMG/114.5) >

BRG/DIST TO: (Type and Insert > [LMG]

Now, read result and compare with

RAW DATA bearing and distance (ND bottom line) >

[FUEL PRED] Page :

Check EFOB at LFBD >

[PERF] Key > Depress

DES FORECAST > Select

Insert wind 310/30kt/FL250 >

Observe cabin ROD used in descent path computation 350 ft/mn >

>>>>> APPROACH PREPARATION :

ATIS > LFBD Runway in use 23. Expect standard arrival

ILS RWY 23. Wind 250°/12kt. QNH 1013. Temp 15° DP 11°.

[FPLN] Page :

Lateral revision at destination :

ARRIVAL > Select

> ILS23 Select

STAR : LMG4 > Select

*INSERT > Press

CSTR push button (EFIS panel) > Check on

FPLN > Review

Using MCDU page and ND PLAN Mode:

Scroll FPLN and crosscheck with APP plates (chart) >

Verify Approach, Go around and Altn FPLN (blue) if any >

(Check WPTS, Tracks, Distances and Alt's) >

(FMGS3G.PCX)

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FMGS SYLLABUS 3 (CONT'D)

[PERF] Page :

Use NEXT PHASE > prompt until APP Phase then ...

QNH > [1013]

TEMP > [15]

WIND > [250/12]

TRANS ALT > Check

MDA > [351]

NEXT PHASE > again to display Go around page :

THR RED/ACC and EO altitudes > Check or modify

[RAD NAV] Page :

Identify all nav aids on ND or PFD.

VOR 1 : (Insert) > [BDX]

ILS/FREQ and COURSE > Compare with Chart

ADF 1 : [BD]

ADF 2 : (if applicable) > [BE]

Display [PERF] page for descent.

STORE MEMO > Click

>>>>> DESCENT

Select ARC Mode and Range 80 NM.

At top of descent (check on PFD and scratchpad) >

DECELERATE message is displayed.

ALT Selector (SELECT and PUSH) > [12000]

FMA : Read (a CSTR is displayed) >

PFD : Check FL 200 magenta >

Observe economic speed range for DES >

Monitor the managed descent profile >

[PROG] Page :

Check the vertical deviation (VDEV) >

ATC > Recleared to descent to 4000 ft on QNH 1013.

ALT Selector (SELECT and PULL) > [4000]

QNH Set > [1013]

PFD : Check 4000 Blue and economic speed range removed >

FMA : Read | OPDES | i/o | DES |

Observe all constraints are disregarded >

Monitor VDEV >

(FMGS3H.PCX)

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FMGS SYLLABUS 3 (CONT'D)

>>>>>> APPROACH

[PROG] Page :
 NAVIGATION ACCURACY CHECK :
 Insert BRG/DIST to BDX >
 Read result and compare with RAW DATA (ND bottom) >
 ND > ARC mode/range [20 or 10]

At 40 BDX/DME >> ILS Ident > Check on PFD

At 4000 ft >> On [PERF] Page >
 APPROACH PHASE > Activate and Confirm
 Observe APP Page is displayed now on MCDU >
 Observe on PFD new target speed is VAPP (MAGENTA) >

ATC > Recleared to descent to 2000 ft on QNH 1013.

FCU ALT Selector (Set and Push) > [2000]
 PFD : Check 2000 blue >
 FMA : Read | THR DES | or | SPEED | - | DES |

ATC > Cleared for ILS APP RWY 23.

APP MODE > Arm
 ILS P/B > On
 AP2 > Engage
 FMA : Check | G/S | (blue) - | LOC | (blue) | CAT.. | | MDA.. | | AP1+2 |
 STORE MEMO Click
 Present position is memorized.

At GREEN DOT Speed > [Flaps 1]
 At S Speed > [Flaps 2]
 FMA : | LOC* | then | LOC | (green)
 WHEN G/S alive > Gear down
 WHEN G/S* FCU Go Around Alt Set > [4000]
 PFD : 4000 blue >
 FLAPS > [3 then Full]
 At 400 ft AGL Check | LAND | on FMA >
 At minimum and no visual - GO AROUND - FLAPS !

(FMGS3I.PCX)

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FMGS SYLLABUS 3 (CONT'D)

>>>>> GO AROUND

THR LEVERS > TOGA
 FLAPS LEVER (One Step) > [3]
 FMA : Read >
 POSITIVE CLIMB > Gear up
 HEADING Selector > Push
 FMA : Check NAV (green). You are following standard missed
 approach procedure >
 At THR RED Alt > Levers CLB
 At ACC Alt > Retract Flaps in Sequence

ATC > Bordeaux is closed. Divert to LFBO.
 Cleared direct SAU and climb to Fl 130.

[DIR TO] Page :
 Type and Insert > [SAU]
 *SAU > Select

FCU Target Alt Set > [13000]
 QNH > Pull STD
 PFD : Check FL130 blue >
 [PERF] Page check > GA Phase

STORE MEMO > Click
 If required, it will be possible to review the following
 sequence with RECALL MEMO.

>>>>> DIVERSION

[FPLN] Page :

LAT REVISION at TO Wpt > ENABLE ALT > Press
 ND : Observe Alternate FPLN is an amber dashed line
 (use range 10 or 20 NM) then ...
 *INSERT > Press
 This action activates the Alternate FPLN.
 [DIR TO] > Press
 SCROLL FPLN and select SAU in the activated FPLN then ...
 *SAU > Select
 FMA : Check NAV (green) >
 This action restores FPLN sequencing.
 [PERF] Page > Press
 You are now back in CLIMB phase.

(FMGS3J.PCX)

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FMGS SYLLABUS 3 (CONT'D)

[PROG] Page :
 CRZ LVL Check or modify > [130]
 ALT CRZ (blue) is displayed now on FMA.

[RAD NAV] Page :
 Clear the manually tuned navaids >

>>> To review this sequence, click on RECALL MEMO.

ATC > For LFBO ARR expect ILS15R AGN2SA STAR, VIA SOTAK.
 Wind 120°/10 kt. QNH 1013. Temp 15° / DP 11°.

A R R I V A L > Prepare
 In sequence: [FPLN] - [RADNAV] - [PROG] - [PERF] - [FUEL PRED] >
 Review FPLN and Go Around.

ATC > Cleared to descent to 3000 ft on QNH 1013.

ACCELERATE with SPEED UP to Top of Descent (TOD).
 At TOD :
 FCU Target Alt (Set and Pull) > [3000]
 QNH > [1013]
 FMA : Read >
 PFD : Check 3000 blue >
 Observe Speed change symbol on routing (ND) >
 At 10000 ft observe speed target change >

ATC > Cleared standard ILS APP 15R.

APP MODE > Arm
 AP2 > Engage
 FMA : Check | G/S | (blue) | LOC | (blue) | CAT.. | MDA.. | AP1+2 |

[PERF] Page > Select

Monitor automatic activation of approach phase
 after overflying D (DECEL) point >

Monitor LOC* then LOC (green) >
 LANDING CONFIG > Select in sequence
 At G/S* > Set GA Alt

(FMGS3K.PCX)

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R

FMGS SYLLABUS 3 (END)

>>>>> UNEXPECTED DESTINATION SEQUENCING.

At 1000 ft AGL ...

V/S Selector > Push

FMA : Read >

[FPLN] Page > Depress

Observe next waypoint is LFBO15R.

After passing threshold ...

HDG Selector > Push

Observe NAV is engaged in FMA >

Because GO AROUND phase was not engaged, destination has
been sequenced with threshold overflight in MCDU FPLN page.

To solve the problem:

Lateral Rev at NOPTA (TLB) then ...

NEW DEST : (Type and Insert) > [LFBO]

Lateral Rev at LFBO to select an ARRIVAL >

Session is completed. You can use RECALL MEMO function to review
G/S interception from above or any other approach.

THIS IS THE END OF A320 FMGS SYLLABUS 3 *****

(FMGS3L.PCX)

FMGS 4 TAKE-OFF DATA
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

ATIS

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

RWY 15 R

WIND 180°/10 kt

VISI CAVOK

CEILING

TEMP 14°C

DEW POINT ... 10°C

QNH 1013 hPa/29.92 inHg

QFE 995 hPa/29.38 inHg

RWY COND ... DRY

Observations : AIR COND ON

INIT NEXT PAGE

ZFCG/ZFW

BLOCK

PERF PAGE

IAE CFM

V1	124	124

VR	133	134

V2	133	134

FLEX	56	52

DRT		

T/O FLAPS

T/O C.G.

NOTE :
F/PLN for Trainee 2 :

 LFBO 15 R - FISTO SID - UT 210 -
 LMG - MORIK - AMB - VILRO -
 NO STAR - VIA EPR - LFPO ILS 07
 RETURN NOPTA - LFBO VOR 15 R

F/PLN for Trainee 1 :

 LFBO 15 R - FISTO SID - LMG -
 MORIK - AMB - VILRO - NO STAR
 VIA MEL - LFPO ILS 26

ALTN : POGN SID - CLM -
 NO STAR - NO VIA -
 LFPG ILS 27

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FMGS 4 SESSION GUIDE

01 - SESSION OBJECTIVE

- Practice the FMGS functions.

02 - TRAINING TOPICS

A. REVIEW

- Practice most of the FMGS functions through a complete flight profile.
- FMGS Flight Planning.

B. INTRODUCE

- FMGS procedures (Descent preparation and approach briefing).

03 - SESSION PROFICIENCY CRITERIA

- Knowledge of the FMGS functions and MCDU pages.
- Understanding of FMGS indications (FMA, ND, MCDU, FCU).
- Ability to perform FMGS programming.

04 - SESSION GUIDE

- 2 : PF/PNF TASK SHARING is important to be practiced the proper way :
 - monitoring the system engagement on the FMA is mandatory.
 - call outs of all mode changes are the key to crew coordination.
- 13 : Symbols appearing on ND, PFD and MCDU should be clearly known and understood by the students (all of them are published in the FCTM Volume 4).
- 15 : This exercise must be monitored, because if the trainee pulls the HDG selector, it will be impossible to clear the FMA. Only FD1 (if CPT's side active) or FD2 (if F/O's side active) can be turned OFF ; the other one is always ON. To avoid this problem, perform a STORE MEMO before this exercise and in case of error, RECALL MEMO will restore a correct FMA. Mention that is specific F3D trainer and not A/C related.
- 20 : At 5000 FT : "On company request, immediate return to departure".
- 23 : As the managed approach has not yet been studied, this VOR approach will be flown in SELECTED mode.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

FMGS 4 SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- 39 : After AMB, proceed to VILRO for ILS 07 VIA EPR.
- 49 : Holding at RBT.
Review :
 - How to exit.
 - How to delete.
 - Further sequencing problem if holding is exited in HDG mode.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

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N1 FBS syllabus Page 03

N2 FBS syllabus Page 05

N3 FFS syllabus Page 07

N4 FFS syllabus Page 09

N5 FFS syllabus Page 11

NOTE : *Instructors' FCTM includes the "Session Guides"*

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N1 FBS TAKE-OFF DATA
INIT PAGE

CO RTE

N1 FBS

ALTN/CO RTE

N1 FBSA

FLT NBR

[AirlineID] 201

LAT

4338.1N

COST INDEX

30

CRZ FL/TEMP

FL 310 / -47°C

FROM/TO

LFBO/LFPO

LONG

00122.1E

TROPO

36090

TRIP DIST

372 NM

CRZ WIND

260°/30 kt

ALTN

LFPG

ALTN DIST

80 NM

FL to ALTN

100

ATIS

RWY 15 R

WIND 100°/10 kt

VISI CAVOK

CEILING

TEMP 14°C

DEW POINT ... 10°C

QNH 1015 hPa/29.97 inHg

QFE 997 hPa/ 29.44 inHg

RWY COND ... DRY

Observations : AIR COND ON

INIT NEXT PAGE

ZFCG/ZFW

30.2%-48 t

30.2%-105600 lb

BLOCK

 16 t
 35300 lb

PERF PAGE

IAE CFM

V1

VR

V2

FLEX

DRT

T/O FLAPS

2

T/O C.G.

26.6%

—TOGA—

FLEX

—DRT—

NOTE :
F/PLN :

LFBO 15 R

RADAR VECTORS - AGN

MORIK - AMB

CDN

DIR MEL

NO STAR - VIA MEL

LFPO ILS 26

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	REGULAR COURSE NORMAL COURSE SYLLABI	2.02.04 Page 4A <i>E F2R</i> REV 22 OCT 98

N1 FBS SESSION GUIDE

01 - SESSION OBJECTIVE

- Introduce and practice normal operation and procedures.

02 - TRAINING TOPICS

A. REVIEW

- Transit cockpit preparation
- Normal take-off
- ILS approach

B. INTRODUCE

- Autotrim and stability
- Go around with/without FD
- Use of FPV and FPD
- LOC approach
- Auto thrust logics.

03 - SESSION PROFICIENCY CRITERIA

- Ability to perform :
 - Transit cockpit preparation
 - Normal take-off procedure
 - Standard ILS approach
- Understanding of FPV/FPD utilization and Go around procedure.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

N1 FBS SESSION GUIDE (END)
04 - SESSION GUIDE (END)

Eng	V1	VR	V2	Flex
CFM	146	146	146	50
IAE	148	148	149	51

- 5, 20 : From 250 kt in level flight increase speed to 300 kt
 - demonstrate short term stability with auto trim (hands off)
 - demonstrate use of speed trend arrow
 Reduce to 250 kt by setting pitch at 5 deg up
 - same demo, stabilize at 250 kt
 Demonstrate stability in roll.
 Turn using 25 deg bank : release the stick.
 Reduce speed to green dot : emphasize turn coordination, no need for rudder.
 Do not spend too much time as it will be reviewed in the FFS. This is a demo of how to handle the Fly By Wire aircraft.
- 6 : Demonstrate auto thrust engagement / disengagement logic and N1 rated limits.
 Demonstrate how to increase thrust if necessary with A/THR engaged by moving the thrust levers forward of climb detent.
- 11, 25 : With FD's off and FPV on.
 Demonstrate the relationship between attitude and flight path angle.
 Demonstrate the effect of varying crosswind with respect to heading and track.
- 12, 26 : Normal ILS - FD ON / ATHR ON / AP ON / 0 wind (stabilized approach)
 Interception G/S at 3000 ft for following demo :
 1. At 2000 ft freeze position and altitude.
 2. FD off FPV ON - observe FPV at -3 deg and centered in the middle of PFD.
 3. Change wind : 100 / 15 kt. Point out new heading to maintain localizer and observe FPV is offset.
 4. Change wind : 190 / 15 kt. Same demonstration.
 5. Review technique for raw data ILS corrections and release to continue raw data approach.
- 15, 29 : Practice use of FPD by selecting TRACK and ALT changes with and without AP.
 Then select AP ON for LOC approach.
- 16, 30 : Instructor fails G/S.

N2 FBS TAKE-OFF DATA
INIT PAGE

CO RTE

N2 FBS

ALTN/CO RTE

FLT NBR

[Airline ID] 202

LAT

4338.1N

COST INDEX

30

CRZ FL/TEMP

FL 310 / -47°C

FROM/TO

LFBO/LFPO

LONG

00122.1E

TROPO

36090

TRIP DIST

345 NM

CRZ WIND

260°/30 kt

ALTN

LFPG

ALTN DIST

80 NM

FL to ALTN

100

ATIS

RWY 33 L

WIND 360°/15 kt

VISI 2 km

CEILING OVC 400 ft

TEMP 20°C

DEW POINT ... 10°C

QNH 1015 hPa/29.97 inHg

QFE 997 hPa/29.44 inHg

RWY COND ... WET

Observations : AIR COND ON

INIT NEXT PAGE

ZFCG/ZFW

36.2%-55 t

36.2%-121000 lb

BLOCK

9 t

19800 lb

PERF PAGE

IAE CFM

V1

VR

V2

FLEX

DRT

T/O FLAPS

3

T/O C.G.

33.5%

—TOGA—

FLEX

—DRT—

NOTE :
F/PLN :

LFBO 33 L

FISTO SID

UT 210 - LMG

MORIK - AMB

DIR VILRO

NO STAR

VIA EPR

LFPO ILS 26

N2 FBS SESSION GUIDE

01 - SESSION OBJECTIVE

- Introduction to various non precision approaches.

02 - TRAINING TOPICS

A. REVIEW

- FPV / FPD.

B. INTRODUCE

- Manual engine start
- Side stick priority
- Non precision approaches
- Crew incapacitation
- CRM briefing : procedures and practices (if not previously debriefed).

03 - SESSION PROFICIENCY CRITERIA

- Understand and apply non precision approach procedures.
- Proper use of automation.

04 - SESSION GUIDE

Eng	V1	VR	V2	Flex
CFM	138	148	148	50
IAE	142	152	152	50

- 4 : T1 full left / T2 full right - summing.
T2 make small input and holds - T1 takes over 10 seconds and releases.
Explain side stick priority lights and audio.
T1 makes small input and holds - T2 takes over 40 secs (lock out)
- 6 : NDB approach (not in data base), selected mode, using TRK / FPA.
Approach to be started from the holding pattern with no radar assistance respecting altitude constraints.
- 9 : VOR approach, selected mode, using TRK / FPA.
- 12 : VOR approach, managed mode, using HDG / V/S.

N2 FBS SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- 16 : VOR approach, managed mode, using HDG / V/S.
Approach to be started from the holding pattern with no radar assistance respecting altitude constraints.
Demonstrate DECEL point.
- 19 : VOR approach, managed mode, using TRK / FPA.
- 22 : NDB approach, selected mode, using TRK / FPA.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

N3 FFS TAKE-OFF DATA
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 33 L

WIND 240°/15 kt

VISI 10 km

CEILING OVC 3000 ft

TEMP 20°C

DEW POINT ... 10°C

QNH 1015 hPa/29.97 inHg

QFE 997 hPa/29.44 inHg

RWY COND ... DRY

Observations : Turbulence 15%

AIR COND ON

INIT NEXT PAGE

ZFCG/ZFW

BLOCK

PERF PAGE

IAE CFM

 V1

 VR

 V2

 FLEX

 DRT

T/O FLAPS

T/O C.G.

NOTE :
F/PLN :

LFBO 33 L - RADAR VECTORS

ILS 33 L

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MALFUNC REF.	- N3 FFS -									
	TRAINEE 1									
	■ 1 - TRANSIT COCKPIT PREPARATION									
	2 - TAXI OUT									
	■ 3 - TAKE-OFF - FLAP AUTO RETRACTION (DEMO)			FD	ATHR					
	4 - CLIMB TO 8000 FT			FD	ATHR					
	■ 5 - STUDY OF NORMAL LAW					FPV				
	6 - RADAR VECTORS			FD						
	7 - ILS APPROACH			FD						
	8 - LANDING									
	INIT T/O									
	9 - TAKE-OFF			FD	ATHR					
	10 - VISUAL PATTERN				ATHR	FPV				
	■ 11 - REJECTED LANDING AT 30 FT				ATHR					
	12 - VISUAL PATTERN					FPV				
	■ 13 - LOW ENERGY WARNING					FPV				
	14 - LANDING (SIDESTEP)									
	INIT T/O									
	15 - TAKE-OFF			FD	ATHR					
	16 - RADAR VECTORS	AP		FD	ATHR					
	■ 17 - NON PRECISION APPROACH	AP			ATHR	FPV	FPD			
	18 - LANDING									
	19 - 180° TURN ON RUNWAY									
	IF 2 CAPTAIN CREW OR 2 FIRST OFFICER CREW : CHANGE SEATS BEFORE BEGINNING THE "TRAINEE 2" STAGE									
	TRAINEE 2									
	INIT T/O									
	■ 20 - TAKE-OFF - ALPHA LOCK (DEMO)			FD	ATHR					
	21 - RADAR VECTORS			FD	ATHR					
	22 - ILS APPROACH			FD						
	23 - LANDING									
	INIT T/O									
	24 - TAKE-OFF			FD	ATHR					
	25 - VISUAL PATTERN				ATHR	FPV				
	■ 26 - REJECTED LANDING AT 30 FT				ATHR					
	27 - VISUAL PATTERN					FPV				
	■ 28 - LOW ENERGY WARNING					FPV				
	29 - LANDING (SIDESTEP)									
	INIT T/O									
	30 - TAKE-OFF			FD	ATHR					
	31 - RADAR VECTORS	AP		FD	ATHR					
	■ 32 - NON PRECISION APPROACH	AP			ATHR	FPV	FPD			
	33 - LANDING									
	34 - 180° TURN ON RUNWAY									
	IF TIME PERMITS :									
	35 - VISUAL APPROACH									

N3 FFS SESSION GUIDE

01 - SESSION OBJECTIVE

- Introduction to the normal law protection
- Introduction to aircraft handling characteristics.

02 - TRAINING TOPICS

A. REVIEW

- ILS and non precision approaches.

B. INTRODUCE

- Simulator and installation safety.
- Flap auto retraction function
- Normal law - protections
- Low energy warning
- 180° turn on runway
- Slats / Alpha-speed lock function
- Visual pattern - landing
- CRM briefing : situational awareness - preventing (if not previously debriefed).

03 - SESSION PROFICIENCY CRITERIA

- Understanding of normal law protections and flap auto retraction system.
- Ability to perform :
 - Standard ILS approach within tolerances (SOP, ILS approach)
 - Standard Non precision approach
- Ability to apply correct landing technique.

04 - SESSION GUIDE

Eng	V1	VR	V2	Flex
CFM	124	134	134	52
IAE	124	134	134	57

INSTRUCTOR ONLY

INSTRUCTOR ONLY

N3 FFS SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- R* ■ 1 : Instructor should encourage the crew to save time during transit cockpit preparation.
- 3 : When flaps at 1 + F do not retract further, observe flaps auto retraction at 210 kt.
- 5 : Accelerate to 300 kt, then demonstrate :
- Roll :
- Stability up to 33° of bank.
 - Need of back stick pressure with bank angle above 33°.
 - Max bank angle : 67° (load factor).
- R* Pitch attitude : 30° (25°) up, 15° down, in clean configuration.
- High speed : VMO only
- VMO + 6 : warning pitch up load factor.
 - In dynamic : VMO + 16 or 30 kt.
 - Bank angle limitation : 45°.
 - Positive spiral stability.
- High angle of attack :
- Alpha prot.
 - Alpha floor.
 - Alpha Max.
 - Bank angle limitation 45°.
- CFIT : one emergency pull up.
- Trainee 1 then Trainee 2 performs the normal law demonstration.
Trainee 1 resumes control at the end of the demonstration.
- 11, 26 : Demonstrate the need for increased back pressure on the side stick to achieve the required pitch attitude (flare law).
- R* Perform go around at low altitude (30 ft) - Rejected landing (JAR requirement).
- 13, 28 : Extend downwind, set conf 2 and demonstrate low energy warning (Speed - Speed - Speed), by turning to base leg with nose up (manual thrust).
When final turn complete, ATC orders a runway change.
- R* "Cleared to land on RWY 15 L (or 33 R)". Aircraft must be stabilized at 500 ft AGL.
- 17, 32 : VOR or NDB approach, managed or selected at trainee discretion.
- 20 : At ACC ALT, retract F1 then adjust pitch + 20°.
When speed is less than 148 kt retract flap to 0.
Observe Alpha Lock on ECAM Flap indicator.
Resume normal pitch and observe flap retraction when protection is removed.

N4 FFS TAKE-OFF DATA
INIT PAGE

CO RTE

TSLHR1

ALTN/CO RTE

FLT NBR

[Airline ID] 204

LAT

4338.1N

COST INDEX

30

CRZ FL/TEMP

FL 350 / -51°C

FROM/TO

LFBO/EGLL

LONG

00122.1E

TROPO

36090

TRIP DIST

519 NM

CRZ WIND

090°/35 kt

ALTN

EINN

ALTN DIST

330 NM

FL to ALTN

310

ATIS

RWY 15 R

WIND 060°/10 kt

VISI

CEILING CAVOK

TEMP 14°C

DEW POINT ... 10°C

QNH 1003 hPa/29.62 inHg

QFE 985 hPa/29.08 inHg

RWY COND ... DRY

Observations : AIR COND ON

INIT NEXT PAGE

ZFCG/ZFW

40.8%-55 t

40.8%-121000 lb

BLOCK

 18.5 t
 40 700 lb

PERF PAGE

IAE CFM

V1

VR

V2

FLEX

DRT

T/O FLAPS

1 + F

T/O C.G.

33.5%

TOGA

~~FLEX~~
~~DRT~~
NOTE :
1st part :

LFBO 15 R

FISTO SID - LMG

UG 21 - MOU - AVLON

UM 976 - BRY

UM 733 - GURLU

BIG STAR

EGLL ILS 27 L

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MALFUNC REF.	- N4 FFS -							
	TRAINEE 2							
	1 - TRANSIT COCKPIT PREPARATION							
	2 - TAXI OUT							
	3 - TAKE-OFF - MTOW - SID	AP	FD	ATHR				
	4 - CLIMB	AP	FD	ATHR				
■	5 - RETURN TO DEPARTURE	AP	FD	ATHR				
	6 - VISUAL APPROACH	AP	FD	ATHR				
	7 - OVERWEIGHT LANDING		FD	ATHR				
■	INIT APP 2							
■	8 - ILS APPROACH - INTERCEPTION OF G/S FROM ABOVE	AP	FD	ATHR				
	9 - LANDING		FD	ATHR				
	INIT APP 2							
■	10 - ILS APPROACH							
	11 - GPWS PULL UP (DEMO)		FD	ATHR				
■	12 - GO AROUND - RADAR VECTORS		FD	ATHR				
	13 - ILS APPROACH	AP	FD	ATHR				
	14 - CIRCLING			ATHR	FPV			
	15 - LANDING							
	IF TIME PERMITS :							
	INIT T/O							
	16 - TAKE-OFF							
	17 - VISUAL PATTERN							
	18 - LANDING							
	IF 2 CAPTAIN CREW OR 2 FIRST OFFICER CREW : CHANGE SEATS BEFORE BEGINNING THE "TRAINEE 1" STAGE							
	TRAINEE 1							
	19 - TAKE-OFF - MTOW - SID							
	20 - CLIMB	AP	FD	ATHR				
■	21 - RETURN TO DEPARTURE	AP	FD	ATHR				
	22 - VISUAL APPROACH	AP	FD	ATHR				
	23 - OVERWEIGHT LANDING		FD	ATHR				
	INIT APP 2							
■	24 - ILS APPROACH - INTERCEPTION OF G/S FROM ABOVE	AP	FD	ATHR				
	25 - LANDING							
	INIT APP 2							
■	26 - ILS APPROACH							
	27 - GPWS PULL UP (DEMO)			ATHR	FPV			
■	28 - GO AROUND - RADAR VECTORS			ATHR	FPV			
	29 - ILS APPROACH	AP	FD	ATHR				
	30 - CIRCLING							
	31 - LANDING							
	IF TIME PERMITS :							
	INIT T/O							
	32 - TAKE-OFF							
	33 - VISUAL PATTERN							
	34 - LANDING							

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N4 FFS SESSION GUIDE

01 - SESSION OBJECTIVE

- Maximum weight operations.
- CFIT : reactions to GPWS warnings.
- Circling.

02 - TRAINING TOPICS

A. REVIEW

- ILS approach.

B. INTRODUCE

- MTOW packs off.
- Overweight landing.
- Interception of glide slope from above.
- GPWS recovery maneuver.
- Circling approach.
- Crosswind take-off
- CRM briefing : situational awareness - detection and recovery (if not previously debriefed).

03 - SESSION PROFICIENCY CRITERIA

- Confirm ability to perform the standard ILS approach.
- Understand and apply circling APPR procedure.
- Ability to apply GPWS recovery maneuvers.
- Ability to perform landings.
- Ability to perform go around.
- Confirm ability to handle the aircraft in normal operations.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

N4 FFS SESSION GUIDE (END)

04 - SESSION GUIDE

Eng	V1	VR	V2	
<i>1st part</i>				
CFM	159	159	159	TOGA
IAE	158	158	158	TOGA
<i>2nd part</i>				Flex
CFM	118	126	127	50°
IAE	123	131	132	55°

- 5, 21 : Instructor should inform crew that a passenger is suffering a heart attack, a landing must be made as soon as possible to save his life.

■ INIT

APP 2 : Change weather : 1000 ft, 8 km.
 Insert new GW : 58 t - 27%.

- R ■ 8, 24 : Stabilised approach technique should be used. A/C should be stabilised on final
 R approach altitude prior to commencing exercise.
 R Follow the normal procedure for G/S interception from above.

- R ■ 10, 26 : ATC clears to intercept the localizer (helicopter traffic ahead) and to maintain altitude.
 R At 2 dots above G/S: "Cleared for Approach".
 R For demonstration start descent (2000 ft/mn - mandatory), do not arm approach
 R modes.
 R Observe successively GPWS "glide slope" - "sink rate" - whoop, whoop pull up"
 R warnings.
 R At "whoop, whoop pull up" execute an emergency pull up (override the AP).

- R ■ 12, 28 : The trainee will prepare and brief the approach including the SEC FPLN preparation
 R during radar vectors leg.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

**N5 FFS TAKE-OFF DATA
 PROGRESS CHECK**
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 33 L

WIND 290°/12 kt

VISI 6 km

CEILING OVC 1000 ft

TEMP 4°C

DEW POINT ... 1°C

QNH 1008 hPa/29.77 inHg

QFE 990 hPa/29.23 inHg

RWY COND ... DRY

Observations : AIR COND ON

Turbulence 10%

Visual : night

INIT NEXT PAGE

ZFCG/ZFW

BLOCK

PERF PAGE

IAE CFM

 V1

 VR

 V2

 FLEX

 DRT

T/O FLAPS

T/O C.G.

NOTE :
F/PLN :

LFBO 33 L

AFRIC SID

FJR - VARES

VARES STAR

LFML ILS 14 L

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MALFUNC REF.	- N5 FFS -									
PROGRESS CHECK										
TRAINEE 1										
R	■ 1 - TRANSIT COCKPIT PREPARATION									
	2 - ENGINE START (CROSS BLEED)									
	3 - TAXI OUT									
	4 - TAKE-OFF (SID)				AP	FD	ATHR			
	■ 5 - RETURN TO HOLD				AP	FD	ATHR			
	■ 6 - NON PRECISION APPROACH				AP		ATHR	FPV	FPD	
	■ 7 - GO AROUND				AP	FD	ATHR			
	8 - RADAR VECTORS					FD	ATHR			
	■ 9 - ILS APPROACH					FD	ATHR			
	10 - LANDING									
R	IF 2 CAPTAIN CREW OR 2 FIRST OFFICER CREW : CHANGE SEATS BEFORE BEGINNING THE "TRAINEE 2" STAGE									
	TRAINEE 2									
INIT T/O										
11 - TAKE-OFF (SID)										
				AP	FD	ATHR				
■ 12 - RETURN TO HOLD				AP	FD	ATHR				
■ 13 - NON PRECISION APPROACH				AP		ATHR	FPV	FPD		
■ 14 - GO AROUND				AP	FD	ATHR				
15 - RADAR VECTORS					FD	ATHR				
■ 16 - ILS APPROACH					FD	ATHR				
17 - LANDING										
TRAINING										
R	■ 18 - TAKE-OFF - WINDSHEAR AFTER VR									
	19 - RADAR VECTORS				AP	FD	ATHR			
	■ 20 - ILS APPROACH - WINDSHEAR				AP	FD	ATHR			
	21 - GO AROUND					FD	ATHR			
	■ 22 - REVERSION MODES (DEMO)									
R	IF 2 CAPTAIN CREW OR 2 FIRST OFFICER CREW : CHANGE SEATS BEFORE BEGINNING THE "TRAINEE 1" STAGE									
	TRAINEE 1									
INIT T/O										
■ 23 - TAKE-OFF - WINDSHEAR AFTER VR										
24 - RADAR VECTORS				AP	FD	ATHR				
R	■ 25 - ILS APPROACH - WINDSHEAR				AP	FD	ATHR			
	26 - GO AROUND					FD	ATHR			
R	IF TIME PERMITS, REPEAT WINDSHEAR EXERCISES									
	27 - TAKE-OFF - WINDSHEAR AFTER VR									

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N5 FFS SESSION GUIDE

01 - SESSION OBJECTIVE

- R
- Progress check of the trainee's ability to handle the aircraft in normal operations according to standard requirements.

02 - TRAINING TOPICS

A. REVIEW

- Normal operations as defined in SOP.
 - Normal progress check :
 The first part of this session is regarded as a gate. Trainees only progress to the failure phase on satisfactory completion of this section. The instructor acts as ATC, ground engineer and cabin crew but should not instruct during the flight.
 Each pilot must demonstrate the ability to perform all normal procedures and maneuvers in accordance with the SOP's.
 Crew cooperation, understanding of aircraft systems and accurate flying should be assessed.
 The crew should fly the aircraft safely and without help.
- R When the normal progress check is complete, the instructor should resume his/her instructional role.

B. INTRODUCE

- Cross bleed start
- Windshear.
- Reversion modes

03 - SESSION PROFICIENCY CRITERIA

- SOP assess :
 - Task sharing
 - Call outs
 - Briefings
 - Situational awareness
 - PF/PNF work
 - Decision making
- Handling :
 Flight within the below listed criteria should not be achieved at the expense of the smoothness and good co-ordination.

Speed	: + 10/- 5 kt
Heading	: + /- 5 deg
Altitude	: + /- 50 ft
Tracking	: + /- 5 deg

 All flight phases must be handled safely.
- IFR : strict respect of minimum altitudes and clearances.

N5 FFS SESSION GUIDE (END)

04 - SESSION GUIDE

Eng	V1	VR	V2	Flex
CFM	145	145	145	49
IAE	146	146	147	50

- 1 : APU is faulty : instructor authorizes for aircraft dispatch.
- 5, 12 : "On company request, return to departure".
- 6, 13 : NPA from database (VOR approach).
Instructor should advise crew that radar has failed requiring a procedural approach.
Managed or selected at trainees discretion.
- 7, 14 : At 300 ft, fail all RWY lights (airport select page).
- 9, 16 : Fail auto pilot prior to starting the approach.
- 18, 20,
R 23, 25 : For windshear after VR, use the following parameters :

Eng	V1	VR	V2	Flex
CFM	149	149	150	52
IAE	151	152	153	50

- R ■ 22 : Resume climb to FL 150 - 250 kt with speed selected.
 R Select high rate of climb (+ 6000 ft/mn) and observe reversion to OP CLB mode.
 R Select high rate of descent (- 6000 ft/mn) and observe reversion to OP DES mode.
 R Level off and decelerate to green dot speed. Select F1 and S-speed.
 R Select higher altitude and engage OP CLB. Do not follow FD bars and maintain level.
 R Observe reversion mode to SPEED - V/S mode in order to obtain target speed or VLS
 R whichever is greater.
 R Level off and accelerate to S-speed.
 R Select lower altitude and engage OP DES. Do not follow FD bars and maintain level.
 R Observe reversion mode to SPEED - V/S mode in order to obtain target speed or
 R VMAX whichever is lower.
 R Explain but do not demonstrate : the same reversions apply to VMO/MMO and VLS.

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F1 FBS syllabus..... Page 03

F2 FBS syllabus..... Page 05

F3 FFS syllabus..... Page 07

F4 FFS syllabus..... Page 09

F5 FFS syllabus..... Page 11

R Skill Test F6 FFS syllabus..... Page 13

NOTE : *Instructors' FCTM includes the "Session Guides"*

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F1 FBS TAKE-OFF DATA				
INIT PAGE CO RTE ALTN/CO RTE FLT NBR [Airline ID] 301 LAT 4338.1N COST INDEX 30 CRZ FL/TEMP FL 310 / -47°C FROM/TO LFBO/LFPO LONG 00122.1E TROPO		TRIP DIST 345 NM CRZ WIND 220°/ 40 kt ALTN LFPG ALTN DIST 80 NM FL to ALTN 100		ATIS RWY 15 R WIND 100°/10 kt VISI CAVOK CEILING TEMP 14°C DEW POINT ... 10°C QNH 1000 hPa/29.53 inHg QFE 982 hPa/28.99 inHg RWY COND ... DRY Observations : _____ _____ _____ _____
INIT NEXT PAGE ZFCG/ZFW 30.2%-48 t 30.2%-/ 105600 lb BLOCK 16 t 35300 lb	PERF PAGE IAE CFM V1 VR V2 FLEX DRT	T/O FLAPS 1 + F T/O C.G. 26.6% —TOGA— FLEX —DRT—	NOTE : F/PLN : LFBO 15 R FISTO SID UT 210 - LMG MORIK - AMB DIR EPR NO STAR VIA EPR LFPO ILS 26	

MALFUNC REF.	- F1 FBS -									
	TRAINEE 2									
	1 - TRANSIT COCKPIT PREPARATION									
	■ 2 - ENGINE START VALVE FAULT (VALVE NOT OPEN) (VALVE MAN OPERATION)									
	■ 3 - TAKE-OFF - POSITION AND ALTITUDE <u>FREEZE</u> AT 500 FT								FD	ATHR
	4 - ENGINE OUT FAMILIARIZATION								FD	ATHR
	INIT T/O									
	5 - ENGINE FAIL AT 100 FT								FD	ATHR
	■ 6 - CLEAN UP - Restore								FD	ATHR
	INIT T/O									
	7 - ENGINE FAIL AT V2 (DAMAGE)								AP	FD
	8 - RADAR VECTORS								AP	FD
	9 - ILS APPROACH - ENGINE OUT								FD	ATHR
	10 - GO AROUND - ENGINE OUT - Restore								FD	ATHR
	INIT FL 350									
	11 - EMER DESCENT HIGH SPEED - <u>FREEZE</u> AT FL 200								AP	FD
	INIT FL 350									
	■ 12 - EMER DESCENT LOW SPEED - <u>FREEZE</u> AT FL 100								AP	FD
	IF 2 CAPTAIN CREW OR 2 FIRST OFFICER CREW : CHANGE SEATS BEFORE BEGINNING THE "TRAINEE 1" STAGE									
	TRAINEE 1									
	INIT T/O									
	13 - ENGINE FAIL AT 100 FT								FD	ATHR
	■ 14 - CLEAN UP - Restore								FD	ATHR
	INIT T/O									
	15 - ENGINE FAIL AT V2 (NO DAMAGE)								AP	FD
	16 - ENGINE RELIGHT - RELIGHT UNSUCCESSFUL								AP	FD
	17 - RADAR VECTORS								AP	FD
	18 - ILS APPROACH - ENGINE OUT								FD	ATHR
	19 - GO AROUND - ENGINE OUT - Restore								FD	ATHR
	INIT FL 350									
	■ 20 - ENGINE FAIL								AP	FD
	■ 21 - DRIFT DOWN (DEMO) - STANDARD STRATEGY								AP	FD
	■ 22 - SECOND ENGINE FAILURE									FPV
	23 - ENGINE RELIGHT									
	INIT FL 350									
	24 - EMER DESCENT HIGH SPEED - <u>FREEZE</u> AT FL 200								AP	FD
	INIT FL 350									
	■ 25 - EMER DESCENT LOW SPEED - <u>FREEZE</u> AT FL 100								AP	FD
	IF TIME PERMITS :									
	INIT FL 350									
	26 - EMER DESCENT - <u>FREEZE</u> AT FL 200									

F1 FBS SESSION GUIDE

01 - SESSION OBJECTIVE

- Introduce and practice engine failure at take-off, emergency descent entry technique and dual engine failure.

02 - TRAINING TOPICS

A. REVIEW

- ECAM procedure.
- Use of QRH procedure

B. INTRODUCE

- Start valve manual operation
- Engine failure
- Engine relight
- Emergency descent
- Dual engine failure (drift down strategies).

R
R

03 - SESSION PROFICIENCY CRITERIA

- Understand and apply :
 - engine failure at T.O. procedure
 - emergency descent procedure and technique
 - ILS engine out procedure
- Understand the drift down procedure
- Ability to apply the ECAM procedures / QRH procedures

04 - SESSION GUIDE

Eng	V1	VR	V2	Flex
CFM	152	152	152	48
IAE	152	152	152	49

- 2 : Insert "START VALVE FAULT" before engine start to require the crew to use "Start valve manual operation". When the crew orders :
 "Open the valve" : cancel the failure - after the valve is open, reinsert the fault.
 "Close the valve" : cancel the failure.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

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F1 FBS SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- 3 : After take-off, position and altitude freeze at 500 ft.
 SRS commands satisfied, wings level.
 Sidestick released, feet off rudders.
 Select ECAM FLIGHT CONTROL page.
 Select IDLE THRUST on one engine. Adjust Pitch Attitude to that commanded by SRS.
Observe : hands off response, stabilized BANK ANGLE (about 7-9 degrees).
 Sideslip index now blue (BETA TARGET).
Observe : Lateral Flight Control response on ECAM.
 Use Rudder to centre BETA INDEX and TRIM OUT FOOT LOADS.
Observe : Lateral Flight Controls response on ECAM.
 Transfer control and repeat for Trainee 1.
- R ■ 6, 14 : Restore as soon as "After take-off check list" is complete.
 R
- R ■ 12, 25 : Freeze not before reaching FL 100 in order to become familiar with level off procedure,
 R unwearing the oxy masks and micro resets.
- R ■ 20, 22 : - Fail one engine (no damage) : check that the trainees apply the drift down procedure
 - When established in descent, procedure completed fail the second engine (no damage).
 - Maintain both engine failure active until FL 200 to force the trainee to use the APU bleed start procedure as defined on ECAM.
 R - Cancel both failures prior to engine start.
- R ■ 21 : Use standard strategy for drift down as defined in FCOM Vol. 3 - 3.06.10, 3.06.20 and
 R 3.06.30.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

F2 FBS TAKE-OFF DATA
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 33 L

WIND 280°/10 kt

VISI CAVOK

CEILING

TEMP 8°C

DEW POINT ... 2°C

QNH 1010 hPa/29.83 inHg

QFE 992 hPa/29.29 inHg

RWY COND ... DRY

Observations : _____

INIT NEXT PAGE

ZFCG/ZFW

BLOCK

PERF PAGE

IAE CFM

 V1

 VR

 V2

 FLEX

 DRT

T/O FLAPS

T/O C.G.

NOTE :
F/PLN :

LFBO 33 L

FISTO SID

UT 210 - LMG

MORIK - AMB

VILRO

DIR MEL

NO STAR

VIA MEL

LFPO ILS 26

R

MALFUNC REF.	- F2 FBS -						
	TRAINEE 1						
	1 - TRANSIT COCKPIT PREPARATION						
	■ 2 - ENGINE START - EGT OVERLIMIT - Restore						
	3 - AFTER ENGINE START						
	4 - TAXI OUT						
	■ 5 - TAKE-OFF - ADR 1 FAULT - (SID)	AP	FD	ATHR			
	■ 6 - CLIMB - ADR 2 FAULT					FPV	
	■ 7 - ALTERNATE LAW (DEMO) - Restore					FPV	
	8 - DIRECT TO - HOLDING	AP	FD	ATHR			
	■ 9 - G + B SYS LO PR		FD	ATHR			
	10 - ILS APPROACH - DIRECT LAW - NO SLATS		FD	ATHR			
	11 - GO AROUND - <u>FREEZE</u> - Restore		FD	ATHR			
	IF 2 CAPTAIN CREW OR 2 FIRST OFFICER CREW : CHANGE SEATS BEFORE BEGINNING THE "TRAINEE 2" STAGE						
	TRAINEE 2						
	INIT T/O						
	12 - TAKE-OFF (SID)						
	13 - DIRECT TO - HOLDING		FD	ATHR			
	■ 14 - G + Y SYS LO PR		FD	ATHR			
	15 - ILS APPROACH - DIRECT LAW - NO FLAPS		FD	ATHR			
	16 - GO AROUND - <u>FREEZE</u> - Restore		FD	ATHR			
	INIT FL 350						
	■ 17 - AIR COND SMOKE	AP	FD	ATHR			
	18 - EMER DESCENT	AP	FD	ATHR			
	19 - SMOKE REMOVAL - Restore	AP	FD	ATHR			
	IF 2 CAPTAIN CREW : CHANGE SEATS BEFORE BEGINNING THE "TRAINEE 1" STAGE, REPEAT EMER ELEC CONFIGURATION STARTING FROM INIT APPROACH						
	IF 2 FIRST OFFICER CREW : CHANGE SEATS BEFORE BEGINNING THE "TRAINEE 1" STAGE						
	TRAINEE 1						
	INIT FL 100						
	■ 20 - CRUISE - EMER ELEC CONFIG					FPV	
	21 - ILS APPROACH - DIRECT LAW - RAW DATA					FPV	
	FREEZE AT MINIMA - Restore						
	INIT FL 350						
	22 - EMER DESCENT - <u>FREEZE</u> AT FL 200	AP	FD	ATHR			

F2 FBS SESSION GUIDE

01 - SESSION OBJECTIVE

- Introduce and practice operations in alternate and direct law, and in case of dual hydraulic failure.
- Practice emergency descent

02 - TRAINING TOPICS

A. REVIEW

- Emergency descent.

B. INTRODUCE

- Engine start fault.
- Alternate law / Direct law.
- Dual hydraulic failure.
- No slats or No flaps procedure
- Smoke removal
- Emergency electrical configuration.

03 - SESSION PROFICIENCY CRITERIA

- Understand and apply :
 - Alternate and direct laws
 - Dual hydraulic failures
 - NO SLATS or NO FLAPS procedure
- Understand Emergency Elec configuration.
- Ability to perform emergency descent.
- Ability to perform ECAM and QRH procedures.

04 - SESSION GUIDE

Eng	V1	VR	V2	Flex
CFM	123	131	132	51
IAE	144	144	144	56

- 2 : Demonstrate the two sequences :
 - hot start resulting in engine shut down.
 - hot start with "AUTO CRANK" and successful engine start
- 5 : Take-off. Fail the ADR 1 passing 200 ft : check transfer of controls and switching.
- 6 : After the "after take-off check list" fail the ADR 2.

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F2 FBS SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- 7 : Alternate / Direct law. Demonstrate for Trainee 1 and Trainee 2 :
 - Stability in pitch : accelerate to 300 kts, observe autotrim.
 - Loss of stability in roll with higher roll rate : turn with 45° of bank.
 - Reduce speed and establish the aircraft in landing configuration : show that at landing gear extension the alternate law switches to direct law : use of manual trim. Transfer controls to Trainee 2. Repeat starting from direct law in landing configuration. Then accelerate and clean up the aircraft. Demonstrate alternate law. Do not spend too much time for this demonstration. Both alternate / direct laws will be studied in a FFS session.
 - Restore ADR 1 + 2 fault. Trainee 1 as PF.

- 9, 14 : **For Trainee 1 :**

R Insert B reservoir OVHT. When the status page has been cleared, insert a G reservoir LO LVL.

R When the malfunction becomes active (B RSVR OVHT) insert B electrical pump fault

R in addition and keep both malfunctions as well active till next landing in order to avoid a

R system restore.

For Trainee 2 :

Insert Y reservoir LO LVL : when the status page has been cleared, insert a G reservoir LO LVL.

- 17 : Smoke associated with fuel vapors is coming from cabin to the cockpit : this will lead to select two packs off and conduct to initiate a high speed descent.

- 20 : The trainee will insert a short F-PLN : direct to GAI.

Emphasize :

 - Use of RMP1 for APPR NAVAID.
 - Fuel gravity feeding.
 - Use of QRH for equipment list.

Freeze the simulator for ECAM actions. Release for approach activation.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

F3 FFS TAKE-OFF DATA
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 15 R

WIND 100°/12 kt

VISI 6 km

CEILING SCT 400 ft

TEMP 1°C

DEW POINT ... -3°C

QNH 1003 hPa/29.62 inHg

QFE 985 hPa/29.08 inHg

RWY COND ... WET

Observations : _____

INIT NEXT PAGE

ZFCG/ZFW

BLOCK

PERF PAGE

IAE CFM

 V1

 VR

 V2

 FLEX

 DRT

T/O FLAPS

T/O C.G.

—TOGA—

FLEX

—DRT—

NOTE :
F/PLN :

LFBO 15 R

FISTO SID

UT 210 - LMG

UT 258 - MORIK

UT 158 - AMB

NO STAR

VIA EPR

LFPO ILS 26

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MALFUNC REF.	- F3 FFS -									
	TRAINEE 2									
	1 - TRANSIT COCKPIT PREPARATION									
	INIT T/O									
	2 - ENGINE FAIL AT V2 (NO DAMAGE)	AP	FD	ATHR						
R	3 - ENGINE RELIGHT	AP	FD	ATHR						
R	4 - RADAR VECTORS	AP	FD	ATHR						
	5 - ILS APPROACH		FD	ATHR						
	6 - GO AROUND - ENGINE FAIL (DAMAGE)		FD	ATHR						
	7 - RADAR VECTORS	AP	FD	ATHR						
	8 - ILS APPROACH - ENGINE OUT		FD	ATHR						
	9 - LANDING - ENGINE OUT (OVERWEIGHT) - Restore		FD	ATHR						
	INIT T/O									
	10 - ENGINE FAIL AT V1 (CROSSWIND)	AP	FD	ATHR						
	11 - RADAR VECTORS	AP	FD	ATHR						
	12 - NON PRECISION APPROACH - ENGINE OUT	AP		ATHR			FPD			
	13 - LANDING - ENGINE OUT (CROSSWIND) - Restore			ATHR	FPV					
	INIT T/O									
R	14 - TAKE-OFF									
R	15 - VISUAL PATTERN									
R	16 - VISUAL APPROACH - NO SLATS/NO FLAPS									
R	17 - LANDING - NO SLATS/NO FLAPS - Restore					FPV				
	IF 2 CAPTAIN CREW OR 2 FIRST OFFICER CREW : CHANGE SEATS BEFORE BEGINNING THE "TRAINEE 1" STAGE									
	TRAINEE 1									
	INIT T/O									
	18 - ENGINE FAIL AT V2 (NO DAMAGE)	AP	FD	ATHR						
	19 - ENGINE RELIGHT	AP	FD	ATHR						
	20 - RADAR VECTORS	AP	FD	ATHR						
	21 - ILS APPROACH		FD	ATHR						
	22 - GO AROUND - ENGINE FAIL (DAMAGE)		FD	ATHR						
	23 - RADAR VECTORS	AP	FD	ATHR						
	24 - ILS APPROACH - ENGINE OUT		FD	ATHR						
	25 - LANDING - ENGINE OUT (OVERWEIGHT) - Restore		FD	ATHR						
	INIT T/O									
	26 - ENGINE FAIL AT V1 (CROSSWIND)	AP	FD	ATHR						
	27 - RADAR VECTORS	AP	FD	ATHR						
	28 - NON PRECISION APPROACH - ENGINE OUT	AP		ATHR			FPD			
	29 - LANDING - ENGINE OUT (CROSSWIND) - Restore			ATHR	FPV					
	INIT T/O									
R	30 - TAKE-OFF									
R	31 - VISUAL PATTERN									
R	32 - VISUAL APPROACH - NO SLATS/NO FLAPS									
R	33 - LANDING - NO SLATS/NO FLAPS - Restore					FPV				
	IF TIME PERMITS :									
	34 - TAKE-OFF - ENGINE FIRE AT V2									

F3 FFS SESSION GUIDE

01 - SESSION OBJECTIVE

- Practice engine failure on take-off, and go-around.
- Practice approaches and landings one engine out.
- Introduce and practice NO SLATS/NO FLAPS approach and landing.

02 - TRAINING TOPICS

A. REVIEW

- Engine failure procedure.
- Engine relight procedure.
- Non precision approach / ILS approach engine out.
- Overweight landing

B. INTRODUCE

- Single engine handling
- No slats / no flaps procedure.
- Take-off and landing max crosswind.
- Cold weather operations

R

03 - SESSION PROFICIENCY CRITERIA

- Ability to handle take-off with engine failure at V1/ V2 within the following parameters :
 - Runway heading +/-10°
 - Bank angle < 10°
 - FD bars accurately followed.
- Ability to fly single engine approaches.
- Understand and perform NO SLATS/NO FLAPS approach and landing.

04 - SESSION GUIDE

Eng	V1	VR	V2	Flex
CFM	138	146	147	49
IAE	141	149	150	48

INSTRUCTOR ONLY

INSTRUCTOR ONLY

F3 FFS SESSION GUIDE (END)

04 - SESSION GUIDE (END)

R ■ 3, 19 : Remove the failure before relight procedure.

R ■ 4 : Take-off RWY 15 R.

R For items 2 and 3 insert engine flame out at V2 without damage in order to obtain engine relight procedure.

R - Change wind 240°/10 kt after take-off in order to save time for the following exercises.

R - Initial climb permission to 3000 ft ALT (MSA) after engine out acceleration.

R - A/C in clouds (base 1500 ft - top 10 000 ft).

R - Maintain RWY heading until clean up.

R - After clean up and starting doing engine relight procedure, order heading 110° towards the peak of the mountain and speed up the SIM until 28 NM DME TOU. Release for normal speed and insert the ELECTRONIC MOUNTAIN (GPWS p/b on IOS or PCP, if applicable). At less than 2000 ft RA the terrain warning occurs with "whoop whoop - pull up" warning just shortly after.

R - After GPWS pull up recovery order right turn direct to TOE for ILS appr RWY 33 L.

R - Continue with item 5 and next approach should be done on RWY 15 R.

Observe crew reactions :

- Immediate reaction: GPWS recovery.

- Crew co-ordination : who decides of the manoeuvre ?

- Or no reaction.

If exercise is assessed unsatisfactory, do not repeat it in the same session. Introduce the same exercise in F4 or F5.

R ■ 6, 22 : Select CAT II weather prior to approach and insert engine failure at minimum's.

R ■ 8, 24 : Restore normal weather parameters : 400 ft/ 6 km.

R ■ Init T/O : (*Trainee 2 and Trainee 1 parts : before "Engine fail at V1" items*).

Adjust wind 060°/25 kt (no wind gradient) till landing.

R

R ■ 14, 30 : Use INIT T/O before the exercise. Following with a visual pattern with clean up after take-off. During flap and slat retraction insert subsequently flap stuck by WTB and slat stuck by WTB. Ensure the surfaces stuck close to or at retracted position.

R ■ 16, 32 : ILS assisted.

R ■ Init T/O : (*Trainee 1 part : before "Engine fail at V2" item*)

R Insert 54 t ZFW and 12 t of fuel (66 t GW) prior to commencing exercise.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

F4 FFS TAKE-OFF DATA
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 33 L

WIND 270°/12 kt

VISI 10 km

CEILING BKN 2000 ft

TEMP 10°C

DEW POINT ... 2°C

QNH 1005 hPa/29.68 inHg

QFE 987 hPa/29.35 inHg

RWY COND ... DRY

Observations : AIR COND ON

Turbulence 15%

INIT NEXT PAGE

ZFCG/ZFW

BLOCK

PERF PAGE

IAE CFM

 V1

 VR

 V2

 FLEX

 DRT

T/O FLAPS

T/O C.G.

NOTE :
F/PLN :

LFBO 33 L

AFRIC SID

FJR - VARES

VARES STAR

LFML ILS 14 L

F/PLN :

RED PATTERN

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MALFUNC REF.	- F4 FFS -									
	TRAINEE 1									
	1 - TRANSIT COCKPIT PREPARATION									
	2 - TAXI OUT									
	■ 3 - TAKE-OFF - WINDSHEAR			FD	ATHR					
	■ 4 - CLIMB - ALTERNATE LAW					FPV				
	■ 5 - STALL RECOVERY					FPV				
	6 - RADAR VECTORS					FPV				
	7 - VISUAL APPROACH					FPV				
	8 - LANDING - DIRECT LAW - Restore					FPV				
	INIT T/O									
	9 - TAKE-OFF									
	10 - RADAR VECTORS			FD	ATHR					
	■ 11 - G + Y SYS LO PR			FD	ATHR					
	12 - VISUAL APPROACH - DIRECT LAW - NO FLAPS			FD	ATHR					
	13 - LANDING - DIRECT LAW - NO FLAPS - Restore			FD	ATHR					
	INIT T/O									
	14 - ENGINE FAIL BEFORE V1									
	15 - REJECTED TAKE-OFF - Restore									
	IF 2 CAPTAIN CREW OR 2 FIRST OFFICER CREW : CHANGE SEATS BEFORE BEGINNING THE "TRAINEE 2" STAGE									
	TRAINEE 2									
	INIT T/O									
	16 - TAKE-OFF - ENGINE FIRE AT V2									
	17 - RADAR VECTORS	AP		FD	ATHR					
	18 - ILS APPROACH - ENGINE OUT			FD	ATHR					
	19 - LANDING - ENGINE OUT- Restore			FD	ATHR					
	INIT T/O									
	20 - ENGINE FAIL AT V1									
	21 - RADAR VECTORS	AP		FD	ATHR					
	■ 22 - NON PRECISION APPROACH - ENGINE OUT	AP			ATHR			FPD		
	23 - LANDING - ENGINE OUT - Restore					FPV				
	INIT FL 350									
	■ 24 - EMER DESCENT - HIGH SPEED	AP		FD	ATHR					
	INIT T/O									
	25 - ENGINE FAIL BEFORE V1									
	26 - REJECTED TAKE-OFF - Restore									
	INIT T/O									
	■ 27 - TAKE-OFF - ENGINE FIRE BEFORE V1 - LOW VISIBILITY									
	28 - REJECTED TAKE-OFF									
	29 - EMER EVAC - Restore									

F4 FFS SESSION GUIDE

01 - SESSION OBJECTIVE

- Demonstrate alternate law and direct law.
- Practice stall recoveries.
- Practice rejected take-off.
- Practice direct law approaches.

02 - TRAINING TOPICS

A. REVIEW

- Single engine procedure and handling including fire.
- Dual hydraulic failure.
- Emergency descent.
- Windshear.

B. INTRODUCE

- Alternate law / Direct law handling
- Stall recoveries
- Rejected take-off
- Engine fire
- Emer evac procedure
- CRM briefing : team performance (if not previously debriefed).

03 - SESSION PROFICIENCY CRITERIA

- Ability to perform take-off with engine failure.
- Ability to perform engine out handling.
- Understand and perform rejected take-off and emer evac procedure.
- Ability to handle alternate / direct law.

04 - SESSION GUIDE

Eng	V1	VR	V2	Flex
CFM	118	126	127	50
IAE	122	131	132	55

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F4 FFS SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- 3 : Insert windshear after VR : restore after recovery.
- 4 : Passing FL 70 : insert IRS 2 + 3 fault.
- 5 : *For Trainee 1 :*
 - Demonstrate alternate law :
 - Loss of protections
 - VM0 with pitch up (no autotrim) possibility to override.
 - Low speed :
 - low speed stability
 - Audio stall warning
 - Stall recovery technique (clean).

Establish the aircraft in landing configuration :

- Demonstrate use of manual trim
- Stall recovery technique.

For Trainee 2 :

Same demonstration : IRS 1 + 3 fault
 Then Trainee 1 resumes controls : IRS 2 + 3 fault.

- R ■ 11 : Insert Y RSVR LO LVL. When the status page has been cleared, insert G RSVR LO
R LVL in order to obtain HYD G + Y SYS LO PR
- 22 : Weather 6 km / 800 ft.
 - 24 : Emergency descent till oxy masks removal (if time permits).
 - 27 : Weather : select Cat 2.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

F5 FFS TAKE-OFF DATA
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 15 R

WIND 090°/12 kt

VISI 10 km

CEILING BKN 2000 ft

TEMP 10°C

DEW POINT ... 2°C

QNH 1005 hPa/29.68 inHg

QFE 987 hPa/29.35 inHg

RWY COND ... DRY

Observations : Turbulence 15%

INIT NEXT PAGE

ZFCG/ZFW

BLOCK

PERF PAGE

IAE CFM

 V1

 VR

 V2

 FLEX

 DRT

T/O FLAPS

T/O C.G.

—TOGA—

FLEX

—DRT—

NOTE :
F/PLN :

LFBO 33 L

AFRIC SID

FJR - VARES

VARES STAR

LFML ILS 14 L

F/PLN :

RED PATTERN

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MALFUNC REF.	- F5 FFS -									
	TRAINEE 2									
	1 - TRANSIT COCKPIT PREPARATION									
	2 - ENGINE START									
	3 - AFTER ENGINE START									
	4 - TAXI OUT									
	■ 5 - TAKE-OFF - WINDSHEAR			FD	ATHR					
	6 - CLIMB TO 5000 FT		AP	FD	ATHR					
	■ 7 - MECHANICAL BACKUP - Restore					FPV				
	■ 8 - G + B SYS LO PR			FD	ATHR					
	9 - VISUAL APPROACH - DIRECT LAW - NO SLATS			FD	ATHR					
	10 - LANDING - DIRECT LAW - NO SLATS - Restore			FD	ATHR					
	INIT T/O									
	11 - TAKE-OFF - RA 2 FAULT									
	■ 12 - DUAL RA FAILURE		AP	FD	ATHR					
	13 - LOC APPROACH - NO RA			FD	ATHR					
	14 - LANDING - DIRECT LAW - NO RA - Restore									
	IF 2 CAPTAIN CREW OR 2 FIRST OFFICER CREW : CHANGE SEATS BEFORE BEGINNING THE "TRAINEE 1" STAGE									
	TRAINEE 1									
	INIT T/O									
	15 - TAKE-OFF - ENGINE FIRE AT V2		AP	FD	ATHR					
	16 - RADAR VECTORS		AP	FD	ATHR					
	17 - ILS APPROACH - ENGINE OUT			FD	ATHR					
	18 - LANDING - ENGINE OUT - Restore									
	INIT T/O									
	19 - ENGINE FAIL AT V1		AP	FD	ATHR					
	20 - RADAR VECTORS		AP	FD	ATHR			FPD		
	■ 21 - NON PRECISION APPROACH - ENGINE OUT		AP	FD	ATHR			FPD		
	22 - LANDING - ENGINE OUT - Restore					FPV				
	INIT FL 350									
	■ 23 - EMER DESCENT - HIGH SPEED		AP	FD	ATHR					
	INIT T/O									
	24 - ENGINE FAIL BEFORE V1									
	25 - REJECTED TAKE-OFF - Restore									
	INIT T/O									
	■ 26 - TAKE-OFF - ENGINE FIRE BEFORE V1 - LOW VISIBILITY									
	27 - REJECTED TAKE-OFF									
	28 - EMER EVAC - Restore									
	IF TIME PERMITS :									
	REVIEW EXERCISE AT INSTRUCTOR'S OR TRAINEES' DISCRETION									

F5 FFS SESSION GUIDE

01 - SESSION OBJECTIVE

- Practice rejected take-off.
- Practice direct law approaches.

02 - TRAINING TOPICS

A. REVIEW

- Single engine procedures and handling including engine fire
- Dual hydraulic failure.
- Emergency descent
- Windshear
- Rejected take-off
- Emergency evacuation

B. INTRODUCE

- Mechanical backup
- Dual RA fault
- CRM briefing : error performance and safety (if not previously debriefed).

03 - SESSION PROFICIENCY CRITERIA

- Ability to perform :
 - take-off with engine failure
 - engine out handling
 - rejected take-off and emer evac procedure.
- Ability to handle alternate/direct law.
- Confirm ability to handle the a/c in normal and abnormal operations.

04 - SESSION GUIDE

Eng	V1	VR	V2	Flex
CFM	118	126	127	50
IAE	122	131	132	55

INSTRUCTOR ONLY

INSTRUCTOR ONLY

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F5 FFS SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- 5 : Insert windshear after VR : restore after recovery.
- 7 : For demonstration fail B SYS + ELAC 2.
Perform ECAM actions then fail SEC 2 to obtain mechanical back up (probability 10^{-9}).
Trainee 1 and Trainee 2 perform this exercise.
- 8 : Insert G reservoir LO LVL. When the status page has been cleared, insert B pump failure.
- 12 : Take-off with RA 2 fault. On ILS intercept with APPR mode armed AP on, fail the second RA and explain.
- 21 : Weather 6 km / 800 ft.
- 23 : Emergency descent till oxy masks removal (if time permits).
- 26 : Weather : select Cat 2.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

F6 FFS TAKE-OFF DATA (DRY RWY)
SKILL TEST

F6 FFS TAKE-OFF DATA (DRY RWY)			
SKILL TEST			
INIT PAGE			ATIS
CO RTE 	FROM/TO 	TRIP DIST 	RWY 33 L
ALTN/CO RTE 		CRZ WIND 	WIND 270°/14 kt
FLT NBR 		ALTN 	VISI 3 km
[Airline ID] 401		LFPG	CEILING 600 ft
LAT 	LONG 	ALTN DIST 	TEMP 15°C
COST INDEX 		FL to ALTN 	DEW POINT ... 9°C
CRZ FL/TEMP 	TROPO 		QNH 1015 hPa/29.97 inHg
			QFE 997 hPa/29.44 inHg
			RWY COND ... DRY
			Observations : Turbulence 12%
INIT NEXT PAGE		T/O FLAPS	NOTE :
ZFCG/ZFW 	IAE CFM V1		F/PLN :
36.2%-55 t	VR	T/O C.G. 	LFBO 33 L
36.2%-121 000 lb	V2	33.5%	LMG DEP
BLOCK 	FLEX	TOGA	LMG
9 t	DRT		UR 10 CDN
19 800 lb		FLEX	NO STAR - VIA EPR
		DRT	LFPO ILS 26
			ALTN : POGO NORTH
			LFPG ILS 27

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F6 FFS TAKE-OFF DATA (WET RWY) SKILL TEST			
INIT PAGE CO RTE ALTN/CO RTE FLT NBR [Airline ID] 402 LAT 4338.1N COST INDEX 30 CRZ FL/TEMP FL350 / -53°C FROM/TO LFBO / EGLL LONG 00122.1E TROPO 36090			

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F6 FFS TAKE-OFF DATA (WET RWY - USE OF ANTI-ICE) SKILL TEST			
INIT PAGE		TRIP DIST 126 NM CRZ WIND 260°/40 kt ALTN LFBO ALTN DIST 126 NM FL to ALTN 150	ATIS
CO RTE 	FROM/TO LFBO/LFBD		RWY 15 R WIND 080°/13 kt VISI 4 km CEILING 800 ft TEMP 2°C DEW POINT ... -2°C QNH 997 hPa/29.44 inHg QFE 979 hPa/28.90 inHg RWY COND ... WET Observations : Turbulence 15%
ALTN/CO RTE 			
FLT NBR [AirlineID] 403			
LAT 4338.1N	LONG 00122.1E		
COST INDEX 30			
CRZ FL/TEMP FL 140 / -13°C	TROPO 36090		
INIT NEXT PAGE	PERF PAGE	T/O FLAPS T/O C.G. 33.5% TOGA FLEX DRT 	NOTE :
ZFCG/ZFW 36.2%-55 t 36.2%-121 000 lb BLOCK 9 t 19 800 lb	IAE CFM V1 VR V2 FLEX DRT	126 NM	F/PLN : LFBO 15 R LACOU DEP DIRECT MIRBA MIRBA ARR LFBD ILS 23 ALTN : LFBD 23 - SAU DEP - SAU A25 - AGN - AGN ARR LFBO ILS 15 R

R

MALFUNC REF.	- F6 FFS (END) - SKILL TEST									
	TRAINEE 2									
	INIT T/O									
	■ 26 - TAKE-OFF - WINDSHEAR			FD	ATHR					
	27 - RADAR VECTORS - STAR		AP		FD	ATHR				
	28 - ILS APPROACH				FD	ATHR				
	■ 29 - GO AROUND - ENGINE FAIL				FD	ATHR				
	30 - RADAR VECTORS		AP		FD	ATHR				
	■ 31 - ILS APPROACH - ENGINE OUT				FD	ATHR				
	32 - LANDING - ENGINE OUT - Restore									
	■ INIT T/O									
	■ 33 - ENGINE FAIL AT V1		AP		FD	ATHR				
	34 - ENGINE RELIGHT		AP		FD	ATHR				
	35 - RADAR VECTORS		AP		FD	ATHR				
	■ 36 - NON PRECISION APPROACH		AP		FD	ATHR			FPD	
	37 - CIRCLING					ATHR	FPV			
	38 - LANDING									
	■ INIT T/O									
	39 - TAKE-OFF		AP		FD	ATHR				
	■ 40 - RADAR VECTORS		AP		FD	ATHR				
	■ 41 - DUAL ADR FAULT OR DUAL IR FAULT OR DUAL RA FAULT							FPV		
	■ 42 - VISUAL APPROACH - DIRECT LAW							FPV		
	SINGLE ADR OR SINGLE IR OR NO RA									
	43 - LANDING - DIRECT LAW - SINGLE ADR OR SINGLE IR OR NO RA - Restore									
	■ INIT T/O									
	44 - TAKE-OFF - ENGINE FIRE BEFORE V1									
	45 - REJECTED TAKE-OFF									
	46 - EMER EVAC									
	IF 2 CAPTAIN CREW OR 2 FIRST OFFICER CREW : CHANGE SEATS AT ITEM 26									

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F6 FFS SESSION GUIDE

01 - SESSION OBJECTIVE

- Evaluation of the ability to operate the aircraft in normal and abnormal operations according to standard requirements.

02 - TRAINING TOPICS

- Suggested briefing :
 - "The evaluation will consist of a series of exercises : before each take-off I will brief you on what is expected. When released, follow the departure clearance and deal with any problems or emergencies as they occur using the procedures and techniques learnt during the training course.
 - You should use Airbus standard procedures or your own company procedures if different.
 - You will be responsible for liaison with ATC, safe operation and navigation of the aircraft. Make sure that you correctly understand ATC instructions. During the flight, it will be necessary for me to initialize the simulator in order to carry out exercises ; I will inform you when I have control of the simulator and when I return control to you.
 - You may communicate to each other in your mother language to facilitate procedures, but please keep me informed about what you are doing and remember you must speak English to ATC.
 - Treat this session as if it was a normal commercial flight : do not waste time but do not allow yourselves to be rushed. You must tell ATC what you require.
 - Make good use of the published documentation for en route and terminal areas. Set and observe the appropriate minima.
 - Make full use of the aircraft equipment and all ressources at your disposal including the automation. For the purpose of the evaluation, it is required to demonstrate your ability to perform :
 - . one ILS approach manually flown
 - . one engine out approach manually flown.
 - Remember the importance of task sharing and good crew coordination. You are assessed as PF and PNF.
 - Use headsets ; consider me as ATC, ground engineer and cabin crew.
 - Engine failure Flaps Retraction Altitude will be X feet. Single Engine Go around Acceleration Altitude will be X feet.
 - The weather for each exercise will vary, I will tell you the conditions prior to each take-off. For the first take-off, the weather will be ...
 - The aircraft weight and C.G. will be ..."
- Recommendations :
 - Endeavour to run exercises in a logical sequence and make sure that the trainees understand your instructions.
 - Make your own judgment during the session and revert to your instructor role again if required ; for example, an exercise is unsatisfactorily carried out.

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F6 FFS SESSION GUIDE (CONT'D)

02 - TRAINING TOPICS (END)

A. REVIEW

Nil.

B. INTRODUCE

Nil.

03 - SESSION PROFICIENCY CRITERIA

- Demonstrate ability to perform normal and abnormal procedures according to SOP.
- Demonstrate ability to perform maneuvers required by the syllabus using the correct procedures and techniques, according to the standard of accuracy required by regulations.

04 - SESSION GUIDE

The evaluator will select the scenario :

- one F-PLN and associated environment conditions (4 different T.O DATA sheets)
- the failures when required by the syllabus.

- 1 : MMEL : RA2 failed before dispatch
- 6 : Select ADR 1 when Capt is flying or ADR 2 when F/O is flying
Insert the failure at 300 ft.
- 9, 29 : Fail one engine after Go Around engagement.
Select Engine failure with damage.
- 11, 31 : This ILS approach is manually flown
Prior to starting approach fail both APs.
- Init T/O : (Before item 13 and item 33)
Set weather to 1000 ft/6 km.
- 13, 33 : Engine failure at V1 without damage.
- 16, 36 : Non precision approach for 33 L with circling 15 R
Select one NPA :
 - VOR
 - NDB
 - LOC.

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F6 FFS SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- Init T/O : (Before item 19 and item 39)
Set weather to CAVOK

- 20, 40 : Clearance to hold within 15 NM from touchdown should be given.
Hold at PPOS if necessary.

- 21 : Select one failure from the following :
 - G + B SYS LO PR
 - G + Y SYS LO PR

- 22, 42 : ILS assisted

- Init T/O : (Before item 24)
Set weather to low visibility, CAT 1 or below.

- 26 : Select windshear after V1.

- 41 : Select one failure from the following :
 - Standard crew or 2 First Officers*
 - ADR 1 + 3 fault or
 - IR 1 + 3 fault or
 - Dual RA fault.

 - 2 Captains*
 - ADR 2+3 fault or
 - IR 2+3 fault or
 - Dual RA fault.

- Init T/O : (Before item 44)
Set weather to low visibility, CAT 1 or below.

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Line Oriented Flight Training (LOFT) and Line Oriented Evaluation (LOE) are intended to provide crews with opportunities to enhance their understanding of the A320 and to apply Crew Resource Management principles to simulated regular airline flights. Scenarios are intended to produce a busy environment, but should never overload the crew. In many cases, there is no single 'right' answer but, using their skills and knowledge, the crew should be able to reach a successful conclusion to each scenario. Alternative solutions may provide useful, constructive post-flight discussion. Relative simple failures are introduced during the flights to enable the session objectives to be met.

To make LOFT/LOE as valuable and realistic as possible, flight documentation is provided by the instructor at briefing. The flight briefing will begin 45 minutes before the scheduled simulator start time and will take 15-20 minutes. Thereafter the crew will have some time to study the documentation and, for example, decide on the required fuel load, etc. The take-off time for the flight is considered to be 30 minutes after the simulator session starts.

LOFT flights basic details are :

- R* • LOFT 1 FFS : Page 03 ⁽¹⁾
 - LEG A : flight from Marseille (LFML) to Toulouse (LFBO)
 - LEG B : flight from Toulouse to Paris-Orly (LFPO)
 - with the other pilot as PF

- R* • LOFT 2 FFS : Page 05 ⁽¹⁾
 - Flight from London-Heathrow (EGLL) to Frankfurt (EDDF)
 - in winter conditions.
 - Either pilot may act as PF, although it is expected that this
 - will normally be the Captain.

- R* • LOE FFS (Standard Crew or 2 First Officer Crew) : Page 07 ⁽¹⁾
 - Flight from Marseille to Paris-Orly. The Captain will act as PF for this flight

- R* • LOE FFS (2 Captain Crew) : Page 09 ⁽¹⁾
 - LEG A : Flight from Marseille to Paris-Orly.
 - LEG B : Flight from Washington-Dulles to Montreal-Dorval

⁽¹⁾ *Instructors' FCTM includes the LOFT syllabi, scenarii and session guides*

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LOFT 1 FFS SESSION GUIDE

01 - SESSION OBJECTIVE

- Integration of normal and abnormal procedures into a line flight environment.
- Practice of CRM training into line scenario.
- Practice a complete flight into a line environment.
- Practice a crew training.

02 - TRAINING TOPICS

A. REVIEW

- Preflight procedures.
- CRM briefing : communication (if not previously debriefed) and other if necessary

B. INTRODUCE

Not applicable

03 - SESSION PROFICIENCY CRITERIA

- Ability to perform normal and abnormal procedures and techniques in accordance with SOP in a line environment.
- Respect of IFR procedures.
- Ability to apply correctly the following CRM principles :
 - Communication
 - Situational awareness
 - Decision making
 - Workload management.

04 - SESSION GUIDE

See scenario on following pages.

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LOFT 1 FFS - LEG A SESSION GUIDE

Marseilles-LFML/Toulouse-LFBO
Alternate: Bordeaux-MFBD
Company Freq.: 123.45

Flt N°: Airbus 1
Cost Index: 30
Cruise: FL240 / M25°C
Cruise Wind 280/25
Trip Dist: 212nm
Atn Cruise: FL140
Atn Dist: 116nm

Route:
LFML VARE## FIR FJR## LFBO

Aircraft:
ZFCGZFW: 32.9% / 57.5T
(126500lbs)
Block Fuel: (Crew)
Est TOW: 61.8T / 135960lbs
Take-off CG: 32.0%

Performance:
1+F 14L 14R
V speeds All 153 All 146
Flex 40 TOGA

2 V speeds All 150 All 144
Flex 40 TOGA

ATIS:
LFML – Information ? Rwy 14L 150/3
9959 CAVOK 25 / 10 Q1012 NOSIG

LFBO – Information ? Rwy 33R 340/10
9000 OVC010 22 / 08 Q1012 NOSIG

Marseilles (LFML) – Toulouse (LFBO)

This is the first of a 2 segment exercise. The second leg is between Toulouse and Paris (Only).

Events. The events planned for this exercise are:

- Runway change on departure from Marseilles
- Hydraulic Green system overheat
- Runway change during cruise/descent for arrival at Toulouse

Briefing. During briefing emphasis should be placed on scheduled departure. A clearance expiry time equating to (Session start + 30) should be given. An early departure or a 'slot' extension should be permitted if requested.

SIMULATOR SET-UP

SLIDES pb - disarm

AIRPORT SELECT & STATUS
LFML – Runway 14L
All runways lights ON

REPOSITION to GATE PARK (D3) - (N4326.4/E00513.4)

INIT LOAD
ZFW 57.5T / 126500lbs
Fuel (Crew)
CG 32%

ENVIRONMENT
QNH 1012
Temperature 25°C
Tropopause Default Value
Dew Point 18°C

Wind Direction 150°
Speed 3kts
Wind Gradient (not ACTIVE, i.e. Blank)
Wind Dir Gradient -1
Wind Vel Gradient +1
Turbulence Level 10

VISUAL
CAVOK
Cloud Base 6000
Visual to PF (if applicable)
Airfield Lights Intensity to 5

MALEFUNCTION INDEX
DOORS
L Cabin Door Not Closed – Select
Cargo Door not Closed – Select

Close Doors / Arm Slides

Remove Chocks, (Ground Power)

Pushback – Nose Left

(14L-Taxways - BC, 2A, 2B, 2D)
(14R – 2A, 2B, 6, 6A)
Change rwy if necessary

When requested

Event: Insert HYD G SYS OVHT

Insert TLS ATIS – Rwy 33R 340/10 9000
OVC010 22/08 Q1012

Event: Clear HYD G SYS OVHT at ToD

Select LFBO 33R, all runways lighting
on, intensity level 5

Chocks in, Provide Ground Power
Disarm Slides, Open Doors

(LOF1AGD1.PCX)

LOFT 1 FFS - LEG A SESSION GUIDE (END)

Frequency Marseille CPT – 121.7	Phase Pre-Flight	Clearance
ATC clears Airbus 1 to Toulouse via VAREX ## departure Flight Plan Route. Climb and maintain FL 80, expect FL240, squawk 0204. Departure frequency 120.2. Clearance expiry time is XXXX. ☞☞ Contact Ground 121.9.		
Grnd – 121.9	Start	Pushback Push complete Start complete
☞☞ Airbus 1 cleared to push and start, temp 25°, QNH 1012. ☞☞ Release Park Brake, cleared to start Set Park Brake Disconnecting, hand signals on the right		
Airbus 1 taxi to holding point Rwy 14L		
Airbus 1, Rwy 14L is being inspected, expect 30min delay. Can you accept 14R? ☞☞ Airbus 1 contact Tower 119.5		
Airbus 1, surface wind 150/3, cleared take-off runway 14R (L)		
Airbus 1 contact departure on 120.2		
Airbus 1 radar contact passing FLxxx (ft), climb and maintain FL80		
Airbus 1 contact Marseille control on 126.25		
Airbus 1 radar contact, climb and maintain FL 220 Airbus 1 due to traffic, FL220 is final level ☞☞ Airbus 1 you are now cleared to climb to FL240, contact Bordeaux control on 124.07		
☞☞ Airbus 1 radar contact, report ready for descent		
☞☞ Airbus 1 descend to and cross MASAM at FL80. TLS rwy 33L is closed, expect VORDME approach to Rwy 33R Airbus 1 contact Toulouse approach on 125.17		
☞☞ Airbus 1 identified, descend altitude 4000ft on QNH 1012 Airbus 1 cleared for VORDME approach Rwy 33R Airbus 1 contact Blagnac Tower on 118.1		
Airbus 1 cleared to land Rwy 33R, surface wind 340/10 Airbus 1 contact ground 121.9		
Airbus 1 cleared to Gate E40 via taxiway 2 and the ramp ☞☞ ☞☞ Cockpit – Ground, Chocks in, release brakes		
Close Doors / Arm Slides		
Remove Chocks, (Ground Power)		
Pushback – Nose Left		
(14L - Taxiways - 8C, 2A, 2B, 2D) (14R - 2A, 2B, 6, 6A) Change rwy if necessary		
When requested		
Event: Insert HYD G SYS OVHT		
Insert TLS ATIS – Rwy 33R, 340/10 9000 OVC010 22/08 Q1012		
Event: Clear HYD G SYS OVHT at Tod		
Select LFBO 33R, all runways lighting on, intensity level 5		
Insert: FMGC 2 Fail (in prep for LOFT1b) Chocks in, Provide Ground Power Disarm Slides, Open Doors		

(LOF1AGD2.PCX)

LOFT 1 FFS - LEG B SESSION GUIDE

Toulouse-LFBO/Paris Only LFPO
Alternate: Paris Charles de Gaulle LFPG
Company Freq.: 123.45

Fit N°.: Airbus 1
Cost Index: 30
Cruise: FL350 / M47°C
Cruise Wind 280/25
Trip Dist: 336nm
Altitude Cruise: FL90
Altitude Dist: 96nm
Route: LFBO LMG## LMG UR10 AMB AMB## LFPO
Aircraft: ZFCGZPW: 32.9% / 57.5T
(126500lbs)
Block Fuel: (Crew)
Esti TOW: 62.1T / 136620lbs
Take-off CG: 32.0%
Performance:
1+F V speeds 153, 153, 153
Flex 40
2 V speeds 145, 145, 145
Flex 40
ATIS:
LFBO – Information ? Rwy33L 340/10
9000 OVQ010 22/08 Q1012 NOSIG
LFPO – Information ? Rwy 07 090/10
3000 BKN005 20 / 10 Q1012 NOSIG

Close Doors / Arm Slides Pushback – Nose Right (Taxiways 11, 10B, 10A) Event: Windshear after V_R (S19 only – Low or Medium)	Toulouse (LFBO) – Paris (Only) (LFPO) The events planned for this exercise are: - Dispatch with FMGS 1 inoperative - Windshear on take-off (S19 only – Low or Medium) - Failure of FMGS 1 A suitable clearance expiry time for departure should be given with the clearance.	INIT LOAD ZFW 57.5T / 126500lbs Fuel (Crew) CG 32% ENVIRONMENT QNH 1012 Temperature 22°C Tropopause Default Value Dew Point 08°C Wind Direction 340° Speed 10Kts Wind Gradient (not ACTIVE, i.e. Blank) Wind Dir Gradient -2 Wind Vel Gradient +1 Turbulence Level 10 Windshear Take-off after V_R Visibility 9000 Cloud Base 1000 Visual to new PF (if applicable) Airfield Lights Intensity to 5 MAFUNCTION INDEX FMGS Fail FMGS 1 Cbs Pull Cb M17 as required by MEL Operational Procedure	SIMULATOR SET-UP REPOSITION to GATE PARK (E40)- (N4337.8/E00122.5)
Event: FMGC 1 fail (Immediately after instruction to change frequency) (FMGC 1 is recovered if cb reset)			
Insert ORY ATIS – Rwy 07 090/10 3000 BKN005 20 / 10 Q1012			
Select LFPO 07, all runways lighting on, intensity level 5			
Provide Ground Power Chocks in Disarm Slides Open Doors			

(LOF1BGD1.PCX)

LOFT 1 FFS - LEG B SESSION GUIDE (END)

Frequency Toulouse CPT – 121.7	Phase Pre-Flight		
Gnd – 121.9	Start Pushback Push complete Start complete	ATC clears Airbus 1 to Paris Only, LMG # departure, Flight Plan Route. Climb and maintain 4000 ft, squawk 0-24. Clearance expiry time is XXXX Contact Ground 121.9 for push and start. ➡	Close Doors / Arm Slides
	Taxi	Airbus 1 cleared to push and start, temp 22°, QNH 1012. Release Park Brake, cleared to start ➡ Set Park Brake Disconnecting, hand signals on the right Airbus 1 taxi to holding point Rwy 33L Airbus 1 contact Blagnac Tower 118.1	Pushback – Nose Right (Taxiways 11, 10B, 10A)
Tower 118.1	Take-Off	Airbus 1, surface wind 340/10, cleared take-off runway 33L ➡ Airbus 1 contact departure on 129.3	Event: Windshear after V _R (S19 only – Low or Medium)
Departure 129.3	Climb On contact Appr. FL80	Airbus 1 radar contact passing FLxxx (ft), climb and maintain FL140 Airbus 1 contact Bordeaux control 126.85	
Bordeaux CII 126.85	Appr. 70d before LMG	Airbus 1 identified passing FLXXX, climb and maintain FL 350 Airbus 1 contact Bordeaux 126.47	
Bordeaux CII 126.47	Cruise Appr. LMG	Airbus 1 identified FL350 Airbus 1 contact Bordeaux control on 133.57 ➡	Event: FMGC 1 fail (immediately after instruction to change frequency) (FMGC 1 is recovered if db reset)
133.57	At AMB	Airbus 1 identified, Cleared direct to AMB, to be level FL240 at AMB, request your estimate for AMB Airbus 1 contact Paris on 124.0	
Paris 124.0	Descent	Airbus 1 identified, descend to cross 45DME OL at FL100 ➡ Airbus 1 contact Only approach 118.85	Insert ORY ATIS – Rwy 07 090/10 3000 BK005 20 / 10 Q1012
Only Appr 118.85	Approach	Airbus 1 radar contact ➡ Airbus 1 turn right heading 040°, descend FL60. Cleared to establish on the localiser 07. Report established Airbus 1 descend altitude 4000ft on QNH 1012, cleared for ILS 07, contact Only Tower on 118.7	Select LFPO 07, all runways lighting on, intensity level 5
Only Tower 118.7		Airbus 1 cleared to land Rwy 07, surface wind 090/10 Airbus 1 contact ground 121.7	
Only Ground 121.7		Airbus 1 cleared to Gate C02 via taxiway 8, 2A and 2B ➡ Cockpit – Ground, Chocks in release brakes	Provide Ground Power Chocks in Disarm Slides Open Doors

(LOF1BGD2.PCX)

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LOFT 2 FFS SESSION GUIDE

1 - SESSION OBJECTIVE

- Integration of normal and abnormal procedures into a line flight environment.
- Practice of CRM training into line scenario.
- Practice a complete flight into a line environment.
- Practice a crew training.

2 - TRAINING TOPICS

A. REVIEW

- Preflight procedures.
- CRM briefing : decision making (if not previously debriefed) and other if necessary

B. INTRODUCE

Nil.

3 - SESSION PROFICIENCY CRITERIA

- Ability to perform normal and abnormal procedures and techniques in accordance with SOP in a line environment.
- Respect of IFR procedures.
- Ability to apply correctly the following CRM principles :
 - Communication
 - Decision making
 - Workload management
 - Resource management
 - Captain's authority.

4 - SESSION GUIDE

See scenario on following pages

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LOFT 2 FFS SESSION GUIDE (CONT'D)

	Phase Pre-Flight		
LHR Delivery 121.97	Ready for push & start	⊕⇒ London clears Airbus 2 to Frankfurt via Dove# departure Flight Plan Route Squawk 3114. Clearance expiry time is XXXX. Cleared to Start. Call Heathrow Ground 121.9 for push	Event: Inform crew of light snow and dry snow covered runway (12mm) Crew should complete wet runway performance take-off calculation
LHR Ground 121.9	Start	Airbus 2 cleared to push, Temp -3C. ⊕⇒ Release Park Brake, cleared to start Set parking brake Disconnecting, hand signals on the left	Close doors, remove chocks Push-back NOSE LEFT
	Taxi	SS/SS - Airbus 2 Right on the inner, join the outer at block 32 to hold for RWY 27R. Taxiways are slippery. QNH 1016 S19 - Airbus 2 Taxi to hold 27R via backtrack Rwy 23	(Increase visibility for taxiing, if necessary)
LHR Tower 118.5	Take-off	⊕⇒ Airbus 2 monitor tower on 118.7 Airbus 2 line up 27R Airbus 2 wind is 290/5, cleared for take-off RWY 27R. Braking action good	
London Control 120.52	Climb	⊕⇒ Airbus 2 airborne at XX contact London on 120.52 Airbus 2 radar contact, maintain 6000, no ATC speed restriction Airbus 2 contact London control on 134.9	
London Control 134.9	200 inbound Dover (DVR) Appr. KOKSY	Airbus 2 radar contact, climb and maintain FL330 Airbus 2 climb and maintain FL370, cross KONAN FL330 or above Airbus 2 contact Maastricht control on 132.20	Insert FRA ATIS (FREQ. 118.02): Rwy 25R 25012 1500-DZ OVC004 7/6 Q1026 TEMPO SCT002
Maastricht 132.2	Cruise	Airbus 2 radar contact Airbus 2 due to traffic turn right by 10 degrees, report new heading	
	300 inbound Nattenheim (NTM)	Airbus 2 clear of traffic, turn right direct SPI (Sprimont) Airbus 2 reduce to 250 knots. Single runway operation in Frankfurt, expect a 10-15 min delay Airbus 2 begin descent to FL150 now, cross NETMA at or below FL240, contact Frankfurt 124.9	Event: Rwy 25L closed, introduce unimultisick passenger problem as distractor during hold and initial approach
Frankfurt Arrival 124.9	Descent	Airbus 2 radar contact. Report passing NETMA point, Frankfurt RWY 25L is closed, expect LOC approach RWY 25R ⊕⇒ Airbus 2 reduce to minimum clean speed expect 5 min, hold at RUD. Report entering Airbus 2 next time over RUD proceed direct to FFM VOR, descend FL090. Airbus 2 after FFM turn right HDG 120, descend altitude 5000 feet on QNH 1026	
	About 2nm south of runway Appr. 100 FFM Established	Airbus 2 left HDG (070) downwind Airbus 2 descend 4000 feet, turn left HDG 290 cleared for LOC 25R. Report established Airbus 2 call Frankfurt TWR on frequency 119.9.	
Frankfurt Tower 119.9	Approach On report of GA	Airbus 2 cleared to land Rwy 25R, surface wind 250/12 ⊕⇒ Airbus 2 roger, standard missed approach to enter the CHA hold	Insert ZeroZero visibility Event: Diversion Crew should be given weather for both Stuttgart and Zurich
Frankfurt Arrival 124.9	Go-Around	Airbus 2 call Frankfurt ARR 124.9	EDDS: Rwy 07 CALM 1000 MI FEW002 OVC005 RVR 1200/1200/1200 9/8 Q1026 LSZH: Rwy 14 320/4 2500 HZ OVC010 5/4 Q1026 TEMPO BKN005
Company (123.45)	if requested	Airbus 2 - (WX for EDDS & LSZH). Company prefers diversion to EDDS. Capt's decision	

(LOF2GD2.PCX)

LOFT 2 FFS SESSION GUIDE (END)

Diversion to Stuttgart	
Frankfurt Arrival 124.9	Ovhd RID
Airbus 2 cleared to Stuttgart route direct RID, KRH next. Climb and maintain FL180 Airbus 2 contact Stuttgart approach on frequency 125.05 ➡	
Stuttgart Approach 125.05	Ovhd KRH
Airbus 2 radar contact, cleared to LBU via the KRH ## arrival for RWY 07, descend at pilots discretion to cross KRH at FL 100. Report leaving FL 180 Airbus 2 report OVR leaving FL 180 Airbus 2 contact Stuttgart arrival on 119.85	
Stuttgart Arrival 119.85	LBU report
Airbus 2 identified, descend altitude 5000' on QNH 1026. Expect ILS 07 in use. After LBU night HDG 235. Report passing LBU Airbus 2 roger, descend to 4000' on QNH 1026 Airbus 2 left HDG 120, cleared ILS 07, report established Airbus 2 contact tower on 118.8	
Stuttgart Tower 118.8	When established
Airbus 2 report OM, latest RVR values are touchdown zone 1200, midpoint 1200 and stop end 1100. In the event of a missed approach turn left onto 250° and climb to 3000ft ➡ Airbus 2 cleared to land RWY 07	
Airbus 2 remain this frequency, radar vectors for LOC only approach 14, you are number 1 Airbus 2 report OM visibility now more than 1500m. ➡ Airbus 2 cleared to land Rwy 07 Airbus 2 contact ground control on 121.7	
Stuttgart Ground 121.7	If missed approach OM report
Airbus 2 taxi to stand number 62 ➡	
Checks are in position, ground power is connected.	
Diversion to Zurich	
Frankfurt Arrival 124.9	Passing FL180
Airbus 2 cleared to Zurich, route direct to KRH. Advise when ready to copy routing ➡ Airbus 2 Route via KRH VOR, B6 TGO, TGO ## arrival. Climb FL240, report passing FL 180 Airbus 2 call Frankfurt control on 127.5	
Frankfurt Ctl 127.5	Appr. Tango (TGO)
Airbus 2 identified, maintain FL240 on reaching Airbus 2 call Zurich control on 135.67	
Zurich Control 135.67	ISD after TGO Leaving FL240
Airbus 2 radar contact. Cleared for the TGO 4 arrival for RWY 14 Airbus 2 descend when ready to FL100. Report leaving FL240. You are number two, no delays Airbus 2 roger, call Zurich arrival on frequency 118.0	
Zurich Arrival 118.0	Appr SAFFA Abm TRA
Airbus 2 radar contact. Descend FL100. Report passing SAFFA and maintain high speed Airbus 2 after SAFFA turn right HDG 270, descend to 4000' on QNH 1026, expedite descent Airbus 2 turn left HDG 175, cleared ILS approach 14, 18 track miles to go. Report established Airbus 2 contact Zurich tower on 118.1	
Zurich Tower 118.1	If Missed Approach
Airbus 2 cleared to land RWY 14, the wind is 3206. ➡	
Airbus 2 turn left heading 280, remain this freq, radar vectors LOC only approach 14 Airbus 2 taxi via C cross RWY 28, when clear contact ground control on 121.9	
Zurich Ground 121.9	Ground engineer
Airbus 2 taxi to gate 43 Checks are in place, ground power is available ➡	

Insert: New Stuttgart ATIS - Information ?

- Rwy 07 CALM 900 FG FEW002
OVC005 RVR 1200/1200/1200 B/6
Q1026

Event: Fail GS Transmitter at 1000ft

(Give vectors and clearance to establish)
Insert new weather – 2500m OVC 100

Provide Ground power and chocks.
Disarm Slide and open doors

Insert: Zurich ATIS - Information ? - Rwy
14 32014 2000 HZ OVC010 5/4 Q1026
TEMPO BKN005

Event: Fail GS Transmitter at 1000ft

(PROVIDE VECTORS ETC.)

Provide Ground Power and chocks
Disarm slides and open doors

(LOF2GD4.PCX)

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LOE FFS SESSION GUIDE (Line oriented Evaluation)

1 - SESSION OBJECTIVE

- Evaluation of the ability to operate the aircraft in normal and abnormal operations in a line environment, according to standard requirements.
- Evaluation of the correct integration of procedures, techniques and CRM principles.
- Evaluation of the crew in line operation.

2 - TRAINING TOPICS

A. REVIEW

Nil.

B. INTRODUCE

Nil.

3 - SESSION PROFICIENCY CRITERIA

- Demonstrate ability to perform all normal and abnormal procedures/techniques according to SOP and standard requirements in a line environment.
- Respect of IFR procedures.
- Ability to apply correctly the following CRM principles :
 - Communication
 - Situational awareness
 - Decision making
 - Workload management
 - Resource management
 - Captain's authority.

4 - SESSION GUIDE

See scenario on following pages

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LOE FFS SESSION GUIDE (CONT'D)

(Standard Crew or 2 First Officer Crew)

Select LFBD Rwy 23

Insert Bordeaux ATIS: Information ?
Rwy23 180/10 8000 OVC010
10/05 Q1011

Insert: LG Lever Stuck – after LG
selected down (optional)
Event: GA due rwy blocked

Event: Diversion due Bordeaux closure,
with gear down

Insert Toulouse ATIS: Information ?
Rwy15R 160/3 1500 OVC006
08/07 Q1011

Select LFBO Rwy15R, all lights on,
intensity 5

Insert: WTB activation after Flap 2
selected

Taxiways: 9, 1, 10B, 11 and ramp

Chocks, Ground Power
Disarm slides, Open Doors

(LOEXGD3.PCX)

LOE FFS SESSION GUIDE (END)

(Standard Crew or 2 First Officer Crew)

Cruise	
Bordeaux ClI 124.07	Appr. GAI
CREW OPTION – DIVERSION TO BORDEAUX	
⇒ Airbus 3 is cleared to the Bordeaux via UG5 GAI, G39 SAU, direct MIRBA, MIRBA# arrival. Maintain FL 240, report leaving MEN ⇒ Airbus 3 roger Airbus 3 contact Bordeaux on 123.72	
Bordeaux ClI 133.72	100 inbound SAU
Airbus 3 identified, descend when ready to be level FL 70 at SAU Airbus 3 contact Bordeaux approach 125.47	
Bordeaux Appr 125.47	Appr. BE
Airbus 3 cleared direct to the BE MDB, descend to altitude 2000 QNH 1011, expect ILS RWY 23	
Meignac Tower 118.3	At 500ft
Airbus 3 depart BE heading 320, cleared for the ILS approach RWY 23. Report Localizer established to TWR on 118.1 Airbus 3 continue, one aircraft to clear ⇒ Airbus 3 Go-Around, we have a damaged aircraft on the runway, the airport is closed. Other a/c are diverting to Toulouse, contact approach control on 125.47	
Bordeaux Appr 125.47	Appr SAU
Airbus 3 is cleared direct SAU, A25 AGN, AGN # arrival. Climb FL 150 Airbus 3, contact Bordeaux control on 124.25	
Bordeaux ClI 124.25	Appr. AGN
⇒ Airbus 3 radar contact, call ready for descent Airbus 3 descend to cross AGN at FL 50 Airbus 3 contact Toulouse approach on 129.3	
Toulouse Appr 129.3	
⇒ Airbus 3 radar contact, expect ILS RWY 15R Airbus 3 descend altitude 3000 on QNH 1011, turn left heading 100, cleared for the ILS RWY 15R, report Localizer established ⇒ Airbus 3 roger, contact Blagnac TWR on 118.1	
Blagnac TWR 118.1	
Airbus 3, Wind 1603, cleared to land RWY 15R Airbus 3 contact ground control on 121.9	
Blagnac Gnd 121.9	Ground Engineer
Airbus 3 taxi to gate E-40 Chocks are in, release the parking brake ⇒	
Select LFBD Rwy 23 Insert Bordeaux ATIS: Information ? Rwy23 180/10 8000 OVC010 1005 Q1011	
Insert: LG Lever Stuck – after LG selected down (optional) Event: GA due rwy blocked	
Event: Diversion due Bordeaux closure, with gear down	
Insert Toulouse ATIS: Information ? Rwy15R 160/3 1500 OVC006 08/07 Q1011	
Select LFBO Rwy15R, all lights on, intensity 5	
Insert: WTB activation after Flap 2 selected	
Taxiways: 9, 1, 10B, 11 and ramp	
Chocks, Ground Power Disarm slides, Open Doors	

(LOEXGD4.PCX)

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LOE FFS SESSION GUIDE (Line oriented Evaluation)

1 - SESSION OBJECTIVE

- Evaluation of the ability to operate the aircraft in normal and abnormal operations in a line environment, according to standard requirements.
- Evaluation of the correct integration of procedures, techniques and CRM principles.
- Evaluation of the crew in line operation.

2 - TRAINING TOPICS

A. REVIEW

Nil.

B. INTRODUCE

Nil.

3 - SESSION PROFICIENCY CRITERIA

- Demonstrate ability to perform all normal and abnormal procedures/techniques according to SOP and standard requirements in a line environment.
- Respect of IFR procedures.
- Ability to apply correctly the following CRM principles :
 - Communication
 - Situational awareness
 - Decision making
 - Workload management
 - Resource management
 - Captain's authority.

4 - SESSION GUIDE

See scenario on following pages

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LOE FFS - LEG A SESSION GUIDE
(2 Captain Crew)

Arm Slides Pushback Nose Left Insert: Engine Start Fault (Increase visibility for taxiing if necessary) (Taxiways B/C, 2A, 2B, 2D) Shortly after start of taxi – Event: LFML below landing minima / Reclearance	Marseilles (LFML) – Paris (Orly) (LFBO) The events planned for this exercise are: - Departure weather below landing minima – take-off alternate required - Engine Start Fault - Reclearance during taxi out - TCAS TA, if technically available - Closure of destination during cruise, 2 diversion options - LOC only approach and GA (transmitter failure) - Full ILS recovered and ILS approach to land or visual approach Briefing: During briefing emphasis should be placed on scheduled departure time (30 minutes after entering the simulator with a ±5 minute window) although an early departure should be permitted if requested.	Marseilles (LFML) – Paris (Orly) (LFBO) Altitude: Bordeaux (LFBD) Company Freq.: 123.45 Flt N°.: Airbus 3 Cost Index: 30 Cruise: FL350 / M55°C Cruise Wind: 280/25 Trip Dist.: 410nm Altitude Cruise: FL280 Altitude Dist.: 266nm Route: LFML MTL# UB161 ATN AT# LFPO Aircraft: ZFCGZFW: 33.7% / 59.5T (130900lbs) Block Fuel: (Crew) Est TOW: 65.2T / 143400lbs Take-off CG: 32.0% Performance: 1+F V speeds 153, 153, 153 Flex 40 2 V speeds 145, 145, 145 Flex 40 ATIS: LFML – Rwy 14L Calm 0300 FG OVC001 05/05 Q1011 LFBO – 160/3 1200 OVC005 08/07 Q1011 LFBD – 180/10 8000 OVC010 10/05 Q1011
Insert: TCAS TA only, if available If requested, 183° inbound, right turn. Approve extended pattern if requested Event: Closure of Paris Zone LFBO – 160/3 1200 OVC005 08/07 Q1011 LFBD – 180/10 8000 OVC012 10/05 Q1011 Select LFBO Rwy15R Insert TLS ATIS Fail TBS Glideslope	Marseilles (LFML) – Paris (Orly) (LFBO) SLIDES pb - disarm AIRPORT SELECT & STATUS LFML – Runway 14L All runways lights ON REPOSITION to GATE PARK (D3) – (N4326.4/E00513.4) INIT LOAD ZFW 59.5T / 130900lbs Fuel (Crew) CG 32% ENVIRONMENT QNH 1011 Temperature 05°C Tropopause Default Value Dew Point 05°C Wind Direction/Speed CALMP Wind Gradient (not ACTIVE, i.e. Blank) Wind Dir Gradient 0 Wind Vel Gradient +1 Turbulence Level 5 VISUAL Visibility 300m Cloud Base 100 Visual to PF (if applicable) Airfield Lights Intensity to 5 MALEFUNCTION INDEX DOORS L Cabin Door Not Closed – Select Cargo Door not Closed Select	Simulator SET-UP
Restore TBS Glideslope		

(LOEZAGD1.PCX)

LOE FFS - LEG A SESSION GUIDE (CONT'D)
 (2 Captain Crew)

Cruise	Bordeaux Ctl	Appr. GAI
	124.07	
	Bordeaux Ctl	100 inbound SAU
	133.72	
	Bordeaux Appr	Appr. BE
	125.47	
	Merignac Tower	
	118.3	
	Bordeaux Appr	
	125.47	
	Merignac Tower	
	118.3	
	Merignac Gnd	
	121.9	

(LOEZAGD3.PCX)

LOE FFS - LEG A SESSION GUIDE (END)

(2 Captain Crew)

Cruise		
Bordeaux Ctl 124.07	CHRY OPTION - DEPART TO BORDEAUX Airbus 3 is cleared to the Bordeaux via UG5 GAI, G39 SAU, direct MIREA, MIREA## arrival. Maintain FL 240, report leaving MEN	Insert BDY ATIS - Rwy23 180/10 9000 QVC012 10/05 Q1011
Bordeaux Ctl 133.72	Appr. GAI 10D inbound SAU	Insert LFB D Rwy23, lights intensity 5 Fail BD Glideslope
Bordeaux Appr 125.47	Appr. BE	
Mérignac Tower 118.3	Appr. BE 118.1	
Bordeaux Appr 125.47	Appr. BE 118.1	
Mérignac Tower 118.3	Appr. BE 118.1	
Mérignac Gnd 121.9	Appr. BE 118.1	

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(LOEZAGD4.PCX)

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Flight syllabus Page 03

NOTE : *Refer to Base Training Briefing in FCTM Vol 1 - "Normal Operations Briefings" chapter*

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Adapted Jet Familiarization course

- E F2J -

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2.02.02 - TRAINING FOOTPRINT

2.02.03 - GROUND COURSE SYLLABI

2.02.04 - NORMAL COURSE SYLLABI

2.02.05 - ABNORMAL/EMERGENCY COURSE SYLLABI

2.02.06 - LOFT SYLLABI.....

2.02.07 - BASE TRAINING SYLLABUS

Refer to Regular Course

Refer to Regular Course

Refer to Regular Course

Refer to Regular Course

Refer to Regular Course

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R **01 - TRAINING DEVICE TIME SHARING PER PHASE**

R

N. B. : except when notified, the allocated time is mentioned per crew

		(With Language option)	
R R R R	Total Duration	28 working days	33 working days
	GROUND PHASE	12 working days	17 working days
R R	CBT + Briefing : - Aircraft system study + review.....	35:45 / trainee	58:45 / trainee
	- Test (Systems + Perfo).....	3:00 / trainee	4:00 / trainee
	- Jet Familiarization briefing.....	3:00 / trainee	
	FMGS TRAINER : - 3 sessions.....	6:00 (3 x 2:00)	
	- 1 session.....	3:00	
R	ECAM TRAINER : 3 sessions.....	6:00 (3 x 2:00)	
R	FBS : 2 sessions.....	2:00	
		3:00	
	FFS : 1 familiarization session (Introduction to A320).....	0:45	
	NORMAL PHASE	7 working days	
	FBS : 2 sessions.....	6:00 (2 x 3:00)	
	FFS : 5 sessions.....	15:00 (5 x 3:00)	
	(3 Regular course FFS + 2 Adapted Jet FFS)		
	ABNORMAL - EMERGENCY PHASE	6 working days	
	FBS : 2 sessions.....	6:00 (2 x 3:00)	
	FFS : 4 sessions (1).....	12:00 (4 x 3:00)	
	LOFT PHASE	3 working days	
	FFS : 3 sessions (1).....	9:00 (3 x 3:00)	
	<i>In the aircraft :</i>		
	BASE TRAINING PHASE	1 working day	
	(if applicable i.e. French DGAC rule)		
	1 flight.....	1:30 / trainee	

R (1) Including the Skill test

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02 - ADAPTED JET FAMILIARIZATION COURSE

TRAINING DAILY FOOTPRINT (GROUND PHASE)

DAY 1 7:30 Welcome 2:30 CBT : - Introduction 0:20 - Aircraft general 0:15 - EIS - ECAM 1:45 - APU 0:40 - EIS - EFIS 1:15 <i>FFS 0</i> 0:45	DAY 2 6:45 CBT : - Autoflight 3:45 - Pneumatic 1:00 <i>ECAM 1</i> 2:00	DAY 3 7:15 CBT : - Air conditioning 1:00 - Electric 2:15 - Hydraulic 1:15 - Fire protection 0:45 <i>FMGS 1</i> 2:00
DAY 4 6:50 CBT : - Doors 0:30 - Navigation 1:50 - Press / Vent 1:00 - Power plant 1:30 <i>ECAM 2</i> 2:00	DAY 5 6:30 CBT : - Fuel 1:00 - Landing gear 1:00 - Flight controls 2:30 <i>FMGS 2</i> 2:00	DAY 6 7:10 CBT : - Communication 0:40 - Oxygen 0:30 - Safety and cabin trainer 2:00 <i>ECAM 3</i> 2:00 <i>FMGS 3</i> 2:00
DAY 7 6:30 CBT : - Lights 0:30 - Ice & rain protection 0:30 <i>FMGS 4</i> 3:00 <i>V PREP FBS briefing</i> 0:30 <i>V PREP FBS</i> 2:00	DAY 8 7:00 CBT : - Performance	DAY 9 5:30 CBT : - TCAS 1:30 <i>V0 FBS briefing</i> 1:00 <i>V0 FBS</i> 3:00
DAY 10 6:00 CBT : - Review 1:30 - System test 2:00 - Performance test 1:00 Aircraft visit 1:30	DAY 11 7:00 Airbus Crew Resource Management (ACRM)	DAY 12 3:00 Jet Familiarization briefing

NOTE : System study timing to be considered as an average

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R **02 - ADAPTED JET FAMILIARIZATION COURSE (END)**

R TRAINING DAILY FOOTPRINT (NORMAL, ABNORMAL, LOFT, EVALUATION PHASES)

DAY 13 <i>N1 FBS</i>	DAY 14 <i>N2 FBS</i>	DAY 15 <i>NJ FFS</i> (Adapted Jet Familiarization)
DAY 16 <i>N3 FFS</i>	DAY 17 <i>N4 FFS</i>	DAY 18 <i>NJ LOFT FFS</i> (Adapted Jet Familiarization)
DAY 19 <i>N5 FFS</i> (Progress check)	DAY 20 <i>F1 FBS</i>	DAY 21 <i>F2 FBS</i>
DAY 22 <i>F3 FFS</i>	DAY 23 <i>F4 FFS</i>	DAY 24 <i>F5 FFS</i>
DAY 25 <i>F6 FFS - SKILL TEST</i> (4 hour session)	DAY 26 <i>LOFT 1 FFS</i> (might be performed in a FBS if FFS not available)	DAY 27 <i>LOFT 2 FFS</i>
DAY 28 <i>LOE FFS</i> (Line Oriented Evaluation)		

 = Abnormal / Emergency sessions

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03 - ADAPTED JET FAMILIARIZATION + LANGUAGE COURSE

TRAINING DAILY FOOTPRINT (GROUND PHASE)

DAY 1 Welcome 2:30 Projected CBT : - Aircraft general - ECAM	DAY 2 Projected CBT : - ECAM - APU - EFIS - Autoflight <i>FFS 0 0:45</i>	DAY 3 Projected CBT : - Autoflight <i>ECAM 1 2:00</i>
DAY 4 Projected CBT : - Autoflight - Electric	DAY 5 Projected CBT : - Electric - Pneumatic - Air conditioning / Pressu <i>FMGS 1 2:00</i>	DAY 6 Projected CBT : - Pressu / Vent. - Hydraulic - Fire protection - Flight controls
DAY 7 Projected CBT : - Flight controls - Power plant <i>ECAM 2 2:00</i>	DAY 8 Projected CBT : - Power plant - Ice & rain protection - Fuel - Landing gear <i>FMGS 2 2:00</i>	DAY 9 Projected CBT : - Landing gear - Navigation <i>ECAM 3 2:00</i>
DAY 10 <i>FMGS 3 2:00</i> <i>FMGS 4 3:00</i>	DAY 11 Projected CBT : - Performance <i>V PREP FBS briefing 0:30</i> <i>V PREP FBS 2:00</i>	DAY 12 Projected CBT : - Performance (end)
DAY 13 Projected CBT : - TCAS <i>V0 FBS briefing 1:00</i> <i>V0 FBS 3:00</i>	Optional day Projected CBT : Completion of system study if needed	DAY 14 Projected CBT : - Doors - Safety and cabin trainer
DAY 15 Projected CBT : - Review 2:00 - System test 2:00 - Performance test 1:30 Aircraft visit	DAY 16 Airbus Crew Resource Management (ACRM)	Day 17 Jet Familiarization briefing

NOTE : When requested by the instructor, a spare session is performed on Day 14.

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R **03 - ADAPTED JET FAMILIARIZATION + LANGUAGE COURSE (END)**

R TRAINING DAILY FOOTPRINT (NORMAL, ABNORMAL, LOFT, EVALUATION PHASES)

DAY 18 <i>N1 FBS</i>	DAY 19 <i>N2 FBS</i>	DAY 20 <i>NJ FFS</i> (Adapted Jet Familiarization)
DAY 21 <i>N3 FFS</i>	DAY 22 <i>N4 FFS</i>	DAY 23 <i>NJ LOFT FFS</i> (Adapted Jet Familiarization)
DAY 24 <i>N5 FFS</i> (Progress check)	DAY 25 <i>F1 FBS</i>	DAY 26 <i>F2 FBS</i>
DAY 27 <i>F3 FFS</i>	DAY 28 <i>F4 FFS</i>	DAY 29 <i>F5 FFS</i>
DAY 30 <i>F6 FFS - SKILL TEST</i> (4 hour session)	DAY 31 <i>LOFT 1 FFS</i> (might be performed in a FBS if FFS not available)	DAY 32 <i>LOFT 2 FFS</i>
DAY 33 <i>LOE FFS</i> (Line Oriented Evaluation)	NOTE : When requested by the instructor, spare sessions for the Language course are performed : - the day before the Progress check (Normal phase) - the day before the Skill test (Abnormal / Emergency phase)	

 = Abnormal / Emergency sessions

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N1 FBS syllabus	<i>Refer to Regular Course</i>
N2 FBS syllabus	<i>Refer to Regular Course</i>
NJ FFS syllabus.....	Page 6-1
N3 FFS syllabus	<i>Refer to Regular Course</i>
N4 FFS syllabus	<i>Refer to Regular Course</i>
N5 FFS syllabus	<i>Refer to Regular Course</i>
NJ LOFT FFS syllabus	Page 13

NOTE : *Instructors' FCTM includes the "Session Guides"*

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INSTRUCTOR ONLY

NJ FFS TAKE-OFF DATA
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 33 L

WIND 300°/10 kt

VISI CAVOK

CEILING

TEMP 14°C

DEW POINT ... 10°C

QNH 1013 hPa/29.92 inHg

QFE 995 hPa/29.38 inHg

RWY COND ... DRY

Observations : Turbulence 12%

AIR COND ON

INIT NEXT PAGE

ZFCG/ZFW

BLOCK

PERF PAGE

IAE CFM

 V1

 VR

 V2

 FLEX

 DRT

T/O FLAPS

T/O C.G.

NOTE :

2nd part : use 15 R

MALFUNC REF.	- NJ FFS -									
	TRAINEE 1									
R	1 - TRANSIT COCKPIT PREPARATION									
	2 - BEFORE START									
	3 - ENGINE START (AUTO)									
	4 - AFTER ENGINE START									
	5 - TAXI OUT									
	6 - BEFORE TAKE-OFF									
	■ 7 - TAKE-OFF - NOISE ABATMENT PROCEDURE									
	■ 8 - CLIMB									
	■ 9 - STUDY OF THRUST CHANGE A/C BEHAVIOUR									
	■ 10 - RELATIONSHIP THRUST/SPEED									
	■ 11 - TURN EXERCISES RELATIONSHIP SPEED/RADIUS									
	12 - CLIMB (HI LEVEL)									
	■ 13 - GENERAL A/C BEHAVIOUR AT HI LEVEL									
	■ 14 - DESCENT (HI SPEED / LOW SPEED)									
	■ 15 - STUDY OF DECELERATION RATE									
	■ 16 - ILS APPROACH									
	17 - GO AROUND									
	18 - RADAR VECTORS									
	■ 19 - VISUAL APPROACH (1)									
	20 - LANDING(1)									
	TRAINEE 2									
	■ 21 - TAKE-OFF - NOISE ABATMENT PROCEDURE									
	■ 22 - CLIMB									
	■ 23 - STUDY OF THRUST CHANGE A/C BEHAVIOUR									
	■ 24 - RELATIONSHIP THRUST/SPEED									
	■ 25 - TURN EXERCISES RELATIONSHIP SPEED/RADIUS									
	26 - CLIMB (HI LEVEL)									
	■ 27 - GENERAL A/C BEHAVIOUR AT HI LEVEL									
	■ 28 - DESCENT (HI SPEED / LOW SPEED)									
	■ 29 - STUDY OF DECELERATION RATE									
	■ 30 - ILS APPROACH									
	31 - GO AROUND									
	32 - RADAR VECTORS									
	■ 33 - VISUAL APPROACH(1)									
	34 - LANDING(1)									
	(1) ITEMS TO BE REPEATED AT THE END OF THE SESSION IF TIME PERMITS									
R										

NJ FFS SESSION GUIDE

01 - SESSION OBJECTIVE

- Introduce the jet aircraft particularities in terms of :
 - flight characteristics and envelope (speed, high altitude handling)
 - thrust / speed management

02 - TRAINING TOPICS

A. REVIEW

- Transit cockpit preparation

B. INTRODUCE

- The Trainee has received a 3 hour briefing on jet aircraft performance
- Take-off : noise abatement procedure
- Reduced flight envelope at high altitude
- Engine response
- Aircraft deceleration in approach : stabilized and decelerated approaches

03 - SESSION PROFICIENCY CRITERIA :

- Understanding of thrust / speed management
- Ability to handle a jet aircraft

04 - SESSION GUIDE :

Eng	V1	VR	V2	Flex
CFM	118	126	127	52
IAE	122	131	132	56

- 7, 21 : On runway : note N1 at idle
 Set 50% : note time to reach 50% (spool up rate)
NOTE : *The engines do not spool up "symmetrically". This justifies a two step thrust application.*

 Set both engines at T/O thrust : note "spool up rate".
 Then apply take-off SOP.

 Apply standard noise abatement procedure.
 Note FMA messages (Thrust reduction and acceleration altitude)
- 8, 22 : Climb at green dot speed (selected) : note pitch attitude and V/S
 Revert to 250 kt IAS : note pitch attitude and V/S

NJ FFS SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D) :

- 9, 10,
23, 24 : Level off at FL 100. ATHR ON, speed MANAGED.
Study aircraft behaviour (acceleration, deceleration rate) during thrust change :
Memorize N1 value then disconnect ATHR.

Reduce N1 by 10% :
- start time ; note time to decelerate from 250 kt to 240 kt (approx 70 sec)
ATHR ON / LVR CLB (speed returns to 250 kt).
Memorize N1 value then disconnect ATHR.

Add N1 10% :
- start time ; note time to accelerate from 250 kt to 260 kt (approx 25 sec)
ATHR ON / LVR CLB (speed returns to 250 kt).
SPD selected ; accelerate to 300 kt. When stable ...

Set N1 at idle (levers are at "MECHANICAL GATE").:
Note N1 / speed trend / IAS reducing continuously.
Maintain altitude note "Speed deceleration rate", and attitude change.

When IAS at Green dot speed : adjust thrust to maintain the speed : note N1 and pitch.
Set CLB thrust note speed trend, note acceleration rate, note time to reobtain
300 kt IAS.
- 11, 25 : Speed : 300 kt ; FL 100. DIR TO WPT ahead (i/e : LMG).
When on course select heading at 180° then turn.
Note with FD bar bank is 25° and radius is 8 NM. Observe the cross track on ND.
DIR TO : TN. Same exercise at 250 kt : radius 5 NM.
- 13, 27 : Climb to FL 330
Call MCDU PERF page ; read CLIMB managed speed field : IAS/MACH
- Monitor MACH displayed on PFD (bottom left) when > 0.5
When indication reaches MCDU predicted value (cross over altitude),
Observe :
- On FCU : "SPD" above the speed knob changes to "MACH"
- From FL 290 to FL 330 : IAS reduces to maintain same MACH
- VLS (**if visible**) increases with altitude
- VMO (red strip) decreases to maintain MMO
- Fuel flow

Select SPD 250 kt. Make turn at 20° then 30° bank : note "how V_{Alpha} PROT" changes
with g-load. Make steep turn (45° bank) to experience high speed buffet. Explain high
speed buffet onset with increasing g-load. Point out the g-load indication on ECAM
system and status display.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

NJ LOFT FFS TAKE-OFF DATA
- LEG A -
TOULOUSE / MARSEILLE
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 33 R / L

WIND 060°/10 kt

VISI CAVOK

CEILING

TEMP 15°C

DEW POINT ... 12°C

QNH 1015 hPa/29.97 inHg

QFE 997 hPa/29.44 inHg

RWY COND ... DRY

Observations : NOSIG

AIR COND ON

INIT NEXT PAGE

ZFCG/ZFW

BLOCK

PERF PAGE

IAE CFM

 V1

 VR

 V2

 FLEX

 DRT

T/O FLAPS

T/O C.G.

~~TOGA~~

FLEX

~~DRT~~

NOTE :
F/PLN :

LFBO 33 L

AFRIC SID

FJR

G6 - VARES

VARES STAR

VIA RHONE

LFML ILS 14 L

NJ LOFT FFS TAKE-OFF DATA
- LEG B -
MARSEILLE / TOULOUSE
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 14 L

WIND 060°/8 +12 kt

VISI 8 km

CEILING 2000 ft

TEMP 15°C

DEW POINT ... 3°C

QNH 1010 hPa/29.83 inHg

QFE 1010 hPa/29.83 inHg

RWY COND ... DRY

Observations : NOSIG

AIR COND ON

INIT NEXT PAGE

ZFCG/ZFW

BLOCK

PERF PAGE

IAE CFM

 V1

 VR

 V2

 FLEX

DRT

T/O FLAPS

T/O C.G.

~~TOGA~~

FLEX

~~DRT~~

NOTE :
F/PLN :

LFML 14 L

VARES SID

FJR

FJR STAR

VIA ADIMA

LFBO VOR 33 L

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ADAPTED JET FAMILIARIZATION COURSE NORMAL COURSE SYLLABI	2.02.04 Page 16 <i>E F2J</i>
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NJ LOFT FFS - METPLAN

METAR

LFBO 091130Z 06010KT CAVOK 15/12 Q1015

TAF

LFBO 091100Z VRB 05 CAVOK BCMG 1315 30010KT 9999 SCT 040 BKN
100 BCMG 1618 SCT 020 BKN 080

METAR

LFML 091130Z 06012KT 8000 BKN 020 OVC 060 16/12 Q1010

TAF

LFML 091000Z 05010KT 7000 SCT 030 BCMG 1215 OVC020

METAR

LFMT 091100Z 07008KT 9999 SCT 040 17/14 Q1010

TAF

LFMT 091000Z 06010KT 8000 SCT040 BCMG 1215 OVC 030

METAR

LFBD 091130Z 17003KT CAVOK 16/14 Q1014

TAF

LFBD 091000Z VRB03KT CAVOK BCMG 1215 26010KT SCT040 BCMG 1618
26012KT OVC030

LFPG SIGMET SST3 VALID 091000 091700 ON UIR FRANCE MOD TO SEV
TURB FCST BLW FL360 ON SO QUAD OF UIR FRANCE MOV E 10KT

(METPLAN.PCX)

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ADAPTED JET FAMILIARIZATION COURSE NORMAL COURSE SYLLABI	2.02.04 Page 16B R E F2J
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NJ LOFT FFS (LEG A) - LOAD SHEET

PLAN 7378 LFBO TO LFML A320 M78/F IFR 04/28/99
NONSTOP COMPUTED 1550Z FOR ETD 0000Z PROGS 2800ADF FRD320 KGS

ATTN CAPT. STRAUB
FLT RELEASE LFBO/LFML ON 04/29/99

FLT/DAY /29	ORG /DEST LFBO/LFML	TTL NAM 0175	PRF F	ROUTE FRED	AVG WIND/ M005	AVG TEMP / M30

	E.FUEL	A.FUEL	E.TME	NM	NAM	FL
DEST LFML	001156	... ..	00/28	0171	0175	230
RESV 0.05	000058	... ..	00/02			
ALT LFL	000834	... ..	00/24	0154	0140	220
HOLD	001200	... ..	00/30			
ETOPS RES	000000	... ..	00/00			
ETOPS XPRT	000000	... ..	00/00			
XTR	000000	... ..	00/00	CAPT.SIGN		
TOF	003248	... ..	01/25	STRAUB		
TAXI	000300	CORR.	+ / -			
BLOCK	003548	... ..	01/25	BLOCK FUEL.		

FUEL BURN ADJUSTMENT FOR 4000FT DECREASE IN CRZ ALTITUDE : KGS

FUEL BURN ADJUSTMENT FOR 1000KGS INCREASE/DECREASE IN TOW : 0008 KGS

	E.WT	CORR.	OP.LIMIT	STRUC.	REASONS FOR OP.LIMIT

BASIC WT	042000	... ..			
EPLD	000000	... ..			
EZFW	042000	... ..	ZFW	056000	/
TOF	003248	... ..			
ETOW	045248	... ..	OTOW	077000	/
EB/O	001156	... ..			
ELAW	044092	... ..	LAW	064500	/

LFBO..AFRIC..FJR..VARES..LFML

BLOCK IN	... ..	LDG	... ..	FU1	... ..	FU3	... ..
BLOCK OFF	... ..	T.OFF	... ..	FU2	... ..	FU4	... ..
BLOCK TIME	... ..	F.TIME	... ..				

(LOADA.PCX)

NJ LOFT FFS (LEG A) - FLIGHT PLAN

WPT	FLT	WIND	TAS	OTT	OMT	DST	NAM	E.T.	E.TA	ECBO	EFOB.	E.WT.
AWY	MSA	OAT	GS	ITT	IMT	RDST	RNAM	C.T.	A.TA	ACBO	AFOB.	.....

LFBO ELEV 00499FT

TOC	230	176/051	444	082	084	025	025	0005	....	000.8	002.8	044.8
..	054	M31	445	083	084	0146	0150	0005	....	.....	.....	.....

AFRIC	230	176/051	444	082	084	041	041	0006	....	001.0	002.5	044.5
..	054	M31	445	083	085	0105	0109	0011	....	.....	.....	.....

FJR	230	185/048	444	103	105	050	051	0007	....	001.4	002.2	044.2
..	054	M30	435	104	106	0055	0058	0018	....	.....	.....	.....

TOD	230	190/047	444	106	108	001	001	0001	....	001.4	002.2	044.2
..	051	M30	437	107	108	0054	0057	0019	....	.....	.....	.....

VARES	...	.../...	106	108	015	015	0003	....	001.4	002.2	044.2
..	...	...	107	108	0039	0042	0022	....	.....	.....	.....

LFML	...	.../...	...	...	039	042	0007	....	001.5	002.1	044.1
..	...	...	...	...	0000	0000	0029	....	.....	.....	.....

WP	NAME	CO-ORDINATES	WP	NAME	CO-ORDINATES
..	LFBO	N43 38.1 E001 22.1	..	AFRIC	N43 46.5 E002 52.2
..	FJR	N43 34.7 E003 58.5	..	VARES	N43 30.2 E004 19.4
..	LFML	N43 26.2 E005 12.9			@M

(FPL-IX
 -A320/M-SDHI/S
 -LFBO0000
 -N0444F230 DCT AFRIC DCT FJR DCT VARES DCT
 -LFML0028 LFL
 -REG/SU-LBC SEL/JQCG
 -E/0125 P/ R/ S/ J/ D/ C
 A/
 C/STRAUB)

END OF JEPPESEN DATAPLAN
 REQUEST NO. 7378
 @\$##

(FPLNA.PCX)

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ADAPTED JET FAMILIARIZATION COURSE NORMAL COURSE SYLLABI	2.02.04 Page 16D R E F2J
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NJ LOFT FFS (LEG B) - LOAD SHEET

PLAN 7389 LFML TO LFBO A320 M78/F IFR 04/28/99
NONSTOP COMPUTED 1550Z FOR ETD 0000Z PROGS 2800ADF FRD3202 KGS

ATTN CAPT. STRAUB
FLT RELEASE LFML/LFBO ON 04/29/99

FLT/DAY	ORG /DEST	TTL NAM	PRF	ROUTE	AVG WIND/	AVG TEMP
/29	LFML/LFBO	0171	F	FRED	P003 /	M28

	E.FUEL	A.FUEL	E.TME	NM	NAM	FL
DEST	LFBO 001127	... ..	00/27	0171	0171	220
RESV	0.05 000056	... ..	00/02			
ALT	LFBD 000602	... ..	00/17	0100	0089	220
HOLD	001200	... ..	00/30			
ETOPS RES	000000	... ..	00/00			
ETOPS XPRT	000000	... ..	00/00			
XTR	000000	... ..	00/00	CAPT.SIGN	...	...
TOF	002985	... ..	01/17		STRAUB	
TAXI	000300	CORR.	+ / -			
BLOCK	003285	... ..	01/17	BLOCK FUEL.	...	...

FUEL BURN ADJUSTMENT FOR 4000FT DECREASE IN CRZ ALTITUDE : KGS

FUEL BURN ADJUSTMENT FOR 1000KGS INCREASE/DECREASE IN TOW : 0007 KGS

	E.WT	CORR.	OP.LIMIT	STRUC.	REASONS FOR OP.LIMIT
BASIC WT	042000	... ..			
EPLD	000000	... ..			
EZFW	042000	... ..	ZFW	047000	/.
TOF	002985	... ..			
ETOW	044986	... ..	OTOW	077000	/.
EB/O	001127	... ..			
ELAW	043858	... ..	LAW	064500	/.

LFML..VARES..FJR..AFRIC..LFBO

BLOCK IN	...	LDG	...	FU1	...	FU3	...
BLOCK OFF	...	T.OFF	...	FU2	...	FU4	...
BLOCK TIME	...	F.TIME	...				

(LOADB.PCX)

NJ LOFT FFS (LEG B) - FLIGHT PLAN

WPT AWY	FLT MSA	WIND OAT	TAS GS	OTT ITT	OMT IMT	DST RDST	NAM RNAM	E.T. C.T.	E.TA A.TA	ECBO ACBO	EFOB. AFOB.	E.WT.
LFML ELEV 00069FT												
TOC	220	191/045	439	276	277	025	025	0005	....	000.8	002.5	044.5
..	056	M27	433	276	277	0146	0146	0005	....	....	.....	.....
VARES	220	191/045	439	276	277	014	014	0002	....	000.9	002.4	044.4
..	056	M27	433	276	277	0132	0132	0007	....	....	.....	.....
FJR	220	188/045	439	287	288	016	016	0002	....	001.0	002.3	044.3
..	051	M27	444	286	288	0116	0116	0009	....	....	.....	.....
AFRIC	220	183/046	438	284	286	050	049	0007	....	001.3	002.0	044.0
..	054	M28	444	283	285	0066	0067	0016	....	....	.....	.....
TOD	220	174/049	438	263	265	011	011	0002	....	001.3	001.9	043.9
..	054	M29	434	262	265	0055	0056	0018	....	....	.....	.....
LFBO	...	.../...	...	...	...	055	056	0009	....	001.4	001.9	043.9
..	...	...	..	...	...	0000	0000	0027	....	....	.....	.....
WP	NAME	CO-ORDINATES		WP	NAME	CO-ORDINATES						
..	LFML	N43 26.2	E005 12.9	..	VARES	N43 30.2	E004 19.4					
..	FJR	N43 34.7	E003 58.5	..	AFRIC	N43 46.5	E002 52.2					
..	LFBO	N43 38.1	E001 22.1									
@M												

(FPL-IX
 -A320/M-SDHI/S
 -LFML0000
 -N0439F220 DCT VARES DCT FJR DCT AFRIC DCT
 -LFBO0027 LFBD
 -REG/SU-LBC SEL/JQCG
 -E/0117 P/ R/ S/ J/ D/ C
 A/
 C/STRAUB)

END OF JEPPESEN DATAPLAN
 REQUEST NO. 7389
 @\$##

(FPLNB.PCX)

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ADAPTED JET FAMILIARIZATION COURSE NORMAL COURSE SYLLABI	2.02.04 Page 16F <i>E F2J</i> REV 22 OCT 98

NOTE : *LOFT briefing + F/PLN decode keys : refer to FCTM Vol 1 - "Normal Operations Briefings" chapter*

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ADAPTED JET FAMILIARIZATION COURSE NORMAL COURSE SYLLABI	2.02.04 Page 16G E F2J
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NJ LOFT FFS (LEG A) SESSION GUIDE

01 - SESSION OBJECTIVE

- Introduce the normal operation of a jet aircraft in a simulated line environment

02 - TRAINING TOPICS

A. REVIEW

- Transit cockpit preparation
- Take-off - SID
- Approaches

B. INTRODUCE

- The instructor will play the part of the dispatcher during pre-flight preparation of the session. He will provide the crew with appropriate information and documents concerning the flight such as weather documents, flight plans and NOTAMs, etc.
For the aim of the exercise, the documents published in the appropriate FCTM chapter will suffice. On this occasion he will brief the crew on document format used as a standard in Airbus Training if applicable.
- The crew will have to utilise the documents, particularly the aeronautical charts to prepare and to validate the computerized flight plan CFP they have been provided with.
- Special regards should be taken to the fuel calculation since the crew may not be familiar with Airbus fuel calculation principles. The consequences of diversion from the planned cruising level should be pointed out.
- The crew should be briefed on Airbus capability of following q calculated lateral and vertical flight profile, the corresponding MCDU flight plan issues and the corresponding advantages of FMGS.
- The briefing should mention as well the differences in cruising speed and flight level capability of jet aircraft.
- The crew should be provided with brief information on Fly-by-Wire technique once more including the aircraft taxi, since the session will have to be performed in a real flight time environment.
- Clear air turbulence (CAT)
- Side step approach
- Jet aircraft operation : time management
- Instructor is supposed to keep his role as an instructor despite of LOFT

03 - SESSION PROFICIENCY CRITERIA

- Ability to apply SOPs
- Ability to manage a flight
- Ability to handle the aircraft in a normal environment

INSTRUCTOR ONLY

INSTRUCTOR ONLY

NJ LOFT FFS (LEG A) SESSION GUIDE (CONT'D)
04 - SESSION GUIDE
■ IN THE BRIEFING ROOM

The crew must be provided with documents required for the flight :

COMPUTERIZED FLIGHT PLAN (CFP) :

CFP should be checked by the crew before the flight. Fuel corrections may be made at Captain's discretion.

MET REPORTS :

Weather should be analysed. Wind and temp at FL 230 to be inserted into MCDU during cockpit preparation.

TAKE-OFF PERF TABLES :

Crew should define T/O configuration, T/O speed and acceleration altitude
 Block fuel is increased due to weather, notams, optimistic fuel in CFP.

TOW	T/O flaps	Air cond	Anti-ice	Eng	V1	VR	V2	Flex
60 t	2	ON	OFF	CFM	123	131	132	52
				IAE	144	144	144	56

INSTRUCTOR ONLY

INSTRUCTOR ONLY

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ADAPTED JET FAMILIARIZATION COURSE NORMAL COURSE SYLLABI	2.02.04 Page 16I E F2J
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NJ LOFT FFS (LEG A) SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ PREFLIGHT :

Dispatch request aircraft carry max payload to destination

TAKE-OFF DATA :

ATIS : see T/O data page, insert turbulence level 15%, top of clouds 5000 ft
Enter T/O data according to the crew preparation.

PARKING GATE POSITION :

Aircraft is parked at GATE "D3" (N4337.2 E00122.9).

NOTE : - Press INIT GATE PARK

- Check that gate coordinates have been entered and X checked by the crew

INITIAL CALL :

121.70 (Cpt) at gate

"[Airline ID] XXX information , are you ready to copy your clearance ?"

DEPARTURE CLEARANCE :

121.70 (Cpt) at gate

"[Airline ID] XXX ATC to Marseille - LFML APT via flight plan route, AFRIC departure, climb initially to 5000 ft transponder 0314.
Call Blagnac Ground 121.90 for push and start".

121.90 BLAGNAC GND at gate

At engine start and push back request :

"[Airline ID] XXX start up is approved, report ready for push back"

■ PUSH BACK AND TAXI :

121.90 BLAGNAC GND

At push back request :

"[Airline ID] XXX push back is approved RWY 33 L, report ready to taxi".

Push back NOSE R

At taxi request :

"[Airline ID] XXX taxi to the holding position RWY 33 L and change to Blagnac TWR 118.10".

NJ LOFT FFS (LEG A) SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ TAKE-OFF :

118.10 BLAGNAC TWR

T/O clearance :

"[Airline ID] XXX wind 060°/8 KT cleared for T/O RWY 33 L.

NOTE : Check that for combination of crosswind and aft CG, PF applied full fwd side stick, and moved thr. levers progressively to reach FLX/TOGA gate at 40 KT (see A320 SOP).

■ AFTER TAKE-OFF - CLIMB :

118.10 BLAGNAC TWR

"[Airline ID] XXX airborne at change to Toulouse Departure 125.17".

NOTE : Check how the crew is operating with RMP's.

125.17 TOULOUSE-R

At first contact :

"[Airline ID] XXX radar contact, passing ft. You are cleared DIR TO AFRIC and climb to FL 070".

125.17 TOULOUSE-R

"[Airline ID] XXX climb to FL 170 and change to Bordeaux Control 124.07".

124.07 BORDEAUX-R

"[Airline ID] XXX radar contact, climb to FL 230"

124.07 BORDEAUX-R

Reaching CRZ FL 230 :

"[Airline ID] XXX maintain FL 230, and contact Marseille Control at 126.25".

INSTRUCTOR ONLY

INSTRUCTOR ONLY

NJ LOFT FFS (LEG A) SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ CRUISE :

126.25 MARSEILLE-R

"[Airline ID] XXX squawk A3524 maintain FL 230, call back when ready for descent".

ALTERNATES AND FUEL MANAGEMENT :

AIRPORT	TOULOUSE	MARSEILLE
RWY	33 L	14 L
WIND	060°/8 +12 kt	060°/8 +12 kt
VISIBILITY	>10 km (or CAVOK)	8000 m
CEILING	BKN 2500	OVC 2500
TEMP	15°C	16°C
DEW POINT	3°C	3°C
QNH	1015 hPa	1010 hPa
RWY COND	DRY	DRY
OBSERVATIONS	NOSIG	NOSIG

■ DESCENT :

126.25 BORDEAUX CTL

Descent requested :

"[Airline ID] XXX contact Marseille Control 128.85 for descent clearance"

Initiate at crew discretion

128.85 MARSEILLE-R descending

"[Airline ID] XXX radar contact squawk A3524, proceed inbound VARES... arrival and descent to FL 080. Report passing FL 100".

128.85 MARSEILLE-R

At FL 100 :

"[Airline ID] XXX change to Provence Approach 120.20".

120.20 PROVENCE-R

"[Airline ID] XXX squawk A4520 continue inbound RHONE, descend to 3500 ft, QNH 1010 ILS APP 14 L. No delay expected"

INSTRUCTOR ONLY

INSTRUCTOR ONLY

INSTRUCTOR ONLY

INSTRUCTOR ONLY

NJ LOFT FFS (LEG A) SESSION GUIDE (END)

04 - SESSION GUIDE (END)

■ **APPROACH :**

120.20 PROVENCE at MTG

"[Airline ID] XXX turn left onto heading 040°. This will be radar vectors for final ILS RWY 14 L"

NOTE : *Give radar vectors for ILS RWY 14 L APP
Then clear to descent to 1650 ft
Check how the crew is dealing with the 1650 ft constraint*

120.20 PROVENCE

When intercepting final :
"[Airline ID] XXX cleared for ILS APP RWY 14 L".

When established on final approach course :
"[Airline ID] XXX change to Provence TWR 119.50".

119.5 TWR over "MAR"

"[Airline ID] XXX cleared to land RWY 14 L, wind 060° at 5 kt"

NOTE : *On final approach insert ACTIVE TRAFFIC to have it entering the RWY well before touchdown.*

■ **LANDING:**

In approach at 1000 ft AGL :
"[Airline ID] XXX RWY 14 L is blocked. Cleared to land RWY 14 R"
[Airline ID] XXX vacate next of the left and change Provence Ground 121.9"

121.9 PROVENCE GND

"[Airline ID] XXX cleared to cross RWY 14 L.
Report marshaller control."

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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ADAPTED JET FAMILIARIZATION COURSE NORMAL COURSE SYLLABI	2.02.04 Page 16M <i>E F2J</i> REV 22 OCT 98

NJ LOFT FFS (LEG B) SESSION GUIDE

01 - BRIEFING TOPICS

Refer to NJ LOFT FFS LEG A

02 - SESSION OBJECTIVE

Refer to NJ LOFT FFS LEG A

03 - SESSION PROFICIENCY CRITERIA

Refer to NJ LOFT FFS LEG A

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NJ LOFT FFS (LEG B) SESSION GUIDE (CONT'D)

04 - SESSION GUIDE

■ IN THE BRIEFING ROOM

The crew must be provided with documents required for the flight :

COMPUTERIZED FLIGHT PLAN (CFP) :

CFP should be checked by the crew before the flight. Fuel corrections may be made at Captain's discretion.

MET REPORTS :

Weather should be analysed. Wind and temp at FL 220 to be inserted into MCDU during cockpit preparation.

TAKE-OFF PERF TABLES :

Crew should define T/O configuration, T/O speed and acceleration altitude
 Block fuel is increased due to weather, notams, optimistic fuel in CFP.

TOW	T/O flaps	Air cond	Anti-ice	Eng	V1	VR	V2	Flex
50 t	2	ON	OFF	CFM	113	116	118	52
				IAE	115	118	119	56

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NJ LOFT FFS (LEG B) SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ PREFLIGHT :

TAKE-OFF DATA :

ATIS : see T/O data page, insert turbulence level 15%, top of clouds 5000 ft
Enter T/O data according to the crew preparation.

PARKING GATE POSITION :

Aircraft is parked at GATE "D3" (N4326.4 E00513.4).

NOTE : - Press INIT GATE PARK

- Check that gate coordinates have been entered and X checked by the crew

INITIAL CALL :

121.7 PROVENCE Flt data at gate

"[Airline ID] XXX information , are you ready to copy your clearance ?"

DEPARTURE CLEARANCE :

121.7 PROVENCE Flt data at gate

"[Airline ID] XXX ATC to Toulouse - LFBO APT via flight plan route, VARES ...
departure, climb initially to FL 080, squawk 0314, latest T/O time at
Call Provence Ground 121.90 for push and start".

NOTE : Normal T/O time is approx 40 min after entering the SIM. Check that T/O time has been inserted in MCDU (UTC/CSTR).

121.9 PROVENCE Ground

At engine start and push back request :

"[Airline ID] XXX start up is approved, report ready for push back."

■ PUSH BACK AND TAXI :

121.9 PROVENCE Ground

At push back request :

"[Airline ID] XXX push back approved RWY 14 L, report ready to taxi".

At taxi request :

"[Airline ID] XXX taxi to the holding position RWY 14 L and change to TWR 119.50".

NJ LOFT FFS (LEG B) SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ TAKE-OFF :

119.50 PROVENCE TWR

At T/O clearance request :

"[Airline ID] XXX wind 180°/8 kt cleared for T/O RWY 14 L. After T/O maintain RWY HDG and 180 kt."

NOTE : a) Check how speed restr. is inserted.

b) Check that for combination of crosswind and aft CG, PF applied full fwd side stick, and moved thr. levers progressively to reach FLX/TOGA gate at 40 kt (see A320 SOP).

■ AFTER TAKE-OFF - CLIMB :

119.50 PROVENCE TWR

"[Airline ID] XXX airborne at change to Provence Departure 120.20".

NOTE : Check how the crew is operating with RMP's.

120.20 PROVENCE-R

At first contact :

"[Airline ID] XXX radar contact, passing FT. From present position proceed DIR TO MARTIGUES (MTG) VOR and climb to and maintain FL 080 no speed restrictions".

NOTE : Check how speed restrictions 180 kt and 250 kt are cleared.

120.20 PROVENCE-R

"[Airline ID] XXX climb to and maintain FL 170 and change to MARSEILLE CTL 128.85".

128.85 MARSEILLE-R CTL

"[Airline ID] XXX radar contact. Climb to FL 220"

128.85 MARSEILLE-R CTL

Reaching CRZ FL 220 :

"[Airline ID] XXX maintain FL 220, and contact Marseille Control at 126.25".

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NJ LOFT FFS (LEG B) SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ CRUISE :

126.25 MARSEILLE-R CTL

"[Airline ID] XXX squawk A3524 maintain FL 220, call back when ready for descent".

AIRPORT	MARSEILLE	TOULOUSE
RWY	14 L	33 L
WIND	060°/8 + 12 kt	060°/8 +1 2 kt
VISIBILITY	8000 m	>10 km (or CAVOK)
CEILING	OVC 2500	BKN 2500
TEMP	16°C	15°C
DEW POINT	3°C	3°C
QNH	1010 hPa	1015 hPa
RWY COND	DRY	DRY
OBSERVATIONS	NOSIG	NOSIG

■ DESCENT :

126.25 MARSEILLE CTL

Descent requested :

"[Airline ID] XXX contact Bordeaux Control 124.07 for descent clearance"

124.07 BORDEAUX-R descending

"[Airline ID] XXX radar contact squawk A3524, FJR ... arrival, expect VOR 33 L descent to FL 080. Report passing FL 100".

124.07 BORDEAUX-R

At FL 100 :

"[Airline ID] XXX change to Toulouse Radar 125.17".

125.17 TOULOUSE-R at MASAM

"[Airline ID] XXX squawk A4520 continue inbound ADIMA, descend to 4000 ft, QNH 1015, number 2 for VOR APPR 33 L. No delay expected"

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NJ LOFT FFS (LEG B) SESSION GUIDE (END)

04 - SESSION GUIDE (END)

■ **APPROACH :**

125.17 TOULOUSE-R at TOE

"[Airline ID] XXX turn left onto heading 240°. This will be radar vectors for final VOR RWY 33 L. After passing abeam TOE descent to 3000 ft".

NOTE : *Give radar vectors for VOR DME APPR RWY 33 L*

125.17 TOULOUSE-R

When intercepting final :

"[Airline ID] XXX cleared for the VOR DME APP RWY 33 L".

When established on final approach course :

"[Airline ID] XXX change to Blagnac TWR 118.10".

118.10 TWR over OM

"[Airline ID] XXX cleared to land RWY 33L wind 060° at 5 kt,

NOTE : *On final approach insert ACTIVE TRAFFIC to have it entering the RWY well before touchdown.*

■ **GO AROUND :**

118.10 TWR after GA

"[Airline ID] XXX INTCPT right hand downwind for visual circuit RWY 33 L, do not exceed 2000 ft. Report abeam TWR. Ready to land".

NOTE : *Landing after visual traffic pattern (ILS supported if possible)*

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Adapted Crew course

- E F2K -

E F2K

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ADAPTED CREW COURSE TABLE OF CONTENTS	2.02.00 Page 1 <i>E F2K</i>
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2.02.01 - INTRODUCTION

Refer to Regular Course

2.02.02 - TRAINING FOOTPRINT

2.02.03 - GROUND COURSE SYLLABI

Refer to Regular Course

2.02.04 - NORMAL COURSE SYLLABI

2.02.05 - ABNORMAL/EMERGENCY COURSE SYLLABI

Refer to Regular Course

2.02.06 - LOFT SYLLABI.....

Refer to Regular Course

2.02.07 - BASE TRAINING SYLLABUS

Refer to Regular Course

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Training device time sharing per phase Page 03

EF2KA2 - Adapted Crew Course daily footprint Page 04

EF2KA7 - Adapted Crew + Language Course daily footprint..... Page 06

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R **01 - TRAINING DEVICE TIME SHARING PER PHASE**

R **N. B. :** except when notified, the allocated time is mentioned per crew

		(With Language option)	
R R R R	Total Duration	28 working days	33 working days
	GROUND PHASE	12 working days	17 working days
R R	CBT + Briefing : - Aircraft system study + review.....	35:45 / trainee	58:45 / trainee
	- Test (Systems + Perfo).....	3:00 / trainee	4:00 / trainee
	- Crew briefing.....	3:00 / trainee	3:00 / trainee
	FMGS TRAINER : - 3 sessions.....	6:00 (3 x 2:00)	
	- 1 session.....	3:00	
R	ECAM TRAINER : 3 sessions.....	6:00 (3 x 2:00)	
R	FBS : 2 sessions.....	2:00	
		3:00	
	FFS : 1 familiarization session (Introduction to A320).....	0:45	
	NORMAL PHASE	7 working days	
	FBS : 3 sessions.....	9:00 (3 x 3:00)	
	(2 Regular course FBS + 1 Adapted Crew FBS		
	FFS : 4 sessions.....	12:00 (4 x 3:00)	
	(3 Regular course FFS + 1 Adapted Crew FFS)		
	ABNORMAL - EMERGENCY PHASE	6 working days	
	FBS : 2 sessions.....	6:00 (2 x 3:00)	
	FFS : 4 sessions (1).....	12:00 (4 x 3:00)	
	LOFT PHASE	3 working days	
	FFS : 3 sessions (1).....	9:00 (3 x 3:00)	
	<i>In the aircraft :</i>		
	BASE TRAINING PHASE	1 working day	
	(if applicable i.e. French DGAC rule)		
	1 flight.....	1:30 / trainee	
R	(1) Including the Skill test		

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02 - ADAPTED CREW COURSE

TRAINING DAILY FOOTPRINT (GROUND PHASE)

DAY 1 7:30 Welcome 2:30 CBT : - Introduction 0:20 - Aircraft general 0:15 - EIS - ECAM 1:45 - APU 0:40 - EIS - EFIS 1:15 <i>FFS 0</i> 0:45	DAY 2 6:45 CBT : - Autoflight 3:45 - Pneumatic 1:00 <i>ECAM 1</i> 2:00	DAY 3 7:15 CBT : - Air conditioning 1:00 - Electric 2:15 - Hydraulic 1:15 - Fire protection 0:45 <i>FMGS 1</i> 2:00
DAY 4 6:50 CBT : - Doors 0:30 - Navigation 1:50 - Press / Vent 1:00 - Power plant 1:30 <i>ECAM 2</i> 2:00	DAY 5 6:30 CBT : - Fuel 1:00 - Landing gear 1:00 - Flight controls 2:30 <i>FMGS 2</i> 2:00	DAY 6 7:10 CBT : - Communication 0:40 - Oxygen 0:30 - Safety and cabin trainer 2:00 <i>ECAM 3</i> 2:00 <i>FMGS 3</i> 2:00
DAY 7 6:30 CBT : - Lights 0:30 - Ice & rain protection 0:30 <i>FMGS 4</i> 3:00 <i>V PREP FBS briefing</i> 0:30 <i>V PREP FBS</i> 2:00	DAY 8 7:00 CBT : - Performance	DAY 9 5:30 CBT : - TCAS 1:30 <i>V0 FBS briefing</i> 1:00 <i>V0 FBS</i> 3:00
DAY 10 6:00 CBT : - Review 1:30 - System test 2:00 - Performance test 1:00 Aircraft visit 1:30	DAY 11 3:00 Airbus Crew Resource Management (ACRM)	DAY 12 7:00 Crew briefing

NOTE : System study timing to be considered as an average

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R **02 - ADAPTED CREW COURSE (END)**

R TRAINING DAILY FOOTPRINT (NORMAL, ABNORMAL, LOFT, EVALUATION PHASES)

DAY 13 <i>NK FBS</i> (Adapted Crew)	DAY 14 <i>N1 FBS</i>	DAY 15 <i>N2 FBS</i>
DAY 16 <i>N3 FFS</i>	DAY 17 <i>N4 FFS</i>	DAY 18 <i>NK LOFT FFS</i> (Adapted Crew)
DAY 19 <i>N5 FFS</i> (Progress check)	DAY 20 <i>F1 FBS</i>	DAY 21 <i>F2 FBS</i>
DAY 22 <i>F3 FFS</i>	DAY 23 <i>F4 FFS</i>	DAY 24 <i>F5 FFS</i>
DAY 25 <i>F6 FFS - SKILL TEST</i> (4 hour session)	DAY 26 <i>LOFT 1 FFS</i> (might be performed in a FBS if FFS not available)	DAY 27 <i>LOFT 2 FFS</i>
DAY 28 <i>LOE FFS</i> (Line Oriented Evaluation)		

 = Abnormal / Emergency sessions

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03 - ADAPTED CREW + LANGUAGE COURSE

TRAINING DAILY FOOTPRINT (GROUND PHASE)

DAY 1 Welcome 2:30 Projected CBT : - Aircraft general - ECAM	DAY 2 Projected CBT : - ECAM - APU - EFIS - Autoflight FFS 0 0:45	DAY 3 Projected CBT : - Autoflight ECAM 1 2:00
DAY 4 Projected CBT : - Autoflight - Electric	DAY 5 Projected CBT : - Electric - Pneumatic - Air conditioning / Pressu FMGS 1 2:00	DAY 6 Projected CBT : - Pressu / Vent. - Hydraulic - Fire protection - Flight controls
DAY 7 Projected CBT : - Flight controls - Power plant ECAM 2 2:00	DAY 8 Projected CBT : - Power plant - Ice & rain protection - Fuel - Landing gear FMGS 2 2:00	DAY 9 Projected CBT : - Landing gear - Navigation ECAM 3 2:00
DAY 10 FMGS 3 2:00 FMGS 4 3:00	DAY 11 Projected CBT : - Performance V PREP FBS briefing 0:30 V PREP FBS 2:00	DAY 12 Projected CBT : - Performance (end)
DAY 13 Projected CBT : - TCAS V0 FBS briefing 1:00 V0 FBS 3:00	Optional day Projected CBT : Completion of system study if needed	DAY 14 Projected CBT : - Doors - Safety and cabin trainer
DAY 15 Projected CBT : - Review 2:00 - System test 2:00 - Performance test 1:30 Aircraft visit	DAY 16 Airbus Crew Resource Management (ACRM)	Day 17 Adapted Crew course briefing

NOTE : When requested by the instructor, a spare session is performed on Day 14.

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R **03 - ADAPTED CREW + LANGUAGE COURSE (END)**

R TRAINING DAILY FOOTPRINT (NORMAL, ABNORMAL, LOFT, EVALUATION PHASES)

DAY 18 <i>NK FBS</i> (Adapted Crew)	DAY 19 <i>N1 FBS</i>	DAY 20 <i>N2 FBS</i>
DAY 21 <i>N3 FFS</i>	DAY 22 <i>N4 FFS</i>	DAY 23 <i>NK LOFT FFS</i> (Adapted Crew)
DAY 24 <i>N5 FFS</i> (Progress check)	DAY 25 <i>F1 FBS</i>	DAY 26 <i>F2 FBS</i>
DAY 27 <i>F3 FFS</i>	DAY 28 <i>F4 FFS</i>	DAY 29 <i>F5 FFS</i>
DAY 30 <i>F6 FFS - SKILL TEST</i> (4 hour session)	DAY 31 <i>LOFT 1 FFS</i> (might be performed in a FBS if FFS not available)	DAY 32 <i>LOFT 2 FFS</i>
DAY 33 <i>LOE FFS</i> (Line Oriented Evaluation)	NOTE : When requested by the instructor, spare sessions for the Language course are performed : - the day before the Progress check (Normal phase) - the day before the Skill test (Abnormal / Emergency phase)	

 = Abnormal / Emergency sessions

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NK FBS syllabus.....	Page 2A
N1 FBS syllabus	<i>Refer to Regular Course</i>
N2 FBS syllabus	<i>Refer to Regular Course</i>
N3 FFS syllabus	<i>Refer to Regular Course</i>
N4 FFS syllabus	<i>Refer to Regular Course</i>
N5 FFS syllabus	<i>Refer to Regular Course</i>
NK LOFT FFS syllabus.....	Page 13

NOTE : *Instructors' FCTM includes the "Session Guides"*

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NK FBS TAKE-OFF DATA
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 33 L

WIND 360°/15 kt

VISI 4 km

CEILING OVC 1200 ft

TEMP 14°C

DEW POINT ... 10°C

QNH 1000 hPa/29.97 inHg

QFE 982 hPa/29.44 inHg

RWY COND ... DRY

Observations : AIR COND ON

INIT NEXT PAGE

ZFCG/ZFW

BLOCK

PERF PAGE

IAE CFM

 V1

 VR

 V2

 FLEX

 DRT

T/O FLAPS

T/O C.G.

—TOGA—

FLEX

—DRT—

NOTE :
F/PLN :

LFBO 15 R

LACOU SID

MEN - AFRIC

AFRIC STAR

VIA ADIMA

LFBO ILS 33 L

ALTN : LFBO 33 L - NO SID - TOU

AUCHE - AUCHE STAR

LFBT ILS 20

NK FBS SESSION GUIDE

01 - SESSION OBJECTIVE

- Familiarization with crew concept and procedures in aircraft cockpit environment.

02 - TRAINING TOPICS

A. REVIEW

- Crew communication, task sharing and workload management.
- Transit cockpit preparation.
- Cockpit briefings.
- Use of check lists.
- Use of FMGS.

B. INTRODUCE

- Crew co-ordination with and without AP.
- Aircraft handling and procedure application throughout entire flight.

03 - SESSION PROFICIENCY CRITERIA

- Understanding of SOPs.
- Ability to perform T/O, SID, STAR and ILS app in good crew coordination with/without AP.

04 - SESSION GUIDE

Eng	V1	VR	V2	Flex
CFM	124	134	134	52
IAE	124	133	133	56

- 1 : In order to reduce take-off preparation time after initial landings, load secondary flight plan via INIT feature, to avoid sequencing or use IOS hardware capability such as FPLN COPY and FLPN REPLY, if applicable. ATC revision during take-off preparation should advise to maintain 210 kt during initial climb out.
- 3, 18 : Resume normal speed during initial climb out. Level off at 5000 ft ALT.
- 4, 19 : Resume normal climb to FL 120.
- 5, 20 : Advise right turn to HDG 100 until further. When established, proceed direct to an appropriate IAF for standard arrival at Toulouse.
- 7, 22 : During descent, advise level off and leaving the STAR by radar vectors.
- 8, 23 : Resume STAR by intercepting common leg.

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NK LOFT FFS TAKE-OFF DATA
- LEG A -
LONDON HEATHROW / PARIS ORLY

INIT PAGE				ATIS	
CO RTE	FROM/TO	TRIP DIST		RWY	27 R / L
				WIND	260°/15 kt
ALTN/CO RTE		CRZ WIND		VISI	800 m SNSH
				CEILING	OVC 800 ft
FLT NBR		ALTN		TEMP	-2°C
				DEW POINT ...	-2°C
LAT	LONG	ALTN DIST		QNH	998 hPa/29.47 inHg
				QFE	995 hPa/29.38 inHg
COST INDEX		FL to ALTN		RWY COND ...	Contaminated
				Observations :	AIR COND ON
CRZ FL/TEMP	TROPO				ANTI ICE ON
					1/4 in slush
					Braking action medium

INIT NEXT PAGE	PERF PAGE	T/O FLAPS	NOTE :
ZFCG/ZFW	IAE CFM		F/PLN :
	V1		EGLL 27 L
28%-55.9 t	VR	T/O C.G.	MID SID - MID
28%-122.980 lb	V2		UA34 - LGL
BLOCK	FLEX		LGL STAR
	DRT	TOGA	VIA EPR
			LFPO ILS 26
		FLEX	ALTN : LFPO 26 - POGO SID
			NO STAR - NO VIA
		~~DRT~~	LFPG ILS 27

NK LOFT FFS TAKE-OFF DATA
- LEG B -
PARIS CHARLES DE GAULLE / LONDON HEATHROW

INIT PAGE		ATIS	
CO RTE	FROM/TO	TRIP DIST	RWY 27
	LFPG/EGLL	210 NM	WIND 320°/15 - 20 kt
ALTN/CO RTE		CRZ WIND	VISI 1300
			CEILING OVC 1500
FLT NBR		ALTN	TEMP 8°C
[Airline ID] 24LK		LFPG	DEW POINT ... 4°C
LAT	LONG	ALTN DIST	QNH 1000 hPa/29.53 inHg
4900.6N	00232.9E	188 NM	QFE 988 hPa/29.17 inHg
COST INDEX		FL to ALTN	RWY COND ... DRY
30		240	Observations : AIR COND ON
CRZ FL/TEMP	TROPO		ORY facing WEST
TBD	36 000		

INIT NEXT PAGE	PERF PAGE	T/O FLAPS	NOTE :
ZFCG/ZFW	IAE CFM		F/PLN :
28%-56.9 t	V1	T/O C.G.	LFPG 27
28%-122.980 lb	VR		AMOGA SID
BLOCK	V2	TOGA	UT 225 - VESAN
	FLEX	FLEX	UL 613 - SANDY
	DRT	DRT	BIG STAR
			EGLL ILS 27 L
			ALTN : EGLL 27 L - MAY SID - MAY
			A56 - SFD
			A 47 - DPE
			DPE STAR - LFPG VOR 09

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NK LOFT FFS METPLAN

PLAN 2676 METPLAN WEATHER XX/XX/XX

 - FLIGHT PLAN DEPARTURE INFORMATION

SURFACE OBSERVATION

LFPO	XX/XX/XXZ	18016KT	9999	BKN015	06/03	Q1007	NOSIG
LFPG	XX/XX/XXZ	06014KT	9999	FEW12	SCT015	05/03	Q1007 NOSIG
EBBR	XX/XX/XXZ	0703KT	8000	SCT100	07/06	Q1009	NOSIG

TERMINAL FORECAST

LFPO XX/XX/XXZ XXXXXX 13005KT 8000 SCT030 BECMG 0003 4000 BR SCT010 TEMPO
 XXXX 1500 VCFG BKN 005 BECMG 0709 16005KT CAVOK
 LFPG NIL
 EBBR XX/XX/XXZ XXXXXX 04005KT 5000 BR SCT008 BKN 015 PROB 30 TEMPO XXXX
 1500 BR BKN 005

NOTAM

LFPO ARPT SUBJECT TO CLOSURE AT SHORT NOTICE DUE TO GROUND CONTROLLERS STRIKE.

PIREPS

NONE REPORTED

FLIGHT PLAN - HAZARD TO FLIGHT INFORMATION

CONVECTIVE SIGMETS/SIGMETS

LFPG SIGMET SST 3 VALID XX XX XX XX LFPO ON UIR FRANCE MOD TO SEV TURB FCST
 BLW FL 360 ON SE QUAD OF UIR FRANCE MOV W 10KT NC

FLIGHT PLAN EN ROUTE INFORMATION

SURFACE OBSERVATION

LFPV NIL

LFOJ NIL

TERMINAL FORECAST

NONE AVAILABLE

WINDS/TEMPERATURES ALOFT FORECASTS

FD DATA BASED ON XX XX XX Z

VALID XX XX XX Z FOR USE XX XX XX Z TO XX XX XX Z

12000	18000	24000	30000	34000	39000
4634N-00194E					
2109M03	2212M14	2006M28	3105M41	3419M48	3623M51
4501N-00166E					
2408M03	2512M15	2911M26	3518M39	3224M46	3423M51

(NOTAMS1.PCX)

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NK LOFT FFS METPLAN (END)

FLIGHT PLAN ARRIVAL INFORMATION

SURFACE OBSERVATION

LFBO XX XX XX Z 03002KT 1500 SCT 003 BKN 005 15/13 Q1005 NOSIG

TERMINAL FORECAST

LFBO XX XX XX Z XX XX XX 04005KT 2000 BR BKN 003 OVC 008 BECMG XX XX OVC 003

LFBD XX XX XX Z XX XX XX 05020KT 8000 OVC 020 BKN 050 TEMPO XXXX 9999 BKN 020

NOTAMS

TOU VOR ON TEST. DISREGARD ALL INFORMATION.

RWY 15L/33R CLSD UFN WIP.

ILS RWY 33L UNSERVICEABLE

SURFACE OBSERVATION

LFBD XX XX XX Z XX XX XX 06015KT 8000 OVC 020 BKN 050 14/11 Q1004 NOSIG

NOTAMS

VOR TAC APP RWY 05 IS PROHIBITED FROM XX XX XX Z TO XX XX XX Z DUE TO MILITARY ACTIVITY SOUTH OF AIRPORT.

PIREPS

NONE REPORTED

(NOTAMS2.PCX)

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ADAPTED CREW COURSE NORMAL COURSE SYLLABI	2.02.04 Page 16C R
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NK LOFT FFS (LEG A) - LOAD SHEET

PLAN 6562 EGLL TO LFPO A320 LRC/F IFR 04/29/99
 NONSTOP COMPUTED 1247Z FOR ETD 0000Z PROGS 2900ADF FRD320 KG

ATTN CAPT. STRAUB
 FLT RELEASE EGLL/LFPO ON 04/30/99

	FLT/DAY	ORG /DEST	TTL NAM	PRF	ROUTE	AVG WIND/	AVG TEMP
	/30	EGLL/LFPO	0270	F	FRED	M016 /	M53
		E.FUEL	A.FUEL	E.TME	NM	NAM	FL
DEST	LFPO	001732	...	00/42	0261	0270	330
RESV	0.05	000087	...	00/03			
ALT	LFPG	000766	...	00/19	0100	0102	240
HOLD		001200	...	00/30			
ETOPS RES		000000	...	00/00			
ETOPS XPRT		000000	...	00/00			
XTR		000000	...	00/00	CAPT.SIGN	...	
TOF		003785	...	01/34		STRAUB	
TAXI		000300	CORR.	+ / -			
BLOCK		004085	...	01/34	BLOCK FUEL.	...	

FUEL BURN ADJUSTMENT FOR 4000FT DECREASE IN CRZ ALTITUDE : KGS

FUEL BURN ADJUSTMENT FOR 1000KGS INCREASE/DECREASE IN TOW : 0023 K

	E.WT	CORR.	OP.LIMIT	STRUC.	REASONS FOR OP.LIMIT
BASIC WT	041900	...			
EPLD	013500	...			
EZFW	055400	...	ZFW	...	055900 /
TOF	003785	...			
ETOW	059184	...	OTOW	...	077000 /
EB/O	001732	...			
ELAW	057453	...	LAW	...	064500 /

EGLL MID4F MID UA34 LGL LGL2W LFPO

BLOCK IN	...	LDG	...	FU1	...	FU3	...
BLOCK OFF	...	T.OFF	...	FU2	...	FU4	...
BLOCK TIME	...	F.TIME	...				

(LOADA.PCX)

NK LOFT FFS (LEG A) - FLIGHT PLAN

WPT AWY	FLT MSA	WIND OAT	TAS GS	OTT ITT	OMT IMT	DST RDST	NAM RNAM	E.T. C.T.	E.TA A.TA	ECBO ACBO	EFOB. AFOB.	E.WT.
EGLL	ELEV	00080FT										
D260E	...	.../...		256	260	006	006	0001	...	000.4	003.7	059.1
MID4F	...	...		256	260	0255	0264	0001	...	...	...	...
D166I	...	.../...		162	166	006	006	0001	...	000.5	003.6	059.0
MID4F	...	...		162	166	0249	0258	0002	...	...	...	...
D022J	...	.../...		198	202	010	010	0002	...	000.6	003.5	058.9
MID4F	...	...		198	202	0239	0248	0004	...	...	...	...
MID	...	.../...		197	201	010	010	0001	...	000.7	003.4	058.8
MID4F	...	...		197	202	0229	0238	0005	...	...	...	...
TOC	330	081/047	431	157	162	051	053	0009	...	001.4	002.7	058.1
UA34	022	M53	417	158	162	0178	0185	0014	...	...	...	...
DRAKE	330	081/047	431	157	162	004	004	0001	...	001.4	002.7	058.1
UA34	022	M53	417	158	161	0174	0181	0015	...	...	...	...
SITET	330	086/053	431	156	160	007	007	0001	...	001.5	002.6	058.0
UA34	021	M53	410	156	160	0167	0174	0016	...	...	...	...
ETRAT	330	087/055	431	166	169	026	027	0004	...	001.6	002.5	057.9
UA34	023	M53	417	166	169	0141	0147	0020	...	...	...	...
DVL	330	088/053	431	165	169	023	024	0003	...	001.7	002.4	057.8
UA34	023	M53	416	165	169	0118	0123	0023	...	...	...	...
LGL	330	088/052	431	165	168	032	033	0005	...	001.9	002.2	057.6
UA34	028		416	165	168	0086	0090	0028	...	...	...	...
TOD	330	089/050	431	136	139	006	007	0001	...	001.9	002.2	057.6
LGL2W	028	M52	395	136	139	0080	0083	0029	...	...	...	...
CHW	...	.../...		136	139	020	022	0003	...	002.0	002.1	057.5
LGL2W	...	...		136	139	0060	0061	0032	...	...	...	...
OL45A	...	.../...		090	093	013	014	0003	...	002.0	002.1	057.5
LGL2W	...	...		090	093	0047	0047	0035	...	...	...	...
KORVI	...	.../...		090	092	008	008	0001	...	002.0	002.1	057.5
LGL2W	...	...		090	092	0039	0039	0036	...	...	...	...
EPR	...	.../...		032	035	010	010	0002	...	002.0	002.1	057.5
LGL2W	...	...		032	035	0029	0029	0038	...	...	...	...
LFPO	...	.../...		...	...	029	029	0005	...	002.0	002.1	057.5
LGL2W	...	...		...	...	0000	0000	0043	...	...	...	...

..	EGLL	N51	28.7	W000	27.7	..	D260E	N51	28.1	W000	35.8
..	D166I	N51	22.9	W000	35.9	..	D022J	N51	12.8	W000	32.8
..	MID	N51	03.2	W000	37.5	..	DRAKE	N50	12.6	W000	04.6
..	SITET	N50	06.0	W000	00.0	..	ETRAT	N49	41.0	E000	09.8
..	DVL	N49	18.6	E000	18.8	..	LGL	N48	47.4	E000	31.8
..	CHW	N48	28.8	E000	59.2	..	OL45A	N48	28.8	E001	19.3
..	KORVI	N48	28.8	E001	31.1	..	EPR	N48	37.5	E001	39.4
..	LFPO	N48	43.4	E002	22.8						@M

FIRS LFFF/0016

(FPLNA1/A2.PCX)

NK LOFT FFS (LEG B) - LOAD SHEET

PLAN 6206 LFPG TO EGLL A320 LRC/F IFR 04/29/99
 NONSTOP COMPUTED 1229Z FOR ETD 0000Z PROGS 2900ADF FRD3202 K

ATTN CAPT. STRAUB
 FLT RELEASE LFPG/EGLL ON 04/30/99

	FLT/DAY /30	ORG /DEST LFPG/EGLL	TTL NAM 0201	PRF F	ROUTE FRED	AVG WIND/ P020	AVG TEMP / M57
		E.FUEL	A.FUEL	E.TME	NM	NAM	FL
DEST	EGLL	001398	...	00/33	0210	0201	350
RESV	0.05	000070	...	00/02			
ALT	LFPG	001323	...	00/33	0188	0200	240
HOLD		001200	...	00/30			
ETOPS RES		000000	...	00/00			
ETOPS XPRT		000000	...	00/00			
XTR		000000	...	00/00	CAPT.SIGN		
TOF		003991	...	01/38	STRAUB		
TAXI		000300	CORR.	+ / -			
BLOCK		004291	...	01/38	BLOCK FUEL.		

FUEL BURN ADJUSTMENT FOR 4000FT DECREASE IN CRZ ALTITUDE : KG

FUEL BURN ADJUSTMENT FOR 1000KGS INCREASE/DECREASE IN TOW : 0022

	E.WT	CORR.	OP.LIMIT	STRUC.	REASONS FOR OP.LIMIT
BASIC WT	041900	...			
EPLD	015000	...			
EZFW	056900	...	ZFW	...	056900 /
TOF	003991	...			
ETOW	060891	...	OTOW	...	077000 /
EB/O	001398	...			
ELAW	059493	...	LAW	...	064500 /

LFPG AMOG8A AMOGA UT225 VESAN UL613 SANDY BIG1F EGLL

BLOCK IN		LDG		FU1		FU3	
BLOCK OFF		T.OFF		FU2		FU4	
BLOCK TIME		F.TIME					

(LOADB.PCX)

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NK LOFT FFS (LEG B) - FLIGHT PLAN

WPT AWY	FLT MSA	WIND OAT	TAS GS	OTT ITT	OMT IMT	DST RDST	NAM RNAM	E.T. C.T.	E.TA A.TA	ECBO ACBO	EFOB. AFOB.	E.WT.
LFPG ELEV 00387FT												
PG272	...	.../...	266	269	004	004	0001	....	000.3	003.9	060.8	
AMOG8	...	...	..	266	268	0206	0197	0001	....	....	....	
PG276	...	.../...	317	319	010	010	0001	....	000.5	003.8	060.7	
AMOG8	...	...	..	317	319	0196	0187	0002	....	....	....	
AMOGA	...	.../...	003	005	040	038	0006	....	000.9	003.3	060.2	
AMOG8	...	...	..	003	005	0156	0149	0008	....	....	....	
VESAN	...	.../...	340	342	037	035	0006	....	001.4	002.9	059.8	
UT225	...	...	..	339	342	0119	0114	0014	....	....	....	
TOC	350	078/046	445	319	322	012	011	0002	....	001.5	002.8	059.7
UL613	028	M57	465	319	322	0107	0103	0016	....	....	....	
TOD	350	078/046	445	319	322	013	012	0002	....	001.6	002.7	059.6
UL613	028	M57	465	319	322	0094	0091	0018	....	....	....	
SOVAT	...	.../...	319	322	008	008	0001	....	001.6	002.7	059.6	
UL613	...	...	..	319	322	0086	0083	0019	....	....	....	
SANDY	...	.../...	319	322	023	022	0004	....	001.6	002.7	059.6	
UL613	...	...	..	318	322	0063	0061	0023	....	....	....	
D116L	...	.../...	293	296	030	029	0004	....	001.7	002.6	059.5	
BIG1F	...	...	..	293	296	0033	0032	0027	....	....	....	
BIG	...	.../...	292	296	012	012	0002	....	001.7	002.6	059.5	
BIG1F	...	...	..	292	296	0021	0020	0029	....	....	....	
EGLL	...	.../...	...	...	021	020	0004	....	001.7	002.6	059.5	
BIG1F	...	...	..	...	...	0000	0000	0033	....	....	....	

WP	NAME	CO-ORDINATES	WP	NAME	CO-ORDINATES
..	LFPG	N49 00.6 E002 32.9	..	PG272	N49 01.1 E002 27.7
..	PG276	N49 07.1 E002 19.2	..	AMOGA	N49 47.1 E002 22.1
..	VESAN	N50 22.3 E002 01.6	..	SOVAT	N50 46.8 E001 28.0
..	SANDY	N51 03.9 E001 04.1	..	D116L	N51 15.4 E000 19.8
..	BIG	N51 19.9 E000 02.1	..	EGLL	N51 28.7 W000 27.7

FIRS EGTT/0019

(FPLNB1/B2.PCX)

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ADAPTED CREW COURSE NORMAL COURSE SYLLABI	2.02.04 Page 16G <i>E F2K</i> REV 22 OCT 98

NOTE : *LOFT briefing + F/PLN decode keys : refer to FCTM Vol 1 - "Normal Operations Briefings" chapter*

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NK LOFT FFS (LEG A) SESSION GUIDE

01 - SESSION OBJECTIVE

- Familiarization with crew concept and procedures in line flying environment as PF and PNF

02 - TRAINING TOPICS

A. REVIEW

- Crew communication, task sharing and workload management
- Performance calculation for contaminated RWY
- Use of FMGS features during line flying
- Radio communication rules application during line flying
- Non precision approaches

B. INTRODUCE

- One leg as PF and PNF : EGLL to LFPO with diversion to LFPG
- Instructor is supposed to keep his role as an instructor despite of LOFT

03 - SESSION PROFICIENCY CRITERIA

- Ability to perform line flying sectors entirely as a crew
- Ability to apply SOPs during the flight
- Ability to handle the aircraft in all phases of the flight

INSTRUCTOR ONLY

INSTRUCTOR ONLY

NK LOFT FFS (LEG A) SESSION GUIDE (CONT'D)

04 - SESSION GUIDE

■ **IN THE BRIEFING ROOM**

The crew must be provided with documents required for the flight :

COMPUTERIZED FLIGHT PLAN (CFP) :

CFP should be checked by the crew before the flight. Fuel corrections may be made at Captain's discretion.

MET REPORTS :

Weather should be analysed. Wind and temp at FL 230 to be inserted into MCDU during cockpit preparation.

NOTAMS :

Should be analysed and inoperative VOR's deselected during cockpit preparation

TAKE-OFF PERF TABLES :

Crew should define T/O configuration, T/O speed and acceleration altitude
Block fuel is increased due to weather, notams, optimistic fuel in CFP.

TOW	T/O flaps	Air cond	Anti-ice	Eng	V1	VR	V2	Flex
<i>RWY 27 L</i>								
64 t	2	ON	ON	CFM	148	148	149	53
				IAE	145	148	148	57

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NK LOFT FFS (LEG A) SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ PREFLIGHT

TAKE-OFF DATA :

ATIS : see T/O data page, insert turbulence level 15%, top of clouds 5000 ft
Enter T/O data according to the crew preparation.

PARKING GATE POSITION :

Aircraft is parked at GATE PARK N° 26 (N5128.4 W00026.5).

NOTE : - Press INIT GATE PARK

- Check that gate coordinates have been entered and X checked by the crew

INITIAL CALL :

121.97 HEATHROW DELIVERY (Cpt) at gate

"[Airline ID] XXX information , are you ready to copy ATC ?"

DEPARTURE CLEARANCE :

121.97 HEATHROW DELIVERY (Cpt) at gate

"[Airline ID] XXX cleared to destination Paris Orly - LFPO via MID departure, climb to FL 120 initially. Expect level change enroute SQUAWK 4614.
Call Heathrow Ground for push and start"

121.9 HEATHROW GND

"[Airline ID] XXX push and start are approved, call ready to taxi".

■ PUSH BACK AND TAXI :

"[Airline ID] XXX taxi to the holding position RWY 27 L"

Due to visual problem instructor may guide aircraft to holding PT 27 L

Approaching 27 L holding PT :

"[Airline ID] XXX change to Heathrow TWR 118.50"

INSTRUCTOR ONLY

INSTRUCTOR ONLY

NK LOFT FFS (LEG A) SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ TAKE-OFF :

118.50 HEATHROW TWR

R

"[Airline ID] XXX line up RWY 27 and cleared for take-off, surface wind is 260°/15 KT.
 [Airline ID] XXX airborne, (time...) Change London Control 120.47."

■ AFTER TAKE-OFF - CLIMB :

120.47 LONDON CTL

"[Airline ID] XXX continue standard DEP MID..., are you able to pass MID VOR
 FL 090 or above. If "YES" continue up to FL 210, resume normal climb when passing
 FL 100. Passing FL 120 change to London Control 135.32 for higher."

135.32 LONDON ATC

"[Airline ID] XXX continue climb to FL 330 as requested."
 20 NM before SITET (FIR) :
 "[Airline ID] XXX change to Paris Control 136.07"

■ CRUISE :

136.07 PARIS ATC

R

"SQUAWK ident. and call ready for descent, did you copy Orly latest ?"

AIRPORTS	LFPO	LFPG	EGLL
RWY	25 / 26 ILS APP	27 / 28 VOR APP	27 R / L ILS APP
WIND	290°/15 - 20 kt	320°/12 - 15 kt	260°/15 kt
VISIBILITY	1200 m	1300 m	350 m SNRA
CEILING	OVC 700	BKN 900 / OVC 1500	OVC 300
TEMP / DEW POINT	6° / 4°	8° / 4°	-2° / -2°
QNH	1000	1000	998
RWY COND	PATCHY WET	DRY	SLUSH
OBSERVATIONS	CDG facing WEST POGO 7 in use	ORY facing WEST POGO 8 in use ILS(s) under test,	Contaminated by 1/4 in slush

R

R

R

R

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NK LOFT FFS (LEG A) SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

R ■ CRUISE (END)

R
R
R
R
R
R
R
R
R
R

136.07 PARIS ATC

"[Airline ID] XXX expect LGL # STAR. CHW, KORVI, EPR. No delay expected. EPR clearance limit. Call ready for descent. Due to traffic, expect KORVI FL 130 or below and EPR at FL 090.

Change to Paris control 139.25".

ATC CSTR roughly 25 NM prior to passing LGL. Observe how the crew is managing the descent with various constraints.

■ DESCENT

Initiation at crew discretion

139.25 PARIS ATC

R
R
R
R
R
R
R
R
R

"[Airline ID] XXX continue to LGL, expect LGL # Standard Arrival. You are Nr. 1 ILS RWY 26. No delay expected.

Observe how the crew is dealing with various speed constraints as well (i.e. MAX IAS 250 kt - D45 OL and MAX IAS 220 kt inbound EPR 1 min).

When all constraining FL and speeds are taken into account and briefed to the PNF, the FRQ change may be given.

"[Airline ID] XXX change Orly approach 128.85."

128.85 ORLY APP

When ready for descent :

"[Airline ID] XXX descent to FL 150 initially. Advise passing FL 180 LGL... Arrival ILS RWY 26. No delay expected".

Passing FL 180 :

"[Airline ID] XXX change Orly Approach 118.85.

Continue descent to 4000 ft EPR FL 090 or above QNH 1000".

118.85 ORY APP

"[Airline ID] XXX continue on course to EPR, TSU, next, follow outbound radial 074, for right hand down wind ILS APP RWY 26.

Let aircraft continue outbound until TSU 25 DME, and advise crew weather is decaying, in order to have the crew preparing "POGO TO CDG", either by alternate F-PLN, or SEC F-PLN.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

NK LOFT FFS (LEG A) SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ **APPROACH**

"Turn right HDG 164° for base"

By this HDG intercept ILS LOCALIZER RWY 26, call established.

As soon as a/c is established on track 164° fail G/S "OLW " to make the crew revert to "LOC APP ONLY"

If crew did not notice "GS FAILS", as distance is enough :

"[Airline ID] XXX ILS G/S RWY 26 for the time being out of service".

When established :

"[Airline ID] XXX change to Orly TWR 118.70.

When transfer occurs change landing minima to "zero/zero".

118.70 ORY TWR

"[Airline ID] XXX continue approach call passing "OYE", and RWY in sight.

Cleared for LOC APP RWY 26 wind 290°/15 kt.

Braking action "MEDIUM TO GOOD".

"[Airline ID] XXX number one cleared to land, visibility : 900 m, RVR 1300 m"

■ **GO AROUND**

"[Airline ID] XXX standard go around procedure to MELUN climb 4000 ft QNH : 1000, change ORY Departure 127.75"

■ **DIVERSION**

127.75 ORY DEPARTURE

"[Airline ID] XXX continue climb to FL 080 inbound "MEL VOR" join holding pattern".

"Diversion to LFPG approved, after passing "MEL VOR" proceed to SUSIN - CLM next, clearance limit, then change to De Gaulle Approach 121.15."

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NK LOFT FFS (LEG A) SESSION GUIDE (END)

04 - SESSION GUIDE (END)

■ DESCENT AND APPROACH

121.15 CDG APP

"[Airline ID] XXX proceed inbound CLM, windshear on final reported, descent FL 070 VOR APPR RWY 27. No delay expected. CDG visibility 1500 m OVC ceiling 1200 ft".

After passing CLM :

"[Airline ID] XXX descent to 4000 ft - QNH 1001

Cleared for VOR APPR RWY 27"

5 NM after CLM :

"[Airline ID] XXX change to De Gaulle TWR 119.25"

119.25 CDG TWR

"[Airline ID] XXX continue approach you are number 2, call 4 NM final or RWY in sight. number 1 cleared to land RWY 27 wind 290°/15 kt"

■ AFTER LANDING AND PARKING

After landing :

"[Airline ID] XXX vacate RWY first to the left".

When RWY vacated :

"[Airline ID] XXXchange CDG Ground 121.60"

121.60 CGD GND

When on CDG ground :

"[Airline ID] XXX continue taxiing gate ... Report marshaller contact".

INSTRUCTOR ONLY

INSTRUCTOR ONLY

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NK LOFT FFS (LEG B) SESSION GUIDE

01 - SESSION OBJECTIVE

Refer to NK LOFT FFS LEG A

02 - TRAINING TOPICS

A. REVIEW

- Crew communication, task sharing and workload management
- Performance calculation for contaminated RWY
- Use of FMGS features during line flying
- Radio communication rules application during line flying
- Glide slope interception from above
- Non precision approaches
- Circling approach

B. INTRODUCE

- One leg as PF and PNF : LFPG to EGLL with diversion to LFPG
- Instructor is supposed to keep his role as an instructor despite of LOFT

03 - SESSION PROFICIENCY CRITERIA

Refer to NK LOFT FFS LEG A

INSTRUCTOR ONLY

INSTRUCTOR ONLY

NK LOFT FFS (LEG B) SESSION GUIDE (CONT'D)

04 - SESSION GUIDE

■ **IN THE BRIEFING ROOM**

The crew must be provided with documents required for the flight :

COMPUTERIZED FLIGHT PLAN (CFP) :

CFP should be checked by the crew before the flight. Fuel corrections may be made at Captain's discretion.

MET REPORTS :

Weather should be analysed. Wind and temp. at FL 230 to be inserted into MCDU during cockpit preparation.

NOTAMS :

Should be analysed and inoperative VOR's deselected during cockpit preparation

TAKE-OFF PERF TABLES :

Crew should define T/O configuration, T/O speed and acceleration altitude
Block fuel is increased due to weather, notams, optimistic fuel in CFP.

TOW	T/O flaps	Air cond	Anti-ice	Eng	V1	VR	V2	Flex
62 t	2	ON	ON	IAE	126	130	133	52
				CFM	126	136	137	55

ZFW has to be changed in L.M.C.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

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NK LOFT FFS (LEG B) SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ PREFLIGHT :

TAKE-OFF DATA :

ATIS : see T/O data page, insert turbulence level 15%, top of clouds 5000 FT
Enter T/O data according to the crew preparation.

PARKING GATE POSITION :

Aircraft is parked at GATE PARK T3 (N049.00.8 E002.32.7).

NOTE : - Press INIT GATE PARK

- Check that gate coordinates have been entered and X checked by the crew

INITIAL CALL :

126.65 CDG DELIVERY (Cpt) at gate

"[Airline ID] XXX information , are you ready to copy your ATC ?"

DEPARTURE CLEARANCE :

126.65 CDG DELIVERY (Cpt) at gate

R "[Airline ID] XXX ATC to London Heathrow - EGLL destination via flight planned route.
R AMOGA # SID. FL 350. SQUAWK 4614. For push and start call CDG Ground 121.60."

■ PUSH BACK AND TAXI :

121.60 CDG GND

R "[Airline ID] XXX taxi to the holding position RWY 27. Approaching taxiway 19.1.
R Call CDG TWR 119.25".

■ TAKE-OFF :

119.25 CDG TWR

R "[Airline ID] XXX line up RWY 27 and cleared for take-off, surface wind 320°/25 kt.

R

R

And after lift-off.

R

R

[Airline ID] XXX airborne at Change to CDG Departure 124.35."

NK LOFT FFS (LEG B) SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ AFTER TAKE-OFF AND CLIMB

124.35 CDG DEPARTURE

"[Airline ID] XXX inbound AMOGA recleared to climb to FL 220, no speed restriction after passing BVS radial 090°."

Crew may create a PBX or PBD WPT using Stored Waypoint feature.

"[Airline ID] XXX for further climb change to PARIS Control 127.30."

127.30 PARIS ATC

"[Airline ID] XXX due to traffic in London FIR, climb FL 260. Will be your final level".

Approaching FIR London.

"[Airline ID] XXX change LONDON Control 129.60."

Monitor how the crew is managing the lower flight level versus the remaining fuel figures for destination and alternate.

AIRPORTS	LFPO	LFPG	EGLL	GATWICK
RWY	25 / 26	27 / 28	27 R / L	Closed due to snow
WIND	350°/25 kt 360°/35 kt	330°/10 kt 350°/15 kt	VAR 5	
VISIBILITY	5000 m	1800 m	800 M SNRA, STANSTED	
CEILING	OVC 700	OVC 2000	OVC 400	Closed due to snow
TEMP	6 °	8°	-2°	
DEW POINT	4°	4°	-2°	
QNH	1000	1000	998	
RWY COND	PATCHY WET	DRY	SLUSH,	
Observations	CDG facing WEST POGO 7 in use	ORY facing WEST POGO 8 in use	Contaminated by 1/4 in slush	
Braking action	Medium to poor shear reported on final		Medium	

Determine CRZ LVL versus TOW, distance

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NK LOFT FFS (LEG B) SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ DESCENT

Initiation at crew discretion

129.60 LONDON ATC

"[Airline ID] XXX maintain FL 260 - SOVAT, SANDY. Expect BIG # STAR, no delay expected. Report ready for descent."

When ready for descent.

"[Airline ID] XXX descent inbound BIG to 7000 ft on QNH 998, expect radar vectors for ILS RWY 27 L."

[Airline ID] XXX due to traffic join the hold at BIG".

ATC may suggest that weather is going to be decayed, in order to have crew preparing diversion, back to CDG.

As soon as crew acknowledge :

"[Airline ID] XXX change to Heathrow Approach 119.72
Inbound BIG, descent to 2500 ft - QNH 998".

119.72 HEATHROW

"[Airline ID] XXX take heading....."

In order to have aircraft passing "BIG" HDG 310, this HDG will conduct aircraft to be on "G/S" before on "LOCALIZER".

This exercise to have the crew intercepting "G/S" from above.

"[Airline ID] XXX remain on this frequency call G/S intercept by heading 310° cleared for ILS APP 27 L and call RWY in sight".

■ GO AROUND

If crew did plan to divert directly to De Gaulle, because all other airports closed, give clearance as follow :

"[Airline ID] XXX in the event of go around follow RWY HDG when passing 2000 ft direct MAY VOR climb initially 6000 ft - QNH 998. Advise decisions"

During the go around :

"[Airline ID] XXX change to London Control 121.32".

NK LOFT FFS (LEG B) SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ DIVERSION

121.32 LONDON ATC

"[Airline ID] XXX airport is closed due to snow removal. Continue climb to FL 250 on route MAY, SFD, DPE, MERUE to De Gaulle.

[Airline ID] XXX for higher call Paris Control 139.25"

139.25 PARIS ATC

"Sorry [Airline ID] XXX due to congested traffic maintain 250 will be your final level, continue standard routing for DE GAULLE DPE, SOKMU, MERUE clearance limit.

■ DESCENT AND APPROACH

For information wind changes in De Gaulle, the actual RWY 09 has to be changed.

De Gaulle Approach proposes ILS approach on 09 then circling to land 27

AIRPORTS	LFPO	LFPG
RWY	25 / 26	27 / 28
WIND	350°/25 kt 360°/35 kt	330°/10 kt 350°/15 kt
VISIBILITY	5000 m	1800 m
CEILING	OVC 700	OVC 2000
TEMP	6 °	8°
DEW POINT	4°	4°
QNH	1000	1000
RWY COND	PATCHY WET	DRY
Observations	CDG facing WEST POGO 7 in use	ORY facing WEST POGO 8 in use
	Medium to poor shear reported on final	

"[Airline ID] XXX continue descent to be FL 080 MERU, change to CDG Approach 121.15".

NOTE : 4 NM outbound MERU, start descent to 3000 ft - QNH 1000.

Non precision approach available.

Cleared for VOR APP RWY 09. Circling for RWY 27

R
R

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NK LOFT FFS (LEG B) SESSION GUIDE (END)

04 - SESSION GUIDE (END)

■ DESCENT AND APPROACH (END)

121.15 CDG APPROACH

R "[Airline ID] XXX ILS 09 has just failed, continue approach for VORDME 09,
R circle to land RWY 27"

When passing PON :
"[Airline ID] XXX change to CDG TWR 119.25"

119.25 CDG TWR

R "[Airline ID] XXX continue approach, call field in sight, break off to the right or to the
R left, no traffic reported".
Circling down wind right or left at pilot's discretion.

R "[Airline ID] XXX Roger call turning final and ready to land. In the event of go around
maintain extended RWY centerline up to 3000 ft and call CDG APP radar 121.15 for
vectoring. Surface wind 340°/12 kt - Gusting 15"

■ AFTER LANDING AND PARKING

"[Airline ID] XXX when RWY vacated change CDG Ground 121.60"

■ TAXI TO GATE

121.60 CDG GND

"[Airline ID] XXX continue taxi PARKING GATE. Report marshaller contact".

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Adapted Line Familiarization course

- E F2L -

E F2L

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2.02.01 - INTRODUCTION

Refer to Regular Course

2.02.02 - TRAINING FOOTPRINT

2.02.03 - GROUND COURSE SYLLABI

Refer to Regular Course

2.02.04 - NORMAL COURSE SYLLABI

2.02.05 - ABNORMAL/EMERGENCY COURSE SYLLABI

Refer to Regular Course

2.02.06 - LOFT SYLLABI

Refer to Regular Course

2.02.07 - BASE TRAINING SYLLABUS

Refer to Regular Course

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Training device time sharing per phase Page 03

EF2LA2 - Adapted Line Familiarization Course daily footprint Page 04

EF2LA7 - Adapted Line Familiarization + Language Course
daily footprint Page 06

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R **01 - TRAINING DEVICE TIME SHARING PER PHASE**

R

N. B. : except when notified, the allocated time is mentioned per crew

R

R

R

R

		(With Language option)
Total Duration	28 working days	33 working days
GROUND PHASE	12 working days	17 working days
CBT + Briefing : - Aircraft system study + review.....	35:45 / trainee	58:45 / trainee
- Test (Systems + Perfo).....	3:00 / trainee	4:00 / trainee
- Line Familiarization briefing.....	7:00 / trainee	
FMGS TRAINER : - 3 sessions.....	6:00 (3 x 2:00)	
- 1 session.....	3:00	
ECAM TRAINER : 3 sessions.....	6:00 (3 x 2:00)	
FBS : 2 sessions.....	2:00	
	3:00	
FFS : 1 familiarization session (Introduction to A320).....	0:45	
NORMAL PHASE	7 working days	
FBS : 4 sessions.....	12:00 (4 x 3:00)	
(2 Regular course FBS + 2 Adapted Line FBS)		
FFS : 3 sessions.....	9:00 (3 x 3:00)	
ABNORMAL - EMERGENCY PHASE	6 working days	
FBS : 2 sessions.....	6:00 (2 x 3:00)	
FFS : 4 sessions (1).....	12:00 (4 x 3:00)	
LOFT PHASE	3 working days	
FFS : 3 sessions (1).....	9:00 (3 x 3:00)	
<i>In the aircraft :</i>		
BASE TRAINING PHASE	1 working day	
(if applicable i.e. French DGAC rule)		
1 flight.....	1:30 / trainee	
(1) Including the Skill test		

R

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02 - ADAPTED LINE FAMILIARIZATION COURSE

TRAINING DAILY FOOTPRINT (GROUND PHASE)

DAY 1 7:30 Welcome 2:30 CBT : - Introduction 0:20 - Aircraft general 0:15 - EIS - ECAM 1:45 - APU 0:40 - EIS - EFIS 1:15 <i>FFS 0</i> 0:45	DAY 2 6:45 CBT : - Autoflight 3:45 - Pneumatic 1:00 <i>ECAM 1</i> 2:00	DAY 3 7:15 CBT : - Air conditioning 1:00 - Electric 2:15 - Hydraulic 1:15 - Fire protection 0:45 <i>FMGS 1</i> 2:00
DAY 4 6:50 CBT : - Doors 0:30 - Navigation 1:50 - Press / Vent 1:00 - Power plant 1:30 <i>ECAM 2</i> 2:00	DAY 5 6:30 CBT : - Fuel 1:00 - Landing gear 1:00 - Flight controls 2:30 <i>FMGS 2</i> 2:00	DAY 6 7:10 CBT : - Communication 0:40 - Oxygen 0:30 - Safety and cabin trainer 2:00 <i>ECAM 3</i> 2:00 <i>FMGS 3</i> 2:00
DAY 7 6:30 CBT : - Lights 0:30 - Ice & rain protection 0:30 <i>FMGS 4</i> 3:00 <i>V PREP FBS briefing</i> 0:30 <i>V PREP FBS</i> 2:00	DAY 8 7:00 CBT : - Performance	DAY 9 5:30 CBT : - TCAS 1:30 <i>V0 FBS briefing</i> 1:00 <i>V0 FBS</i> 3:00
DAY 10 6:00 CBT : - Review 1:30 - System test 2:00 - Performance test 1:00 Aircraft visit 1:30	DAY 11 7:00 Airbus Crew Resource Management (ACRM)	DAY 12 7:00 Line Familiarization briefing

NOTE : System study timing to be considered as an average.

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R **02 - ADAPTED LINE FAMILIARIZATION COURSE (END)**

R TRAINING DAILY FOOTPRINT (NORMAL, ABNORMAL, LOFT, EVALUATION PHASES)

DAY 13 <i>N1 FBS</i>	DAY 14 <i>N2 FBS</i>	DAY 15 <i>NL FBS 1</i> (Adapted Line Familiarization)
DAY 16 <i>NL FBS 2</i> (Adapted Line Familiarization)	DAY 17 <i>N3 FFS</i>	DAY 18 <i>N4 FFS</i>
DAY 19 <i>N5 FFS</i> (Progress check)	DAY 20 <i>F1 FBS</i>	DAY 21 <i>F2 FBS</i>
DAY 22 <i>F3 FFS</i>	DAY 23 <i>F4 FFS</i>	DAY 24 <i>F5 FFS</i>
DAY 25 <i>F6 FFS - SKILL TEST</i> (4 hour session)	DAY 26 <i>LOFT 1 FFS</i> (might be performed in a FBS if FFS not available)	DAY 27 <i>LOFT 2 FFS</i>
DAY 28 <i>LOE FFS</i> (Line Oriented Evaluation)		

 = Abnormal / Emergency sessions

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03 - ADAPTED LINE FAMILIARIZATION + LANGUAGE COURSE

TRAINING DAILY FOOTPRINT (GROUND PHASE)

DAY 1 Welcome 2:30 Projected CBT : - Aircraft general - ECAM	DAY 2 Projected CBT : - ECAM - APU - EFIS - Autoflight FFS 0 0:45	DAY 3 Projected CBT : - Autoflight ECAM 1 2:00
DAY 4 Projected CBT : - Autoflight - Electric	DAY 5 Projected CBT : - Electric - Pneumatic - Air conditioning / Pressu FMGS 1 2:00	DAY 6 Projected CBT : - Pressu / Vent. - Hydraulic - Fire protection - Flight controls
DAY 7 Projected CBT : - Flight controls - Power plant ECAM 2 2:00	DAY 8 Projected CBT : - Power plant - Ice & rain protection - Fuel - Landing gear FMGS 2 2:00	DAY 9 Projected CBT : - Landing gear - Navigation ECAM 3 2:00
DAY 10 FMGS 3 2:00 FMGS 4 3:00	DAY 11 Projected CBT : - Performance V PREP FBS briefing 0:30 V PREP FBS 2:00	DAY 12 Projected CBT : - Performance (end)
DAY 13 Projected CBT : - TCAS V0 FBS briefing 1:00 V0 FBS 3:00	Optional day Projected CBT : Completion of system study if needed	DAY 14 Projected CBT : - Doors - Safety and cabin trainer
DAY 15 Projected CBT : - Review 2:00 - System test 2:00 - Performance test 1:30 Aircraft visit	DAY 16 Airbus Crew Resource Management (ACRM)	Day 17 Line Familiarization briefing

NOTE : When requested by the instructor, a spare session is performed on Day 14.

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R **03 - ADAPTED LINE FAMILIARIZATION + LANGUAGE COURSE (END)**

R TRAINING DAILY FOOTPRINT (NORMAL, ABNORMAL, LOFT, EVALUATION PHASES)

DAY 18 <i>N1 FBS</i>	DAY 19 <i>N2 FBS</i>	DAY 20 <i>NL FBS 1</i> (Adapted Line Familiarization)
DAY 21 <i>NL FBS 2</i> (Adapted Line Familiarization)	DAY 22 <i>N3 FFS</i>	DAY 23 <i>N4 FFS</i>
DAY 24 <i>N5 FFS</i> (Progress check)	DAY 25 <i>F1 FBS</i>	DAY 26 <i>F2 FBS</i>
DAY 27 <i>F3 FFS</i>	DAY 28 <i>F4 FFS</i>	DAY 29 <i>F5 FFS</i>
DAY 30 <i>F6 FFS - SKILL TEST</i> (4 hour session)	DAY 31 <i>LOFT 1 FFS</i> (might be performed in a FBS if FFS not available)	DAY 32 <i>LOFT 2 FFS</i>
DAY 33 <i>LOE FFS</i> (Line Oriented Evaluation)	NOTE : When requested by the instructor, spare sessions for the Language course are performed : - the day before the Progress check (Normal phase) - the day before the Skill test (Abnormal / Emergency phase)	

 = Abnormal / Emergency sessions

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N1 FBS syllabus	<i>Refer to Regular Course</i>
N2 FBS syllabus	<i>Refer to Regular Course</i>
NL LOFT 1 FBS syllabus	Page 6-1
NL LOFT 2 FBS syllabus	Page 6-3
N3 FFS syllabus	<i>Refer to Regular Course</i>
N4 FFS syllabus	<i>Refer to Regular Course</i>
N5 FFS syllabus	<i>Refer to Regular Course</i>

NOTE : *Instructors' FCTM includes the "Session Guides"*

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**NL LOFT 1 FBS TAKE-OFF DATA
PARIS ORLY / MONTPELLIER**
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 25 / 26

WIND 340°/20 kt

VISI > 10 km

CEILING BKN 2300 ft

TEMP 6°C

DEW POINT ... 2°C

QNH 1015 hPa/29.99 inHg

QFE 1004 hPa/29.65 inHg

RWY COND ... DRY

Observations : _____

INIT NEXT PAGE

ZFCG/ZFW

BLOCK

PERF PAGE

IAE CFM

 V1

 VR

 V2

 FLEX

 DRT

T/O FLAPS

T/O C.G.

TOGA

FLEX

—DRT—

NOTE :
F/PLN :

LFPO 25/26

PTV SID - PTV

UM 728 - NEV

UY 27 - MEN

MEN STAR

LFMT VOR 31 R

ALTN : LFMT 31 R - VARES -

RHONE - MTG - LFML 32

NL LOFT 1 FBS - METPLAN

WEATHER DATA

MARSEILLE (LFML)

METAR 100000Z CALM 0300 FG OVC001 05/05 Q1011 NOSIG

TAF 100000Z 100624 VRB03 0500 FG SCT002 OVC004 BECMG 0800 0300 BKN002 OVC003 TEMP
0700CALM 0200 OVC001

PARIS ORLY (LFPO)

METAR 100000Z CALM 0700 FG R07 1000/1000/1100 BKN002 05/05 Q1014 NOSIG

TAF 100000Z 100624 VRB03 0500 FG BKN002 TEMP 0800 0300 OVC001 BECMG 0800 BKN005

PARIS CDG (LFPG)

METAR 100000Z CALM 0200 FG R280350/0350/0350 OVC002 05/05 Q1014 NOSIG

TAF 100000Z 100624 VRB03 0300 FG OVC002

BORDEAUX (LFBD)

METAR 100000Z 07009KT 9999 BKN022 10/06 Q1013 NOSIG

TAF 100000Z 100624 08010KT 9999 SCT010 BKN025 TEMP 1000 10015KT BKN030

TOULOUSE (LFBO)

METAR 100000Z 16005KT 1500 HZ BKN006 08/07 Q1011 NOSIG

TAF 100000Z 100624 15005KT 2000 HZ BKN007 TEMP XXXX 1000 FG BKN004

NICE (LFMN)

METAR 100000Z 15005KT 900 HZ OVC003 04/03 Q1011 NOSIG

TAF 100000Z 100624 15005KT 1000 HZ OVC003 TEMPO 1500 OVC006

MONTPELLIER (LFMT)

METAR 100000Z 18005KT 2000 HZ OVC008 06/02 Q1011 NOSIG

TAF 100000Z 100624 15005KT 1800 HZ OVC009 TEMPO 3000 OVC015

LYON (LFLL)

METAR 100000Z 20012KT 5000 HZ BKN007 M05/M09 Q1002 NOSIG

TAF 100000Z 100624 18015KT 9999 BKN006 OVC100 TEMPO 0812 5000

NOTAMS

NIL

PIREPS

NIL

(METPLAN1.PCX)

NL LOFT 1 FBS - LOAD SHEET

PLAN 3644 LFPO TO LFMT A320 M78/F IFR 05/18/99
 NONSTOP COMPUTED 1054Z FOR ETD 0000Z PROGS 1800ADF STB320 KGS

ATTN CAPT.
 FLT RELEASE LFPO/LFMT ON 05/19/99

	FLT/DAY /19	ORG /DEST LFPO/LFMT	TTL NAM 0372	PRF F	ROUTE STB	AVG WIND/ M035	AVG TEMP / M48
		E.FUEL	A.FUEL	E.TME	NM	NAM	FL
DEST	LFMT	002200	... ..	00/55	0345	0372	370
RESV	0.05	000110	... ..	00/04			
ALT	LFML	002000	... ..	00/12	0055	0054	240
HOLD		000925	... ..	00/30			
ETOPS RES		000000	... ..	00/00			
ETOPS XPRT		000000	... ..	00/00			
XTR		000000	... ..	00/00	CAPT.SIGN		
TOF		005235	... ..	01/40			
TAXI		000300	CORR.	+ / -			
BLOCK		005535	... ..	01/40	BLOCK FUEL.		

FUEL BURN ADJUSTMENT FOR 4000FT DECREASE IN CRZ ALTITUDE : KGS

FUEL BURN ADJUSTMENT FOR 1000KGS INCREASE/DECREASE IN TOW : 0029 KGS

	E.WT	CORR.	OP.LIMIT	STRUC.	REASONS FOR OP.LIMIT
BASIC WT	043000	... ..			
EPLD	013000	... ..			
EZFW	056000	... ..	ZFW 061000	/.	
TOF	005235	... ..			
ETOW	061235	... ..	OTOW 073500	/.	
EB/O	002200	... ..			
ELAW	059035	... ..	LAW 064500	/.	

LFPO PTV7P PTV UM728 NEV UY27 MEN MEN2E LFMT

BLOCK IN LDG FU1 FU3

BLOCK OFF T.OFF FU2 FU4

BLOCK TIME F.TIME

(LOADA.PCX)

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NL LOFT 1 FBS - FLIGHT PLAN

WPT AWY	FLT MSA	WIND OAT	TAS GS	OTT ITT	OMT IMT	DST RDST	NAM RNAME	E.T. C.T.	E.TA A.TA	ECBO ACBO	EFOB. AFOB.	E.WT.
LFPO ELEV 00292FT												
D247G	...	.../...		237	240	020	022	0004	....	000.7	004.9	060.9
PTV7P	...	...		237	239	0325	0350	0004	....	....	....	....
BT29	...	.../...		212	214	010	011	0002	....	000.9	004.7	060.7
PTV7P	...	...		212	214	0315	0339	0006	....	....	....	....
PTV	...	.../...		163	165	025	027	0005	....	001.1	004.4	060.4
PTV7P	...	...		163	166	0290	0312	0011	....	....	....	....
TOC	370	162/028	455	156	159	061	065	0008	....	001.6	003.9	059.9
UM728	033	M49	2	427	159	0229	0247	0019	....	....	....	....
NEV	370	162/028	455	156	159	005	005	0001	....	001.7	003.9	059.9
UM728	033	M49	2	427	158	0224	0242	0020	....	....	....	....
ADEKA	370	177/033	456	172	174	073	079	0010	....	002.1	003.5	059.5
UY27	079	M48	2	423	173	0151	0163	0030	....	....	....	....
CMF	370	186/036	456	180	182	009	010	0001	....	002.1	003.4	059.4
UY27	079	M48	2	420	182	0142	0153	0031	....	....	....	....
PINEK	370	189/037	456	180	183	024	026	0004	....	002.2	003.3	059.3
UY27	079	M48	2	419	182	0118	0127	0035	....	....	....	....
TOD	370	194/039	456	181	182	022	024	0003	....	002.3	003.2	059.2
UY27	081	M48	2	418	182	0096	0103	0038	....	....	....	....
MOKDI	...	.../...		181	182	004	004	0000	....	002.4	003.2	059.2
UY27	...	...		181	182	0092	0099	0038	....	....	....	....
MEN	...	.../...		181	182	021	024	0004	....	002.4	003.1	059.1
UY27	...	...		181	183	0071	0075	0042	....	....	....	....
SIMAR	...	.../...		150	152	055	058	0010	....	002.5	003.1	059.1
MEN2E	...	...		151	152	0016	0017	0052	....	....	....	....
LFMT	...	.../...		...	...	016	017	0003	....	002.5	003.0	059.0
MEN2E	...	...		...	...	0000	0000	0055	....	....	....	....
WP	NAME	CO-ORDINATES			WP	NAME	CO-ORDINATES					
..	LFPO	N48	43.4	E002	22.8	..	D247G	N48	40.8	E002	13.8	
..	BT29	N48	33.5	E002	04.8	..	PTV	N48	09.3	E002	15.9	
..	NEV	N47	09.2	E002	55.8	..	ADEKA	N45	56.5	E003	10.8	
..	CMF	N45	47.4	E003	10.7	..	PINEK	N45	22.9	E003	10.4	
..	MOKDI	N44	57.4	E003	10.0	..	MEN	N44	36.5	E003	09.7	
..	SIMAR	N43	48.6	E003	47.7	..	LFMT	N43	35.0	E003	57.7	

(FPLNA1/A2.PCX)

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NOTE : *LOFT briefing + F/PLN decode keys : refer to FCTM Vol 1 - "Normal Operations Briefings" chapter*

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NL LOFT 1 FBS SESSION GUIDE

01 - SESSION OBJECTIVE

- Familiarization with line flying specifics and procedures as PF and PNF.

02 - TRAINING TOPICS

A. REVIEW

- Preliminary and cockpit preparation
- Use of check-lists
- Crew briefings
- Use of FMGS features during line flying

B. INTRODUCE

- Familiarization with SOPs
- ICAO rules of the air and two way communication
- Use of FMGS during flight with regard to use of enroute and approach charts
- Flight preparation with regard to :
 - Weather,
 - Notams
 - Fuel calculation requirements
 - Flight planning
 - Performance calculation and limitations
- Introduction of role assignment (CPT, F/O) and appropriate task assignment
- Flight from LFPO to FLMT with diversion to LFML
- ACRM task assignment
- Instructor is supposed to keep his role as an instructor despite of LOFT

03 - SESSION PROFICIENCY CRITERIA

- Understanding of SOPs
- Understanding of line flying specifics
- Ability to apply SOPs during the flight
- Ability to handle the aircraft in all phases of the flight

INSTRUCTOR ONLY

INSTRUCTOR ONLY

NL LOFT 1 FBS SESSION GUIDE (CONT'D)

04 - SESSION GUIDE

■ **IN THE BRIEFING ROOM**

The crew must be provided with documents required for the flight :

COMPUTERIZED FLIGHT PLAN (CFP) :

CFP should be checked by the crew before the flight. Fuel corrections may be made at Captain's discretion.

MET REPORTS :

Weather should be analysed. Wind and temp. at FL 230 to be inserted into MCDU during cockpit preparation.

NOTAMS :

Should be analysed and inoperative VOR's deselected during cockpit preparation

TAKE-OFF PERF TABLES :

Crew should define T/O configuration, T/O speed and acceleration altitude
Block fuel is increased due to weather, notams, optimistic fuel in CFP.

TOW	T/O flaps	Air cond	Anti-ice	Eng	V1	VR	V2	Flex
64 t	2	ON	OFF	IAE	149	149	149	49
				CFM	150	150	151	50

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NL LOFT 1 FBS SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ PREFLIGHT

Use freeze function to proceed step by step. Use of AP - ATHR even if knowledge of automation is not fully acquired.

TAKE-OFF DATA :

ATIS : see T/O data page, insert turbulence level 15%, top of clouds 5000 FT
Enter T/O data according to the crew preparation.

PARKING GATE POSITION :

Aircraft is parked at GATE D4 (N4843.7 E00222.1).

NOTE : - Press INIT GATE PARK

- Check that gate coordinates have been entered and X checked by the crew

INITIAL CALL :

126.5 PARIS ORLYS ATIS

As per take-off data chart

DEPARTURE CLEARANCE :

121.05 ORLY DELIVERY

"[Airline ID] XXX ATC to MONTPELLIER - LFMT via F-PLN route PTV... departure FL 370, transponder 4212.

Read back correct change Orly Ground 121.70 for push back and start".

■ PUSH BACK AND TAXI :

121.70 ORLY GROUND

"[Airline ID] XXX push and start approved RWY 25 for take-off, nose pointing to the right"

NOTE : Taxi via taxiway 2B, 2A, U9 or under ground control responsibility, to RWY 25.

"[Airline ID] XXX when approaching holding point 25, change to Orly TWR 118.70".

INSTRUCTOR ONLY

INSTRUCTOR ONLY

NL LOFT 1 FBS SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ TAKE-OFF :

118.70 ORLY TWR

"[Airline ID] XXX line up and cleared for immediate take-off surface wind..."

NOTE : Airborne time..., change over Orly departure 127.75.

■ AFTER TAKE-OFF :

127.75 ORLY DEPARTURE

"[Airline ID] XXX continue on PTV # standard departure. Speed at own discretion after passing radial 180° TSU VOR. Report crossing FL 080 climbing."

Approaching FL 080.

[Airline ID] XXX "Change PARIS CONTROL 124.00."

■ CRUISE AND DESCENT :

124.00 PARIS CTL

"[Airline ID] XXX continue climb to FL 370. What will be your expected level 20 NM outbound PTV VOR ?"

[Airline ID] XXX copied. Climb to FL 330, will be your final level due to traffic. Change BORDEAUX Control 135.90."

135.90 BORDEAUX CTL

"[Airline ID] XXX radar contact. Report reaching FL 330. Due to military activity in Clermont-Ferrant CMF VOR area on short notice affecting AWY UY27, avoid AWY centreline from 5 NM north to 5 NM south of CMF by diverting 6 NM to the east."
Crew reports out of military activity area south of CMF.

"[Airline ID] XXX resume normal navigation to MEN and change to BORDEAUX Control 133.10."

133.10 BORDEAUX CTL

"[Airline ID] XXX squawk ident. Inbound MEN report ready for descent."

When asking for descent :

"[Airline ID] XXX descent to FL 110 initially. Arrange your descent so as to be 25 NM south of MEN at FL 240 or above. Report passing MEN. Expect VOR approach RWY 31R."

Observe how the crew is managing the ALT constraint.

Crew reports passing MEN VOR.

"[Airline ID] XXX change to MONTPELLIER Approach 119.80."

NL LOFT 1 FBS SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ CRUISE AND DESCENT (END)

	ATIS	LFMT	LFML	LFMP
R	RWY	31 R / L	14 R / L	CLOSED
R	WIND	300°/25-37 kt	190°/14-20 kt	360°/15-20 kt
	VISIBILITY	>10 km	2500 m	>10 km
	CEILING	SCT 400 ft	OVC 2200 ft	OVC 1200 ft
	TEMP	14°	14°	14°
	DEW POINT	5°	5°	5°
	Alti. Setting	1013 hPa	1013 hPa	1013 hPa
	RWY COND	DRY	DRY	DRY
R	Observations	- NOSIG - Big bird concentration hazard	- NOSIG	- NOSIG - W.I.P on rwy

■ APPROACH :

119.80 MONTPELLIER APPROACH

- R "[Airline ID] XXX MEN # standard arrival. When passing 5 NM outbound MEN
 R continue descent to 2000 ft. QNH 1013 for VOR approach 31R, Nr. 1, no delay
 R expected."
 R
- R - Crew should remain on current frequency during approach.
 - R - When passing minimums crew should be advised for go around due to RWY blocked
 R by general aviation a/c with landing gear collapsed, causing an airport closure for
 R initially 1:00.
 - R - A diversion to Marseille/Provence becomes necessary.
 - R - After go around initiation and reporting decision.
 - R
 - R "[Airline ID] XXX from present position proceed to VARES, RHONE next, climb initially
 R to FL 090, report your requested level."
 R
 - R Crew may request FL 140 most probably.
 - R
 - R "[Airline ID] XXX climb to FL #, when passing VARES change to PROVENCE
 R Approach 131.22."

NL LOFT 1 FBS SESSION GUIDE (END)

04 - SESSION GUIDE (END)

R After go around : Transfert control to Trainee 2

■ DIVERSION TO LFML

131.22 PROVENCE APPR

R "[Airline ID] XXX squawk 2531 ident. VARES # standard arrival for ILS RWY 14L. You
R are Nr. 3. For delaying action expect holding at MTG VOR. Change PROVENCE
R Radar 120.20 and report ready for descent."
R

R Observe how crew is dealing with the altitude constraint (1650') on final RWY 14L and
R how the holding at MTG is inserted.

■ DESCENT AND APPROACH :

120.20 PROVENCE-R

R "[Airline ID] XXX Radar contact. Reduce speed to 200 kt IAS. No delay expected.
R Report passing MTG."
R

R When ready for descent has been reported :

R "[Airline ID] XXX descent to 3500 ft on QNH 1013."
R

R MTG overflight reported
R

R "[Airline ID] XXX reduce speed to 170 kt IAS. You are Nr. 2, Nr. 1 is 8 NM in front.
R Descent to 1650 ft, QNH 1013"
R

R Observe how the crew is operating the speed limits.
R

R "[Airline ID] XXX intercept the localizer RWY 14 L and change to PROVENCE Tower
R 119.50."
R

■ LANDING AND AFTER LANDING :

119.50 PROVENCE TWR

R "[Airline ID] XXX cleared for ILS approach RWY 14 L, you are Nr. 1. Resume normal
R speed. Cleared to land 14 L. Wind 190°/12 gusts 18 kt."
R

R Crew performs autoland and reports landing. Observe reverser, auto brake, auto pilot
R operations, after landing actions and c/l.
R

R "[Airline ID] XXX vacate RWY next to the left. Gate C1, report Marschaller contact."
R

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R

NL LOFT 2 FBS - METPLAN

WEATHER DATA

MARSEILLE (LFML)

METAR 100000Z CALM 0300 FG OVC001 05/05 Q1011 NOSIG
 TAF 100000Z 100624 VRB03 0500 FG SCT002 OVC004 BECMG 0800 0300 BKN002 OVC003 TEMP
 0700CALM 0200 OVC001

PARIS ORLY (LFPO)

METAR 100000Z CALM 0700 FG R07 1000/1000/1100 BKN002 05/05 Q1014 NOSIG
 TAF 100000Z 100624 VRB03 0500 FG BKN002 TEMP 0800 0300 OVC001 BECMG 0800 BKN005

PARIS CDG (LFPG)

METAR 100000Z CALM 0200 FG R280350/0350/0350 OVC002 05/05 Q1014 NOSIG
 TAF 100000Z 100624 VRB03 0300 FG OVC002

BORDEAUX (LFBD)

METAR 100000Z 07009KT 9999 BKN022 10/06 Q1013 NOSIG
 TAF 100000Z 100624 08010KT 9999 SCT010 BKN025 TEMP 1000 10015KT BKN030

TOULOUSE (LFBO)

METAR 100000Z 16005KT 1500 HZ BKN006 08/07 Q1011 NOSIG
 TAF 100000Z 100624 15005KT 2000 HZ BKN007 TEMP XXXX 1000 FG BKN004

NICE (LFMN)

METAR 100000Z 15005KT 900 HZ OVC003 04/03 Q1011 NOSIG
 TAF 100000Z 100624 15005KT 1000 HZ OVC003 TEMPO 1500 OVC006

MONTPELLIER (LFMT)

METAR 100000Z 18005KT 2000 HZ OVC008 06/02 Q1011 NOSIG
 TAF 100000Z 100624 15005KT 1800 HZ OVC009 TEMPO 3000 OVC015

LYON (LFLL)

METAR 100000Z 20012KT 5000 HZ BKN007 M05/M09 Q1002 NOSIG
 TAF 100000Z 100624 18015KT 9999 BKN006 OVC100 TEMPO 0812 5000

ZURICH (LSZH)

METAR 100000Z 24008KT 3000 HZ OVC008 M05/M08 Q1005 NOSIG
 TAF 100000Z 100624 19010KT 5000 BR BKN007

GENEVA (LSGG)

METAR 100000Z 18010KT 2500 HZ OVC 100 M03/M05 Q1004 NOSIG
 TAF 100000Z 100624 21010KT 9999 TEMPO 0810 5000 HZ

NOTAMS

NIL

PIREPS

NIL

(METPLN2A/B.PCX)

NL LOFT 2 FBS - LOAD SHEET

PLAN 3651 LFBO TO LSZH A320 M78/F IFR 05/18/99
 NONSTOP COMPUTED 1055Z FOR ETD 0000Z PROGS 1800ADF STB320 KGS

ATTN CAPT.
 FLT RELEASE LFBO/LSZH ON 05/19/99

	FLT/DAY /19	ORG /DEST LFBO/LSZH	TTL NAM 0378	PRF F	ROUTE STB	AVG WIND/ P041 /	AVG TEMP M49
		E.FUEL	A.FUEL	E.TME	NM	NAM	FL
DEST	LSZH	002247	... ..	00/55	0406	0378	350
RESV	0.05	000112	... ..	00/04			
ALT	LFL	002000	... ..	00/32	0177	0191	240
HOLD		000925	... ..	00/30			
ETOPS RES		000000	... ..	00/00			
ETOPS XPRT		000000	... ..	00/00			
XTR		000000	... ..	00/00	CAPT.SIGN		
TOF		005284	... ..	02/01			
TAXI		000300	CORR.	+ / -			
BLOCK		005584	... ..	02/01	BLOCK FUEL.		

FUEL BURN ADJUSTMENT FOR 4000FT DECREASE IN CRZ ALTITUDE : KGS

FUEL BURN ADJUSTMENT FOR 1000KGS INCREASE/DECREASE IN TOW : 0024 KGS

	E.WT	CORR.	OP.LIMIT	STRUC.	REASONS FOR OP.LIMIT
BASIC WT	043000	... ..			
EPLD	013000	... ..			
EZFW	056000	... ..	ZFW	061000 /.	
TOF	005284	... ..			
ETOW	061284	... ..	OTOW	073500 /.	
EB/O	002247	... ..			
ELAW	059037	... ..	LAW	064500 /.	

LFBO MEN4A MEN UN871 KORED..WIL WIL1Z LSZH

BLOCK IN LDG FU1 FU3

BLOCK OFF T.OFF FU2 FU4

BLOCK TIME F.TIME

(LOADB.PCX)

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NL LOFT 2 FBS - FLIGHT PLAN

WPT AWY	FLT MSA	WIND OAT	S GS	TAS GS	OTT ITT	OMT IMT	DST RDST	NAM RNAME	E.T. C.T.	E.TA A.TA	ECBO ACBO	EFOB. AFOB.	E.WT.
LFBO	ELEV	00499FT											
D145H	...	.../...	...	...	143	145	004	004	0001	...	000.4	005.2	061.2
MEN4A	...	...	...	...	143	145	0402	0374	0001	...	...	...	...
D067S	...	.../...	...	...	033	035	020	018	0003	...	000.7	004.9	060.9
MEN4A	...	...	...	...	033	035	0382	0356	0004	...	...	...	...
BISBI	...	.../...	...	...	065	067	036	033	0006	...	001.1	004.4	060.4
MEN4A	...	...	...	...	065	067	0346	0323	0010	...	...	...	...
MEN	...	.../...	...	...	043	044	045	041	0006	...	001.5	004.1	060.1
MEN4A	...	...	...	...	043	045	0301	0282	0016	...	...	...	...
TOC	350	196/049	457	061	063	008	007	0001	...	001.5	004.1	060.1	
UN871	082	M47	3	490	061	063	0293	0275	0017	...	...	...	...
LATAM	350	196/049	457	061	063	045	042	0005	...	001.7	003.8	059.8	
UN871	082	M47	3	490	061	063	0248	0233	0022	...	...	...	...
ETREK	350	198/052	456	061	062	019	018	0003	...	001.8	003.8	059.8	
UN871	072	M48	3	493	061	062	0229	0215	0025	...	...	...	...
TDP	350	200/055	456	062	063	038	035	0004	...	002.0	003.6	059.6	
UN871	123	M48	4	495	062	063	0191	0180	0029	...	...	...	...
GIPNO	350	201/054	455	042	043	006	005	0001	...	002.0	003.6	059.6	
UN871	123	M49	4	505	042	043	0185	0175	0030	...	...	...	...
SOPLO	350	200/053	455	042	043	014	013	0001	...	002.1	003.5	059.5	
UN871	123	M49	4	504	042	043	0171	0162	0031	...	...	...	...
MOLUS	350	200/050	455	042	043	058	053	0007	...	002.4	003.2	059.2	
UN871	183	M49	4	501	043	043	0113	0109	0038	...	...	...	...
TOD	350	200/048	454	051	052	022	020	0003	...	002.5	003.1	059.1	
UN871	173	M50	2	494	051	051	0091	0089	0041	...	...	...	...
KORED	...	.../...	...	...	051	052	017	016	0003	...	002.5	003.1	059.1
UN871	...	...	...	...	051	052	0074	0073	0044	...	...	...	...
WIL	...	.../...	...	...	046	046	028	027	0004	...	002.5	003.1	059.1
..	...	...	...	...	046	046	0046	0046	0048	...	...	...	...
ZH667	...	.../...	...	...	017	018	017	016	0003	...	002.5	003.1	059.1
WIL1Z	...	...	...	...	017	017	0029	0030	0051	...	...	...	...
EKRON	...	.../...	...	...	017	018	009	009	0001	...	002.5	003.1	059.1
WIL1Z	...	...	...	...	018	018	0020	0021	0052	...	...	...	...
LSZH	...	.../...	...	...	...	...	020	021	0003	...	002.5	003.0	059.0
WIL1Z	...	...	...	...	...	...	0000	0000	0055	...	...	...	...

WP	NAME	CO-ORDINATES				WP	NAME	CO-ORDINATES			
..	LFBO	N43	38.1	E001	22.1	..	D145H	N43	34.4	E001	25.3
..	D067S	N43	48.7	E001	41.9	..	BISBI	N44	03.9	E002	27.4
..	MEN	N44	36.5	E003	09.7	..	LATAM	N45	02.0	E004	14.4
..	ETREK	N45	11.3	E004	38.3	..	TDP	N45	29.3	E005	26.3
..	GIPNO	N45	33.6	E005	31.8	..	SOPLO	N45	43.7	E005	44.8
..	MOLUS	N46	26.6	E006	40.8	..	KORED	N46	51.0	E007	24.9
..	WIL	N47	10.7	E007	54.4	..	ZH667	N47	26.9	E008	01.8
..	EKRON	N47	35.5	E008	05.8	..	LSZH	N47	27.5	E008	32.9

(FPLNB1/B2.PCX)

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NOTE : *LOFT briefing + F/PLN decode keys : refer to FCTM Vol 1 - "Normal Operations Briefings" chapter*

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NL LOFT 2 FBS SESSION GUIDE

01 - BRIEFING TOPICS

- Familiarization with line flying specifics and procedures as PF and PNF

02 - SESSION OBJECTIVE

A. REVIEW

- Cockpit preparation
- Use of check-lists
- Crew briefings
- Use of FMGS features during line flying
- Familiarization with SOPs
- ICAO rules of the air and two way communication
- Use of FMGS during flight with regard to use of enroute and approach charts
- Flight preparation requirements
- Role assignment (CPT, F/O) and appropriate task assignment

B. INTRODUCE

- Take-off with packs off or supplied by APU
- Deselection of nav aids
- Flight from LFBO to LSZH with diversion to LFLL
- Instructor is supposed to keep his role as an instructor despite of LOFT

03 - SESSION PROFICIENCY CRITERIA

- Understanding of SOPs
- Ability to apply line flying specifics
- Ability to apply SOPs during the flight
- Ability to handle the aircraft in all phases of the flight

INSTRUCTOR ONLY

INSTRUCTOR ONLY

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NL LOFT 2 FBS SESSION GUIDE (CONT'D)

04 - SESSION GUIDE

■ IN THE BRIEFING ROOM

The crew must be provided with documents required for the flight :

COMPUTERIZED FLIGHT PLAN (CFP) :

CFP should be checked by the crew before the flight. Fuel corrections may be made at Captain's discretion.

MET REPORTS :

Weather should be analysed. Wind and temp. at FL 230 to be inserted into MCDU during cockpit preparation.

NOTAMS :

Should be analysed and inoperative VOR's deselected during cockpit preparation

TAKE-OFF PERF TABLES :

Crew should define T/O configuration, T/O speed and acceleration altitude
Block fuel is increased due to weather, notams, optimistic fuel in CFP.

TOW	T/O flaps	Air cond	Anti-ice	Eng	V1	VR	V2	Flex
64 t	2	ON	ON	IAE	139	148	149	41
				CFM	138	146	146	48

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NL LOFT 2 FBS SESSION GUIDE

04 - SESSION GUIDE (CONT'D)

■ PREFLIGHT

TAKE-OFF DATA :

ATIS : see T/O data page, insert turbulence level 15%, top of clouds 5000 FT
Enter T/O data according to the crew preparation.

PARKING GATE POSITION :

Aircraft is parked at gate parking E42 N4337.8 E00122.4

NOTE : - Press INIT GATE PARK

- Check that gate coordinates have been entered and X checked by the crew

INITIAL CALL :

118.2 BLAGNAC ATIS

As per take-off data chart.

DEPARTURE CLEARANCE :

121.70 BLAGNAC FLIGHT DATA (Cpt)

"[Airline ID] XXX from Blagnac to Zurich LSZH via flight planned route. MEN # standard instrument departure. Climb initially to FL 120, level change en route. Squawk 4231."

After read back :

"[Airline ID] XXX read back is correct, call BLAGNAC Ground 121.90 for push and start."

Start and push back request :

"[Airline ID] XXX start and push back approved, call ready for taxi"

Taxi request :

"[Airline ID] XXX taxi holding position RWY 15 R. At holding position change Blagnac TWR 118.10, report ready for departure"

■ TAKE-OFF :

Take-off PACKS OFF or with APU BLEED ON as per Company policy

118.10 BLAGNAC TWR

At holding position, take-off request :

"[Airline ID] XXX line up RWY 15 R, cleared for immediate take-off, call me passing FL 070"

Passing FL 070 :

"[Airline ID] XXX departure at..., no speed restrictions, change Bordeaux Control 124.07"

NOTE : Crew should cancel CSTR 250/1000

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NL LOFT 2 FBS SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ AFTER TAKE-OFF:

124.07 BORDEAUX CTL

"[Airline ID] XXX squawk ident. ... Radar contact, continue climb to FL 330. Will be your final level due to traffic."

NOTE : *Crew should change CRZ FL in PROG PAGE in order to obtain the cruise mode.*

"[Airline ID] XXX report your estimated FL 20 NM after passing BISBI.

[Airline ID] XXX for ground check report current bearing and distance to CMF VOR please."

NOTE : *Make the crew practising VORDME tuning using RADNAV and PROG pages and cross checking raw data versus FMGS data.*

[Airline ID] XXX "Change MARSEILLE CTL 132.25."

132.25 MARSEILLE CTL

■ CLIMB :

Climbing to cruising level determined versus TOW, distance and cruising altitude.

■ CRUISE :

"[Airline ID] XXX due to traffic join holding at TDP VOR. Expect further clearance at .. " (departure time plus 40 mn).

- After one holding has been completed.

"[Airline ID] XXX resume normal navigation to GIPNO, SOPLO next. Change to GENEVA Control 133.62."

133.62 GENEVA CONTROL

"[Airline ID] XXX Radar contact, report ready for descent."

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R
R

NL LOFT 2 FBS SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ DESCENT :

Crew reports ready for descent :

"[Airline ID] XXX proceed KORED - WIL and descent FL 080 at own discretion."

- Crew should be aware on MORA of 17300 ft between SPR + 30 NM and WIL - 18 NM.
- Descent to FL 080 may be refused or the crew may create an altitude constraint (WIL/234/20 - FL 180 or above).
- If the crew is not aware and doesn't take care, the amendment "WIL FL 110 or above" should be given.

"[Airline ID] XXXchange to ZURICH Approach 126.05."

Observe how the crew is managing the restrictions concerning the descent.

■ APPROACH :

126.05 ZURICH APPROACH

"[Airline ID] XXX WIL # standard arrival for ILS approach RWY 16. WIL - ECRON descent to 5000 ft initially on QHN 1002. No delay expected. Report KLO radial 314° for next descent. Radar is out of service."

- Standard descent profile. No traffic reported for Zurich. Approach radar is on test only.
- Crew remains responsible for the STAR (lateral and vertical limits).

INSTRUCTOR ONLY

INSTRUCTOR ONLY

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NL LOFT 2 FBS SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ APPROACH (END) :

128.52 ZURICH ATIS

(Insert weather as given in table below)

When radial (KLO 314°) passing reported :

"[Airline ID] XXX descent to 4000 ft on QNH 1002. Recleared for LOC approach RWY 16. Glide slope is out of service. Change to ZURICH TWR 118.10."

Crew may ask for latest weather. Scattered 2500 ft and visibility 4500 m or more should be given.

ATIS	LSZH	LSGA	LFLL	LFBO
RWY	14/16	CLOSED	18 R	15 R / L
WIND	180-200°/12-15 kt		200-220°/15-25 kt	190°/14 kt
VISIBILITY	5 km		2500 m	1200 m
CEILING	BKN 2000 ft		OVC 2200 ft	OVC 1200 ft
TEMP	- 4°		- 2 °	- 2°
DEW POINT	- 9°		- 8°	- 6°
Alti Setting	1002 hPa		1002 hPa	1000 hPa
RWY COND	WET		WET	3.2 mm
OBSERVATIONS	NOSIG		ILS 36 U/S	NOSIG

118.10 ZURICH TWR

[Airline ID] XXX "Cleared for LOC approach RWY 16. Cleared to land. Wind 200°/12 gusts 15 kt."

[Airline ID] XXX "In the event of go around, follow standard missed approach procedure and change to ZURICH Departure 125.95."

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NL LOFT 2 FBS SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ GO AROUND :

118.10 ZURICH TWR

During approach when passing KLO 6.0 NM, the tower will give weather decay to OVC 1000 ft and visibility 1000 m. In case a FFS is used, set weather to 0/0 or if crew doesn't care, RWY should be reported blocked on short notice to making the crew go around.

Crew has initiated the go around and is reporting on departure FRQ.

■ DIVERSION TO LFLL :

125.95 ZURICH DEPARTURE

"[Airline ID] XXX proceed ZUE - SAFFA, climb to FL130. When passing 5000 ft on QNH 1002 turn left to WIL."

- Crew should make sure to maintain initially 210 kt during go around procedure and during turn towards WIL VOR.
- Observe the crew is taking care of altitude restriction 4000 ft or above on passing KLO radial 360°.
- After go around Trainee 1 becomes PF.

"[Airline ID] XXX your ATC to Lyon - Satolas is WIL - SPR - PAS. Climb to FL 130 initially level change en route. Report passing FL 100."

Crew should pay attention to the MORA and reports passing FL 100.

"[Airline ID] XXX for further climb change to GENEVA CTL 125.55."

INSTRUCTOR ONLY

INSTRUCTOR ONLY

NL LOFT 2 FBS SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ DIVERSION TO LFLL (END) :

125.55 GENEVA CONTROL

Crew reports on FRQ and reaching FL 130.

"[Airline ID] XXX Radar contact. Climb to final level 250. Expect PAS # standard arrival for ILS approach RWY 18 R. Report ready for descent."

Crew reports ready for descent.

"[Airline ID] XXX for further clearance change to MARSEILLE CTL 133.42."

ATIS	LSZH	LSGA	LFLL	LFBO
RWY	14/16	CLOSED	18 R	15 R / L
WIND	180-200°/12-15 kt		200-220°/15-25 kt	190°/14 kt
VISIBILITY	5 km		2500 m	1200 m
CEILING	BKN 2000 ft		OVC 2200 ft	OVC 1200 ft
TEMP	- 4°		- 2 °	- 2°
DEW POINT	- 9°		- 8°	- 6°
Alti Setting	1002 hPa		1002 hPa	1000 hPa

133.42 MARSEILLE CONTROL

Crew reports on FRQ. Asking for descent.

"[Airline ID] XXX Radar contact. Descent FL 150 inbound PAS, PODIN next. PAS # standard arrival for ILS RWY 18 R. No delay expected. You are Nr. 1."

Observe how the crew is dealing with FMGS preparation and briefing for this approach.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

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NL LOFT 2 FBS SESSION GUIDE (END)

04 - SESSION GUIDE (END)

■ DESCENT AND APPROACH :

133.42 MARSEILLE CONTROL

When passing FL 180 :

"[Airline ID] XXX change SATOLAS Approach 125.80."

125.80 SATOLAS APPROACH

When ready for further descent has been reported.

"[Airline ID] XXX proceed PODIN, MEDEN next. Descent to 4000 ft on QNH 1002. MEDEN 7000 ft or above."

When reaching 4000 ft reported and/or after passing MEDEN, descent to final approach altitude and radar vectors should be given for ILS interception.

When about to intercept the localizer :

"[Airline ID] XXX change to SATOLAS TWR 120.45."

■ LANDING AND AFTER LANDING:

120.45 SATOLAS TOWER

"[Airline ID] XXX cleared for ILS approach RWY 18 R, cleared to land, wind 200°/15 gusts 22 kt."

Crew reports landing.

"[Airline ID] XXX vacate RWY next to the right. Change SATOLAS Ground 121.82."

121.82 SATOLAS GROUND

"[Airline ID] XXX taxi to gate C43. Report Marshaller contact."

NOTE : *Precise taxi information not applicable to FBS.*

INSTRUCTOR ONLY

INSTRUCTOR ONLY



First Type Rating on Multi-pilot Airplane course

- E F2M -

E F2M

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INTRODUCTION

01 - GENERAL

A. PHILOSOPHY OF THE COURSE

The Type Rating Course is based on the following three principles :

- Systematic approach to instruction
- Learning by doing
- Training to proficiency

a. Systematic approach to instruction :

The task of training must be considered as a whole and an instruction system must be defined to achieve the training objectives. These objectives are determined by a task analysis. Methods and means necessary to implement the instruction system are chosen for their qualities and adaptability to the objectives.

Each phase in the training system is intended to fulfil part of the objectives.

b. Learning by doing :

It is very important that practical exercises are included in each training phase. Practical system training is provided as soon as possible to :

- ensure that the theoretical knowledge is retained
- train the crew members in their respective tasks in the cockpit environment.

c. Training to proficiency :

At the end of the training program, each crew must be capable of carrying out his tasks safely and efficiently, in accordance with the training objectives. Therefore, it is not possible to permit a trainee to move up from one phase to the next until he has acquired the skills necessary to complete the objectives.

d. Crew training - Crew Resource Management (CRM)

The ACRM (Airbus Crew Resource Management) is integrated into the technical training through 7 CRM topics studied during the ACRM workshop. Each topic could be part of the briefing or debriefing of a session depending on crew's performance and various opportunities.

- The debriefing of a topic can be done every time it could enhance the trainee's performance
- The briefing of a topic (if not already debriefed) is scheduled in accordance with the table provided in the Trainee's file

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INTRODUCTION (CONT'D)

01 - GENERAL (END)

B. PREREQUISITES

- Commercial Pilot License (CPL)
- Instrument Rating Multi engine aircraft (IR)
- ATPL written
- Flight experience : 220 hours as pilot
 - 100 hours as Pilot in Command (PIC)
 - 25 hours multi engine
- English

02 - FIRST TYPE RATING COURSE DESCRIPTION

This course is divided into 3 parts :

Multi-Crew Cooperation (MCC) course + Jet familiarization

Adapted Line Familiarization type rating course

Specific skill test on simulator and aircraft

NOTE : As the MCC course can be subcontracted to outside locations (Airbus training network), the following computerised codes are used to identify whether the Trainee is performing the First Type Rating course, the MCC course or the Adapted Line course :

Multi-Crew Cooperation course (MCC)	<i>E F2MA2</i>
+ Adapted Line Familiarization course	<i>E F2LA8</i>
= First Type Rating on Multi-pilot Airplane course	<i>E F2MA1</i>

A. MULTI- CREW COOPERATION (MCC) COURSE

This course is part of the first type rating course on multi-pilot aircraft.

The objective of the MCC + Jet familiarization course is not to become proficient in operating an A320 aircraft : **it is not a type rating course.**

The aim of the course is to become proficient in multi crew cooperation (MCC) in order to operate safely a multi-pilot multi-engine aircraft under IFR.

In addition, this course is designed to adapt the trainees' flying skills to Jet aircraft handling.

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INTRODUCTION (CONT'D)

02 - FIRST TYPE RATING COURSE DESCRIPTION (CONT'D)

A. MULTI- CREW COOPERATION (MCC) COURSE (CONT'D)

a. General

The FMGS will not be used to managed the lateral/vertical profiles and all the navigation will be conducted using Raw data information.

The following parameters will be inserted to avoid any spurious warnings during the session :

- INIT page A : City pair only
- INIT page B : CG/ZFW/Block Fuel
- FPLN : only runway in use, no SID
- PERF page : take off data

The trainee will be taught how to use the RAD NAV page and to insert the required Nav Aids.

The use of autothrust (in selected speed) and the use of AP / FD will be progressively introduced throughout the course in order to reinforce the task sharing concept when utilizing automation.

The preliminary and cockpit preparations are not studied during this course but will be introduced later in the type rating course.

b. Documentation

1. Trainee :

Before each first type rating course, the trainee will receive the standard Airbus documentation.

The only documentation used for this course includes :

- FCTM : session syllabi
- FCOM Vol 3 for SOP
- QRH
- Extracts from the ground school presentation

2. Instructor :

Before starting the course the instructor must check that all the necessary documentation and training media are available.

3. Ground school :

Portable computer with projector to present the Power Point presentations all included in a single CD ROM

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INTRODUCTION (CONT'D)

02 - FIRST TYPE RATING COURSE DESCRIPTION (CONT'D)

A. MULTI- CREW COOPERATION (MCC) COURSE (END)

4. Simulator :

Standard Airbus documentation including the FCTM

NOTE : As this course can be performed outside Airbus Training, check in advance:

- The availability of the training supports
- The procedure established to send the trainee's documentation

B. ADAPTED LINE TYPE RATING COURSE

The instruction concept utilised by Airbus Industrie uses a program divided into phases, each of which generally corresponds to part of the objectives.

In an effort to produce a single syllabus set satisfying all the regulatory authorities requirements (JAA, FAA, CAA, etc.) the sessions take place in various airports.

a. Ground course phase

- Welcome : general introduction presenting Airbus Training Centre and the course,
- cockpit familiarization session in a Full Flight Simulator.

The ground school phase consists of integrated training using :

- a Computer Based Training (CBT) workstation
- FMGS trainer (F3D)
- ECAM (FBS) trainer
- Fixed Base Simulator
- Doors and slides trainer

b. Normal operation phase

Having studied each system of the aircraft separately during the Ground course, the trainee is invited to study integration of these systems and subsequent procedures, as well as aircraft handling in Normal situations.

Normal situations here must be understood as flying the aircraft without any internal failure.

The objective is to apply normal procedures with respect of task sharing and crew coordination. The sessions are scheduled in FBS to study the procedures and in FFS to apply the procedures and practice aircraft handling in normal operations.

A progress check at the end of the Normal phase allows the instructor to evaluate if Trainee's knowledge and skills fulfil the requirements to start the Abnormal phase.

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INTRODUCTION (END)

02 - FIRST TYPE RATING COURSE DESCRIPTION (END)

B. ADAPTED LINE TYPE RATING COURSE (END)

c. Abnormal/emergency operation phase :

Knowing now how to handle the aircraft in normal situations, the trainees are invited to study the aircraft in abnormal/emergency operations, experiencing several failure cases. The objective is to apply the abnormal/emergency procedures with respect of task sharing and crew coordination.
Sessions are scheduled in FBS to study the procedures and in FFS to practice aircraft handling.

d. LOFT (Line Oriented Flight Training) phase

The aim of the LOFT sessions exercise is to give trainees experience in operating the aircraft in real time flying scenarios.
[Refer to LOFT briefing - FCTM Vol 1 "Normal Operation Briefings" chapter.]

C. SKILL TEST + BASE TRAINING / CHECKING

The skill test FFS are performed as a proficiency check in terms of satisfaction of the appropriate type certification and endorsement requirements.
It has been prepared to comply with the requirements of the Airworthiness Authorities (JAR FCL). Trainees may use their own procedures provided the training was completed with these specific Airline procedures.

INTRODUCTION (END)

03 - INSTUCTOR BRIEFING

The instructor will make a briefing whose duration is stated in the table below within a reasonable time frame before each FBS and FFS session :

	Briefing duration per session :		
	FBS	FFS	ACRM (if any)
MCC course sessions	1:30	1:30	-
Ground phase sessions	0:30 to 1:00	-	-
Normal / Abnormal phase :			
• Failure sessions	1:30	1:30	At instructor's discretion ⁽¹⁾
• Skill test session	-	0:30	-
LOFT / LOE phase sessions	-	1:00	At instructor's discretion ⁽¹⁾

Except during the Ground phase⁽²⁾, a debriefing is to be done after each FBS and FFS session. Duration of the debriefing is left at instructor's discretion according to Trainees' performance.

(1) As a part of the normal session briefing duration

(2) No debriefing required except on students and/or instructor request

The instructors are advised to use all available tools that can support the learning process significantly i. e. FMGS trainer, ACRM briefings and others. They must brief the Trainees before the first session of the Normal phase to prepare the session using the FCOM and FCTM (Take-off data and flight plan if necessary)

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TRAINING FOOTPRINT

01 - TRAINING DEVICE TIME SHARING

N.B. : Except when notified, the allocated time is mentioned per crew

MCC COURSE	14 working days
Briefings.....	25:00 / trainee
FBS : 4 sessions.....	12:00 (4 x 3:00)
FFS : 6 sessions.....	18:00 (6 x 3:00)
GROUND PHASE	12 working days
CBT : - Aircraft system study + review.....	35:45 / trainee
- Quiz (Systems + Perfo)	3:00 / trainee
- Line Familiarization briefing.....	7:00 / trainee
FMGS TRAINER : - 3 sessions	6:00 (3 x 2:00)
- 1 session	3:00
ECAM TRAINER : 3 sessions	6:00 (3 x 2:00)
FBS : 2 sessions	2:00
	3:00
FFS : 1 familiarization session (Introduction to A320).	0:45
NORMAL PHASE	7 working days
FBS : 4 sessions.....	12:00 (4 x 3:00)
(2 Regular course FBS + 2 Adapted Line FBS)	
FFS : 3 sessions.....	9:00 (3 x 3:00)
ABNORMAL - EMERGENCY PHASE	5 working days
FBS : 2 sessions.....	6:00 (2 x 3:00)
FFS : 3 sessions.....	9:00 (3 x 3:00)
LOFT PHASE	2 working days
FFS : 2 sessions.....	6:00 (2 x 3:00)
SKILL TEST + BASE TRAINING / CHECKING PHASE	5 working days
FFS :	
• Skill test : 2 sessions	6:00 (2 x 3:00)
• Base Training : 1 session	3:00
Aircraft :	
2 flights (including the skill test)	2:00 / trainee
	(2 x 1:00)
TOTAL DURATION	45 working days

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TRAINING FOOTPRINT (CONT'D)

02 - TRAINING DAILY FOOTPRINT

A. MCC COURSE

DAY 1 7:00 Welcome 1:00 Briefings : - Jet aerodynamics 1:00 - Aircraft systems 5:00	DAY 2 6:00 Briefings : - Weather 1:00 - Jet handling 2:00 - Performance 3:00	DAY 3 7:00 Briefings : - Performance 3:00 - Crew concept / Human factors 4:00
DAY 4 6:00 Briefings : - MCC 1:30 - SOP 4:30	DAY 5 FBS 1 : - Task sharing - Handling	DAY 6 FBS 2 : - Task sharing - Handling
DAY 7 FFS 3 : - Handling - Visual pattern - Landing	DAY 8 FBS 4 : - IFR - VOR - DME approach - Go around	DAY 9 FBS 5 : - IFR - NDB approach - Use of FD
DAY 10 FFS 6 : - Non precision approach - Task sharing : abnormal - Incapacitation	DAY 11 FFS 7 : - Engine failure - Single engine - Approach and landing	DAY 12 FFS 8 : - Engine failure - Single engine - Approach and landing
DAY 13 FFS 9 : - Visual pattern - Engine failure - Circling - Emergency descent	DAY 14 FFS 10 : - Final check	

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TRAINING FOOTPRINT (CONT'D)

02 - TRAINING DAILY FOOTPRINT (CONT'D)

B. GROUND PHASE

DAY 15 7:30 <i>Welcome(if applicable)</i> 2:30 CBT : - Introduction 0:20 - Aircraft general 0:15 - EIS - ECAM 1:45 - APU 0:40 - EIS - EFIS 1:15 <i>FFS 0</i> <i>0:45</i>	DAY 16 6:45 CBT : - Autoflight 3:45 - Pneumatic 1:00 <i>ECAM 1</i> <i>2:00</i>	DAY 17 7:15 CBT : - Air conditioning 1:00 - Electric 2:15 - Hydraulic 1:15 - Fire protection 0:45 <i>FMGS 1</i> <i>2:00</i>
DAY 18 6:50 CBT : - Doors 0:30 - Navigation 1:50 - Press / Vent 1:00 - Power plant 1:300 <i>ECAM 2</i> <i>2:00</i>	DAY 19 6:30 CBT : - Fuel 1:00 - Landing gear 1:00 - Flight controls 2:30 <i>FMGS 2</i> <i>2:00</i>	DAY 20 7:10 CBT : - Communication 0:40 - Oxygen 0:30 - Safety and cabin trainer 2:00 <i>ECAM 3</i> <i>2:00</i> <i>FMGS 3</i> <i>2:00</i>
DAY 21 6:30 CBT : - Lights 0:30 - Ice & rain protection 0:30 <i>FMGS 4</i> <i>3:00</i> <i>V PREP FBS briefing</i> <i>0:30</i> <i>V PREP FBS</i> <i>2:00</i>	DAY 22 7:00 CBT : - Performance	DAY 23 5:30 CBT : - TCAS 1:30 <i>V0 FBS briefing</i> <i>1:00</i> <i>V0 FBS</i> <i>3:00</i>
DAY 24 6:00 CBT : - Review 1:30 - System test 2:00 - Performance test 1:00 <i>Aircraft visit</i> <i>1:30</i>	DAY 25 7:00 Airbus Crew Resource Management (ACRM)	DAY 26 7:00 Line Familiarization briefing

NOTE : *System study timing to be considered as an average*



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TRAINING FOOTPRINT (END)

02 - TRAINING DAILY FOOTPRINT (END)

C. NORMAL, ABNORMAL, LOFT, PHASES (INCLUDING SKILL TEST)

DAY 27 <i>N1 FBS</i>	DAY 28 <i>N2 FBS</i>	DAY 29 <i>NL FBS 1</i> (Adapted Line Familiarization)
DAY 30 <i>NL FBS 2</i> (Adapted Line Familiarization)	DAY 31 <i>N3 FFS</i>	DAY 32 <i>N4 FFS</i>
DAY 33 <i>N5 FFS</i> (Progress check)	DAY 34 <i>F1 FBS</i>	DAY 35 <i>F2 FBS</i>
DAY 36 <i>F3 FFS</i>	DAY 37 <i>F4 FFS</i>	DAY 38 <i>F5 FFS</i>
DAY 39 <i>LOFT 1 FFS</i> (might be performed in a FBS if FFS not available)	DAY 40 <i>LOFT 2 FFS</i>	DAY 41 <i>Skill test FFS 1</i>
DAY 42 <i>Skill test FFS 2</i>	DAY 43 <i>Base Training FFS</i>	DAY 44 <i>Base Training Flight 1</i>
DAY 45 <i>Base Training Flight 2</i> (Skill test)		

 = Abnormal / Emergency sessions

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FFS 10 - Final check syllabus Page 21

NOTE : *Instructors' FCTM includes the "Session Guides"*

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FBS 1 TAKE-OFF DATA				
INIT PAGE CO RTE ALTN/CO RTE FLT NBR [Airline ID] 001 LAT 4338.1N COST INDEX 30 CRZ FL/TEMP FL 150 / -15°C FROM/TO LFBO/LFBO LONG 00122.1E TROPO 36 090		TRIP DIST CRZ WIND ALTN ALTN DIST FL to ALTN ATIS RWY 33 L WIND CALM VISI CAVOK CEILING TEMP 15°C DEW POINT ... 10°C QNH 1020 hPa QFE 1002 hPa RWY COND ... DRY Observations : _____ _____ _____ _____		
INIT NEXT PAGE ZFCG/ZFW 28.4% - 48 t 28.4% - 105 800 lb BLOCK 10 t 22 000 lb	PERF PAGE V1 122118 VR 131126 V2 132127 FLEX 5653 DRT IAE CFM 122118 131126 132127 5653 		T/O FLAPS 2 T/O C.G. 26.6% —TOGA— FLEX —DRT—	NOTE : - No F/PLN

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FBS 1 SESSION GUIDE

01- SESSION OBJECTIVE

- To familiarize the trainee with modern aircraft cockpit including flight instruments
- To introduce and practice the task sharing and the use of check lists
- To present the Jet aircraft particularities in terms of:
 - Flight characteristics
 - Thrust / speed management

02 - BRIEFING TOPICS

- Cockpit preparation: radio navigation, RMP use, engine start
- Communication: ground crew, cabin, ATC
- Take off briefing
- Take off: procedures and task sharing
- Flying techniques: fly by wire, use of FPV and speed trend
- ILS approach: raw data

03- SESSION PROFICIENCY CRITERIA

- Understanding of task sharing and check lists
- Handling criteria :
 - Altitude : +/- 200 feet
 - Speed : -5 / +15 kt
 - Heading : +/- 5°

04 - SESSION GUIDE

The instructor assists the trainees during the entire session particularly for :

- Flight instruments location
- Power setting / pitch attitude

- 2 : The instructor prepares the cockpit
 The instructor demonstrates the following :
 - Seat adjustment
 - Internal and external lights
 - PFD information and ND presentation with different modes
 - Controls location: landing gear, flaps handle, ground spoilers, parking brake
 - Use of RMP and ACP
 - FMGS : Init A and B, PERF page, FPLN page (RWY insertion only)
 Use of RAD NAV page

The instructor demonstrates the engine start sequence and the after start scan flow

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FBS 1 SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- 7 : Take off : task sharing and call outs : do not insist on technique
 - 1st take off : sequential study using the simulator "freeze" function
 - 2nd take off : normal take off including the noise abatement procedure

Climb at 250 kt : accelerate to 300 kt passing 10 000 feet
- 10 : Level off FL 150 at 300 kt

Demonstrate the relation between pitch attitude and flight path angle

Auto trim and stability demonstration :

 - From 300 kt in level flight decrease the speed to 250 kt
Observe short term stability with auto trim (hands off)
 - From 250 kt accelerate to 300 kt by setting the pitch attitude at 5° down
Observe short term stability
 - Demonstrate stability in roll : turn with 25° of bank angle: release the stick
- 13 : Descent to FL 80 at 300 kt : decelerate to 250 kt passing 10 000 feet

Demonstrate effect of speed brakes
- 20 : Conduct all the evolutions to end up the exercises at around 30 NM from the airport

Freeze the simulator for approach preparation, briefing and check list

Preparation : FPLN (RWY only), PERF (Vapp, MDH only), RAD NAV
- 21 : Provide radar vectors to intercept the LOC at 20 NM

Freeze the simulator and explain the LOC display on PFD and on ND

Explain relation between track, heading, LOC (change the wind for better explanation)

Release the simulator only when the trainee is familiar with the new display

Stabilized approach (in landing configuration at Vapp before descent point)

Check respect of call outs and task sharing

Freeze the simulator as required for additional information
- 22 : Even if no visual continue the final approach to the landing

When on ground demonstrate the use of reversers and call outs

FBS 2 TAKE-OFF DATA				
INIT PAGE CO RTE ALTN/CO RTE FLT NBR [Airline ID] 002 LAT 4338.1N COST INDEX 30 CRZ FL/TEMP FL 150 / -15°C FROM/TO LFBO/LFBO LONG 00122.1E TROPO 36 090		TRIP DIST CRZ WIND ALTN ALTN DIST FL to ALTN		ATIS RWY 33 L WIND CALM VISI CAVOK CEILING TEMP 20°C DEW POINT ... 12°C QNH 1003 hPa QFE 985 hPa RWY COND ... DRY Observations : _____ _____ _____ _____
INIT NEXT PAGE ZFCG/ZFW 34.2% - 50 t 34.2% - 110 200 lb BLOCK 14 t 30 900 lb	PERF PAGE IAE CFM V1 146 145 VR 146 145 V2 147 145 FLEX 49 48 DRT	T/O FLAPS 2 T/O C.G. 31% —TOGA— FLEX —DRT—	NOTE : - No F/PLN	

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FBS 2 SESSION GUIDE

01- SESSION OBJECTIVE

- To practice the normal procedures in a crew environment including :
 - Task sharing and cross checks
 - Use of check lists
 - Briefings
- To practice Jet aircraft handling

02 - BRIEFING TOPICS

- Review of take off : noise abatement procedures
- Use of TRACK / FPA
- Approach procedures: anticipation for speed reduction
- Go around procedures: with and without FD
- Review of ILS approach in raw data

03 - SESSION PROFICIENCY CRITERIA

- Ability to perform take off procedures applying standard call outs and task sharing
- Understand and apply ILS approach procedures
- Handling accuracy within criteria listed below:
 - Altitude : +/- 200 feet
 - Speed : -5 / +15 kt
 - Heading : +/- 5°

04 - SESSION GUIDE

- 1 : The instructor completes the transit cockpit preparation
 The instructor inserts the following in the FMGS :
 - Init A and B
 - FPLN: RWY insertion only
 - PERF page
 The trainee inserts the required Radio Navigation Aids in the page

 The trainee starts the engines and completes the after start items, the FCTL checks and confirms the take off briefing
 After Take off check list completion initialize the simulator on take off
- 9 : Climb to FL 150
- 13 : Descent to FL 100 without speed brakes
 While in descent intercept a VOR-DME inbound radial

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FBS 2 SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- 14 : Reduce speed from 250 kt to Vapp
Check time and distance required to decelerate the aircraft: emphasize anticipation required when flying a stabilized approach: 7/8 NM according to the weight
Start descent on 3° FPA
- 17 : At FL 80 initiate a go around : instructor removes the FD's if automatically switched on
Ask the trainee to maintain the last memorized Vapp until reaching acceleration altitude
Speed target at 250 kt : accelerate and clean up the aircraft
- 21 : Intercept a VOR –DME radial
In descent reduce speed from 250 kt to Vapp
Check time and distance to decelerate the aircraft: emphasize anticipation required when flying a decelerated approach established on the G/S
- 25 : Start the G/S interception from 3 000 feet with no wind
 - At 2 000 feet freeze position and altitude
 - Observe FPV : -3° and centered in the middle of the PFD
 - Change the wind : cross wind 15 kt (right)
Point out new heading to maintain the LOC, track and observe FPV is offset
 - Change the wind : crosswind 15 kt (left)
Same demonstration
 - Review technique for corrections and release the simulator to continue the approach

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FFS 3 TAKE-OFF DATA				
INIT PAGE CO RTE ALTN/CO RTE FLT NBR [Airline ID] 003 LAT 4338.1N COST INDEX 30 CRZ FL/TEMP FL 150 / -15°C FROM/TO LFBO/LFBO LONG 00122.1E TROPO 36 090		TRIP DIST CRZ WIND ALTN ALTN DIST FL to ALTN ATIS RWY 33 L WIND 310/10 kt VISI CAVOK CEILING TEMP 20°C DEW POINT ... 12°C QNH 1030 hPa QFE 1012 hPa RWY COND ... DRY Observations : Turbulence 10% 		
INIT NEXT PAGE ZFCG/ZFW 28.4% - 48 t 28.4% - 105 800 lb BLOCK 10 t 22 000 lb	PERF PAGE V1 121118 VR 131126 V2 132127 FLEX 5625 DRT IAE CFM 121118 131126 132127 5625 		T/O FLAPS 2 T/O C.G. 26.6% —TOGA— FLEX —DRT—	NOTE : - No F/PLN <i>1st part : 33 L</i> SID MEN <i>2nd part : 15 R</i> SID FISTO

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FFS 3 SESSION GUIDE

01 - SESSION OBJECTIVE

- Introduction to aircraft handling characteristics
- Review of IFR

02 - BRIEFING TOPICS

- Taxi techniques and task sharing
- Radial interception and tracking
- Traffic pattern
- Take off and landing techniques

03 - SESSION PROFICIENCY CRITERIA

- Ability to apply standard SOP with respect of task sharing and crosschecks
- Ability to apply correct landing techniques: 3° slope; on RWY axis, on speed
- Handling criteria:
 - Altitude : +/- 150 feet
 - Speed : -5 / +10 kt
 - Heading : +/- 5°

04 - SESSION GUIDE

- 1 : The instructor prepares the cockpit, starts the engines, completes the after start items and gives the aircraft to the trainee ready for taxi
- 5 : During taxi emphasize: task sharing, taxi speed, use of nose wheel steering
- 8 : Climb to FL 150
Respect of SID : radio navigation aids, radial tracking, anticipation for interception, altitude constraints if any
Respect of SOP : check list, 10 000 feet actions
- 11 : From present position ask the trainee to provide headings to proceed to different waypoints :
 - DME on an associated radial
 - Radial crossing
- 12 : Ask the trainee to provide headings to intercept a radial at a given distance: no need to insist if proficient
Last exercise : complete the full interception procedure including tracking

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FFS 3 SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- 17 : Take off for a visual pattern as described in the FCOM
 Ask the trainee to extend the down wind leg
 Turn to final approach leg in level flight
 When reaching the descent point demonstrate the use of PAPI or VASIS associated with the use of FPA to maintain the right slope of descent
 Emphasize stabilization at 500 feet and passing height over threshold (50 feet)
- 20 : Take off for a standard traffic pattern: repeat until proficient

FBS 4 TAKE-OFF DATA				
INIT PAGE CO RTE ALTN/CO RTE FLT NBR [Airline ID] 004 LAT 4338.1N COST INDEX 30 CRZ FL/TEMP FL 100 / -10°C FROM/TO LFBO/LFBO LONG 00122.1E TROPO 36 090		TRIP DIST CRZ WIND ALTN ALTN DIST FL to ALTN		ATIS RWY 15 R WIND 240°/8 kt VISI 6 km CEILING 1000 ft TEMP 11°C DEW POINT ... 8°C QNH 997 hPa QFE 979 hPa RWY COND ... DRY Observations : Turbulence 10% _____ _____ _____
INIT NEXT PAGE ZFCG/ZFW 36.2% - 55 t 36.2% - 121 200 lb BLOCK 9 t 19 800 lb	PERF PAGE IAE CFM V1 148 146 VR 148 146 V2 149 146 FLEX 48 47 DRT	T/O FLAPS 2 T/O C.G. 33.5% —TOGA— FLEX —DRT—	NOTE : - No F/PLN <i>1st part : SID FISTO</i> <i>2nd part : SID AFRIC</i>	

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FBS 4 SESSION GUIDE

01 - SESSION OBJECTIVE

- To review IFR procedures
- To introduce the non precision approach procedures (VOR)

02 - BRIEFING TOPICS

- Use of auto thrust
- VOR-DME approach procedures
- Holding pattern
- Review go around procedures and standard missed approach

03 - SESSION PROFICIENCY CRITERIA

- Understand and apply VOR approach procedures including :
 - Respect of IFR
 - Task sharing, cross checks and call outs
- Proper use of auto thrust and speed selection
- Handling criteria :
 - Speed : 0 / +10 kt
 - Altitude : 150 feet
 - Radial tracking : +/- 3°

04 - SESSION GUIDE

- 1 : The instructor prepares the cockpit
 At this stage the trainee can insert the parameters in the FMGS :
 - Init : A and B
 - FPLN : departure RWY only
 - Radio Nav
 - Performance
 The trainee starts the engines and completes the after start items and checklist

- 8 : Climb and maintain FL 100 with 250 kt
 Demonstrate the use of auto thrust
 - Auto thrust disconnection and engagement logic
 - Use of selected speed

- 12 : VOR – DME approach 15R
 Ask the trainee to prepare the approach: use the FMGS (insertion for minimum parameters)
 - FPLN : insert the RWY
 - Radio Nav : insert VOR and Radial
 - Perf: insert QNH, temperature, wind, MDA / MDH
 Ask for briefing and approach checklist

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FBS 4 SESSION GUIDE (END)**04 - SESSION GUIDE (END)**

- 13 : VOR – DME approach 15R
Initiate a go around at minimum and provide the trainee with radar vector
- 16 : Allow enough time for approach preparation and briefing
- 17 : VOR – DME approach 33L
- 21 : ILS approach 33L

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FBS 5 TAKE-OFF DATA			
INIT PAGE CO RTE ALTN/CO RTE FLT NBR [Airline ID] 005 LAT 4337.1N COST INDEX 30 CRZ FL/TEMP FL 180 / -25°C FROM/TO LFBO/LFBO LONG 00122.1E TROPO 36 090		TRIP DIST CRZ WIND ALTN ALTN DIST FL to ALTN ATIS RWY 33 L WIND 020/12 kt VISI 8 km CEILING 1200 ft TEMP 2°C DEW POINT ... 0°C QNH 997 hPa QFE 979 hPa RWY COND ... DRY Observations : ENG ANTI ICE ON 	
INIT NEXT PAGE ZFCG/ZFW 30.2% - 48 t 30.2% - 105 800 lb BLOCK 16 t 35 300 lb	PERF PAGE V1 146145 VR 146145 V2 147145 FLEX 4846 DRT IAE CFM 146145 146145 147145 4846 		T/O FLAPS 2 T/O C.G. 26.6% —TOGA— FLEX —DRT— NOTE : - No F/PLN <i>1st part : SID MEN</i> <i>2nd part : SID HUPAR</i>

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FBS 5 SESSION GUIDE

01 - SESSION OBJECTIVE

- To introduce the use of AP and FD / FPD
- To introduce the non precision approach procedures (NDB)

02 - BRIEFING TOPICS

- Use of AP: task sharing and cross checks
- Use of FD and FPD
- NDB approach procedures

03 - SESSION PROFICIENCY CRITERIA

- Understand and apply NDB approach procedures including :
 - Respect of IFR procedures
 - Task sharing, cross checks and call outs
- Proper use of FD or FPD
- Handling criteria :
 - Speed : 0 / +10 kt
 - Altitude : +/- 150 feet
 - Radial tracking: +/- 3°

04 - SESSION GUIDE

- 1 : The instructor prepares the cockpit
 At this stage the trainee can insert the parameters in the FMGS :
 - Init : A and B
 - FPLN : departure RWY only
 - Radio Nav
 - Performance
 The trainee starts the engines and completes the after start items and checklist
- 8 : Using FD in HDG / V/S mode
 During these evolutions explain the task sharing when using the FCU
 Who ask for setting, who set the FCU, how the crosschecks are completed ?
 Turn using more than 45° of bank angle : FD is removed
- 9 : Using FPD in TRK / FPA mode
 Repeat as above
- 13 : Emphasize : Time check and wind corrections

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FBS 5 SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- 15 : NDB approach 33L
 Ask the trainee to prepare the approach. Use the FMGS (insertion for minimum parameters) :
 - FPLN : insert the RWY
 - Radio Nav : insert VOR and Radial
 - Perf : insert QNH, temperature, wind, MDA / MDH
 Ask for briefing and approach checklist
- 19 : NDB approach 33L
 Initiate a go around at minimum and provide the trainee with radar vector
- 23 : ILS approach 33L using decelerated approach procedures
 Emphasize that approach must be stabilized at 1 000 feet AGL

FFS 6 TAKE-OFF DATA				
INIT PAGE CO RTE ALTN/CO RTE FLT NBR [Airline ID] 006 LAT 4338.1N COST INDEX 30 CRZ FL/TEMP FL 180 / -25°C FROM/TO LFBO/LFBO LONG 00122.1E TROPO 36 090		TRIP DIST CRZ WIND ALTN ALTN DIST FL to ALTN		ATIS RWY 15 R WIND 240°/12 kt VISI 8 km CEILING 1200 ft TEMP 4°C DEW POINT ... 2°C QNH 1005 hPa QFE 987 hPa RWY COND ... DRY Observations : Turbulence 15% ENG ANTI ICE ON _____ _____
INIT NEXT PAGE ZFCG/ZFW 28.4% - 48 t 28.4% - 105 800 lb BLOCK 10 t 22 000 lb	PERF PAGE IAE CFM V1 124 124 VR 134 134 V2 134 134 FLEX 55 51 DRT		T/O FLAPS 1 + F T/O C.G. 26.6% —TOGA— FLEX —DRT—	NOTE : <i>1st part : 15 R - SID FISTO</i> <i>2nd part : 33 L - SID MEN</i>

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FFS 6 SESSION GUIDE

01 - SESSION OBJECTIVE

- To practice non precision approaches
- To study the task sharing in abnormal situation while using ECAM or QRH
- To introduce the rejected take off procedures in terms of crew coordination

02 - BRIEFING TOPICS

- Task sharing in abnormal situation : using ECAM and / or QRH
- Cross wind take off
- Crew incapacitation
- Task sharing in case of rejected take off

03 - SESSION PROFICIENCY CRITERIA

- Ability to perform non precision approaches
- Understand the basic ECAM and / or QRH procedures using acceptable task sharing
- Understand and apply rejected take off procedures
- Handling criteria :
 - Speed : 0 / +10 kt
 - Altitude : +/- 150 feet
 - Radial tracking : +/- 3°

04 - SESSION GUIDE

- 1 : The instructor prepares the cockpit
 At this stage the trainee can insert the parameters in the FMGS :
 - Init : A and B
 - FPLN : departure RWY only
 - Radio Nav
 - Performance
 The trainee starts the engines and completes the after start items and checklist
 The instructor will then initialize the simulator at take off position
- 3 : Repeat if necessary
- 5 : Demonstrate the task sharing in abnormal situation
 Insist on: respect of aircraft trajectory, navigation, and communication
 After ENG OIL LO PR restore the failure and apply the engine relight checklist
- 11 : Fail the G/S before take off

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FFS 6 SESSION GUIDE (END)**04 - SESSION GUIDE (END)**

- 13 : Change the wind for 180°/8 kt
Brief the pilot seated in the left seat that he must not response after the landing gear retraction during the go around
- 15 : Assist the trainee in using the incapacitation check list but let him fly the aircraft and take the proper decisions
- 18 : Insert an engine failure with damage
Insist on task sharing, call outs, actions

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FFS 7 TAKE-OFF DATA			
INIT PAGE CO RTE BLUE ALTN/CO RTE FLT NBR [Airline ID] 007 LAT 4338.1N COST INDEX 30 CRZ FL/TEMP 2 000 ft / FROM/TO LFBO/LFBO LONG 00122.1E TROPO 36 090			

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FFS 7 SESSION GUIDE

01 - SESSION OBJECTIVE

- To introduce and practice engine failure: procedures and handling skills
- To review task sharing in abnormal situations

02 - BRIEFING TOPICS

- Engine fire in flight
- Engine failure at take off : task sharing, engine failure profile
- Single engine approach and landing

03 - SESSION PROFICIENCY CRITERIA

- Understand and apply engine failure at take off procedures
- Acceptable handling skills including :
 - Speed : not below V2
 - Runway track within 10°

04 - SESSION GUIDE

- 3 : Down wind freeze the altitude and position
Ask the trainee to reduce one engine and explain the use of rudder to center the Beta target and the use of max continuous thrust
Repeat until proficient, shut down the engine and release the simulator
- 5 : Proceed for a decelerated approach
Assist the trainee for corrections required to maintain the beta target centered
- 9 : Insert an engine fire and freeze altitude and position
Assist the trainee in applying the ECAM procedures and release the simulator when the ECAM actions have been completed
- 12 : Repeat until proficient
- 16 : **1st take off :**
After take off freeze position and altitude at 500 feet
Pitch attitude set, wings level, select idle thrust on one engine
Adjust pitch attitude to maintain speed at minimum V2
Observe: hands off response, stabilized bank angle (7 to 8°)
Use the rudder to centralize the beta target and trim out foot loads
Repeat simulated engine failure requesting immediate coordinated recovery: repeat until proficient

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FFS 7 SESSION GUIDE (END)**04 - SESSION GUIDE (END)**

- 16 : **2d take off :**
 - Engine failure at 100 feet
 - Point out the crosscheck technique :
 - pitch attitude versus speed
 - runway track versus action on rudder

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FFS 8 TAKE-OFF DATA			
INIT PAGE CO RTE RED ALTN/CO RTE FLT NBR [Airline ID] 008 LAT 4338.1N COST INDEX 30 CRZ FL/TEMP 3 000 ft / FROM/TO LFBO/LFBO LONG 00122.1E TROPO 36 090			

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FFS 8 SESSION GUIDE

01 - SESSION OBJECTIVE

- To practice the engine failures at take off and during go around
- To practice the single engine approaches and landings

02 - BRIEFING TOPICS

- Review the engine out procedures
- Review the holding pattern procedures

03 - SESSION PROFICIENCY CRITERIA

- Ability to handle take off with engine failure within the following parameters:
 - Runway heading : +/- 10°
 - Bank angle : < 10°
 - FD bars accurately followed
- Ability to fly single engine approach
- Ability to land the aircraft on the center line and within flying parameters

04 - SESSION GUIDE

The instructor will set up the simulator with engine running and all after start items completed

- 4 : Fail the G/S at 500 feet to oblige the trainee to proceed for a go around
- 8 : For the following exercises change the weather to :
 - Visibility 7 km and ceiling at 800 feet
 Fail the engine during the rotation at 30 feet
- 14 : Insert the engine fire at V1+ 5 kt

INSTRUCTOR ONLY

INSTRUCTOR ONLY

FFS 9 TAKE-OFF DATA				
INIT PAGE CO RTE FROM/TO LFBO/LFBO ALTN/CO RTE FLT NBR [Airline ID] 009 LAT 4338.1N LONG 00122.1E COST INDEX 30 CRZ FL/TEMP FL 150 / -25°C		TRIP DIST CRZ WIND ALTN ALTN DIST FL to ALTN		ATIS RWY 15 R WIND 100°/10 kt VISI CAVOK CEILING TEMP 3°C DEW POINT ... 0°C QNH 1015 hPa QFE 997 hPa RWY COND ... DRY Observations : Turbulence 15% ENG ANTI ICE ON _____ _____
INIT NEXT PAGE ZFCG/ZFW 28.4% - 48 t 28.4% - 105 800 lb BLOCK 10 t 22 000 lb	PERF PAGE IAE CFM V1 123 118 VR 131 126 V2 132 127 FLEX 56 51 DRT	T/O FLAPS 2 T/O C.G. 26.6% —TOGA— FLEX —DRT—	NOTE : <i>1st part : 15 R - SID FISTO</i> <i>2nd part : 33 L - SID LACOU</i>	

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FFS 9 SESSION GUIDE

01 - SESSION OBJECTIVE

- To practice single engine handling
- To introduce the emergency descent in terms of task sharing and communication
- To practice circling approach procedures

02 - BRIEFING TOPICS

- Circling approach
- Emergency descent entry and procedures

03 - SESSION PROFICIENCY CRITERIA

- Demonstrate the ability to perform engine failure at take off
- Demonstrate ability to perform single engine approach, landing or go around
- Understand and perform circling approach
- Understand and perform emergency descent entry

04- SESSION GUIDE

The instructor will set up the simulator with engine running and all after start items completed

- 11 : Select the following weather :
Ceiling at 1000 feet and visibility 8 km
- 14 : Ask the trainee to prepare the approach including the following :
ILS approach with MDA/MDH according to the circling
Briefing on circling and missed approach procedure
- 15 : Help the trainee in positioning the aircraft for base leg according to the wind
- 17 : Init at FL 350

1st descent :

Ask the trainee to enter a high speed descent using the proper task sharing
Repeat until proficient but stop the descent at FL 300

2nd descent :

Initiate a full emergency descent including :

- Task sharing and communication
- Use of oxygen masks
- Checklist
- Recovery at FL 90

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INSTRUCTOR ONLY

INSTRUCTOR ONLY

FFS 10 TAKE-OFF DATA			
INIT PAGE CO RTE FROM/TO LFBO/LFBO ALTN/CO RTE FLT NBR [Airline ID] 010 LAT 4338.1N LONG 00122.1E COST INDEX 30 CRZ FL/TEMP FL 180 / -18°C 2 000 ft / -18°C		TRIP DIST CRZ WIND ALTN ALTN DIST FL to ALTN	
		ATIS RWY 33 L WIND 240°/12 kt VISI CAVOK CEILING TEMP 4°C DEW POINT ... -2°C QNH 1005 hPa QFE 987 hPa RWY COND ... DRY Observations : Turbulence 15% _____ _____ _____	
INIT NEXT PAGE ZFCG/ZFW 28.9% - 48 t 28.9% - 105 800 lb BLOCK 10 t 22 000 lb	PERF PAGE IAE CFM V1 122 118 VR 131 126 V2 132 127 FLEX 55 51 DRT	T/O FLAPS 2 T/O C.G. 27% —TOGA— FLEX —DRT—	NOTE : <i>1st part : 33 L</i> <i>2nd part : 15 R</i>

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FFS 10 SESSION GUIDE FINAL CHECK

01 - SESSION OBJECTIVE

- To evaluate the trainee in his ability to operate the aircraft with respect of good crew cooperation
- To evaluate the trainee in his ability to fly a Jet aircraft

02 - BRIEFING TOPICS

- Brief to overall session and what do you expect from the trainees
- Rejected take off and emergency evacuation

03 - SESSION PROFICIENCY CRITERIA

The instructor will assess the following :

- Ability to apply good crew coordination throughout the entire flight
 - Task sharing and crosschecks, checklists
 - Proper communication and briefings
 - Situational awareness and decision making
- Ability to handle the aircraft in all phases including landing
 Flight within the below listed tolerances should not be achieved at the expense of smoothness and good co-ordination :
 - Speed : 0 + 10 kt
 - Heading : +/- 5°
 - Altitude : +/- 150 feet
- IFR : good spatial orientation and strict respect of instrument flying rules

04 - SESSION GUIDE

The instructor will set up the simulator with engine running and all after start items completed

- 1 : The instructor will set up the simulator with engine running and all after start items completed
The trainee inserts the minimum parameters in the FMGS
- 6 : Weather : ceiling 500 feet, visibility 4 km
Insert an engine failure with damage at 100 feet
- 9 : Insert G/S failure before reaching 500 feet
- 15 : Weather : ceiling 1000 feet, visibility 8 km
VOR-DME or NDB approach at instructor discretion
- 17 : Repeat until proficient

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE MCC COURSE SYLLABI	2.02.02 Page 22B <i>E F2M</i>
		REV 23 JUL 99

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INSTRUCTOR ONLY

INSTRUCTOR ONLY

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE GROUND COURSE SYLLABI	2.02.03 Page 1 E F2M
		REV 23 JUL 99

FFS SYLLABUS :

Familiarization FFS (FFS 0) syllabus *Refer to Regular Course*

FBS SYLLABI :

Preparation FBS (V PREP) syllabus..... *Refer to Regular Course*

V0 FBS syllabus *Refer to Regular Course*

ECAM TRAINER SYLLABI :

ECAM 1 syllabus *Refer to Regular Course*

ECAM 2 syllabus *Refer to Regular Course*

ECAM 3 syllabus *Refer to Regular Course*

FMGS TRAINER SYLLABI :

FMGS 1 syllabus *Refer to Regular Course*

FMGS 2 syllabus *Refer to Regular Course*

FMGS 3 syllabus *Refer to Regular Course*

FMGS 4 syllabus *Refer to Regular Course*

NOTE : *Instructors' FCTM includes the "Session Guides"*

INSTRUCTOR ONLY

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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE GROUND COURSE SYLLABI	2.02.03 Page 2 <i>E F2M</i>
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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE NORMAL COURSE SYLLABI	2.02.04 Page 1 E F2M
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N1 FBS syllabus *Refer to Regular Course*

N2 FBS syllabus *Refer to Regular Course*

NL LOFT 1 FBS syllabus *Refer to Adapted Line Course*

NL LOFT 2 FBS syllabus *Refer to Adapted Line Course*

N3 FFS syllabus *Refer to Regular Course*

N4 FFS syllabus *Refer to Regular Course*

N5 FFS syllabus *Refer to Regular Course*

NOTE : *Instructors' FCTM includes the "Session Guides"*

INSTRUCTOR ONLY

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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE NORMAL COURSE SYLLABI	2.02.04 Page 2 <i>E F2M</i> REV 23 JUL 99

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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE ABNORMAL/EMER COURSE SYLLABI	2.02.05 Page 1 <i>E F2M</i>
		REV 23 JUL 99

F1 FBS syllabus.....	<i>Refer to Regular Course</i>
F2 FBS syllabus.....	<i>Refer to Regular Course</i>
F3 FFS syllabus.....	<i>Refer to Regular Course</i>
F4 FFS syllabus.....	<i>Refer to Regular Course</i>
F5 FFS syllabus.....	<i>Refer to Regular Course</i>

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE ABNORMAL/EMER COURSE SYLLABI	2.02.05 Page 2 <i>E F2M</i>
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INSTRUCTOR ONLY

INSTRUCTOR ONLY

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE LOFT SYLLABI	2.02.06 Page 1 <i>E F2M</i>
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Line Oriented Flight Training (LOFT) and Line Oriented Evaluation (LOE) are intended to provide crews with opportunities to enhance their understanding of the A320 and to apply Crew Resource Management principles to simulated regular airline flights.

Scenarios are intended to produce a busy environment, but should never overload the crew. In many cases, there is no single 'right' answer but, using their skills and knowledge, the crew should be able to reach a successful conclusion to each scenario. Alternative solutions may provide useful, constructive post-flight discussion.

Relative simple failures are introduced during the flights to enable the session objectives to be met.

To make LOFT/LOE as valuable and realistic as possible, flight documentation is provided by the instructor at briefing. The flight briefing will begin 45 minutes before the scheduled simulator start time and will take 15-20 minutes. Thereafter the crew will have some time to study the documentation and, for example, decide on the required fuel load, etc.

The take-off time for the flight is considered to be 30 minutes after the simulator session starts.

LOFT flights basic details are :

- LOFT 1 FFS :*Refer to Regular course⁽¹⁾*
 - LEG A : flight from Marseille (LFML) to Toulouse (LFBO)
 - LEG B : flight from Toulouse to Paris-Orly (LFPO)
with the other pilot as PF
- LOFT 2 FFS :*Refer to Regular course⁽¹⁾*
 - Flight from London-Heathrow (EGLL) to Frankfurt (EDDF)
in winter conditions.
 - Either pilot may act as PF, although it is expected that this
will normally be the Captain.

⁽¹⁾ *Instructors' FCTM includes the LOFT syllabi, scenarii and session guides*

INSTRUCTOR ONLY

INSTRUCTOR ONLY

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE LOFT SYLLABI	2.02.06 Page 2 <i>E F2M</i>
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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE SKILL TEST SYLLABI	2.02.07 Page 1 <i>E F2M</i>
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Skill Test FFS 1 syllabus Page 03

Skill Test FFS 2 syllabus Page 05

NOTE : *Instructors' FCTM includes the "Session Guides"*

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE SKILL TEST SYLLABI	2.02.07 Page 2 <i>E F2M</i> REV 23 JUL 99

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**FFS 1 TAKE-OFF DATA
SKILL TEST**

FFS 1 TAKE-OFF DATA SKILL TEST			
INIT PAGE			ATIS
CO RTE 	FROM/TO 	TRIP DIST 	RWY 33 L
ALTN/CO RTE 		CRZ WIND 	WIND 270°/12 kt
FLT NBR 		ALTN 	VISI 6 km
[Airline ID] 401		LFPG 	CEILING BRN 020
LAT 	LONG 	ALTN DIST 	TEMP 11°C
COST INDEX 		FL to ALTN 	DEW POINT ... 9°C
CRZ FL/TEMP 	TROPO 		QNH 1015 hPa
			QFE 997 hPa
			RWY COND ... WET
			Observations : Turbulence 15%
INIT NEXT PAGE	PERF PAGE	T/O FLAPS	NOTE :
ZFCG/ZFW 	IAE CFM		F/PLN :
34.9%-57.5 t	V1	T/O C.G. 	LFBO 33 L
34.9%-126 500 lb	VR		FISOT SID - FISTO
BLOCK	V2		UT210 - LMG
	FLEX		UT258 - MORIK
5 t	DRT		UT158 - AMB
11 000 lb			AMB 2W
			LFPO ILS 26
			RWY 15 R for Trainee 2

SKILL TEST FFS 1 - LOAD AND TRIM SHEET

LOAD and TRIM SHEET		A320-214 Version 88/C 156/Y/C																																																																													
DRY OPERATING WEIGHT <table border="1" style="width: 100%;"> <tr> <th>W WEIGHT(kg)</th> <th>H-arm (m)</th> </tr> <tr> <td style="text-align: center;">43500</td> <td style="text-align: center;">19.01</td> </tr> <tr> <td colspan="2"> $I = \frac{(H-arm \times 18,850) \times W}{1000} + 50$ </td> </tr> <tr> <td colspan="2"> DRY OPERATING WEIGHT INDEX 56.7 </td> </tr> </table>		W WEIGHT(kg)	H-arm (m)	43500	19.01	$I = \frac{(H-arm \times 18,850) \times W}{1000} + 50$		DRY OPERATING WEIGHT INDEX 56.7		AIRCRAFT REGISTER: _____ DATE: _____ PREPARED BY: PASCAL FLT Nr: 401 FROM: LFBO TO: LFPO																																																																					
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CAUTION : WHEN THE T.O IS LOWER THAN 27% MAC THE BASIC PERFORMANCE MUST BE CORRECTED : - T.O : Use appropriate RTOLW chart, or, make CG correction on QUICK REF TABLE - LDG : Make CG correction on LDG speed and distance.																																																																															

(SHEET1.PCX)

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE SKILL TEST SYLLABI	2.02.07 Page 4B E F2M
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SKILL TEST FFS 1 - LOAD SHEET

"@\$@\$ AIRBUS TRAINING

PLAN 5715 LFBO TO LFPO A32 LRC / F DD/MM/YY
 NON STOP COMPUTED PLAN HH:MM FOR ETD PROGS DD0000Z KGS

ATTN CAPT [REDACTED]
 FLT RELEASE LFBO / LFPO ON DD/MM/YY

FLT /DAY	ORG / DEST	TTL NAM	PRF ROUTE	AVG WIND /	AVG TEMP
[REDACTED] / DD	LFBO / LFPO	352	RA	P004 /	M058

	E. FUEL	A. FUEL	E. TIME	NM	NAM	FL
DEST LFPO	002134		00 / 52	0352	0349	350
RESV 0.05	000107		00 / 03			
ALT LFPG	000650		00 / 15	086	085	90
HOLD	001200		00 / 30			
ETOPS RES	000000		00 / 00			
ETOPS XPRT	000000		00 / 00			
XTR	000000		00 / 0	CAPT. SIGN		
TOF	004091		01 / 40			
TAXI	000300	CORR.	+ / -			
BLOCK	004391		01 / 40	BLOCK FUEL		

FUEL BURN ADJUSTMENT FOR 4000FT DECREASE IN ALTITUDE : KGS

FUEL BURN ADJUSTMENT FOR 1000 KG DECREASE/INCREASE IN TOW : 14 KGS

	E. WT	CORR.	OP. LIMIT	STRUC	REASONS FOR OP. LIMIT
BASIC WT	043500				
EPLD	014000				
EZFW	057500		ZFW	. . . /	
TOF	004091				
ETOW	061591		OTOW	. . . /	
EB/O	002134				
ELAW	059457		LAW	. . . /	

LFBO	FISTO	ALIVA	FISTO	LMG	AMB	EPR	LFPO
BLOCK IN	. . .	LDG	. . .	FU1			
BLOCK OFF	. . .	T. OFF	. . .	FU2			
BLOCK TIM	. . .	F. TIM	. . .	FU3			

(LOAD1.PCX)

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE SKILL TEST SYLLABI	2.02.07 Page 4C E F2M
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SKILL TEST FFS 1 - FLIGHT PLAN

WPT AWY	FLT MSA	WIND OAT	TAS GS	OTT ITT	OMT IMT	DST RDST	NAM RNAM	E.T C.T	E. TA A. TA	ECBO ACBO	EFOB AFOB	E. WT . .
LFBO	ELEV	0490 FT										
TOU	.	/ .	.	355	357	016	016	0003	.	000.6	003,8	61,3
FIST4	.	.	.	355	357	0336	0333	0003	.	.	.	.
ALIVA	.	/ .	.	335	337	017	017	0003	.	000.9	003,5	61,0
FIST4	.	.	.	335	337	319	316	0006	.	.	.	.
FISTO	.	/ .	.	005	007	032	032	0005	.	001.3	003,1	60,6
FIST4	.	.	.	005	007	0287	0284	0011	.	.	.	.
TOC	350	241/038	441	355	357	065	064	0010	.	001.7	002,7	60,2
UT210	045	M58	448	354	357	0222	0220	0021	.	.	.	.
LMG	350	235/032	442	355	357	017	017	0002	.	001.8	002,6	60,1
UT210	045	M59	455	354	357	0205	0203	0023	.	.	.	.
MORIK	350	240/030	444	350	352	059	060	0008	.	002.1	002,3	59,8
UT258	045	M59	454	349	352	0146	0143	0031	.	.	.	.
TOD	350	240/030	444	017	020	022	021	0002	.	002.2	002,2	59,7
UT158	032	M59	452	020	020	0124	0122	0033	.	.	.	.
AMB	.	/ .	.	017	020	019	018	0003	.	002.3	002,1	59,6
UT158	.	.	.	020	020	0105	0104	0036	.	.	.	.
CDN	.	/ .	.	019	022	040	039	0006	.	002.3	002,1	59,6
AMB2W	.	.	.	019	022	0065	0065	0042	.	.	.	.
EPR	.	/ .	.	018	020	036	036	0006	.	002.4	002,0	59,5
AMB2W	.	.	.	018	020	0029	0029	0048	.	.	.	.
LFPO	.	/ .	.	.	.	029	029	0004	.	002,5	001,9	59,4
AMB2W	.	.	.	.	.	0000	0000	0052	.	.	.	.
..	.	/ .	.	.	.	.	.	.	.	.	.	.
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.	.	.	.	.	.	.	.	.	.	.	.	.
WP	NAME	CO-ORDINATES										
.	LFBO	N43 38. E001 22.1										
.	ALIVA	N43 56. E001 08.8										
.	TOC											
.	MORIK	N46 46, E000 46,2										
.	AMB	N47 25. E001 03.9										
.	EPR	N48 37. E001 39.4										
.	TOU	N43 40. E001 18.6										
.	FISTO	N44 27. E001 12.6										
.	LMG	N45 49. E001 01.5										
.	TOD											
.	CDN	N48 03, E001 23,2										
.	LFPO	N48 43. E002 22.8										
END OF DATAPLAN												
REQUEST NO 5715												

(FPLN1.PCX)

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE SKILL TEST SYLLABI	2.02.07 Page 4D <i>E F2M</i>
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SKILL TEST FFS 1 - METAR / TAF

AIRBUS TRAINING SESSION SKILL TEST 1

DD/MM/YYYY HH:MM

Plan 5715 **LFBO TO LFPO alternate (LFPG)**

SURFACE OBSERVATIONS

LFBO METAR DD1000Z 34007KT 8000 RA FEW005 SCT013 BKN026 11/09
Q1015 NOSIG
LFBO METAR DD0930Z 34008KT 230V340 8000 RA FEW006 SCT013 BKN023 11/09
Q1015 NOSIG
LFBD METAR DD1000Z 26022G34KT 9999 FEW015 BKN028 14/07 Q1013 TEMPO
27025G35KT 5000 SHRA SCT006 BKN025
LFBD METAR DD0930Z 26020G32KT 9999 FEW015 BKN028 14/08 Q1013 TEMPO
27025G35KT 5000 SHRA SCT006 BKN025
LFBT METAR DD1000Z 24016KT 4000 RA BR FEW013 BKN026 07/06 Q1017 NOSIG
LFBT METAR DD0930Z 28014G27KT 3000 RA BR BKN012TCU BKN026 09/08
Q1016 NOSIG

TERMINAL FORECASTS

LFBO TAF DD0900Z DD0918 VRB03KT 6000 RA FEW010 SCT022 BKN045
BECMG 0910 27012KT
BECMG 1012 27015KT SCT030 SCT050 TEMPO 121827018G28KT PROB40
TEMPO 1518 SHRA BKN020
LFBD TAF DD0900Z DD0918 25020G30KT 9999 FEW025 SCT030
TEMPO 0918 27025G40KT 5000 SHRA BKN008 FEW020CB OVC30 PROB40
TEMPO 0915 24030G45KT 2000 TSRA BKN005 BKN015CB
LFBT TAF DD0900Z DD0918 28015KT 3000 RA BKN012 BKN026
BECMG 1012 9999 BKN020 BKN030TCU
TEMPO 1215 28020G30KT 6000 SHRA

PIREPS

NONE AVAILABLE

(METAR1A.PCX)

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE SKILL TEST SYLLABI	2.02.07 Page 4E E F2M
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SKILL TEST FFS 1 - METAR / TAF (END)

* GREAT CIRCLE - ARRIVAL INFORMATION *

LEPO METAR DD1000Z 14008KT 9999 RA FEW010 BKN046 BKN100 10/09
 Q1009 TEMPO BKN012
 LEPO METAR DD0930Z 15007KT 9999 RA FEW010 BKN036 BKN100 10/09
 Q1009 TEMPO BKN012
 LFPG METAR DD1000Z 15009KT 9999 FEW013 BKN043 BKN100 11/07
 Q1009 NOSIG
 LFPG METAR DD0930Z 15009KT 9999 FEW013 BKN040 BKN100 11/08
 Q1009 NOSIG
 LFPB METAR DD1000Z 14008KT 090V161 9999 BKN046 BKN100 11/08
 Q1009 NOSIG
 LFPB METAR DD0930Z 15008KT 9999 RA FEW007 BKN040 BKN100 11/08
 Q1009 NOSIG
 LFQQ METAR DD1000Z 15011KT 9999 SCT015 BKN250 12/09 Q1010 NOSIG
 LFQQ METAR DD0930Z 15008KT 9999 FEW010 BKN250 11/08 Q1010 NOSIG

TERMINAL FORECASTS

LFPO TAF DD0900Z DD0918 17012KT 9999 SCT013 BKN035 OVC090
 TEMPO 0912 7000 RA SCT006 BKN010
 TEMPO 1418 15020G30KT 4000 RASH FEW013CB BKN025TCU OVC080
 LFPG TAF DD0900Z DD0918 15012KT 9999 FEW010 BKN025
 TEMPO 0912 7000 RA SCT007 BKN020
 TEMPO 1218 15020G30KT 5000 SHRA FEW004 BKN007TCU PROB30 TSRA
 LFPB TAF DD0900Z DD0918 16010KT 9999 SCT015 BKN033 BKN100
 TEMPO 0912 8000 RA SCT010 BKN025 OVC090
 BECMG 1218 SCT020TCU BKN040 BKN100
 TEMPO 1215 15015G30KT 7000 SHRA FEW008 SCT020TCU BKN030 PROB30
 TEMPO 1518 TSRA
 LFQQ TAF DD0900Z DD0918 15013KT 9999 SCT020 BKN100 BECMG 1518 10007KT

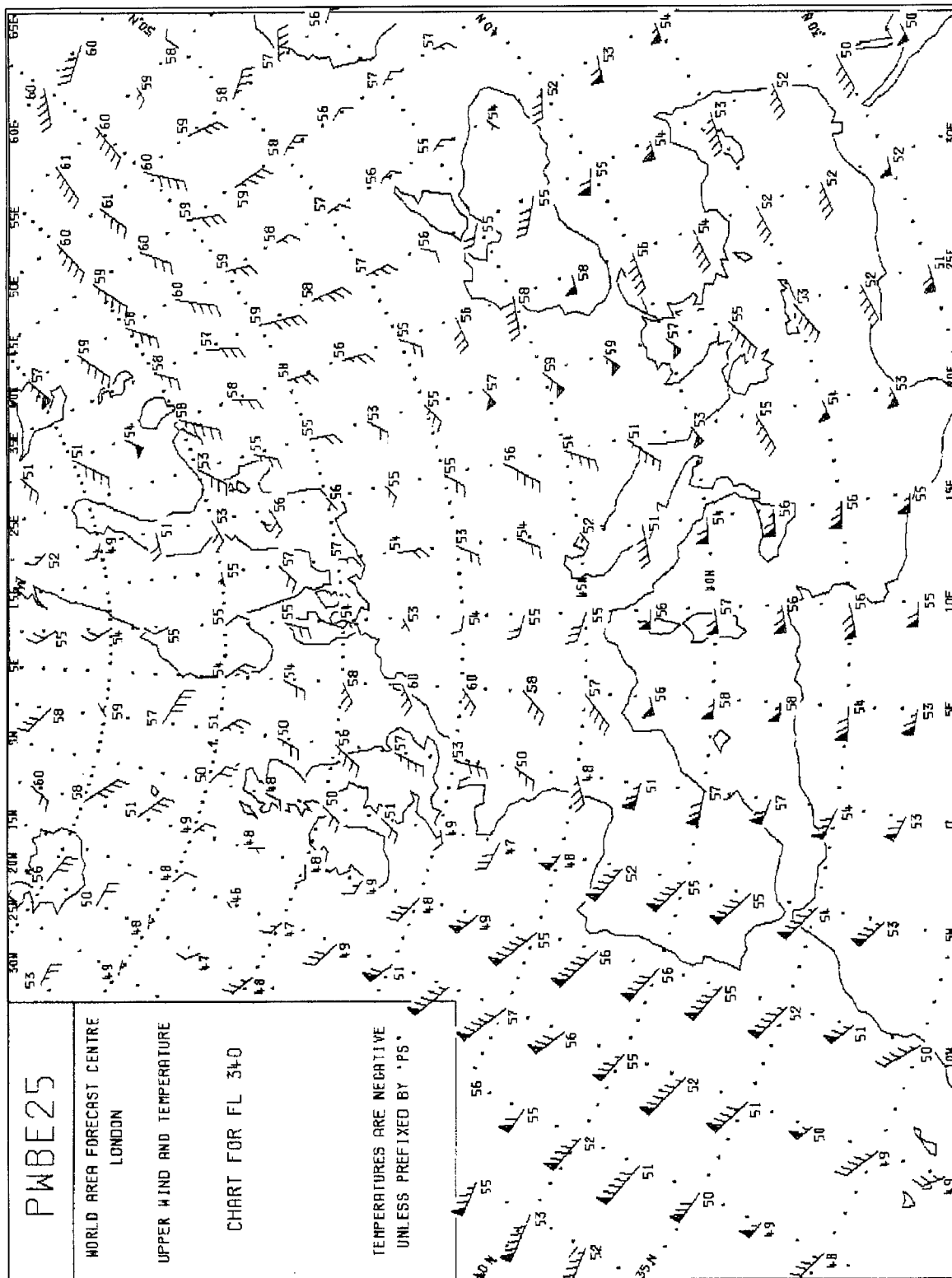
PIREPS

NONE AVAILABLE

END 0052 WEATHER/NOTAM REPORTS 000 GRAPHIC 045 NON-GRAPHIC 007 NOTAM
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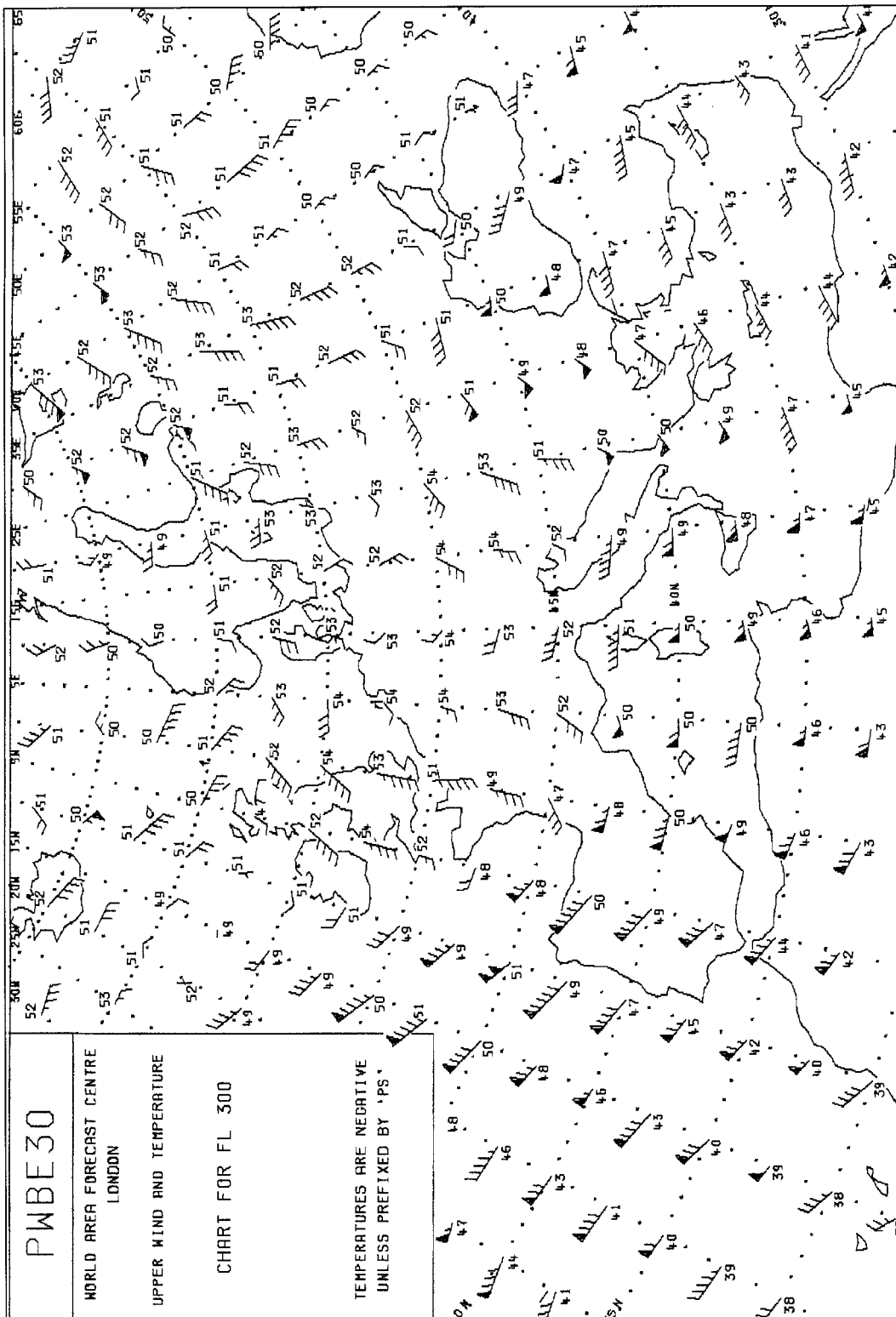
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SKILL TEST FFS 1 - METEO



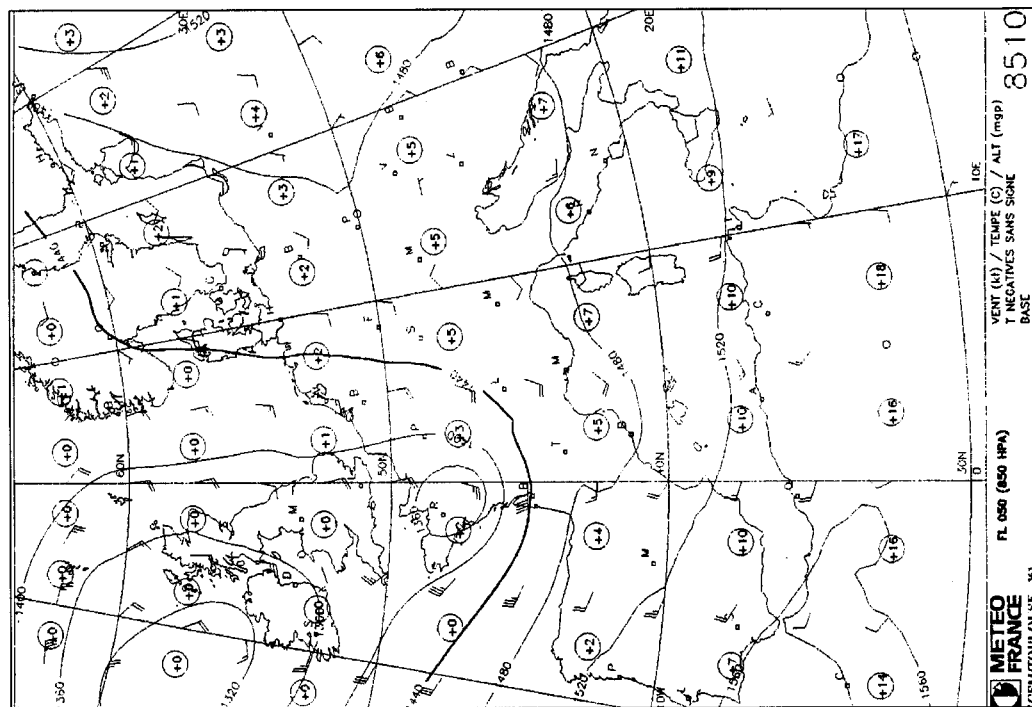
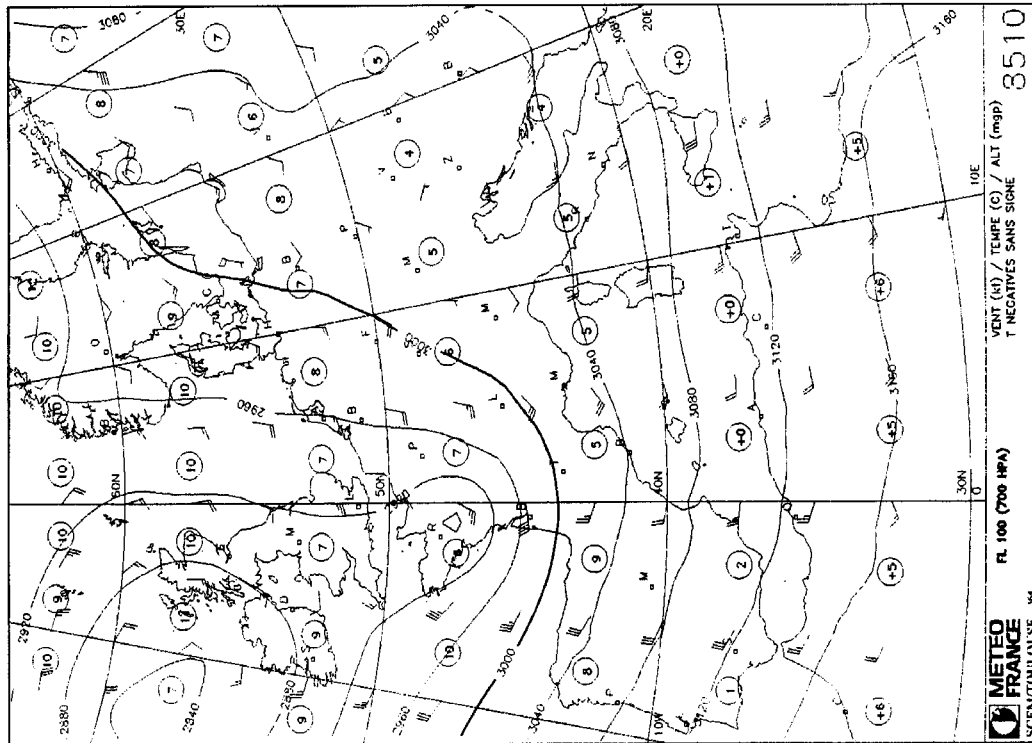
(METEO1.PCX)

SKILL TEST FFS 1 - METEO (CONT'D)



(METEO2.PCX)

SKILL TEST FFS 1 - METEO (CONT'D)



(METEO3.PCX)

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE SKILL TEST SYLLABI	2.02.07 Page 4J <i>E F2M</i> REV 23 JUL 99

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SKILL TEST FFS 1 SESSION GUIDE

01 - SESSION OBJECTIVE

- Evaluate the ability to operate the aircraft in normal and abnormal operations according to standard requirements defined for the delivery of a first type rating on a multi-pilot aircraft.
- This skill test is conducted in two sessions for a crew of two candidates : **the same TRE must conduct the two sessions.**

02 - TRAINING TOPICS

- **Suggested briefing :**
 - "The Skill Test will consist of a series of exercises. Before each take-off I will brief you on what is expected. When released, follow the departure clearance and deal with any problems or emergencies as they occur using the procedures and techniques learnt during the training course.
 - You should use Airbus standard procedures or your own company procedures, if different.
 - You will be responsible for liaison with ATC, safe operation and navigation of the aircraft. Make sure that you correctly understand ATC instructions. During the flight, it will be necessary for me to initialize the simulator in order to carry out exercises. I will keep you advised when I have control of the simulator and when I return control to you.
 - You may communicate to each other in your mother language to facilitate procedures, but keep me informed about what you are doing and remember you must speak English to ATC.
 - Treat this session as if it was a normal commercial flight. Do not waste time but do not allow yourselves to be rushed. You must tell ATC what you require.
 - Make good use of the published documentation for enroute and terminal areas. Set and observe the appropriate minima.
 - Make full use of the aircraft equipment and all resources at your disposal including the automation. For the purpose of the skill test, it is required to demonstrate your ability to perform :
 - one ILS approach manually flown
 - one engine out approach manually flown.
 - Remember the importance of task sharing and good crew coordination. You are assessed as PF and PNF.
 - Use headsets. Consider me as ATC, ground engineer and cabin crew.
 - Engine failure Flap Retraction Altitude will be ... ft. Single engine Go around Acceleration Altitude will be ... ft.
 - The weather for each exercise will vary. I will tell you the conditions prior to each take-off. For the first take-off, the weather will be ...
 - The aircraft weight and C.G. will be ..."

INSTRUCTOR ONLY

INSTRUCTOR ONLY

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FIRST TYPE RATING ON MULTI-PILOT AIRPLANE COURSE SKILL TEST SYLLABI	2.02.07 Page 4L <i>E F2M</i>
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SKILL TEST FFS 1 SESSION GUIDE (CONT'D)

02 - TRAINING TOPICS

- Recommendations:
 - Endeavour to run exercises in a logical sequence and make sure that the trainees understand your instructions.
 - Make your own judgement during the session and revert to your instructor role again, if required. For example, an exercise is unsatisfactorily carried out.

After recommendations add a third chapter :

- Knowledge assessment :
 - The TRE will check the trainee's knowledge in the following matters :
 - Take off performance computation
 - Fuel requirements in relation with weather and regulation
 - Use of load sheet
 - Use of MMEL
 - IFR procedures associated with the use of the FMGS
 - Operational procedures

A. REVIEW

NIL

B. INTRODUCE

NIL

03 - SESSION PROFICIENCY CRITERIA

- Demonstrate ability to operate the aircraft with respect of IFR requirements.
- Demonstrate ability to perform normal and abnormal procedures according to SOP.
- Demonstrate ability to perform maneuvers required by the syllabus using the correct procedures and techniques, according to the standard of accuracy required by regulations.

04 - SESSION GUIDE

- 1 : Positioning : Gate E 40
 During preparation introduce a MMEL item according to failure selection defined in item 14 : ADR3 or RA2
ATC clearance :
 Clear to Paris Orly, flight plan route, departure 33L FISTO 4B departure, initial climb to FL 70, squawk 0424

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SKILL TEST FFS 1 SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- 3 : Introduce one of the following failures during engine start :
 - Hot start
 - Valve not opened or not closed
 - APU fault for start using external air and cross bleed start

- 5 : Clearance to taxi : taxi via 13, 11, 10B, 9

- 7 : Reaching FL 70, in ALT*, clear to climb and maintain FL 310 : observe reversion mode

- 9 : Before LMG introduce one of the following events to check the decision making
 - Paris Orly is forecasting 3 hours delay due to radar unserviceable
 - Pressurization problem due to cargo door opening: depressurization
 - Cargo smoke
 - Fuel leak

ATC Clearance : proceed direct to Brive, UG 36 to AULON, descent to FL 290, expect AULON 3T arrival

- 12 : Weather : 250 feet / 2 km
 After LOC intercept ask the trainee to disconnect the AP, to disengage the FD and to disconnect the ATHR : this approach must be flown using raw data with the FPV (JAR-FCL requirement for skill test)

- 14 : Weather : CAVOK, wind 190°/12 kt
ATC Clearance : visual pattern
 Choose among 3 different items(refer to MMEL item defined in item 1)
 - Slats or Flaps locked by wing tip brakes after take off
 - or ADR 1+3 fault: insert the second failure downwind
 - or RA 1+2 fault: insert the second failure downwind

- 17 : Change seat after aircraft stop : change for RWY 15R

- 18 : Weather : 800 feet / 4 km
ATC Clearance : local flight, Take off 15R, maintain RWY heading to 8 DME TOU VOR, turn left heading 325 to intercept TOU radial 021 outbound, proceed to TLB and hold, squawk 0420

 Check holding pattern entry and provide the trainee with information to proceed for a VOR-DME approach on RWY 15R

- 24 : Weather : 800 feet / 4 km
ATC Clearance : blue pattern
 Insert engine failure at 50 feet followed by an engine fire at 300 feet

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INSTRUCTOR ONLY

INSTRUCTOR ONLY

**FFS 2 TAKE-OFF DATA
SKILL TEST**

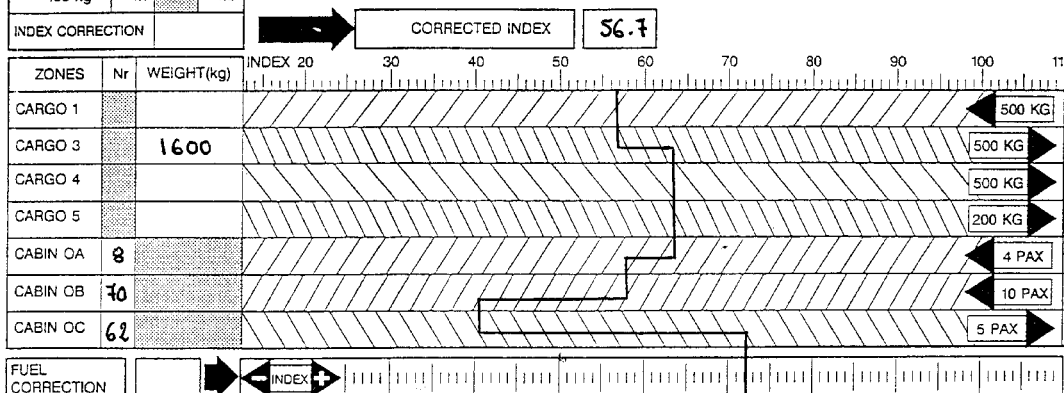
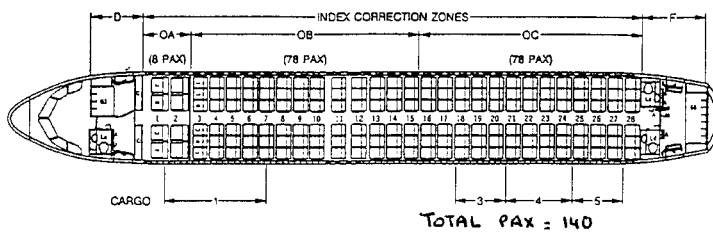
FFS 2 TAKE-OFF DATA SKILL TEST			
INIT PAGE			ATIS
CO RTE ALTN/CO RTE FLT NBR [Airline ID] 402 LAT 4449.7N COST INDEX 30 CRZ FL/TEMP FL 150 / - 6°C FROM/TO LFBD/LFBO LONG 00042.9W TROPO 36 090	TRIP DIST 120 NM CRZ WIND 260°/20 kt ALTN LFBD ALTN DIST 115 NM FL to ALTN 140	RWY 23 WIND 260°/20 kt VISI 5 km CEILING BKN 008 TEMP 14°C DEW POINT ... 7°C QNH 1012 hPa QFE 1006 hPa RWY COND ... WET Observations : Turbulence 12%	
INIT NEXT PAGE ZFCG/ZFW 35.4%-57 t 35.4%-125 400 lb BLOCK 5 t 11 000 lb	PERF PAGE IAE CFM V1 VR V2 FLEX DRT IAE CFM	T/O FLAPS T/O C.G. 34.5% —TOGA— FLEX —DRT—	NOTE : F/PLN : LFBD 23 SAU 3A - SAU A25 - AGN AGN 3T LFBO ILS 33 L

SKILL TEST FFS 2 - LOAD AND TRIM SHEET

		LOAD and TRIM SHEET		A320-214 Version 8B/C 158Y/C									
DRY OPERATING WEIGHT <table border="1"> <tr> <th>W WEIGHT(kg)</th> <th>H-arm (m)</th> </tr> <tr> <td>43500</td> <td>19.01</td> </tr> <tr> <td colspan="2"> $I = \frac{(H\text{-arm} - 18.850) \times W}{1000} + 50$ </td> </tr> <tr> <td colspan="2"> DRY OPERATING WEIGHT INDEX 56.7 </td> </tr> </table>		W WEIGHT(kg)	H-arm (m)	43500	19.01	$I = \frac{(H\text{-arm} - 18.850) \times W}{1000} + 50$		DRY OPERATING WEIGHT INDEX 56.7		AIRCRAFT REGISTER: DATE: FLT Nr: 402 FROM: LFBD TO: LFBO		PREPARED BY: PASCAL DRY OPERATING WEIGHT 43500 WEIGHT DEVIATION CORRECTED DRY OPERATING WEIGHT 43500 CARGO 1600 PASSENGERS (140) 11900 ZERO FUEL WEIGHT 57000 TOTAL FUEL TOTAL WEIGHT MAXIMUM ALLOWABLE T.O.G.W.	
W WEIGHT(kg)	H-arm (m)												
43500	19.01												
$I = \frac{(H\text{-arm} - 18.850) \times W}{1000} + 50$													
DRY OPERATING WEIGHT INDEX 56.7													

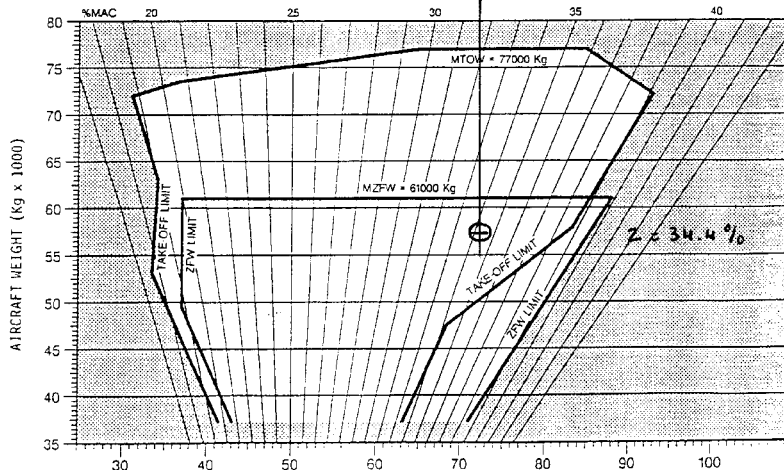
ZONES	D	F
WEIGHT DEVIATION (kg)		

BASIC INDEX CORRECTION		
DRY OPERATING WEIGHT DEVIATION	ZONES	
	D	F
+ 100 kg	-1.1	+1.3
- 100 kg	+1.1	-1.3
INDEX CORRECTION		



FUEL INDEX CORRECTION

WEIGHT (kg)	I	WEIGHT (kg)	I
3000	+2	12000	-2
3500	+1	12500	-2
4000	+1	13000	-2
4500	0	13500	-3
5000	0	14000	-4
5500	-1	14500	-5
6000	-1	15000	-5
6500	-2	15500	-6
7000	-2	16000	-7
7500	-2	16500	-8
8000	-3	17000	-8
8500	-3	17500	-9
9000	-3	18000	-10
9500	-3	18500	-11
10000	-3	18587	-11
10500	-3		
11000	-3		
11500	-2		



CAUTION : WHEN THE T.O IS LOWER THAN 27% MAC THE BASIC PERFORMANCE MUST BE CORRECTED :
 - T.O : Use appropriate RTOLW chart, or, make CG correction on QUICK REF TABLE.
 - LDG : Make CG correction on LDG speed and distance.

SKILL TEST FFS 2 - LOAD SHEET

"@\$\$ AIRBUS TRAINING
PLAN 3562 LFBF TO LFBO A32 M78 / F DD/MM/YY
NON STOP COMPUTED PLAN HH:MM FOR ETD PROGS DD0000Z KGS

ATTN CAPT
FLT RELEASE LFBF / LFBO ON DD/MM/YY

FLT /DAY	ORG / DEST	TTL NAM	PRF ROUTE	AVG WIND /	AVG TEMP
/ DD	LFBD / LFBO	120	RA	P015 /	M06

	E. FUEL	A. FUEL	E. TIME	NM	NAM	FL
DEST LFBO	001050		00 / 21	0120	0116	140
RESV 0.05	000053		00 / 01			
ALT LFBD	001015		00 / 22	0115	0111	130
HOLD	001200		00 / 30			
ETOPS RES	000000		00 / 00			
ETOPS XPRT	000000		00 / 00			
XTR	001500		00 / 44	CAPT. SIGN		
TOF	004818		01 / 58			
TAXI	000300	CORR.	+ / -			
BLOCK	005118		01 / 58	BLOCK FUEL		

FUEL BURN ADJUSTMENT FOR 4000FT DECREASE IN ALTITUDE : KGS
FUEL BURN ADJUSTMENT FOR 1000 KG DECREASE/INCREASE IN TOW : 10 KGS

	E. WT	CORR.	OP. LIMIT	STRUC	REASONS FOR OP. LIMIT
BASIC WT	043500				
EPLD	013500				
EZFW	057000		ZFW	061000	/
TOF	004818				
ETOW	061818		OTOW	073500	/
EB/O	001050				
ELAW	060768		LAW	064500	/

LFBD SAU3A SAU AGN AGN3T LFBO
BLOCK IN . . . LDG . . . FU1
BLOCK OFF . . . T. OFF . . . FU2
BLOCK TIM . . . F. TIM . . . FU3

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SKILL TEST FFS 2 - METAR / TAF

* GREAT CIRCLE - ARRIVAL INFORMATION *

LFBD SPECI DD1111Z 26025G37KT 3000 -SHRA FEW007 BKN020CB 10/08 Q1024
 RMK M4
 LFBO METAR DD1200Z 34007KT 8000 RA FEW005 SCT013 BKN026 11/09
 Q1015 NOSIG
 LFBO METAR DD1130Z 34008KT 230V340 8000 RA FEW006 SCT013 BKN023 11/09
 Q1015 NOSIG
 LFBD METAR DD1200Z 26022G34KT 9999 FEW015 BKN028 14/07 Q1013 TEMPO
 27025G35KT 5000 SHRA SCT006 BKN025
 LFBD METAR DD1130Z 26020G32KT 9999 FEW015 BKN028 14/08 Q1013 TEMPO
 27025G35KT 5000 SHRA SCT006 BKN025
 LFBT METAR DD1200Z 24016KT 4000 RA BR FEW013 BKN026 07/06 Q1017 NOSIG
 LFBT METAR DD1130Z NIL
 LFBZ METAR DD1200Z 27013G23KT 9999 SCT008 FEW021CB BKN033 13/09
 Q1017 NOSIG
 LFBZ METAR DD1130Z 26012KT 8000 BKN018 BKN033 12/10 Q1016 NOSIG

TERMINAL FORECASTS

LFBO TAF DD1100Z DD0918 VRB03KT 6000 RA FEW010 SCT022 BKN045
 BECMG 0910 27012KT
 BECMG 1012 27015KT SCT030 SCT050 TEMPO 121827018G28KT PROB40
 TEMPO 1518 SHRA BKN020

 LFBD TAF DD1100Z DD0918 25020G30KT 9999 FEW025 SCT030
 TEMPO 0918 27025G40KT 5000 SHRA BKN008 FEW020CB OVC30 PROB40
 TEMPO 0915 24030G45KT 2000 TSRA BKN005 BKN015CB

 LFBT TAF DD1100Z DD0918 28015KT 3000 RA BKN012 BKN026
 BECMG 1012 9999 BKN020 BKN030TCU
 TEMPO 1215 28020G30KT 6000 SHRA
 LFBZ TAF DD1100Z DD0918 27015G25KT 9999 SCT020 BKN040
 TEMPO 0915 26025G40KT
 TEMPO 1218 4000 SHRA SCT015 SCT025CB BKN030 PROB30
 TEMPO 1215 TSRA

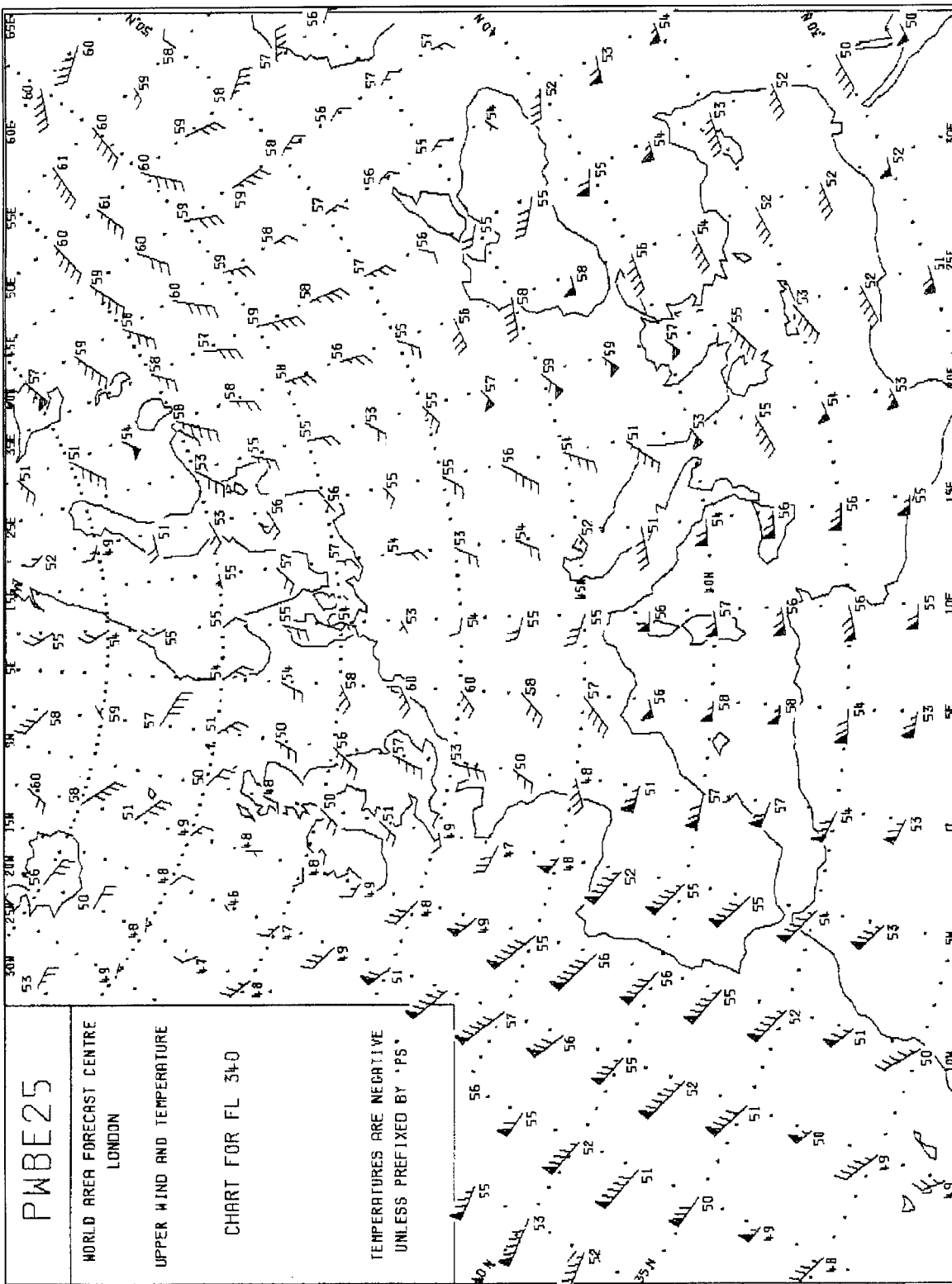
PIREPS

NONE AVAILABLE

END 0052 WEATHER/NOTAM REPORTS 000 GRAPHIC 045 NON-GRAPHIC 007 NOTAM
END OF JEPPESEN DATAPLAN REQUEST NO. 05714

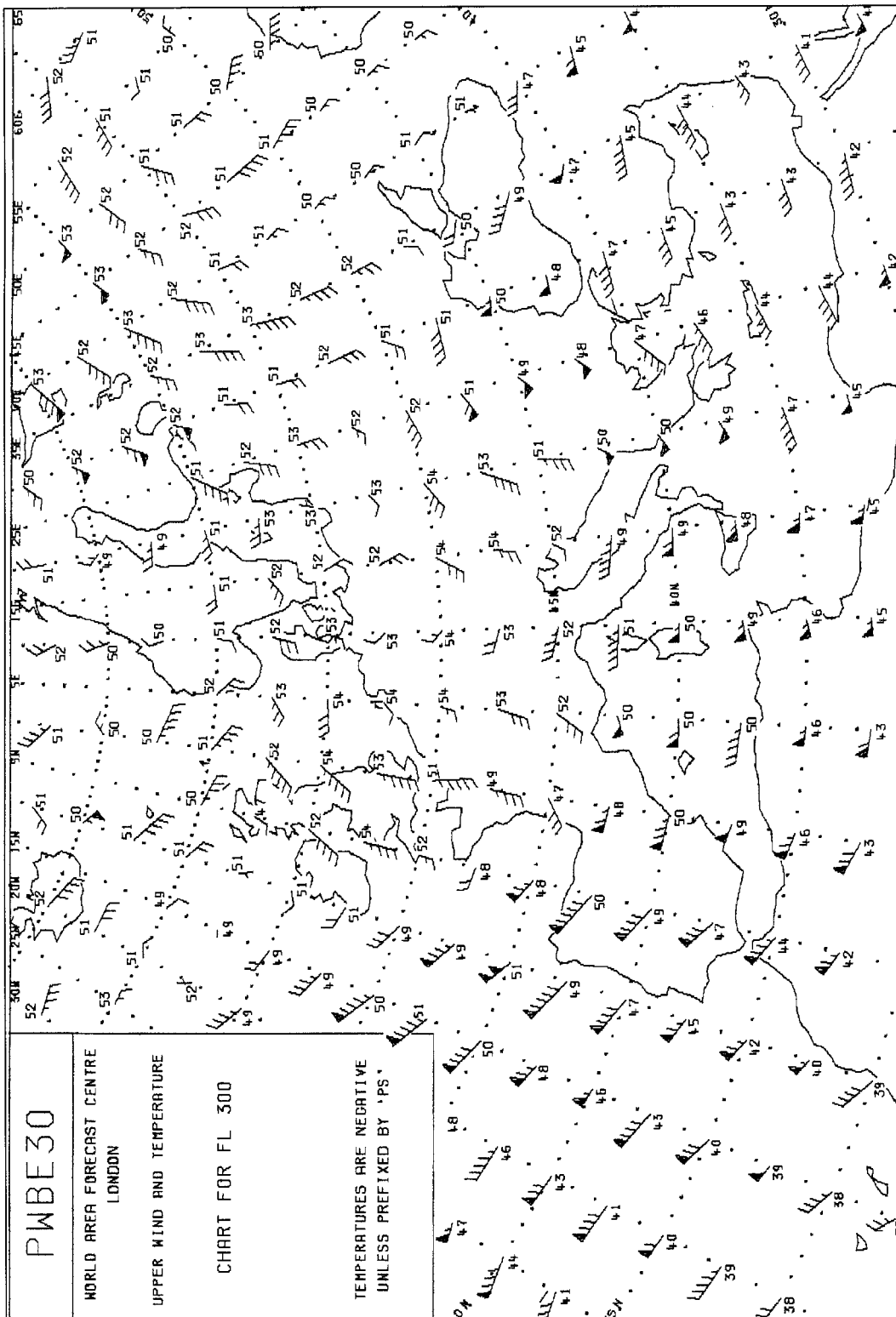
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SKILL TEST FFS 2 - METEO



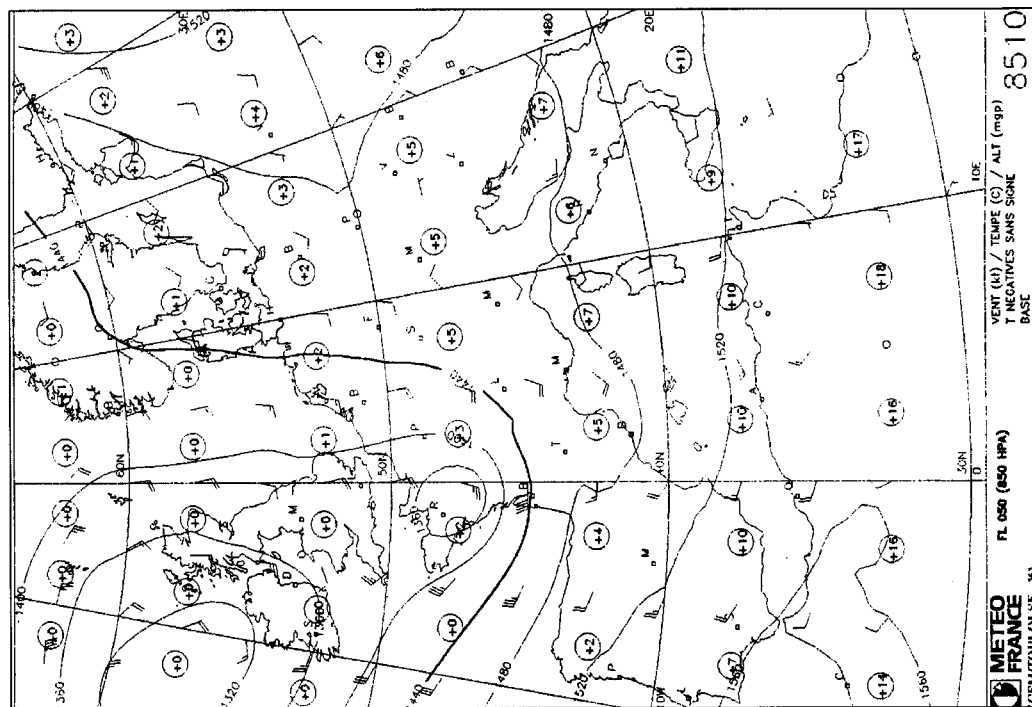
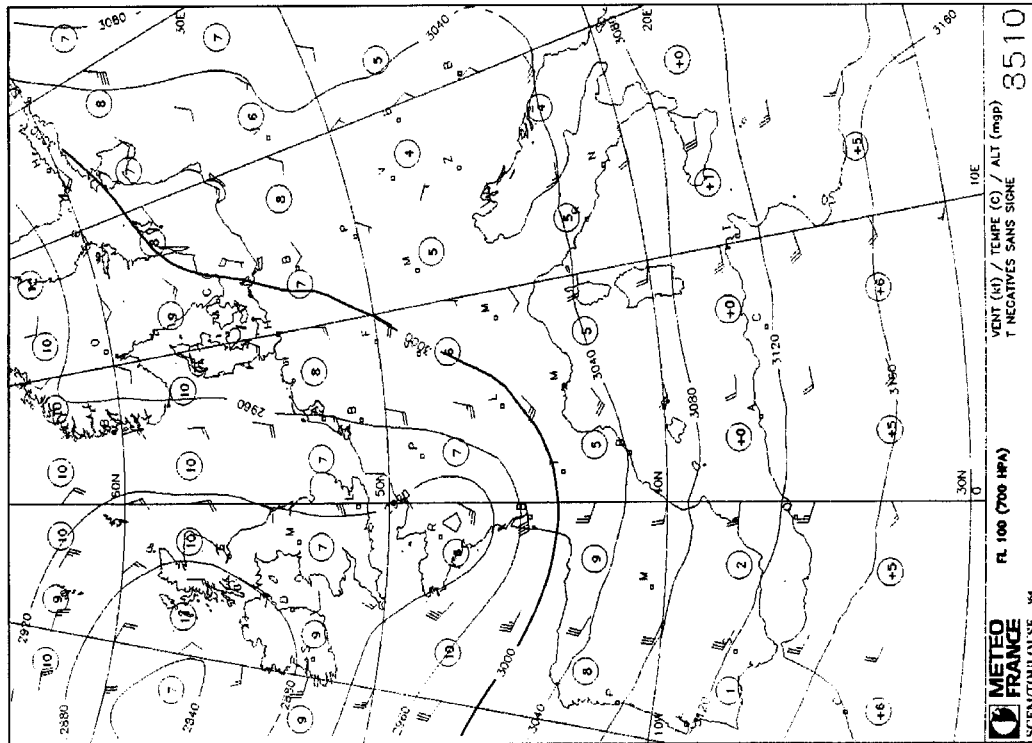
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SKILL TEST FFS 2 - METEO (CONT'D)



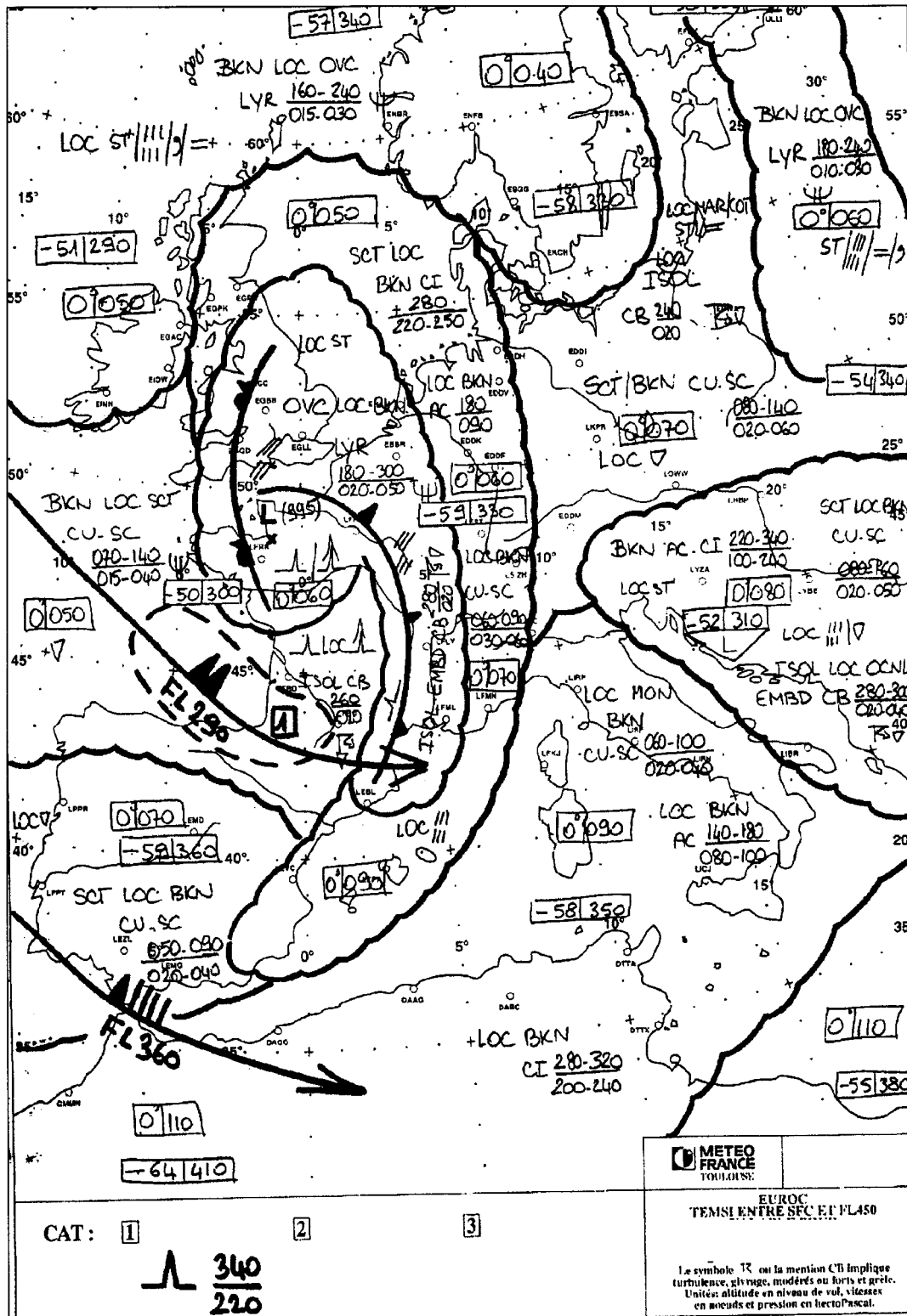
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SKILL TEST FFS 2 - METEO (CONT'D)



(METEO3.PCX)

SKILL TEST FFS 2 - METEO (END)



(METEO4.PCX)

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SKILL TEST FFS 2 SESSION GUIDE

01 - SESSION OBJECTIVE

- Evaluate the ability to operate the aircraft in normal and abnormal operations according to standard requirements defined for the delivery of a first type rating on a multi-pilot aircraft.
- This skill test is conducted in two session for a crew of two candidates : **the same TRE must conduct the two sessions.**

02 - TRAINING TOPICS

- **Suggested briefing :**
 - "The Skill Test will consist of a series of exercises. Before each take-off I will brief you on what is expected. When released, follow the departure clearance and deal with any problems or emergencies as they occur using the procedures and techniques learnt during the training course.
 - You should use Airbus standard procedures or your own company procedures, if different.
 - You will be responsible for liaison with ATC, safe operation and navigation of the aircraft. Make sure that you correctly understand ATC instructions. During the flight, it will be necessary for me to initialize the simulator in order to carry out exercises. I will keep you advised when I have control of the simulator and when I return control to you.
 - You may communicate to each other in your mother language to facilitate procedures, but keep me informed about what you are doing and remember you must speak English to ATC.
 - Treat this session as if it was a normal commercial flight. Do not waste time but do not allow yourselves to be rushed. You must tell ATC what you require.
 - Make good use of the published documentation for enroute and terminal areas. Set and observe the appropriate minima.
 - Make full use of the aircraft equipment and all resources at your disposal including the automation. For the purpose of the skill test, it is required to demonstrate your ability to perform :
 - one ILS approach manually flown
 - one engine out approach manually flown.
 - Remember the importance of task sharing and good crew coordination. You are assessed as PF and PNF.
 - Use headsets. Consider me as ATC, ground engineer and cabin crew.
 - Engine failure Flap Retraction Altitude will be ... ft. Single engine Go around Acceleration Altitude will be ... ft.
 - The weather for each exercise will vary. I will tell you the conditions prior to each take-off. For the first take-off, the weather will be ...
 - The aircraft weight and C.G. will be ..."

INSTRUCTOR ONLY

INSTRUCTOR ONLY

SKILL TEST FFS 2 SESSION GUIDE (CONT'D)

02 - TRAINING TOPICS

- Recommendations:
 - Endeavour to run exercises in a logical sequence and make sure that the trainees understand your instructions.
 - Make your own judgement during the session and revert to your instructor role again, if required. For example, an exercise is unsatisfactorily carried out.

After recommendations add a third chapter :

- Knowledge assessment :
 - The TRE will check the trainee's knowledge in the following matters :
 - Take off performance computation
 - Fuel requirements in relation with weather and regulation
 - Use of load sheet
 - Use of MMEL
 - IFR procedures associated with the use of the FMGS
- Operational procedures

After recommendations add a third chapter :

- Knowledge assessment :
 - The TRE will check the trainee's knowledge in the following matters :
 - Take off performance computation
 - Fuel requirements in relation with weather and regulation
 - Use of load sheet
 - Use of MMEL
 - IFR procedures associated with the use of the FMGS
 - Operational procedures

A. REVIEW

NIL

B. INTRODUCE

NIL

03 - SESSION PROFICIENCY CRITERIA

- Demonstrate ability to operate the aircraft with respect of IFR requirements.
- Demonstrate ability to perform normal and abnormal procedures according to SOP.
- Demonstrate ability to perform maneuvers required by the syllabus using the correct procedures and techniques, according to the standard of accuracy required by regulations.

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SKILL TEST FFS 2 SESSION GUIDE (CONT'D)

04 - SESSION GUIDE

- 1 : Positioning : Gate
During preparation introduce a MMEL item according to failure selection defined in item 14 : ADR3 or RA2

ATC Clearance : clear to Toulouse, flight plan route, departure RWY 23, SAU3A departure, initial climb FL 90, squawk 4230
- 5 : Clearance to taxi : Bordeaux is a generic airport scene so do not provide the trainee with taxi information
- 7 : ATC Clearance : climb and maintain final FL 150, proceed direct to AGN
- 8 : Insert HDR B RSVR OVHT
- 9 : Before AGN :

ATC Clearance : after AGN proceed to SOTACK, IAF descent and maintain FL 80
Provide radar vector to intercept ILS approach 33L

Cancel the B RSVR OVHT: check that the crew restore the system for approach
- 10 : Weather : 250 feet / 2 km

After LOC intercept ask the trainee to disconnect the AP, to disengage the FD, to disconnect the AP : this approach must be flown using raw data with the FPV (JAR-FCL requirement for skill test)
- 12 : Weather : CAVOK, wind 190°/12 kt

Clearance : Visual pattern

Choose among 3 different items :
 - Slats or Flaps locked by wing tip brakes after take off
 - or ADR 1+3 fault: insert the second failure in downwind
 - or RA 1+2 fault: insert the second failure in downwind
- 15 : Change seat after aircraft stop : change for RWY 15R
- 16 : Weather : 800 feet / 4 km

Clearance : local flight, take-off 15R, maintain RWY heading to 8 DME TOU VOR, turn left heading 325 to intercept TOU radial 021 outbound, proceed to TLB and hold, squawk 0420

SKILL TEST FFS 2 SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- 18 : Check holding pattern entry and provide the trainee with information to proceed for a VOR-DME approach on RWY 15R

- 21 : Weather: 800 feet / 4km

Clearance : blue pattern

Insert engine failure at 50 feet followed by an engine fire at 300 feet

INSTRUCTOR ONLY

INSTRUCTOR ONLY

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FFS syllabus Page 03

Flight 1 syllabus Page 05

Flight 2 syllabus Page 07

NOTE : *Refer to Base Training Briefing in FCTM Vol 1 - "Normal Operations Briefings" chapter*

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FFS TAKE-OFF DATA
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 15 R

WIND 180°/12 kt

VISI CAVOK

CEILING

TEMP 28°C

DEW POINT ... 10°C

QNH 1015 hPa/29.97 inHg

QFE 997 hPa/29.44 inHg

RWY COND ... DRY

Observations : Turbulence 15%

INIT NEXT PAGE

ZFCG/ZFW

BLOCK

PERF PAGE

IAE CFM

 V1

 VR

 V2

 FLEX

 DRT

T/O FLAPS

T/O C.G.

NOTE :

Use 15 R BLUE CORTE for 1st ILS

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BASE TRAINING FFS SESSION GUIDE

01 - BRIEFING TOPICS

- Refer to Base Training briefing in FCTM Vol 1 - "Normal Operation Briefings" chapter

02 - SESSION OBJECTIVE

- To prepare the trainee to operate the aircraft in a realistic environment.
- To prepare the trainee for the base flight in the aircraft
- To practice take-off, final approach, landing and engine failure on take-off.

A. REVIEW

NIL

B. INTRODUCE

NIL

03 - SESSION PROFICIENCY CRITERIA

- Handling criterias :
Flight within the below listed tolerances should not be achieved at the expense of smoothness and good coordination :
 - Speed : Vapp + 10 kt
 - Heading/track : +/- 5°
 - Altitude : +/- 150 ft
- CRM :
Assess :
 - Cross checks and calls out
 - Situational awareness

04 - SESSION GUIDE

- The instructor will act as Captain and will be seated in the left hand seat.
One of the trainee will be seated in the right hand seat while the other one will observe.
Plan 25 minutes for preparation and 1:15 flight per trainee
- Traffic patterns will be completed using the FPV.
- Two of the patterns will be flown without autothrust

INSTRUCTOR ONLY

INSTRUCTOR ONLY

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INSTRUCTOR ONLY

INSTRUCTOR ONLY

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Cross Crew Qualification course

- E FQF -

- E FQG -

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2.02.01 - INTRODUCTION

2.02.02 - TRAINING FOOTPRINT

2.02.03 - GROUND COURSE SYLLABI

2.02.04 - NORMAL COURSE SYLLABI

2.02.05 - ABNORMAL/EMERGENCY COURSE SYLLABI

2.02.06 - EVALUATION SYLLABUS

2.02.07 - BASE TRAINING SYLLABUS

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01 - GENERAL

A. PHILOSOPHY OF THE COURSE

The Flight Crew Transition Course is based on the following three principles :

- Systematic approach to instruction
- Learning by doing
- Training to proficiency

a. Systematic approach to instruction :

The task of training must be considered as a whole and an instruction system must be defined to achieve the training objectives. These objectives are determined by a task analysis. Methods and means necessary to implement the instruction system are chosen for their qualities and adaptability to the objectives.

Each phase in the training system is intended to fulfil part of the objectives.

b. Learning by doing :

It is very important that practical exercises are included in each training phase. Practical system training is provided as soon as possible to :

- ensure that the theoretical knowledge is retained
- train the crew members in their respective tasks in the cockpit environment.

c. Training to proficiency :

At the end of the training program, each crew member must be capable of carrying out his tasks safely and efficiently, in accordance with the training objectives. Therefore, it is not possible to permit a trainee to pass from one phase to the next until he has acquired the skills necessary to complete the objectives.

B. INDIVIDUAL TRAINING - CREW TRAINING

a. Individual training :

Although the level of proficiency of crew members is homogeneous within a course, each trainee has his own learning speed and, from a psychological standpoint, group training generates conflicts between individuals. For this reason, one of our aims is to provide individual basic training using Video And Computer Based Instruction (VACBI).

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01 - GENERAL (END)

B. INDIVIDUAL TRAINING - CREW TRAINING (END)

b. Crew training - Crew Resource Management (CRM)

The ACRM (Airbus Crew Resource Management) is integrated into the technical training (FBS / FFS sessions identified by a grey coloured syllabus header) through 7 CRM topics studied during the ACRM workshop. Each topic could be part of the briefing or debriefing of a session depending on crew's performance and various opportunities.

- The debriefing of a topic can be done every time it could enhance the trainee's performance
- The debriefing of a topic (if not already debriefed) is scheduled in accordance with the table provided in the ACRM instructor guide

C. PREREQUISITES

Defined by clause 16 in aircraft purchase contract and entry level requirements as specified in the Airbus Training Policy.

02 - TYPE RATING COURSE DESCRIPTION

A. TRANSITION COURSE

Refer to FCTM chapter 02 (Instructor's FCTM only)

B. CROSS CREW QUALIFICATION COURSE (CCQ) :

Computerised codes are used to identify the various aircraft and courses. here under the meaning of the main codes :

a. Aircraft Codes

B = A310	E = A320	H = A321
D = A300-600	F = A340	J = A319
	G = A330	

b. Course Codes

Within the fly-by-wire family, the CCQ course is designed to transition from one type to another type of aircraft :

- CCQ A340 to A320.....E FQF
Pilots already type rated on A340
- CCQ A330 to A320.....E FQG
Pilots already type rated on A330

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02 - TYPE RATING COURSE DESCRIPTION (END)

C. A319/A320/A321 SAME TYPE RATING :

The Same Type Rating is the term used by Airbus Industrie to assign a single type rating for different Airbus aircraft.

Same Type Rating permits the carry-over of total credit for crew qualifying from one variant of aircraft type to another, based on common cockpit and flight characteristics.

After completion of an A320 Transition or CCQ course, the A319/A320/A321 Same Type Rating needs only stand up lecture and / or VACBI study to highlight the differences between the aircraft.

03 - COURSE ORGANISATION

A. INSTRUCTION

The instruction concept utilised by Airbus Industrie uses a program divided into phases, each of which generally corresponds to part of the objectives.

In an effort to produce a single syllabus set satisfying all the regulatory authorities requirements (JAA, FAA, CAA, etc.) the sessions take place in various airports.

- Montreal-Dorval airport has been selected for application of LOC back course approaches
- Toulouse-Blagnac airport is mainly devoted to more intricate departure and arrival routeing, including specific engine out SIDs and CAT 3 facilities.

The instructors have to do their best to obtain the most realistic environment in terms of clearance delivery and radio communications. They are encouraged to stay within the session time frame, therefore they may use for several approaches 2 different runway directions with crosswind conditions in terms of time saving and providing the advantage of FMGS approach preparation review.

a. Phase 1 : Ground course

1. General

- Welcome : general introduction presenting Airbus Training and the course,

The ground school phase consists of integrated training using :

- a Video And Computer Based Instruction (VACBI) workstation.
- FMGS trainer (F3D)
- Doors and slides trainer

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03 - COURSE ORGANISATION (CONT'D)

A. INSTRUCTION (CONT'D)

a. Phase 1 : Ground course (end)

2. Welcome - Introduction

It consists in :

- presenting Airbus Training and the aircraft (video tapes)
- introducing the instruction system and the instructors. The instruction system is presented and, in particular, trainees are to be informed of the evaluation method and of the necessity for some "homework" with the FCOM, the FCTM and Note Book computer provided by Trainee's Library if applicable.
- presenting the documentation (1)
- introducing the cockpit and new systems
- presenting the philosophy of the new aircraft systems.
- presenting the Golden Rules

(1) Trainees must carry along their FCOM Vol 3, QRH, FCTM, Jeppesen charts and AIP extracts TLS or appropriate for each FMGS, FBS and FFS session.

3. Systems study (VACBI + FMGS Trainer)

It consists in providing trainees with all the technical information and system knowledge to enable the application of procedures.

The training sessions in Phase 1 are to be developed to support system study and cockpit preparation training.

b. Phase 2 : Normal operations

Having studied each system of the aircraft separately during the Phase 1, the trainee is invited to study integration of these systems and subsequent procedures, as well as aircraft handling in Normal situations.

Normal situations here must be understood as flying the aircraft without any internal failure. The objectives are :

- to use the complete normal procedures with each crew member performing his own task in crew co-ordination
- to make each trainee capable of performing his tasks in normal flight conditions (no failure)
- to demonstrate aircraft characteristics in normal operations with the maximum degree or realism, particularly those requiring visual outside world reference.

The sessions are scheduled in FBS to study the procedures and in FFS to apply the procedures and study the handling in normal operations. Adverse weather operation and rejected take-off will be addressed in this part of the course supported by a video tape concerning Airbus policy for RTO's.

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03 - COURSE ORGANISATION (CONT'D)

A. INSTRUCTION (END)

c. Phase 3 : Abnormal/emergency operations.

Knowing now how to handle the aircraft in normal situations, the trainees are invited to study the aircraft in abnormal/emergency operations experiencing several failure cases. The objectives are :

- to use the abnormal/emergency procedures with crew member performing his own tasks in Crew Co-ordination, Communication, Task sharing and Workload Management.
- to present failure situations to the trainees first independently of the usual environmental constraints in the FBS then with constraints such as meteo, ATC problems with the maximum degree of realism in the FFS environment.

Sessions are scheduled in FBS to study and to perform abnormal and emergency procedures and in FFS to apply the procedures and practice the handling in abnormal and emergency configurations. This period allows the aircraft to be demonstrated and each trainee to be made capable of performing his tasks in flight under all circumstances and developing his flying skills. Aircraft operations must therefore be fully assimilated by the end of this phase.

d. Phase 4 : Evaluation

The evaluation FFS is performed as a proficiency check in terms of satisfaction of the appropriate type certification and endorsement requirements.

It has been prepared to comply with the requirements of the Airworthiness Authorities (French DGAC). Trainees may use their own procedures provided the training was completed with these specific Airline procedures.

e. Phase 5 : Base training

Base training if applicable. [Refer to Base Training Briefing - FCTM Vol 1 "Normal Operation Briefings" chapter.]

03 - COURSE ORGANISATION (CONT'D)

B. GENERAL RULES

a. Briefing principles

Briefing and debriefing duration per session :

	BRIEFING			DEBRIEFING
	FBS	FFS	ACRM (if any)	
PHASES 2 AND 3	1:30	1:30	0:15 (1)	At instructor's discretion
PHASE 4	-	0:30	-	At instructor's discretion

(1) As a part of the normal session briefing duration

Briefing of sessions starting at 6.00 a. m. takes place the day before, unless otherwise appointed by instructor with agreement of the trainees.

Nevertheless, the above mentioned time frame for briefings are at least minimum required. It is left to the instructor's responsibility to extend briefing or debriefing duration in order to achieve the required proficiency level of the trainees.

The instructors are advised to use all available tools that can support the learning process significantly i. e. FMGS trainer, ACRM briefings and others.

b. Session preparation

Students prepare their sessions using the FCOM and FCTM. They should review the entire session syllabus item by item. During sessions, the only documents used will be FCTM, FCOM, approaches charts and QRH.

NOTE : - All phases are to be trained to proficiency.

- The assessment is to be done by the instructor performing the last session of a phase.

- The FBS preparation (parameters insertion, initialization, cockpit status) will be accomplished by the instructor at the beginning of the session whilst the trainees install themselves in the cockpit.
- The FFS preparation, parameters initialization (wind, temperature, weight, runway, number, etc.) will be accomplished at the beginning of each session and the simulator will be positioned at the desired initial location and the "RELEASE" button pressed "IN" **before the trainees start their cockpit preparation.**

If during the session a different TOW must be used, the corresponding ZFW must be set.

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03 - COURSE ORGANISATION (END)

B. GENERAL RULES

c. Communications

In the simulator, instructors and trainees must endeavour to make the flight as realistic as possible, so it is essential that boom headsets are being used by trainees and instructor. The use of "INT" for routine communications, including check-lists reading, significantly reduces distraction and improves the flow of information.

From the first simulator session, use the interphone and radio transmission functions simulating ATC, requiring frequencies and COM control box selections. This is a key aspect of cockpit workload which must be mastered. Clearance will be provided according to syllabus requirements.

Airport charts will be used (extracted from appropriate documentation).

Take-off briefing, emergency briefing and approach briefing will be performed at least once per session in terms of standard briefing. All other briefings will mention the exceptions only.

d. Performance

The take-off data will be checked before briefing using data given in the corresponding syllabus (calculated and extracted from the Regulatory Take-off and Landing Weight (RTOLW) tables.

Maximum take-off weights will be demonstrated and rejected take-off technique will be trained. In the event RTOLWs are not available in the FCTM Vol 1 - "Performance" chapter, it is recommended to use the Quick Reference Tables.

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04 - CRITERIA OF PROFICIENCY

A. VACBI

a. Evaluation during VACBI Phase :

On completion of this phase, a written multiple choice examination will be completed. The minimum level required, to be declared proficient, is determined by the Airline, but is never below 80%.

b. Unsatisfactory Examination :

Corrective action using the VACBI will be determined by the instructor in coordination with Airbus Industrie Training Director. The student will then undertake a VACBI examination.

B. FBS AND FFS NOTATIONS

The FBS and FFS syllabi are set up in such way that during each CM1 or CM2 session each crew member is graded as PF or PNF respectively using the "Trainee's file". Two pages are used to grade each FBS / FFS session (see samples on following pages)

a. Syllabus Page

Five columns are used to record performance as PF and PNF item by item (1)

b. General Performance Notation Page

1. General Comments [A] :

Used to record comments on the session (i. e. explanation of "-" marks (2))

2. Cosynus System Notation

The Cosynus system is designed to allow a very accurate notation of each FBS, FFS and Flight session ; to do so, the instructor fills a notation table [B] and a coded notation table [C] per session.

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03 - CRITERIA OF PROFICIENCY (CONT'D)

B. FBS AND FFS NOTATIONS (CONT'D)

b. General Performance Notation Page (Cont'd)

2. Cosynus System Notation (Cont'd)

- Notation table **B** :

Five columns are used to record general performance as PF and PNF. Three are quoted "+" (acceptable), 2 are quoted "-" (not acceptable) ③

In these columns the instructor will write a "+" or a "-" in the appropriate box for each exercise ④ :

Very good : Well above standard

Good : Comfortable progress. "Good" must be the target for the check-ride

Acceptable : Normal progress, leaving room for improvement.

Unacceptable : Exercise must be repeated ; written comments are mandatory.
This grade is not accepted for any Evaluation session.

Safety involved : Must be used only in case of poor performance, possibly related either to lack of procedural or system operational knowledge, which could jeopardise the safety of flight.

Remedial training is mandatory before continuing the training ; this notation must be accompanied by detailed comments and reported to Airbus Industrie Director of Training.

03 - CRITERIA OF PROFICIENCY (CONT'D)

B. FBS AND FFS NOTATIONS (END)

b. General Performance Notation Page (End)

2. Cosynus System Notation (End)

- Coded comments table C :

Using the "Dictionary of Keywords" booklet he has been given, the instructor fills this table coding the notations and general comments he wrote. Keywords are 3 digit numbers associated with preselected comments for each phase of flight or procedure. Each line of this table can receive as many codes (numbers) as needed 5 .

Coded comments must obviously fit with the notations in the columns "-" and "+"
 Example : GOA 101 (Review go around procedures) :

COMMENTS (No more than 11)		PF SESSION		-	+
SYP		- Normal procedures - Use of FMGS - ILS approach - Non precision approach - Go around - CM incapacitation - Side stick priority - Initiation of check-lists			
HLG					
PRE					
TOF					
APP					
GOA	101				+
EOH					

COMMENTS (No more than 11)		PF SESSION		-	+
SYP		- Normal procedures - Use of FMGS - ILS approach - Non precision approach - Go around - CM incapacitation - Side stick priority - Initiation of check-lists			
HLG					
PRE					
TOF					
APP					
GOA	101			-	+
EOH					

3. Appraisal D

This shows the trainee's daily progress and the number of remedial sessions if needed

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03 - CRITERIA OF PROFICIENCY (CONT'D)

C. TRAINEE'S FILE PAGE SAMPLES

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 Date :	Name : Tom SMITH	2.02.04 Page 12
	Airline : XXX	REV 21 DEC 97
	Course number : 999999	
	Instructor's name : Jean DUPONT	

MALFUNC REF.	- N5 FFS - LANDING PATTERNS - VISUAL CIRCUITS XWIND TAKE-OFF WITH AFT CG										-	+
	PF : CM1											
	SIMULATOR SAFETY BRIEFING											
	TRANSIT COCKPIT PREPARATION											
	BEFORE START											
	ENGINE START											
	1 - AFTER START											+
	2 - TAXI											+
	3 - BEFORE TAKE-OFF											+
	4 - TAKE-OFF											+
	5 - CLIMB TRANSITION ALTITUDE											+
	■ 6 - MANAGED AUTOMATIC ILS APPR											+
	7 - STUDY OF APP PATH											+
	8 - AUTOLAND											+
	9 - TAKE-OFF											+
	10 - VISUAL PATTERN - APPR - ILS ASSISTED											+
	11 - LANDING											+
	■ 12 - TAKE-OFF - CROSSWIND 15 KT - CLIMB TRANSITION ALT											+
	■ 13 - VOR DME APPR											+
	14 - LANDING											+
	15 - TAKE-OFF											+
	■ 16 - VISUAL PATTERN - APPR ILS ASSISTED - SIDE STEP											+
	17 - LANDING											+
	■ 18 - TAKE-OFF - CROSSWIND 25 KT (T/O WITH AFT CG 35%)											+
	19 - VISUAL PATTERN											+
	20 - LANDING											+
	21 - 180° TURN ON RUNWAY											+
	22 - AFTER LANDING											+
	PF : CM2											
	23 - TAXI											+
	24 - TAKE-OFF CLIMB TRANSITION ALTITUDE											+
	■ 25 - VOR DME APPR											+
	26 - LANDING											+
	27 - TAKE-OFF - CROSSWIND 15 KT											+
	28 - VISUAL PATTERN - APPR - ILS ASSISTED											+
	29 - GO AROUND AT 20 FT - RADAR VECTORS											+
	■ 30 - VISUAL PATTERN - APPR - ILS ASSISTED - SIDE STEP											+
	31 - LANDING											+
	■ 32 - TAKE-OFF - CROSSWIND 25 KT (T/O WITH AFT CG 35%)											+
	33 - VISUAL PATTERN											+
	34 - LANDING											+
	35 - 180° TURN ON RUNWAY											+
	36 - AFTER LANDING											+
	37 - PARKING											+
	38 - IF TIME PERMITS - PERFORM ADDITIONAL VISUAL PATTERNS											+

03 - CRITERIA OF PROFICIENCY (END)

C. TRAINEE'S FILE PAGE SAMPLES (END)

A		B		C		D	
General Comments : PF : - Review go around procedures - Fly FD bars more closely - Review use of FPA PNF : - Good work		COMMENTS (No more than 11) SYP HLG PRE TOF APP GOA 101 - 106 EQW EMD CTL FMS EFS ECM ABL CPF CNF GPF GNF GCO		PF SESSION - Normal procedures - Visual approach - ILS approach - Non precision approach - Go around - Visual pattern - Side step - Initiation of check-lists - GENERAL PERFORMANCE - Flying accuracy - Use of FMS - Use of flight guidance system - Use of FD - FPV - FPD cross pointers - IFR procedures - Crew coordination - General progress - General performance - Briefings PNF SESSION - Normal procedures - Use of check-lists - Use of ECAM - Support of PF		Progress is normal X May need extra training if progress does not improve Need extra session(s) now : 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐	
Instructor's signature :		Trainee's signature :					

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01 - TRAINING DEVICE TIME SHARING PER PHASE

N. B. : except when notified, the allocated time is mentioned per crew

PHASE 1 : GROUND COURSE		5 working days
VACBI : - Aircraft system study + review.....		21:15 / trainee
- Quiz		2:00 / trainee
FMGS TRAINER : 1 session		2:00
PHASE 2 : NORMAL FBS / FFS		2 working days
FBS : 1 session		3:00
FFS : 1 session		3:00
PHASE 3 : ABNORMAL - EMERGENCY FBS / FFS		3 working days
FBS : 1 session		3:00
FFS : 2 sessions		6:00 (2 x 3:00)
PHASE 4 : EVALUATION		1 working day
FFS : 1 session		3:00
TOTAL DURATION		11 working days

In the aircraft :

PHASE 5 : BASE TRAINING (if applicable i.e. French DGAC rule)		1 working day
1 flight		1:30 / trainee

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02 - CCQ COURSE DAILY FOOTPRINT

DAY 1 6:30 Welcome 3:00 VACBI : - Indicating / Recording (EIS - ECAM) 2:00 - Fire 0:30 - Navigation 1:00	DAY 2 6:30 VACBI : - Hydraulic 1:15 - Landing gear 1:15 - Autoflight 2:00 FMGS 2:00	DAY 3 6:30 VACBI : - Power plant 2:00 - Electric 1:15 - Flight controls 1:30 - Pneumatic 0:45 - Communication 0:30 - CFDS (optional) 0:30
DAY 4 7:00 VACBI : - Fuel 2:00 - Air conditioning, pressurization, ventilation 2:15 - Safety and cabin trainer 2:45	DAY 5 6:00 VACBI : - Ice & rain protection 0:30 - Review 2:00 - System quiz 2:00 - Aircraft visit 1:30	DAY 6 N1 FBS : - Take-off - Approach - FMGS - Back course - ILS
DAY 7 N2 FFS : - Normal operations	DAY 8 F1 FBS : - Flight controls - Smoke - Fuel	DAY 9 F2 FFS : - 1 engine out - Emergency descent
DAY 10 F3 FFS : (ACRM) - Flight controls : - Reconfiguration laws - Hydraulic	DAY 11 EVALUATION FFS : - Check	

 = Abnormal / Emergency sessions

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FMGS syllabus	Page 03

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FMGS SYLLABUS

This session is designed to review A340/A330 to A320 MCDU, FCU and FMS main differences through standard operating procedures, cockpit (FMS) preparation, simulated flight, approach preparation...

HOW TO START FREEPLAY: (if power is off)

- STEP1 : Locate the switch at the back of the mock up and select it ON.
- STEP2 : Wait until the computer has completed its automatic initialization sequence (no mouse click,no keyboard input).
- STEP3 : Select CAPT or FO and units then click "OK".
Wait till PFD is displayed on screen.

>>>>> FREEPLAY PREPARATION

>On Pedestal

ATHR LEVER : check.....Idle
Flaps LEVER : check.....Retracted

>On screen

ENG master : check Off
SPEED BRAKE : check Ret
STORE MEMO Box.....Locate
 Memorizes actual freeplay status if Mouse click
RECALL MEMO Box.....Locate
 Returns to memorized status if Mouse click
FREEZE (UNFREEZE) Box.....Locate
 Freezes or unfreezes flight simulation. Unfreeze is
 necessary before any further modification.

SPEED UP Box: Locate
 multiplies by 5 the speed until 5 NM inbound to
 next waypoint then normal speed.

>>>>> FMGS INITIALIZATION

Use Jeppesen Chart CYUL/ILS back course 6R for this session

All data between brackets [] must be typed exactly as given to avoid a "format error " message.

A/C STATUS page is normally displayed at power up,
if not,

[DATA] page

<A/C STATUS.....select

DATABASE CHECK

ACTIVE DATABASE.....Check
 If not valid...

DATABASE(valid).....Select

(F3DA.PCX)

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CCQ A330/A340 TO A320 COURSE GROUND COURSE SYLLABI	2.02.03 Page 4 <i>E FQF/G</i> REV 22 OCT 98

FMGS SYLLABUS (CONT'D)

>>>> MCDU KEYBOARD DIFFERENCES :

- NEXT PAGE i/o arrows
- "/" i/o "+/-"
- "-" i/o "/"
- "+" i/o "SP"

[INIT] page
 FROM/TO.....[CYUL/KIAD]
 Refuse Coroute: <RETURN Press
 ALTN[KJFK]
 No coroute available ...<RETURN
 FLT NBR.....[AI320]
 PARKING LAT.....[4528.1N]
 PARK LONG[07344.5W]
 ALIGN IRS >Prompt.....Press
 COST INDEX.....[50]
 CRZ LVL/TEMP.....[330/-51]
 MCDU IRS pages are not provided.
 Use ISDU to check IRS position before "ALIGN IRS"
 DATA (one page only) Select
 observe available options.

left side
 <WAYPOINTS
 <NAVAIDS
 <RUNWAYS
 <ROUTES
 <A/C STATUS

right side
 STORED
 WAYPOINTS>
 STORED
 NAVAIDS>
 STORED
 RUNWAYS>
 STORED
 ROUTES >
 POSITION
 MONITOR>

POSITION
 MONITOR > Select

Observe page content

(F3DB.PCX)

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CCQ A330/A340 TO A320 COURSE GROUND COURSE SYLLABI	2.02.03 Page 6 <i>E FQF/G</i> REV 22 OCT 98

FMGS SYLLABUS (CONT'D)

[PERF] page

V1.....[130]
 VR.....[135]
 V2.....[136]
 TRANS ALT.....[18000]
 THR RED ACC[1600/3100]
 FLAPS/THS.....[2/1.0UP]
 FLX TO TEMP.....[52]

ENG OUT ACC.....[1600]
 NEXT PHASE>.....Press
 Observe CLB PERF page presentation.
 additional fields : TIME and DEST FOB

SPD (i/o PRESEL)[230]

ATC> Clear to destination KIAD, DORVAL departure, climb 12000FT
 level change on route, squawk 3646.Take off in 3 mn

Select FPLN page then... LAT REV from departure.
 In " UTC CSTR " field, Type and Insert: current time + 3.
 Observe new constraint at take off in FPLN page.
 "CLK AT T/OFF TIME" message will appear in the
 scratchpad at the expected take off time.
 This function is only available at departure.

>>>> COCKPIT PREPARATION

FCU target alt 12000

FCU settings Check
 FD.....On
 ILS.....as required

ND Mode Selector & Range.....as appropriate
 ADF/VOR Selectors as appropriate for departure

ENGINE MASTERS (on screen).....On
 FLAPS SELECTOR (pedestal).....2

STORE MEMO Box.....Click
 preparation is now memorized. Click on RECALL MEMO if
 take off repetition is required.

HDG PRESET...
 DORVAL departure requires RWY Heading; Turn HDG knob (don't pull)
 and set HDG 059
 Check NAV is desarmed on FMA.

TAKE OFF

THR LEVERS Flex detent
 FMA : check
 "POSITIVE CLIMB">> AP1 Engage
 LANDING GEAR (Click on screen).....Up
 -Check RWY TRK on FMA

HDG knob Pull
 AT THR RED ALT Set Climb power

FMA : check

AT ACC ALT Retract Flaps in sequence

Target speed: 230 (blue).

AT 5000 FT...
 ATC > Clear direct UL
 Resume normal speed, recleared Fl 200

(F3DD.PCX)

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FMGS SYLLABUS (CONT'D)

CLIMB

SPEED knob Push
FCU Target Alt.....20000
[DIR TO] key Select
TYPE or SELECT[UL]
Only the basic DIRTO page is provided with
immediat effect after WPT selection or entry.
PBX and PBD are accepted but not ATO (along track
offset WPT i/e PLB/-20)

AT 18000 FT ...
ALTIMETER setting Pull STD

ATC > Recleared FL 310 final level; expedite to FL 250

SET and PUSH on FCU[31000]
EXPED P/B Push
FMA : check "EXP CLB"
speed is reducing to Gdot

[PROG] page
CHANGE CRZ level[310]
"ALT" blue still displayed on FMA.

Passing FL 250 ...
ALT Knob Push
FMA : check
AT FL 310 ...
" ALT CRZ" green is now on FMA

CRUISE

ATC > Clear direct LAGGS
[DIR TO] page
SELECT or TYPE then INSERT.....[LAGGS]

[PROG] page Select
Observe that <REPORT prompt is not provided.

ATC > Report crossing MSS(114.1) radial 140°.

FPLN page Select
LAT REV at PPOS.
FIX INFO> prompt is not provided.
Use Rose NAV and VOR for check

ATC > If able of FL350; At TUPER, recleared FL350.

(F3DE.PCX)

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FMGS SYLLABUS (CONT'D)

STEP CLIMB

[PROG] page ...
 Check MAX ALT

VERT REV from TUPER ...
 STEP PRED> Select
 This prompt is only available at CRZ WPTs.
 Only Geographic steps are provided.

TYPE and INSERT[350]
 A Wind entry field is available
 As usual, if TUPER is overflown prior to commencing
 climb, step will be deleted.

FCU target alt 35000
 5 NM before TUPER (Top of Climb) ...

ALT Knob Push
 Check FMA
 "New CRZ alt-35000" message in scratchpad.

COMPANY SELCALL> Suspect parcel on board, divert to the first
 suitable airport.

IMMEDIATE LEVEL OFF AT FL 320.

There is no ALT p/b....
 V/S P/B (on FCU) Press
 Decision is made to return to CYUL.

ATC > clear direct to PLB (VOR/116.9); descent 6000 FT.

DIR TO page[PLB]
 LAT REV from PLB; insert a New DEST[CYUL]

UPDATE CRZ level on FCU and in PROG page.

PERF page Select

DES
 FORECAST> Select
 Insert descent wind[120/20/50]

In DES page(next phase), Modify descent speed[/300]

FCU target alt and Pull 6000
 Check FMA.

At transition altitude ...
 ALTIMETER Setting knob.....Push and check 1013

ATC > After PLB proceed to NAPEE and FULFO
 Expect an ILS Back course 06R.

(F3DF.PCX)

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FMGS SYLLABUS (END)

APPROACH PREPARATION

After PLB type and Insert[NAPEE]
 FULFO is unknown, Nevertheless a PBD could be created.
 to do so...
 after NAPEE type and insert[CYUL06R/239/12]

-No ILS back course in the arrivals. Select the runway 06R.

-Check Accuracy

-PERF : QNH:1013, T°:14°, Wind: 120°/12KT, MDA:420 FT.

-RADNAV : Tune ILS IMQ and check CRS 239

 Tune and display UL(248)

 (radial 168° to be checked for descent.)

ATC > after NAPEE, Heading 290, recleared 3000 FT.

FCU target 3000

When maintaining HDG 290 ... <ACTIVATE APP PHASE

When receiving Localizer...

FREEZE Box (on Screen) Click

ILS p/b (on FCU) Press

 Note: no B/C displayed on Localizer scale or ROSE/ILS.

FREEZE Box (on Screen) Click again to unfreeze

ATC > Turn right heading 010 ; Clear ILS back course 06R

TRK/FPA mode Engage

- Prepare Landing Configuration.

- Intercept Final course in TRACK mode (Rose ILS).

 (LOC p/b not usable)

Passing FULFO descend 1500 FT

 0.5 NM before descent point (NASKK)...

FPA knob set and pull..... -3.0°

 Crosscheck UL descent radial 168°.

FCU target Set GA Altitude

 Monitor final descent.

 100 FT above MDA ... (anticipation)

FPA knob Push

 at MAPT... GO AROUND.

Session is completed.

(F3DG.PCX)

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CCQ A330/A340 TO A320 COURSE GROUND COURSE SYLLABI	2.02.03 Page 10 <i>E FQF/G</i> REV 22 OCT 98

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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CCQ A330/A340 TO A320 COURSE NORMAL COURSE SYLLABI	2.02.04 Page 1 <i>E FQF/G</i> REV 21 MAY 98

N1 FBS syllabus Page 03

N2 FFS syllabus Page 05

NOTE : *Instructors' FCTM includes the "Session Guides"*

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CCQ A330/A340 TO A320 COURSE NORMAL COURSE SYLLABI	2.02.04 Page 2 <i>E FQF/G</i> REV 21 MAY 98

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CCQ N1 FBS TAKE-OFF DATA

INIT PAGE CO RTE N.A. ALTN/CO RTE N.A. FLT NBR [Airline ID] 241Q LAT 4528.1N COST INDEX 30 CRZ FL/TEMP FL 330 / -51°C FROM/TO CYUL/KIAD LONG 07344.5W TROPO DEFAULT		TRIP DIST 480 NM CRZ WIND 210°/30 KT ALTN KJFK ALTN DIST 220 NM FL to ALTN 210	ATIS RWY 06 L / 06 R WIND 120°/10 kt VISI CAVOK CEILING TEMP 15°C DEW POINT ... 11°C QNH 1020 hPa/30.12 inHg QFE 1015 hPa/29.97 inHg RWY COND ... DRY Observations : AIR COND ON _____ _____ _____
INIT NEXT PAGE ZFCG/ZFW 28%-48 t 28%-105 600 lb BLOCK 16 t 35 300 lb	PERF PAGE IAE CFM V1 VR V2 FLEX DRT	T/O FLAPS 1 + F T/O C.G. 25% —TOGA— FLEX —DRT—	NOTE : F/PLN : CYUL 06 L - UL - NAPEE - J567 PLB - J29 SYR - J59 PSB - J61 EMI - KIAD 15 R ALTN : ASPER - BAL - MXE - SBJ - FATHO - KJFK 04 L

CCQ N1 FBS SESSION GUIDE

01 - BRIEFING TOPICS

- Normal engine start
- Take-off : use of RTOLW and limitations
- Demonstration of flaps auto-retraction.
- Use of FMGS.
- ILS back course.
- Reversion mode

02 - SESSION OBJECTIVE

- To study the A320 cockpit.
- To learn the flaps auto-retraction depending on the speed.
- To study the difference between A330 or A340 and A320 for LOC back course.

03 - SESSION PROFICIENCY CRITERIA

- Good application of normal procedures
- Good LOC back course approach

04 - SESSION GUIDE

TOW	T/O flaps	Air cond	Anti-ice	Eng	V1	VR	V2	Flex
64 t	1 + F	ON	OFF	CFM	154	154	154	51
				IAE	149	149	149	51

- 1 : INIT LOAD
 During preliminary and cockpit preparation, highlight the new location of controls :
 - landing gear gravity extension handle
 - parking brake
 - loudspeaker knob and lights
 - engine fire test single push button
 - FCU ALT HOLD
 - EFIS DMC switching
 - new FM switching
 - ECAM and AUDIO switching

Insert cruise wind at only one way point.

Standard ISDU on overhead panel has ALIGN light and keyboard.

Time to NAV is displayed on ECAM memo.

TTN is indicated on "ISDU panel, data selector on HDG position.

- 3 : Normal use of AUTO START, 2 engines started by the trainee (2 AND 1).

CCQ N1 FBS SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

- 7, 19 : For TAKE-OFF, rotate at 3°/sec to a pitch target of 15°.
 After LANDING GEAR RETRACTION, adjust pitch to 12° to accelerate.
Observe : Auto-retraction of flaps to 0 at 210 kt
 (before VFE which is 215 kt).
 Review of ECAM pages - FMGS practice.
- 8 : Stop climb - Select V/S = 0 on FCU or push V/S knob (according to status).
- 9, 21 : Use of prediction function DIRECT TO / WIND ENTRY
- 10 : **Reversion due to loss of NAV mode**

CONDITIONS	EVENT	CONSEQUENCE
CLB engaged	Loss of NAV mode	OP CLB engages
DES engaged		V/S engages

Reversion due to high V/S

CONDITIONS	EVENT	CONSEQUENCE
- High V/S-FPA > 0 selected	IAS = VLS + 5	- OPEN mode engages in order to regain the target speed
- High V/S-FPA < 0 selected and - Clean configuration	IAS = VMAX -5	- OP CLB engages when the FCU selected altitude is higher than the current a/c altitude.
- High V/S-FPA < 0 selected and - Configuration other than clean	IAS = VMAX + 4	- OP DES engages when the FCU selected altitude is lower than the current a/c altitude.

- 11 : Trigger FUEL IMBALANCE conditions from the Instructor Operating Station (IOS).
 Difference between LEFT and RIGHT > 1,5 t (advisory).

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CCQ N1 FBS SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ 13, 24 : LOC Back Course

RAD NAV key DEPRESS

ILS IDENT.....ENTER

- If in database the proper frequency and the FRONT CRS will be tuned.

NOTE : *The "RWY/ILS MISMATCH" message may be triggered. Disregard it.*

- If not database : SET the appropriate frequency and set the FRONT CRS into the CRS field.

ON EFIS CTRL PANEL, ILS ROSE MODE SELECT

The display provides the correct LEFT / RIGHT information relative to the beam deviation

CAUTION :

- DO NOT select ILS through ILS pb switch, PFD shows reverse deviations.
- DO NOT arm LOC or APPR modes

Flight director may be used as for and ADF approach by selecting the TRK - FPA

■ 16, 26 : The aim of this exercise is to highlight the FMA environment and corresponding manoeuvres without other constraints.

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CCQ N1 FBS SESSION GUIDE (END)

04 - SESSION GUIDE (END)

■ 22 : Reversion when FD orders are not followed

CONDITIONS	EVENT	CONSEQUENCE
- FD engaged only (no AP) and - OP DES or EXPED DES or DES engaged	- IAS = VLS -2 - IAS = VLS -17 (if speedbrakes are 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 greater.
- FD engaged only (no PA) and - OP CLB or EXPED CLB or CLB engaged	IAS = VMAX + 4	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.

NOTE : *In clean configuration, VMAX = VMO/MMO*
In other than clean conf, VMAX = VFE or VLE applies

- In climb, using OP CLB/CLB mode, target speed 250 kt.
 FD bar not followed, a/c symbol below pitch bar to obtain :

Speed trend plus 10 kt to plus 15 kt until VMAX

- In descent, using OP DES/DES. FD bar not followed, a/c symbol above pitch bar to obtain :

Speed trend minus 10 kt to minus 15 kt until VLS.

CCQ N2 FFS TAKE-OFF DATA
INIT PAGE

CO RTE

N.A.

ALTN/CO RTE

N.A.

FLT NBR

[Airline ID] 242Q

LAT

4338.1N

COST INDEX

30

CRZ FL/TEMP

FL 60 / 10°C

FROM/TO

LFBO/LFBO

LONG

0122.1E

TROPO

DEFAULT

TRIP DIST

LOCAL

CRZ WIND

VRB

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 15 R / 33 L

WIND 180°/10 KT | 300°/10 KT

VISI CAVOK

CEILING

TEMP 14°C

DEW POINT ...

QNH 1020 hPa/30.08 inHg

QFE 1002 hPa/29.55 inHg

RWY COND ... DRY

Observations : _____

INIT NEXT PAGE

ZFCG/ZFW

28.4%-48 t

28.4%-105 600 lb

BLOCK

 10 t
 22 000 lb

PERF PAGE

IAE CFM

V1

VR

V2

FLEX

DRT

T/O FLAPS

1 + F

T/O C.G.

26.6%

—TOGA—

FLEX

—DRT—

NOTE :

 Wind change during session
 FMGS F/PLN : enter only departure

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CCQA330/A340 TO A320 COURSE NORMAL COURSE SYLLABI	2.02.04 Page 6 <i>E FQF/G</i> REV 21 MAY 98

MALFUNC REF.	- CCQ N2 FFS - NORMAL OPERATIONS	-	+
	PF : CM1		
	■ 1 - TRANSIT COCKPIT PREPARATION		
	INIT T/O		
	2 - BEFORE TAKE-OFF CHECK-LIST		
	3 - TAKE-OFF (FLEX) | AP | FD | ATHR |		
	4 - CLIMB FL 250		
	5 - STAR MAX RATE OF DESCENT		
	■ 6 - ILS APP | AP | FD | ATHR |		
	7 - MANUAL LANDING (USE OF REVERSERS)		
	8 - TAXI 180° ON RUNWAY		
	9 - TAKE-OFF (CROSS WIND) | | | ATHR | FPV | FPD |		
	■ 10 - RADAR VECTORS VOR DME APP (MANAGED - DECELERATED)		
	11 - CIRCLING | | | ATHR | FPV | FPD |		
	12 - LANDING		
	■ 13 - TAKE-OFF (25 KT CROSSWIND)		
	14 - VISUAL PATTERN | | | | FPV |		
	■ 15 - FINAL APPROACH		
	■ 16 - GO AROUND		
	17 - VISUAL PATTERN		
	18 - LANDING		
	PF : CM2		
	19 - TAKE-OFF (FLEX) | AP | FD | ATHR |		
	20 - CLIMB FL 250		
	21 - STAR MAX RATE OF DESCENT		
	■ 22 - ILS APP | AP | FD | ATHR |		
	23 - MANUAL LANDING (USE OF REVERSERS),		
	24 - TAXI 180° ON RUNWAY		
	25 - TAKE-OFF (CROSSWIND) | AP | FD | ATHR |		
	■ 26 - RADAR VECTORS VOR DME APPR		
	27 - CIRCLING | | | ATHR | FPV | FPD |		
	28 - LANDING		
	■ 29 - TAKE-OFF (25 KT CROSSWIND) | AP | FD | ATHR |		
	30 - VISUAL PATTERN | | | | FPV |		
	■ 31 - FINAL APPROACH		
	■ 32 - GO AROUND		
	33 - VISUAL PATTERN		
	34 - LANDING		
	MICROBURST		
	INIT T/O		
	35 - MICROBURST ENCOUNTERED DURING TAKE-OFF AFTER V1		
	INIT APP 1		
	36 - MICROBURST ENCOUNTERED ON APP - GO AROUND		
	PF : CM1		
	INIT T/O		
	37 - MICROBURST ENCOUNTERED DURING TAKE-OFF AFTER V1		
	INIT APP 1		
	38 - MICROBURST ENCOUNTERED ON APP - GO AROUND		
	INIT T/O		
	38 - AFTER LANDING CHECK-LIST		
	39 - PARKING CHECK-LIST		

CCQ N2 FFS SESSION GUIDE

01 - BRIEFING TOPICS

- Take-off and landing with crosswind and AFT CG
- Visual circuit
- Circling
- Low energy warning (optional)

02 - SESSION OBJECTIVE

- To study the normal operations of A320.

03 - SESSION PROFICIENCY CRITERIA

- To handle the A320 in normal operations
- To reinforce the use of FPV in crosswind and confirm correct crosswind technique for landing including AFT CG situations.

04 - SESSION GUIDE

TOW	T/O flaps	Air cond	Anti-ice	Eng	V1	VR	V2	Flex
58 t	1 + F	ON	OFF	CFM	123	134	134	52
				IAE	124	134	134	57

- 1 : INIT holding point 33L.
- 6, 22 : Insert CAT 1 minima for this exercise
- 10, 26 : Insert ceiling : 600 ft
Insert visibility : 4 km
- 13, 29 : Insert crosswind : 25 kt
and CG : 35%
- 15, 31 : Restore wind calm.
- 16, 32 : See FCOM Vol 3.03.23 and QRH 3.09

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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CCQ A330/A340 TO A320 COURSE ABNORMAL/EMERGENCY SYLLABI	2.02.05 Page 1 <i>E FQF/G</i> REV 21 MAY 98

F1 FBS syllabus..... Page 03

F2 FFS syllabus..... Page 05

F3 FFS syllabus..... Page 07

NOTE : *Instructors' FCTM includes the "Session Guides"*

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CCQ F1 FBS TAKE-OFF DATA

INIT PAGE			ATIS
CO RTE	FROM/TO	TRIP DIST	RWY 15 R
N.A.	LFBO/LFBO	878 NM	WIND 180°/10 kt
ALTN/CO RTE		CRZ WIND	VISI 800 m
N.A.		VRB	CEILING 250 ft
FLT NBR		ALTN	TEMP 4°C
[Airline ID] 251Q		LFBD	DEW POINT ... 2°C
LAT	LONG	ALTN DIST	QNH 1020 hPa/30.08 inHg
4338.1N	0122.1E	123 NM	QFE 1002 hPa/29.55 inHg
COST INDEX		FL to ALTN	RWY COND ... WET
30		140	Observations : Visible moisture
CRZ FL/TEMP	TROPO		AIR COND ON
FL 310 / -47°C	DEFAULT		ANTI ICE ON
			Braking action good

INIT NEXT PAGE	PERF PAGE	T/O FLAPS	NOTE :
ZFCG/ZFW	IAE CFM	2	F/PLN :
39.3%-50 t	V1		LFBO 15 R
39.3%-110 320 lb	VR		LACOU DEP - LACOU
	V2		SAU - NTS
BLOCK		—TOGA—	DIN - CAN
14 t	FLEX	FLEX	PTV - NEV
30 900 lb			CMF - MEN
	DRT	—DRT—	LFBO 15 R

CCQ F1 FBS SESSION GUIDE

01 - BRIEFING TOPICS

- Manual engines start
- F/CTL computers and reconfiguration laws logic
- Control of fuel
- Avionics smoke - Smoke removal procedure
- FM failure

02 - SESSION OBJECTIVE

- To practice the location and reconfiguration of the computers flight controls.
- To study the transfert and FCMC failure

03 - SESSION PROFICIENCY CRITERIA

- Good use of ECAM
- Acceptable knowledge of flight controls fuel and smoke abnormal procedures

04 - SESSION GUIDE

TOW	T/O flaps	Air cond	Anti-ice	Eng	V1	VR	V2	Flex
64 t	2	ON	OFF	CFM	147	152	153	55
				IAE	148	151	152	56

- 3 : MAN START ENG 2 then 1.
- 9 : During climb fail one computer at a time, and restore before next step (new function and new control location). Then demonstrate the result in configuration 1 ELAC fault, 2 ELAC's fault, SEC 1 or 2 or 3 only operative.
- 11 : Avionics smoke : emphasize study of procedure and status.
Continue procedure until "... before L/G extension".

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CCQ F2 FFS TAKE-OFF DATA

CCQ F2 FFS TAKE-OFF DATA			
INIT PAGE			ATIS
CO RTE	FROM/TO	TRIP DIST	RWY 33 L
N.A.	LFBO/LFPO	345 NM	WIND 360°/10 kt
ALTN/CO RTE		CRZ WIND	VISI 500 FT / Snow
N.A.		0°/0 KT	CEILING 500 ft
FLT NBR		ALTN	TEMP 2°C
[Airline ID] 252Q		EDDF	DEW POINT ... 0°C
LAT	LONG	ALTN DIST	QNH 1010 hPa/29.81 inHg
4338.1N	0122.1E	279	QFE 992 hPa/29.26 inHg
COST INDEX		FL to ALTN	RWY COND ... SLUSH 6 mm
30		250	Observations : AIR COND ON
CRZ FL/TEMP	TROPO		ANTI ICE ON
FL 310 / -47°C	DEFAULT		Braking action medium
INIT NEXT PAGE	PERF PAGE	T/O FLAPS	NOTE :
ZFCG/ZFW	IAE CFM	2	F/PLN :
28.4%-48 t	V1		LFBO 33 L
28.4%-105 600 lb	VR		LMG DEP - LMG
	V2		UR10 - CDN
BLOCK		TOGA	DIR MEL
10 t	FLEX	~~FLEX~~	NO STAR
22 000 lb			VIA MEL
	DRT	DRT	LFPO ILS 26

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CCQ A330/A340 TO A320 COURSE ABNORMAL/EMERGENCY SYLLABI	2.02.05 Page 6 <i>E FQF/G</i> REV 21 MAY 98

MALFUNC REF.	- CCQ F2 FFS - 1 ENGINE OUT - EMERGENCY DESCENT	-	+	+
	PF : CM1			
	1 - TRANSIT COCKPIT PREPARATION			
	2 - BEFORE START			
	3 - ENGINES START (EXTERNAL ELECTRIC + PNEUMATIC then CROSSBLEED)			
	4 - AFTER START CHECK-LIST			
	5 - TAXI			
	6 - BEFORE TAKE-OFF CHECK-LIST			
	7 - TAKE-OFF - ENGINE FLAME OUT AFTER V1 | AP | FD | ATHR | |			
	8 - RETURN TO DEPARTURE			
	9 - ILS APP 1 ENG OUT | AP | FD | ATHR | |			
	10 - GO AROUND			
	11 - RADAR VECTORS TO DOWNWIND LEG			
	12 - ILS APP 1 ENG OUT			
	13 - GO AROUND AT MINIMUM - Restore			
	INIT FL 350			
	14 - PRESSURIZATION FAILURE			
	■ 15 - EMERGENCY DESCENT HIGH SPEED / EXPEDITE P/B			
	■ 16 - RETURN TO DEPARTURE - ALL GEN. FAULT - EMER. ELEC. CONFIG			
	17 - ILS APP			
	18 - LANDING - Restore			
	PF : CM2			
	INIT T/O			
	19 - TAKE-OFF ENGINE FLAME OUT AFTER V1 | AP | FD | ATHR | |			
	20 - RETURN TO DEPARTURE			
	21 - ILS APP 1 ENG OUT | AP | FD | ATHR | |			
	22 - GO AROUND - Restore			
	23 - ATC CLEARANCE FL 350 | | FD | | |			
	24 - ALL ENGINE FLAME OUT FL 100			
	■ 25 - RELIGHT IN FLIGHT - ENG 1 ONLY - UNSUCCESSFUL FOR 2			
	26 - START APU - RELIGHT ON APU BLEED FOR 2			
	INIT FL 350			
	27 - STRUCTURAL DAMAGE			
	28 - EMERGENCY DESCENT | AP | FD | ATHR | |			
	29 - RETURN TO DEPARTURE			
	30 - ILS APP			
	31 - LANDING - Restore			
	INIT T/O			
	32 - AFTER LANDING CHECK-LIST			
	33 - PARKING CHECK-LIST			
	NOTE 1 : In case of 2 Captain crew, each Captain must perform the exercises 16, 17 and 18 as PF			
	NOTE 2 : In case of 2 First Officer crew, each F/O must perform the exercises 24, 25 and 26 as PNF			

CCQ F2 FFS SESSION GUIDE

01 - BRIEFING TOPICS

- Contaminated runway
- Engines start with external devices
Engine failure (drift down rules + performance differences)
- Approach 1 engine out (approach/climb gradient)
- All engines flame out
- All engines generators fault (Flight control law) - ELEC EMER CONFIG
- Emergency descent

02 - SESSION OBJECTIVE

- To study the 1 engine out procedure
- Review relight in flight.
- Review emergency descent.

03 - SESSION PROFICIENCY CRITERIA

- Good ECAM actions and task sharing
- Acceptable procedure and handling in N -1 and N -2 operations
- Acceptable approach in raw data
- Good emergency descents

04 - SESSION GUIDE

TOW	T/O flaps	Air cond	Anti-ice	Eng	V1	VR	V2	Flex
58 t	2	ON	OFF	CFM	118	126	127	56
				IAE	122	132	132	56

- 15 : Point out differences in term of rate of descent
- 16 : Fail all GEN. reaching FL 100.
- 25 : Relight ENG 1 only. Point out the performance on one engine.
At low altitude for training purpose, maintain Green Dot for best angle of descent and to start APU as soon as practicable. Air pressure will then be available for Air Start below 20 000 ft.

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CCQ F3 FFS TAKE-OFF DATA

INIT PAGE		ATIS	
CO RTE	FROM/TO	TRIP DIST	RWY 33 L
N.A.	LFBO/LFPO	345 NM	WIND 300°/10 kt
ALTN/CO RTE		CRZ WIND	VISI 8 km
N.A.		VRB	CEILING 1000 ft
FLT NBR		ALTN	TEMP 14°C
[Airline ID] 253Q		EDDF	DEW POINT ... 10°C
LAT	LONG	ALTN DIST	QNH 1020 hPa/30.08 inHg
4338.1N	0122.1E	279 NM	QFE 1002 hPa/29.55 inHg
COST INDEX		FL to ALTN	RWY COND ... DRY
30		250	Observations : AIR COND ON
CRZ FL/TEMP	TROPO		_____
FL 310 / -47°C	DEFAULT		_____

INIT NEXT PAGE	PERF PAGE	T/O FLAPS	NOTE :
ZFCG/ZFW	IAE CFM	1 + F	Weather minima for first part of each half session. Visibility: 10 km Ceiling: 2500 ft
28.4%-48 t	V1 	T/O C.G.	
28.4%-105 600 lb	VR 	26.6%	
BLOCK	V2 	—TOGA—	
10 t	FLEX 	FLEX	
17 600 lb	DRT 	—DRT—	

MALFUNC REF.	- CCQ F3 FFS - F/CTL : RECONFIGURATION LAWS - HYDRAULIC	-	+
	PF : CM1		
	1 - TRANSIT COCKPIT PREPARATION		
	2 - BEFORE START		
	3 - ENGINES START		
	4 - AFTER START CHECK LIST		
	5 - TAXI		
	6 - BEFORE TAKE-OFF		
	7 - TAKE-OFF | | FD |ATHR| | |		
	8 - CLIMB 1FL 100		
	■ 9 - FAILURE TO BE IN ALT LAW (YAW DAMP SYS FAULT) | | | | FPV | |		
	10 - APPROACH TO STALL IN LANDING CONFIG (DIRECT LAW)		
	11 - RECOVERY FROM STALL		
	12 - RADAR VECTORS TO ILS APPR		
	13 - LANDING - Restore		
	14 - TAKE-OFF		
	■ 15 - HYD GREEN LOW LVL + YELLOW LOW LVL		
	16 - DUAL HYD LOW PRESS		
	17 - VISUAL APPROACH (ILS ASSISTED)		
	18 - LANDING		
	INIT T/O		
	19 - TAKE-OFF ENGINE 2 FAILURE AFTER V1 (CAT 1 MINIMA)		
	20 - RADAR VECTORS - WEATHER IMPROVES		
	21 - VOR DME APPROACH | AP | |ATHR| FPV | FPD|		
	22 - LANDING		
	PF : CM2		
	INIT T/O		
	23 - TAKE-OFF CLIMB FL 100		
	■ 24 - FAILURE TO BE IN ALT LAW (FACs OFF)		
	25 - APPROACH TO STALL IN LANDING CONFIG (DIRECT LAW)		
	26 - RECOVERY FROM STALL | | FD |ATHR| | FPD|		
	27 - RADAR VECTORS TO ILS APPR		
	28 - LANDING - Restore		
	29 - TAKE-OFF		
	■ 30 - HYD GREEN LOW LVL + BLUE LOW LVL		
	31 - DUAL HYD LOW PRESS		
	32 - VISUAL APPROACH (ILS ASSISTED)		
	33 - LANDING		
	INIT T/O		
	34 - TAKE-OFF ENGINE 1 FAILURE AFTER V1 (CAT 1 MINIMA)		
	35 - RADAR VECTORS - WEATHER IMPROVES | AP | |ATHR| FPV | FPD|		
	36 - VOR DME APPROACH - LANDING		
	INIT T/O		
	37 - TAKE-OFF - ENGINE FIRE AT V1 -15 KT		
	38 - REJECTED TAKE-OFF AND EVACUATION		

CCQ F3 FFS SESSION GUIDE

01 - BRIEFING TOPICS

- CRM issue : Team performance
- FLT CONT. : Reconfiguration laws.
- Approach to stall and recovery.
- Dual hydraulic failures.
- One engine out circuit.

02 - SESSION OBJECTIVE

- To review approaches to stall and recovery in A320
- To study procedures and handling in case of dual hydraulic failure.
- To study procedures and handling one engine out

03 - SESSION PROFICIENCY CRITERIA

- Good abnormal and emergency procedures
- Good handling

04 - SESSION GUIDE

TOW	T/O flaps	Air cond	Anti-ice	Eng	V1	VR	V2	Flex
56 t	1 + F	ON	OFF	CFM	121	131	131	52
				IAE	122	131	131	56

- 9 : Use YAW DAMPER SYS FAULT to obtain alternate law.
- 15, 30 : Insert second HYD Lo Level when crew reads status page.
- 24 : Use FACs OFF fault to obtain alternate law.

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Evaluation FFS syllabus Page 03

NOTE : *Instructors' FCTM includes the "Session Guides"*

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CCQ EVALUATION FFS TAKE-OFF DATA			
INIT PAGE CO RTE N.A. ALTN/CO RTE N.A. FLT NBR [Airline ID] 270 LAT 4338.1N COST INDEX 30 CRZ FL/TEMP FL 310 / -46°C FROM/TO LFBO/LFPO LONG 0122.1E TROPO DEFAULT			

EVALUATION SESSION GUIDE

01 - BRIEFING TOPICS

- Evaluation in normal and abnormal or emergency configuration.

02 - SESSION OBJECTIVE

- Demonstration of the competence to operate A320 as Captain or First Officer, Pilot flying or Pilot not flying.
- Completion of simulator syllabus in order to start aircraft training.

03 - SESSION PROFICIENCY CRITERIA

(TBD)

04 - SESSION GUIDE

TOW	T/O flaps	Air cond	Anti-ice	Eng	V1	VR	V2	Flex
64 t	1 + F	ON	OFF	CFM	155	158	158	55
				IAE	151	155	155	52

Suggested briefing :

- The flight will consist of a normal airline flight from Toulouse to Orly with a Limoge departure.
Please use your actual Company and Airbus procedures.
- You will be responsible for liaison with ATC, safe operation and navigation of the aircraft. Make sure that you correctly understand ATC instructions. During the flight it will be necessary for me to initialize the simulator in order to carry out certain exercises ; I will inform you when I have control of the simulator and when I return control to you.
- You may communicate to each other in your mother language to facilitate procedures, but please keep me informed about what you are doing and remember you must speak English to ATC.
- Remember this is normal commercial flight: do not waste time but do not allow yourselves to be rushed. You must tell ATC what you require.
- Make good use of the published documentation for en route and terminals areas. Set and observe the appropriate minimas.
- Make full use of all aircraft equipment. If I do not wish you to use something, I may cause it to fail.
- Remember the importance of task sharing and good crew coordination. You are assessed as PF **AND** PNF.
- Use headsets and consider me as ATC.
- Engine failure Flaps Retraction Altitude will be XXX feed.
- Single Engine Go around Acceleration Altitude will be XXX feed.
- The weather for departure will be....
- The aircraft weight and C.G. will be....

EVALUATION SESSION GUIDE (END)

04 - SESSION GUIDE

Try to avoid INIT's during the session.

Endeavour to run exercises in a logical sequence and make sure that the trainees understand your instructions. Don't let yourself get involved in discussions.

Make your own judgment during the session and revert to your instructor role again if, for example, an exercise is unsatisfactorily carried out.

- 8 : Among exercises, insert a change of altitude when ALT*.
- 19 : Insert "800 ft / 6 km" to check go around in FPV or FPD.
- 23 : Insert wing tip brake (WTB) when flaps between 1 and 0.
- 31 : For engine fire on ground and on ground emergency evacuation - insert unextinguishable fire.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

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Flight syllabus Page 03

NOTE : *Refer to Base Training Briefing in FCTM Vol 1 - "Normal Operations Briefings" chapter*

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CHAPTER 04

- RECURRENT TRAINING-

CHAP 04

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2.04.01 - INTRODUCTION

2.04.02 - TRAINING FOOTPRINT

2.04.03 - TRAINING SYLLABI

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R

01 - GENERAL

Airbus Industrie Recurrent Training and Checking Program is designed as a unique service for the Customer Airlines.

The analysis supporting this recommended program has been conducted in accordance with FAR and JAR requirements with regard to the list of items to be considered and the cycle of events.

This Recurrent Training applies to crewmembers rated on Airbus Fly By Wire aircraft designed with a strong functional commonality (Airbus family concept). This concept is taken into account in the following program.

02 - OBJECTIVES OF THE COURSE

Each flight crew member will follow the Recurrent Training and Checking Program as detailed hereafter. The training program achieves not only an expansion of the bi-annual requirements(1) but it also provides in deep knowledge, a thorough insight into the operational and technical development that have come to light worldwide.

The regulation to be applied for operator recurrent training and checking may be more restrictive than the guide lines described in this document, and in any case the operator specifics need to be embedded.

By this mean, the operator is able to continually build on crew member experience so that the operation of the aircraft is maintained with the highest level of safety.

It is the responsibility of the Airline to get the approval of their recurrent training/checking program as it is defined in their operation manual.

The recurrent follow up of the sequence will remain under Airline responsibility as well as line checks and Emergency & Safety equipment training and checking.

(1) The normal interval between 2 Recurrent Training and Checking programs is 6 months.

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03 - COURSE DESCRIPTION

The two (2) Recurrent Training and Checking Programs comprise ground school (CBT), CRM training and FFS sessions that ensure a complete aircraft system review after a cycle of three years.

- **CBT (SYSTEM REVIEW) :**

The systems annually reviewed will be those suggested in the table given in the "Ground Course review" sample. That table ensures a complete aircraft review over a cycle of 3 years. It will also include a study of in service experience events and operational procedures.

A questionnaire covering all systems will be given to assess the level of knowledge.

- **FFS :**

The advantage of Airbus family concept is taken into account to classify Normal, Abnormal and Emergency procedures in categories of equivalence according to their effect on :

- The Automation (Autopilot [A/P] - Flight directors [FD] - Autothrust [ATHR] - Flight Management and Guidance Computer [FMGC])
- Approach procedures (aircraft configuration and landing characteristics)
- Flight control laws (Normal, Alternate, Direct laws)

A list of those events within their class is given in the detailed program.

This list includes events which have been selected by Airbus Training because of their specificity.

The Operator is allowed to modify or add some events according to its own requirements or National regulations.

- **CRM TRAINING :**

The objective of this training is to enhance communication and of pilot's management skills. It consists in briefing during training sessions and case based studies. Even if a 4 year recurrent training cycle is required by the JAA, a unique period of 3 years is considered for both CRM and system training. It should include elements such as :

- Situational awareness detecting and recovering.
- Situational awareness preventing
- Error, Performance and Safety
- Communication
- Team performance
- Procedures and practices
- Decision making

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04 - RECURRENT TRAINING AND CHECKING FOLLOW-UP

A. GENERAL

Each trainee will be provided with 2 forms, one for ground studies and one for the FFS sessions (refer to samples on next pages). These forms will become part of his / her Recurrent Training file for the complete 3 year cycle (see **1**)

B. FFS TRAINING AND CHECKING FOLLOW UP SHEET (see sample on next page)

All the events are to be completed by the individual trainee as PF during the 3 year cycle. The instructor will :

- 1 - Train as directed by the syllabus.
- 2 - Select items from the classes of equivalence as directed by the syllabus. The instructor should select items with regard to :
 - Previous training and check exercises completed.
 - The remaining exercises which must be completed during the 3 year cycle.
- 3 - Fill the column relating to the session :
 - T1, T2 ... for the training sessions (see **2**)
 - and
 - C1, C2... for the check (see **3**)

The training and checking session date should also be entered (see **4**) as well as the CRM elements reviewed during the CRM training (see **5**)

C. GROUND REVIEW SHEET (see sample on next page)

All the items listed on this form must be reviewed during the 3 year period ; the items can be reviewed in any order. It is suggested that around 16 items are covered each year.

As each item is completed, a cross is placed in the corresponding box (see **6**) ; the score from the questionnaire is also entered at the bottom of the form (see **7**)

A minimum score of 80% is required unless an Operator or Authority requires more.

05 - RECURRENT TRAINING AND CHECKING FOLLOW-UP SAMPLES

A. FFS TRAINING AND CHECKING FOLLOW-UP SHEET SAMPLE

A320 ☒

STARTING DATE : Jul 13th, 1997

NAME : (CPT ☒ - F/O ☐)

AIRLINE : A.I 00

Each instructor designated to conduct either training or checking session within a period of 3 years starting on the date mentioned hereabove must update this table according to the performed events.

4 Date : JUL 13, 1997
JAN 15, 1998
JUL 16, 1998
JAN 16, 1999

CLASS	TRAINING						EVENTS	CHECKING					
	Year 1		Year 2		Year 3			Year 1		Year 2		Year 3	
	T1	T2	T3	T4	T5	T6		C1	C2	C3	C4	C5	C6
1A -	X						A MANUAL START	X					
							B CROSS BLEED START	X					
							C START VALVE MAN OPERATION						
			X				D START WITH EXTERNAL POWER						
- 1B -		X					A EXCESS CABIN ALTITUDE						
							B AIR COND SMOKE						
							C ENGINE FIRE			X			
			X				D FUEL IMBALANCE						
- 2 -	X						A AUTOPILOT OFF			X			
		X					B AUTOTHRUST OFF						
							C FCU 1 + 2 FAULT			X			
- 3 -		X					A HYD : G RSVR LO AIR PR/OVHT						
							B BRAKES : A/SKID FAULT or NWS OFF			X			
			X				C F/CTL SLATS OR FLAPS LOCKED			X			
- 4 -	X						A ELEC : DUBUS 1 + 2 FAULT						
							B AUTO FLT : FMGS 1 + 2 FAULT			X			
							C HYD : B + Y SYS LO PR						
- 5 -			X				A F/CTL : ALT LAW			X			
- 6 -		X					A NAV : RA 1 + 2 FAULT		X				
			X				B HYD : G + Y SYS LO PR						
	X						C HYD : G + B SYS LO PR			X			
							D ELEC : EMER CONFIG						
ACRM							A S.A DETECTING RECOVERING						
			X				B S. A PREVENTING						
			X				C ERROR PERFORMANCE AND SAFETY						
	X						D COMMUNICATION						
	X						E TEAM PERFORMANCE						
		X					F PROCEDURE AND PRACTICES						
		X					G DECISION MAKING						

5

NOTE : - The day before T2, T4 and T6 is dedicated to CBT "Ground review and Quiz" (see next table)
 - All the exercises listed above are to be completed within a cycle of 3 years
 - At least two (2) CRM elements should be completed every year

(SAMPLE1.PCX)

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05 - RECURRENT TRAINING AND CHECKING FOLLOW-UP SAMPLES (END)

B. GROUND COURSE REVIEW SAMPLE

A320 ☒

1

NAME : (CPT ☒ - F/O ☐) T. A. SMITH

AIRLINE : A.I 00

GROUND REVIEW	ATA	SYSTEM	YEAR 1	YEAR 2	YEAR 3
	21	AIR COND	Pack and temperature regulation	X	
			Warning and operating limitations	X	
			Pack overheat - Duct overheat	X	
	21	PRESS	Warning and operating limitations	X	
	21	VENT	Avionic, lavatory and pack bay ventilation	X	
			Warning and operating limitations	X	
	22	AFS	Peripheral interfaces	X	
			Flight envelope	X	
			MCDU and/or FMGC reconfiguration	X	
			Autoflight system warnings	X	
	23	COMM	Intercommunication system architecture and controls		
	24	ELEC	Emergency electrical control panel		
			AC warnings and operating limitations		
			DC warnings and operating limitations		
			Loss of ESS TR and TR1		
	26	FIRE	Cargo compartment fire protections and warnings	X	
			Lavatories fire protections and warnings	X	
	27	F/CTL	Protections and reconfiguration laws	X	
			Warning and operating limitations	X	
			IRS disagree	X	
	28	FUEL	System		
			Warnings and limitations		
	29	HYD	Warning and operating limitations		X
			Reservoir overheat - dual system LO LVL		X
	30	ICE	Wing anti ice system		X
			Ice detection system and warnings		X
	31	EIS	Warnings and limitations	X	
			DMC / DU reconfiguration	X	
	32	L/G	Warning and operating limitations		X
			Gravity extension and braking with accumulator		X
Braking : antiskid and autobrake				X	
Tire pressure indication system				X	
33	LIGHTS	Cockpit and exterior lighting			
34	NAV	ADIRS warnings and operating limitations			
		NAV system warnings and operating limitations			
		ADIRU fault and switching			
35	OXYGEN	Cockpit and cabin systems			
36	PNEU	Pack regulation		X	
		Warnings and operating limitations		X	
		Bleed faults and wing leak		X	
38		Water waste system		X	
45	OMS	CFDS failure classification - Back up clock		X	
49	APU	Warning and Operating Limitations			
52	DOORS	Operation and arming system			
70	POWER PLANT	ECAM secondary parameters	X		
		Warnings and operating limitations	X		
Performance		All operating limitations			
		Take off optimization			
		Require and actual landing distance			
			SCORE		
Date : _____ - QUIZ YEAR 1			92%		
Date : _____ - QUIZ YEAR 2			88%		
Date : _____ - QUIZ YEAR 3					

(SAMPLE2.PCX)

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01 - TRAINING DEVICE TIME SHARING

N. B. : Except when notified, the allocated time is mentioned per crew

TRAINING AND CHECKING PROGRAM N° 1		2 working days
FFS : 2 sessions		6:00 (2 x 3:00)
TRAINING AND CHECKING PROGRAM N° 2		3 working days
CBT : - Aircraft system review.....		4:00 / trainee
- Quiz.....		2:00 / trainee
FFS : 2 sessions.....		6:00 (2 x 3:00)

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01 - TRAINING AND CHECKING PROGRAM N° 1

DAY 1	DAY 2
Training FFS briefing 1:00 Training FFS : 3:00 - <i>Practice of required proficiency items</i> - <i>CRM items</i>	Check FFS briefing 1:00 Check FFS : 3:00 - <i>Operator proficiency check</i>

02 - TRAINING AND CHECKING PROGRAM N° 2

DAY 1	DAY 2	DAY 3
CBT review : 4:00 - <i>System review as suggested in the "Ground Review" follow-up sheet</i> - <i>Study of in service experience events and operational procedures</i> CBT quiz 2:00	Training FFS briefing 1:00 Training FFS : 3:00 - <i>Practice of required proficiency items as defined in the previous period</i> - <i>CRM items</i>	Check FFS briefing 1:00 Check FFS : 3:00 - <i>Licence renewal check and Operator proficiency check</i>

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Recurrent Training and Checking follow-up sheet Page 03

Recurrent Training FFS syllabus Page 05

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NOTE : *Instructors' FCTM includes the "Session Guides"*

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- RECURRENT TRAINING AND CHECKING FOLLOW-UP SHEET -

A320
STARTING DATE :
NAME : (CPT ☐ - F/O ☐)

AIRLINE :

Each instructor designated to conduct either training or checking session within a period of 3 years starting on the date mentioned hereabove must update this table according to the performed events.

Date :

CLASS	TRAINING						EVENTS		CHECKING							
	Year 1		Year 2		Year 3				Year 1		Year 2		Year 3			
	T1	T2	T3	T4	T5	T6			C1	C2	C3	C4	C5	C6		
- 1A -							A	MANUAL START								
							B	CROSS BLEED START								
							C	START VALVE MAN OPERATION								
							D	START WITH EXTERNAL POWER								
- 1B -							A	EXCESS CABIN ALTITUDE								
							B	AIR COND SMOKE								
							C	ENGINE FIRE								
							D	FUEL IMBALANCE								
- 2 -							A	AUTOPILOT OFF								
							B	AUTOTHRUST OFF								
							C	FCU 1 + 2 FAULT								
- 3 -							A	HYD : G RSVR LO AIR PR/OVHT								
							B	BRAKES : A/SKID FAULT or NWS OFF								
							C	F/CTL : SLATS OR FLAPS LOCKED								
- 4 -							A	ELEC : DC BUS 1 + 2 FAULT								
							B	AUTO FLT : FMGS 1 + 2 FAULT								
							C	HYD : B + Y SYS LO PR								
- 5 -							A	F/CTL : ALT LAW								
- 6 -							A	NAV : RA 1 + 2 FAULT								
							B	HYD : G + Y SYS LO PR								
							C	HYD : G + B SYS LO PR								
							D	ELEC : EMER CONFIG								
ACRM	Year 1	Year 2	Year 3				A	S.A DETECTING RECOVERING								
							B	S. A PREVENTING								
							C	ERROR PERFORMANCE AND SAFETY								
							D	COMMUNICATION								
							E	TEAM PERFORMANCE								
							F	PROCEDURE AND PRACTICES								
							G	DECISION MAKING								

NOTE : - The day before T2, T4 and T6 is dedicated to CBT "Ground review and Quiz" (see next table)
 - All the exercises listed above are to be completed within a cycle of 3 years
 - At least two (2) CRM elements should be completed every year

(SHEET1.PCX)

- RECURRENT TRAINING AND CHECKING FOLLOW-UP SHEET -

A320

NAME : (CPT ☐ - F/O ☐)

AIRLINE :

GROUND REVIEW	ATA	SYSTEM	YEAR 1	YEAR 2	YEAR 3	
	21	AIR COND	Pack and temperature regulation Warning and operating limitations Pack overheat - Duct overheat			
	21	PRESS	Warning and operating limitations			
	21	VENT	Avionic, lavatory and pack bay ventilation Warning and operating limitations			
	22	AFS	Peripheral interfaces Flight envelope MCDU and/or FMGC reconfiguration Autoflight system warnings			
	23	COMM	Intercommunication system architecture and controls			
	24	ELEC	Emergency electrical control panel AC warnings and operating limitations DC warnings and operating limitations Loss of ESS TR and TR1			
	26	FIRE	Cargo compartment fire protections and warnings Lavatories fire protections and warnings			
	27	F/CTL	Protections and reconfiguration laws Warning and operating limitations IRS disagree			
	28	FUEL	System Warnings and limitations			
	29	HYD	Warning and operating limitations Reservoir overheat - dual system LO LVL			
	30	ICE	Wing anti ice system Ice detection system and warnings			
	31	EIS	Warnings and limitations DMC / DU reconfiguration			
	32	L/G	Warning and operating limitations Gravity extension and braking with accumulator Braking : antiskid and autobrake Tire pressure indication system			
	33	LIGHTS	Cockpit and exterior lighting			
	34	NAV	ADIRS warnings and operating limitations NAV system warnings and operating limitations ADIRU fault and switching			
	35	OXYGEN	Cockpit and cabin systems			
	36	PNEU	Pack regulation Warnings and operating limitations Bleed faults and wing leak			
	38		Water waste system			
	45	OMS	CFDS failure classification - Back up clock			
	49	APU	Warning and Operating Limitations			
	52	DOORS	Operation and arming system			
	70	POWER PLANT	ECAM secondary parameters Warnings and operating limitations			
		Performance	All operating limitations Take off optimization Require and actual landing distance			
				SCORE		
	Date : _____ - QUIZ YEAR 1.....					
	Date : _____ - QUIZ YEAR 2.....					
	Date : _____ - QUIZ YEAR 3.....					

(SHEET2.PCX)

RECURRENT TRAINING FFS FFS TAKE-OFF DATA
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

 [Airline ID] 431

LAT

 4338.1N

COST INDEX

 30

CRZ FL/TEMP

 4000 ft / - 3°C

FROM/TO

 LFBO/LFBO

LONG

 00122.1E

TROPO

 36 090

TRIP DIST

 LOCAL

CRZ WIND

ALTN

 LFBD

ALTN DIST

 123 NM

FL to ALTN

 140

ATIS

RWY 15 R

WIND 230°/25 kt

VISI 8 km

CEILING OVC 1000 ft

TEMP 2°C

DEW POINT ... 0°C

QNH 1007 hPa

QFE 989 hPa

RWY COND ... DRY

Observations : _____

NOTE :

LFBO 15 R

Local flight

Traffic pattern d

ALTN : LFBO LACOU SID - LACOU
 MIRBA STAR - LFBD ILS 23

INIT NEXT PAGE

ZFCG/ZFW

 28.4%-48 t
 28.4%-105 600 lb

BLOCK

 10 t
 22 000 lb

PERF PAGE

IAE CFM

 V1

 VR

 V2

 FLEX

 DRT

T/O FLAPS

 2

T/O C.G.

 26.6%

 ~~TOGA~~
 FLEX

 ~~DRT~~

MALFUNC REF.	- RECURRENT TRAINING FFS -	-	+
	TRAINEE 1 AS PF		
	1 - TRANSIT COCKPIT PREPARATION		
	2 - BEFORE START		
	■ 3 - ENGINE START (EVENT OUT OF CLASS 1A)		
	4 - AFTER START		
	5 - TAXI		
	6 - BEFORE TAKE-OFF		
	7 - TAKE-OFF - ENGINE FAILURE AFTER V1 (CROSS WIND) | AP | FD | ATHR |		
	8 - RADAR VECTORS		
	9 - NON PRECISION APPR - ONE ENGINE OUT | AP | | ATHR | FPV | FPD |		
	10 - GO AROUND - ONE ENGINE OUT - REPORT ON DOWNWIND		
	■ 11 - VISUAL APPR | | | ATHR | FPV |		
	12 - LANDING - ONE ENGINE OUT (CROSS WIND) - Restore		
	INIT T/O (WIND 130°/15 kt)		
	■ 13 - TAKE-OFF - TCAS EXERCISE OR INCAPACITATION | | FD | ATHR |		
	■ 14 - SID CLIMB - EVENT OUT OF CLASS 2 THEN		
	■ 15 - EVENT OUT OF CLASS 3 OR 4		
	16 - HOLDING		
	17 - VISUAL APPR - APPR ILS ASSISTED | | | ATHR | FPV |		
	18 - LANDING		
	19 - TAKE-OFF - WINDSHEAR BEFORE V1		
	20 - REJECTED TAKE-OFF		
	TRAINEE 2 AS PF		
	INIT T/O		
	■ 21 - TAKE-OFF - WINDSHEAR AFTER VR | | FD | ATHR |		
	■ INIT FL 350 (OPTIONAL)		
	■ 22 - EVENT OUT OF CLASS 1B		
	23 - DESCENT FL 100 - EVENT OUT OF CLASS 2 | AP | FD | ATHR |		
	24 - ILS APPR		
	■ 25 - CIRCLING (OPTIONAL) | AP | FD | ATHR |		
	26 - LANDING		
	INIT T/O (WIND 130°/25 kt)		
	27 - TAKE-OFF - ENGINE FAILURE AFTER V1 (CROSS WIND)		
	28 - NON PRECISION APPR - ONE ENGINE OUT		
	29 - GO AROUND - ONE ENGINE OUT - REPORT DOWNWIND | | FD | ATHR |		
	■ 30 - VISUAL APPR		
	31 - LANDING - ONE ENGINE OUT (CROSS WIND) - Restore | | FD |		
	INIT T/O (WIND 130°/15 kt)		
	■ 32 - TAKE-OFF - TCAS EXERCISE (OPTIONAL)		
	■ 33 - EVENT OUT OF CLASS 5 or 6		
	34 - VISUAL APPR - APPR ILS ASSISTED | | | ATHR | FPV |		
	35 - LANDING - Restore		
	■ CAT II OR CAT III TRAINING (OPTIONAL)		
	■ 36 - TAKE-OFF- LOW VISIBILITY OPERATIONS		
	37 - RADAR VECTORS - LOW VISIBILITY OPERATIONS BRIEFING		
	38 - ILS APPR AP FD ATHR		
	39 - LANDING		
	40 - AFTER LANDING AND PARKING		

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		REV 23 JUL 99

R

RECURRENT TRAINING FFS SESSION GUIDE

01 - SESSION OBJECTIVE

- To be able to perform normal and abnormal procedures and handling.
- To review the selected CRM items.

02 - TRAINING TOPICS

A. REVIEW

- Cross wind take-off
- Non precision approach
- Engine out procedure and handling
- Windshear recovery procedures
- TCAS and incapacitation procedures.
- Failure management according to selections
- Selected CRM items.

B. INTRODUCE

NIL

03 - SESSION PROFICIENCY CRITERIA

- Ability to demonstrate the maneuvers prescribed in this session in proper use with qualities of prudence and care in selecting a course of action.
- Ability to apply CRM skills in all phases of flight.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

RECURRENT TRAINING FFS SESSION GUIDE (END)

04 - SESSION GUIDE

Eng	V1	VR	V2	Flex
CFM	145	154	154	47
IAE	145	153	153	47

- 3 : Select malfunction out of the Class 1A list as proposed in follow up forms.
- 11, 30 : Remove wind gradient prior to approach - set ceiling 3000 ft.
- 13, 32 : Select TCAS exercise or incapacitation [(once a year) unless the equipment is available on the trainings device].
- 14, 22 : Select malfunction out of Class 2 list as proposed in follow up form.
- 21 : Set Ceiling 1000 ft. Cancel windshear after cleaning up.
- Init 350 : Only if required by the following event (emergency descent etc.).
- 25 : If required by Company or National Authorities.
- 33 : Select malfunction out of Class 6 list as proposed in follow up form.
- Cat II/III : Performed once a year. Set the lowest applicable minimum for the crew.
- 36 : If time permits, otherwise INIT Base leg und unfreeze position when Low Visibility Operations briefing completed. Set visual and wind conditions as appropriate.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

RECURRENT CHECKING FFS TAKE-OFF DATA
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

[Airline ID] 432

LAT

4338.1N

COST INDEX

30

CRZ FL/TEMP

4000 ft / -3°C

FROM/TO

LFBO/LFPO

LONG

00122.1E

TROPO

36 090

TRIP DIST

LOCAL

CRZ WIND

ALTN

LFBD

ALTN DIST

123 NM

FL to ALTN

240

ATIS

RWY 15 R

WIND 130°/25 kt

VISI 6 km

CEILING OVC 800 ft

TEMP 5°C

DEW POINT ... 2°C

QNH 1005 hPa

QFE 987 hPa

RWY COND ... DRY

Observations : _____

NOTE :

LFBO 15 R

Local flight

Traffic patterns

ALTN : LFBO LACOU DEP - LACOU

MIRBA ARR - LFBD ILS 23

INIT NEXT PAGE

ZFCG/ZFW

28.4%-48 t

28.4%-105 600 lb

BLOCK

10 t

22 000 lb

PERF PAGE

IAE CFM

V1

VR

V2

FLEX

T/O FLAPS

2

T/O C.G.

26.6%

—TOGA—

FLEX

—DRT—

MALFUNC REF.	- RECURRENT CHECKING FFS -										-	+
	TRAINEE 2 AS PF											
	1 - TRANSIT COCKPIT PREPARATION											
	2 - BEFORE START											
	■ 3 - ENGINE START (EVENT OUT OF CLASS 1A)											
	4 - AFTER START											
	5 - TAXI											
	6 - BEFORE TAKE-OFF											
	7 - TAKE-OFF - ENGINE FAILURE AT V1 (CROSS WIND) | AP | FD | ATHR | | |											
	8 - SID OR RADAR VECTORS											
	9 - NON PRECISION APPR - ONE ENGINE OUT | AP | | | ATHR | FPV | FPD |											
	10 - GO AROUND - ONE ENGINE OUT - REPORT ON DOWNWIND											
	■ 11 - VISUAL APPR - APPR ILS ASSISTED | | | | ATHR | FPV | |											
	12 - LANDING - ONE ENGINE OUT (CROSS WIND) - Restore											
	INIT T/O (WIND 130°/15 kt)											
	■ 13 - TAKE-OFF - WINDSHEAR AFTER VR | | | FD | ATHR | | |											
	14 - SID CLIMB											
	■ 15 - EVENT OUT OF CLASS 6											
	16 - HOLDING											
	17 - VISUAL APPR - APPR ILS ASSISTED | | | | ATHR | FPV | |											
	18 - LANDING											
	TRAINEE 1 AS PF											
	■ 19 - TAKE-OFF - WINDSHEAR AFTER VR | | | FD | ATHR | | |											
	20 - RADAR VECTORS											
	■ 21 - ILS APPR | AP | FD | ATHR | | |											
	22 - CIRCLING | | | | ATHR | FPV | |											
	23 - LANDING											
	INIT T/O (WIND 130°/25 kt)											
	24 - TAKE-OFF - ENGINE FAILURE AFTER V1											
	25 - NON PRECISION APPR - ONE ENGINE OUT | | | | ATHR | FPV | FPD |											
	26 - GO AROUND - ONE ENGINE OUT - REPORT DOWNWIND | | | FD | ATHR | | |											
	27 - VISUAL APPR | | | | ATHR | PPV | |											
	28 - LANDING - ONE ENGINE OUT (CROSS WIND) - Restore | | | | | |											
	INIT T/O (WIND 130°/15 kt)											
	29 - TAKE-OFF - TCAS EXERCISE (OPTIONAL)											
	■ 30 - EVENT OUT OF CLASS 6											
	31 - VISUAL APPR - APPR ILS ASSISTED | | | | ATHR | FPV | |											
	32 - LANDING - Restore											
	CAT II OR CAT III TRAINING											
	■ 33 - TAKE-OFF - LOW VISIBILITY OPERATIONS											
	34 - CAT II / III APPR											
	■ 35 - GO AROUND - Restore | AP | FD | ATHR | | |											
	INIT T/O											
	36 - TAKE-OFF - LOW VISIBILITY - ENGINE FIRE (UNEXT.) AT V1 -30 KT											
	38 - REJECTED TAKE-OFF											
	37 - ON GROUND EMERGENCY EVACUATION - Restore											

RECURRENT CHECKING FFS SESSION GUIDE

01 - SESSION OBJECTIVE

- To be able to execute normal and abnormal procedure and handling.
- To attain sufficient proficiency for the recurrent check.

02 - TRAINING TOPICS

A. REVIEW

- Flight in severe turbulence.
- Emergency descent.
- RTO and on ground emergency evacuation.
- Failure management according to selections.

B. INTRODUCE (NIL)

03 - SESSION PROFICIENCY CRITERIA

- Ability to demonstrate the prescribed maneuvers in this session must be with good judgement commensurate and high level of safety.
- Ability to demonstrate acting as a crew and to apply CRM skills in all phases of flight.

04 - SESSION GUIDE

Eng	V1	VR	V2	Flex
CFM	145	154	154	47
IAE	145	153	153	47

- 3 : Select malfunction out of the Class 1A list as proposed in follow up forms.
- 11 : Remove wind gradient prior to approach - set ceiling 3000 ft.
- 13, 19 : Remove windshear after cleaning up.
- 15, 30 : Select malfunction out of Class 6 list as proposed in follow up forms.
- 21 : Could be performed in raw data, if required by regulations or operator.
- 33 : Set the lowest minimum applicable for the crew.
Change wind 130°/5 kt. Take-off only, if time permits, otherwise INIT base leg and unfreeze position when Low Visibility Operations briefing completed.
- 35 : For CAT II qualified crews : one missed approach (any reason) every 6 months.
For CAT III qualified crews : one missed approach (A/P disconnection) per year.

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INSTRUCTOR ONLY

INSTRUCTOR ONLY



CHAPTER 05

- GROUND SCHOOL INSTRUCTOR COURSE -

CHAP 05

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	GROUND SCHOOL INSTRUCTOR COURSE TABLE OF CONTENTS	2.05.00 Page 1 <i>E FC5</i> REV 23 JUL 99

R

2.05.01 - INTRODUCTION

2.05.02 - TRAINING FOOTPRINT

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	GROUND SCHOOL INSTRUCTOR COURSE INTRODUCTION	2.05.01 Page 1 <i>E FC5</i>	R
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01 - GENERAL

This course is designed to bring the trainee to the level of ground instructor on Airbus A320. It is centered on the ground phase and on the FBS sessions of the A320 Regular Transition course and is further supplemented by an observation of a full Abnormal/Emergency phase extracted from the Regular course.

This course does not include aircraft handling but introduces the basic of task sharing and crew coordination.

02 - OBJECTIVES OF THE COURSE

A. PHASE 1 : GROUND COURSE

- To study all aircraft system
- To study in the ECAM trainer, FMGS trainer and Fixed Base Simulator the integration of systems and subsequent procedures.

B. PHASE 2 : NORMAL OPERATIONS

- To study in the Fixed Base Simulator the integrations of systems and subsequent procedures as well as aircraft handling in normal situations.

C. PHASE 3 : ABNORMAL/EMERGENCY OPERATIONS

- To observe and study in the Fixed Base Simulator the abnormal/emergency procedures with full crew coordination

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R

TRAINING DAILY FOOTPRINT

A. GROUND PHASE

DAY 1 to DAY 11

Refer to Regular Transition
Course - **Ground Phase**

B. NORMAL PHASE

DAY 12

Refer to Regular Transition
course **N1 FBS**

DAY 13

Refer to Regular Transition
course **N2 FBS**

C. ABNORMAL/EMERGENCY PHASE

DAY 14 to DAY 18

Trainee as an observer :

Refer to Regular Transition
course - **Abn/emerg Phase**
(F1 FBS to F5 FFS)



CHAPTER 08

- FLIGHT INSTRUCTOR FAMILIARIZATION COURSE -

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FLIGHT INSTRUCTOR FAMILIARIZATION COURSE TABLE OF CONTENTS	2.08.00 Page 1 <i>E FC8</i> REV 21 MAY 98

2.08.01 - INTRODUCTION

2.08.02 - TRAINING FOOTPRINT

2.08.03 - TRAINING SYLLABI

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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FLIGHT INSTRUCTOR FAMILIARIZATION COURSE INTRODUCTION	2.08.01 Page 1 <i>E FC8</i>
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01 - GENERAL

The Flight Instructor Familiarization course is designed to gain experience with the specific techniques required to base train on the A319/A320/A321

The trainee instructor is assumed to have previous instructional experience in jet transport aircraft and have satisfactorily completed an A320 Transition course. It is considered advantageous, though not imperative, that he should have had the opportunity to consolidate his knowledge of systems and operating procedures with some 100 hours or 4 months of practical line flying.

The course is flexible and will be adapted to match any special requirements of the customer Airline, particularly in the area of trainees' previous experience.

02 - OBJECTIVES OF THE COURSE

- To provide flight instructor familiarization on aircraft type for already qualified instructors
- To provide familiarization with the operation of the aircraft from the right hand seat with limited assistance from the student
- To improve the basic operating and supervising skills of instructor candidate
- To improve the management and co-ordination skills of instructor during aircraft training
- To familiarize flight instructors with the basic Airbus Training syllabi

During the course the participant is able to revise the specific techniques of conducting base training, whilst becoming more familiar with operating the aircraft from the right hand seat. Certain phases of simulator and flight sessions are flown with an Airbus Training instructor role playing the student in order to :

- expose the trainee to typical student reactions and problems
- expand his power of analysis
- use the varied means available to encourage improvement in student performance

N. B. : Following successful completion of the course, the Airline may seek trainee's designation as a flight instructor with the appropriate aviation Authority.

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03 - COURSE ORGANIZATION

A. FFS SESSION BRIEFING

The FFS is treated in all respects as a real aircraft being used for base training i. e. engine failures are simulated by retarding the respective throttle.

Ensuing drills will generally be touch drills.

Of course genuine failures do occur during training flights and examples of these will be introduced using the full capabilities of the simulator and handled using the necessary drills and check-list procedures.

The action, in the event of a genuine failure, must be made clear in the first take-off briefing i. e. the trainee will assume control of the aircraft clearly calling "**I have control**" and expecting the response from the Airbus instructor acting as student "**You have control**".

The failure is then handled using the appropriate abnormal/emergency procedures.

a. General right hand seat familiarization demonstration practice

Normal preparation, explanation of seats controls, adjustment, use of red and white balls to have optimum visual references during low minima approach.

b. Use of FMS

Refer to FCTM Vol 1 - "Normal Operations Briefings" chapter - Base training briefing

c. Touch and go

Refer to FCTM Vol 1 - "Normal Operations Briefings" chapter - Base training briefing

d. Late final descent clearance

Maintain cleared altitude on final approach (use LOC to track ILS centreline);
Select gear down, flap full and reduce speed to V_{APP} when cleared for the approach.

METHOD IN VISUAL APPROACH

Select both FDs OFF (ATHR speed mode), select FPV. Adjust pitch attitude to obtain -6° angle as indicated by FPV.

As correct approach path regained adjust pitch attitude to that required for normal approach.

NOTE : In all cases the approach must be stabilized by 500 ft AGL. If not, a go around should be consider.

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03 - COURSE ORGANIZATION (CONT'D)

A. FFS SESSION BRIEFING (END)

d. Late final descent clearance (end)

DUCK UNDER

De-stabilizing the approach by undue increase rate of descent in the last 300 ft is potentially hazardous.

A threshold crossing height of 50 ft R. A. is the norm. Reducing this altitude increases the risk of short touchdown. For information 1 dot fly up at 50 ft R. A. is 14 ft below the correct glide path, 2 dots is 28 ft below (landing gear clearance at 50 ft R. A. is 32 ft).

Corrections form "duck under" can also lead to landings further along the runway than desired.

If stabilisation is not achieved, a go around should be considered.

e. Error recovery

During this part the Airbus instructor will behave as a student and introduce common student problems and reactions. The trainee upon noticing the error should not simply highlight the solution but try to analyse the possible reasons behind it.

Be aware of the students receptive state wehn pointing out errors. It could be better for the instructor to fly the aircraft while he summarizes a problem so that the student does not have to divide his attention into trying to listen and to fly at the same time. If small errors increase progressively during a session, recognize the stress build up early enough to prevent trainee's depression by removing all pressures, either by demonstrating a circuit, pointing out any weakness, together with the proper corrective actions, or by allowing him to use the automilot for part of the exercise.

f. Instructor take over

Refer to FCTM Vol 1 - "Normal Operations Briefings" chapter - Base training briefing

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03 - COURSE ORGANIZATION (CONT'D)

B. FLIGHT SESSION BRIEFING

Refer to :

- Same chapter : "FFS SESSION BRIEFING"
- FCTM Vol 1 - "Normal Operations Briefings" chapter - Base training briefing

The instructor will train to proficiency.

Before the flight it is important to ensure that control be handed from one pilot to the other and it is handed over clearly and unambiguously (**I have control / You have control**).

Also cover actions in event of instructor incapacitation (declare an emergency and position aircraft of an automatic approach and landing).

- Side step manoeuvre / very crisp roll control mean that it is possible to overcontrol during this exercise

CAUTION : Some civil aviation Authorities have defined a minimum height for such a manoeuvre.

- Go around from 50 ft : similar to a normal go around but taken during the flare.
 - Apply power while rotating to arrest the sink rate, call for "Go around flaps". The main gear may touch the ground during the manoeuvre.
 - Check positive climb before retracting gear.
- Immediate go from touch : when landing roll continuation is not possible.
 - Select TOGA
 - Maintain configuration (ignore take-off config warning)
 - Rotate to 10° pitch and maintain until safely airborne
 - When above VLS, retract flaps to conf 3 and continue with normal procedure.

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FLIGHT INSTRUCTOR FAMILIARIZATION COURSE TRAINING FOOTPRINT	2.08.02 Page 1 <i>E FC8</i>
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01 - TRAINING DAILY FOOTPRINT (1 TRAINEE)

DAY 1	7:00	DAY 2	4:00
Briefing : 2:00 - Instructor's FCTM - A320 Regular Course syllabi - Instructor techniques FFS : 3:00 - Familiarization with training procedures and recovery techniques flying from the right seat. (Airbus instructor role playing the student from the left seat) FFS briefing and debriefing : 2:00		Flight : 2:00 - Right hand seat training practicing some of the items covered during FFS session (Part of the flight flown with Airbus instructor role playing the student from the left hand seat) Flight briefing and debriefing : 2:00	

02 - TRAINING DAILY FOOTPRINT (2 TRAINEES)

DAY 1	7:00	DAY 2	5:00	DAY 3	6:00
Briefing : 2:00 - Instructor's FCTM - A320 Regular Course syllabi - Instructor techniques FFS : 3:00 - Trainee number 1 : Familiarization with training procedures and recovery techniques flying from the right seat. (Airbus instructor role playing the student from the left seat) - Trainee number 2 : Observing from the jump seat FFS briefing and debriefing : 2:00		FFS : 3:00 - Trainee number 2 : Familiarization with training procedures and recovery techniques flying from the right seat. (Airbus instructor role playing the student from the left seat) - Trainee number 1 : Observing from the jump seat FFS briefing and debriefing : 2:00		Flight : - Right hand seat training practicing some of the items covered during FFS session (Part of the flight flown with Airbus instructor role playing the student from the left hand seat) - Trainee number 1 flight 2:00 - Trainee number 2 : observing from the jump seat - Trainee number 2 flight 2:00 - Trainee number 1 : observing from the jump sea Flight briefing and debriefing : 2:00	

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FLIGHT INSTRUCTOR FAMILIARIZATION COURSE TRAINING FOOTPRINT	2.08.02 Page 2 <i>E FC8</i>
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FFS syllabus Page 03

Flight syllabus Page 05

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FFS TAKE-OFF DATA				
INIT PAGE CO RTE BLUE ALTN/CO RTE FLT NBR [Airline ID] 830 LAT 4338.1N COST INDEX 30 CRZ FL/TEMP FL 40 / 6°C FROM/TO LFBO/LFBO LONG 00122.1E TROPO		TRIP DIST CRZ WIND ALTN ALTN DIST FL to ALTN		ATIS RWY 15 R WIND 240°/15 kt VISI CAVOK CEILING TEMP 10°C DEW POINT ... QNH 1013 hPa/29.92 inHg QFE 982 hPa/29.00 inHg RWY COND ... DRY Observations : _____ _____ _____ _____
INIT NEXT PAGE ZFCG/ZFW 28%-45 t 28%-99.000 lb BLOCK 8 t 17.600 lb	PERF PAGE IAE CFM V1 116 115 VR 120 120 V2 122 122 FLEX 55 55 DRT	T/O FLAPS 2 T/O C.G. TOGA FLEX —DRT—	NOTE : Local flight	

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MALFUNC REF.	- FFS -	-	+
	1 - TRANSIT COCKPIT PREPARATION		
	2 - ENGINE START		
	PART A : TRAINEE INSTRUCTOR IN RHS - AIRBUS INSTRUCTOR IN LHS		
	3 - TAKE-OFF		
	4 - VISUAL PATTERN|		
	5 - ILS / VISUAL APPROACH		
	6 - TOUCH AND GO - GO AROUND		
	7 - ENGINE FAILURE AFTER V1		
	8 - ONE ENGINE OUT APPROACH		
	9 - ENGINE OUT GO AROUND		
	10 - VISUAL APPROACH 1 ENGINE OUT		
	11 - FULL STOP LANDING		
	- APPROACHES PERFORMED UNTIL SATISFACTORY STANDARD IS REACHED		
	- ALL ENGINES (2 CIRCUITS MINIMUM) / ENGINE OUT WITH OR WITHOUT AUTOTHRUST AT INSTRUCTOR'S DISCRETION INCLUDING :		
	• SIDE STICK INTERFERENCE		
	PART B : TRAINEE INSTRUCTOR IN RHS - AIRBUS INSTRUCTOR IN LHS ERROR RECOVERY		
	12 - TAKE-OFF		
	13 - VISUAL PATTERN|		
	14 - ILS / VISUAL APPROACH		
	15 - TOUCH AND GO - GO AROUND		
	- APPROACHES PERFORMED UNTIL SATISFACTORY STANDARD IS REACHED		
	- ALL ENGINES / ENGINE OUT WITH OR WITHOUT AUTOTHRUST AT INSTRUCTOR'S DISCRETION INCLUDING :		
	<i>NORMAL OPERATIONS :</i>		
	• TAKE-OFF CONFIG WARNING		
	• OVERCONTROLLING DOWNWIND		
	• NO RETARD		
	• HIGH FLARE - LONG FLOAT		
	• FLAP 3 (GPWS)		
	• LONG FLARE		
	• IMMEDIATE GO FROM TOUCH		
	• TOO HIGH ON APPROACH - NO FLARE		
	• LANDING GEAR FORGOTTEN		
	• MISUSE OF RUDDER		
	• OVERCONTROL IN ROLL DURING FLARE		
	• INCAPACITATION		
	<i>ENGINE OUT OPERATIONS :</i>		
	• WRONG RUDDER INPUTS		
	• MISHANDLED FLARE		
	• FAILURE OF OPERATING ENGINE		
	16 - FULL STOP LANDING		

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	FLIGHT INSTRUCTOR FAMILIARIZATION COURSE TRAINING SYLLABI	2.08.03 Page 6 <i>E FC8</i>
		REV 21 MAY 98

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CHAPTER 09

- SIMULATOR INSTRUCTOR FAMILIARIZATION COURSE -

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	SIMULATOR INSTRUCTOR FAMILIARIZATION COURSE TABLE OF CONTENTS	2.09.00 Page 1 <i>E FC9</i> REV 21 MAY 98

2.09.01 - INTRODUCTION

2.09.02 - TRAINING FOOTPRINT

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	SIMULATOR INSTRUCTOR FAMILIARIZATION COURSE TABLE OF CONTENTS	2.09.00 Page 2 <i>E FC9</i> REV 21 MAY 98

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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	SIMULATOR INSTRUCTOR FAMILIARIZATION COURSE TABLE OF CONTENTS	2.09.01 Page 1 <i>E FC9</i> REV 21 MAY 98

01 - GENERAL

The course is designed to bring the trainee to the level of simulator instructor for the A320. Previous experience on the A320 plus an experience as a simulator instructor are assumed.

02 - OBJECTIVES OF THE COURSE

A. PHASE 1

- To brief trainees on instructor techniques
- To present the Transition course syllabi

B. PHASE 2

- The trainee should observe a minimum of 3 consecutive training sessions in a scheduled simulator course, including 1:30 briefing and 0:30 debriefing.

C. PHASE 3

- The trainee conducts a minimum of 3 consecutive training sessions under supervision, including 1:30 briefing and 0:30 debriefing.

During a general debriefing the trainee will review manoeuvres and his performance will be reviewed.

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	SIMULATOR INSTRUCTOR FAMILIARIZATION COURSE TABLE OF CONTENTS	2.09.01 Page 2 <i>E FC9</i> REV 21 MAY 98

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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	SIMULATOR INSTRUCTOR FAMILIARIZATION COURSE TRAINING FOOTPRINT	2.09.02 Page 1 <i>E FC9</i>
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TRAINING DEVICE TIME SHARING PER PHASE

<i>PHASE 1 : General briefing</i>		<i>1/2 working day</i>
<i>PHASE 2 : Trainee as observator</i>		<i>3 working days</i>
FFS : 3 sessions		9:00 (3 x 3:00)
<i>PHASE 3 : Trainee under supervision</i>		<i>3 working days</i>
FFS : 3 sessions		9:00 (3 x 3:00)
<i>TOTAL DURATION</i>		<i>7 working days</i>

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	SIMULATOR INSTRUCTOR FAMILIARIZATION COURSE TRAINING FOOTPRINT	2.09.02 Page 2 <i>E FC9</i> REV 21 MAY 98

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CHAPTER 10

- ETOPS COURSE -

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ETOPS COURSE TABLE OF CONTENTS	2.10.00 Page 1 <i>E F10</i> REV 21 MAY 98

2.10.01 - INTRODUCTION

2.10.02 - TRAINING FOOTPRINT

2.10.03 - TRAINING SYLLABI

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ETOPS COURSE TABLE OF CONTENTS	2.10.00 Page 2 <i>E F10</i> REV 21 MAY 98

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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ETOPS COURSE INTRODUCTION	2.10.01 Page 1 <i>E F10</i> REV 23 JUL 99	R

The ETOPS course is designed in order to train the flight crew for the specifics of ETOPS requirements and rules, dispatch criteria as well as the operational guidelines to effectively operate in the ETOPS environment.

It can be given in conjunction with the Dispatcher course.

- Trainee's documentation package is made of :

- Trainee's "Airbus ETOPS course folder" ⁽¹⁾
- "Getting to Grips with ETOPS" booklet ⁽¹⁾
- FCOM volumes and QRH

(1) To be provided by the Instructor

- The following documentation is at instructor's disposal in the Trainees' Office :

- Trainee's "Airbus ETOPS course folder"
- "Getting to Grips with ETOPS" booklet
- FCOM volumes and QRH
- Instructor ETOPS syllabus
- Trainee's files and Airbus certificate
- Documents for ETOPS course :
 - North Atlantic plotting chart
 - Portable computer and CD-ROM

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ETOPS COURSE INTRODUCTION	2.10.01 Page 2 <i>E F10</i>
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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ETOPS COURSE TRAINING FOOTPRINT	2.10.02 Page 1 <i>E F10</i>
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DAY 1	6:00	DAY 2
Briefing : - Theory and operational practice - Long haul ETOPS flight preparation - Practical exercises		Briefing : 1:15 In the simulator : - Long haul ETOPS flight preparation 0:50 - FFS session 3:00

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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ETOPS COURSE TRAINING SYLLABI	2.10.03 Page 1 <i>E F10</i>	R
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FFS syllabus Page 03

NOTE : *Instructors' FCTM includes the "Session Guides"*

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ETOPS COURSE TRAINING SYLLABI	2.10.03 Page 2 <i>E F10</i> REV 21 MAY 98

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ETOPS FFS TAKE-OFF DATA			
INIT PAGE			ATIS
CO RTE 	FROM/TO 	TRIP DIST 	RWY 24
ALTN/CO RTE 		CRZ WIND 	WIND 310°/19 kt - G 25 kt
FLT NBR 		HD 48 kt 	VISI 10 km
[Airline ID] 101		ALTN 	CEILING FEW 020 SCT 045
LAT 	LONG 	ALTN DIST 	TEMP 9°C
COST INDEX 		FL to ALTN 	DEW POINT ... 1°C
CRZ FL/TEMP 	TROPO 		QNH 1013 hPa/29.92 inHg
FL 360 / -53°C			QFE 1012 hPa/29.89 inHg
			RWY COND ... DRY
			Observations : _____ _____ _____ _____
INIT NEXT PAGE	PERF PAGE	T/O FLAPS	NOTE :
ZFCG/ZFW 	IAE CFM		
35.7%-47.5 t	V1	T/O C.G. 	
35.7%-95 000 lb	VR	29 % 	
BLOCK 	V2	TOGA 	
18.6 t 40 920 lb	FLEX	FLEX 	
	DRT	—DRT— 	

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	ETOPS COURSE TRAINING SYLLABI	2.10.03 Page 4A E F10
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ETOPS FFS SESSION GUIDE

01 - SESSION OBJECTIVE

- To train the crew for all aspects of ETOPS rules and practice the designed scenario according to JAA or FAA requirements.

02 - TRAINING TOPICS

A. REVIEW

- FMGS preparation
- Fuel monitoring
- Engine failure
- Loss of generators
- Diversion

B. INTRODUCE

- ETOPS flight preparation
- ETOPS FMGS preparation
- ETOPS navigation rules and strategies
- Failures affecting ETOPS (recovery)
- Changes of strategy (relevant NAV and fuel policy)

03 - SESSION PROFICIENCY CRITERIA

- Ability to demonstrate and to operate effectively the aircraft in an ETOPS environment according to ETOPS rules and specific SOPs.

04 - SESSION GUIDE

NIL

NOTE : A 10 minutes break is to be scheduled before beginning the Part 2 FFS session

INSTRUCTOR ONLY

INSTRUCTOR ONLY



CHAPTER 18

- CAT II LOW VISIBILITY OPERATIONS -

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CAT II LOW VISIBILITY OPERATIONS INTRODUCTION	2.18.01 Page 1 <i>E F18</i>	R
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The CAT 2 course provides the specific training required to prepare trainees to practice CAT 2 approaches as allowed by local Authorities.

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TRAINING DAILY FOOTPRINT

DAY 1		DAY 2	
VACBI :	3:00	TRAINING FFS :	2:00
		- Training practice	
		EVALUATION FFS :	1:00
		- Review and check	

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CAT II LOW VISIBILITY OPERATIONS TRAINING SYLLABI	2.18.03 Page 1
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FFS syllabus (*Training*) Page 03

FFS syllabus (*Evaluation*) Page 05

NOTE : *Instructors' FCTM includes the "Session Guides"*

AIRBUS INDUSTRIE Training & Flight Operations Support Division  A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CAT II LOW VISIBILITY OPERATIONS TRAINING SYLLABI	2.18.03 Page 2
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CAT II TRAINING FFS TAKE-OFF DATA

CAT II TRAINING FFS TAKE-OFF DATA			
INIT PAGE		ATIS	
CO RTE 	FROM/TO 	TRIP DIST 	RWY 15 R
ALTN/CO RTE 		LOCAL 	WIND 100°/5 kt
ECAM1A 		CRZ WIND 	VISI Per syllabus
FLT NBR 		ALTN 	CEILING Per syllabus
[Airline ID] 181 		LFBT 	TEMP 2°C / 36°F
LAT 	LONG 	ALTN DIST 	DEW POINT ... 1°C / 34°F
4338.1N 	00122.1E 	123 NM 	QNH 1020hPa
COST INDEX 		FL to ALTN 	QFE 1002 hPa
30 		140 	RWY COND ... DRY
CRZ FL/TEMP 	TROPO 		Observations :
3000 ft / -5°C 	36 090 		
INIT NEXT PAGE	PERF PAGE	T/O FLAPS	NOTE :
ZFCG/ZFW 	IAE CFM 		F/PLN :
25%-48 t 	V1 	2 	LFBO 15 R
25%-105 600 lb 	VR 	T/O C.G. 	Local flight
BLOCK 	V2 	26.6% 	Traffic patterns
10 t 	FLEX 	TOGA 	T/O performance data are not corrected
22 000 lb 	DRT 	FLEX 	
		—DRT— 	ALTN : LFBO LACOU SID - LACOU MIRBA STAR - LFB D ILS 23

MALFUNC REF.	- CAT II TRAINING FFS - (2:00 session per crew)	-	+
	AIRLINE OPERATIONAL MINIMUM :		
	LOW VISIBILITY TAKE-OFF : RVR : DH :		
	INIT T/O		
130 FT	■ 1 - COCKPIT PREPARED BY INSTRUCTOR - LOW VISIBILITY OPS T/O BRIEFING		
125 M	ENGINES RUNNING, FUEL FREEZE,		
	■ 2 - TAKE-OFF - FOG PATCHES - FOLLOW YAW BAR		
	■ 3 - HOLDING - CAT II BRIEFING		
170 FT	■ 4 - APPROACH - 2 AP		
400 M	REVIEW VISUAL SEGMENT		
	FREEZE AT 150 FT - REVIEW VISUAL SEGMENT - RELEASE		
130 FT	FREEZE AT 100 FT - REVIEW VISUAL SEGMENT - RELEASE		
300 M	AUTOLAND		
	INIT T/O FUEL FREEZE		
130 FT			
200 M	5 - TAKE-OFF		
	■ 6 - APPROACH - ABOVE 1000 FT		
	REVIEW LOSS OF ILS TRANSMITTER		
	REVIEW LOSS OF ILS RECEIVERS		
	REVIEW LOSS OF RADIO ALTIMETERS		
	REVIEW LOSS OF STAND BY HORIZON		
130 FT	REVIEW OF INSTRUMENT FAILURES		
400 M	7 - AUTOLAND		
150 FT	■ 8 - TAKE-OFF - FOG PATCHES - ENGINE FAILURE ABOVE 100 KT - BEFORE V1 (*)		
125 M	REJECTED TAKE-OFF - Restore (*)		
	(ITEM NOT REQUIRED IN CASE OF 2 FIRST OFFICER CREW)		
	9 - TAKE-OFF - RADAR VECTORS DOWNWIND (*) (**)		
	■ 10 - APPROACH 2 AP - DH 100 FT (*) (**) LOSS OF LOC TRANSMITTER AT 220 FT - AUTOLAND WARNING - GO AROUND - Restore (*) (**)		
150 FT	■ 11 - APPROACH 2 AP - DH 100 FT - 1 ATHR ONLY		
0 M	REMAINING ATHR FAILS AT 500 FT		
	GO AROUND- Restore ATHR		
150 FT	■ 12 - APPROACH - 2 AP - DH 100 FT - ENGINE FAILURE BELOW 100 FT (*) (**) LANDING (*) (**)		
300 M			
150 FT	■ 13 - APPROACH 2 AP - DH 100 FT - CHECK ATT WARNING AT 300 FT (*) MANUAL GO AROUND (USING STDBY HORIZON) (*)		
300 M			
150 FT	■ 14 - APPROACH 2 AP - DH 100 FT (**) CM1 INCAPACITATION ABOVE DH - GO AROUND (**)		
300 M			
	(ITEM NOT REQUIRED IN CASE OF 2 CAPTAIN CREW)		
150 FT	■ 15 - APPROACH - 2 AP - DH 100 FT		
300 M	ENG FAIL AT 400 FT		
	GO AROUND - CLEAN UP		
0/0	■ 16 - RELIGHT - APPROACH - 2 AP - DH 100 FT		
0/0	LOC BEAM DEVIATION - GO AROUND		
150 FT	■ 17 - APPROACH - 1 AP - DH 100 FT (*) (**) AUTOPILOT DISCONNECT AT 80 FT		
300 M			
	MANUAL LANDING		
	OR		
	AUTOLAND (IN CASE OF 2 FIRST OFFICER CREW)		
	(*) ITEMS TO BE REPEATED IN CASE OF 2 CAPTAIN CREW		
	(**) ITEMS TO BE REPEATED IN CASE OF 2 FIRST OFFICER CREW		

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CAT II LOW VISIBILITY OPERATIONS TRAINING SYLLABI	2.18.03 Page 4A <i>E F18</i>
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CAT II TRAINING FFS SESSION GUIDE

01 - SESSION OBJECTIVE

- To consolidate the CAT II CBT training with practical illustration of low visibility flying conditions so that the crew reach the required level of proficiency for CAT II and low visibility operations.

02 - TRAINING TOPICS

A. REVIEW

NIL

B. INTRODUCE

- CAT II and low visibility training

03 - SESSION PROFICIENCY CRITERIA

- The crew has reached a good level of proficiency so as to operate low visibility and CAT II.

04 - SESSION GUIDE

*The minimum specified on the syllabus are compliant with J.A.A requirements.
For all exercises, the instructor must adapt RVR and cloud base settings to the Airline operational minimum when they are different. In this case they must be mentioned on the syllabus page, in the appropriate box.*

- 1 : - Ensure that the trainee does not waste time in setting-up prior to start
- An appropriate take-off alternate should be inserted in the SEC F/PLAN.
- 2 : - Brief the crew that visibility will be reduced to zero on the take-off run to illustrate the effectiveness of the YAW-BAR.
(NOTE : YAW-BAR will appear only if the ILS/LOC is available for the same RWY direction)
- Ask the PF to continue T/O for training purposes, using the YAW-BAR only.
- Freeze SIM just prior to V1, increase visibility to show aircraft on centerline, then continue the take-off.
- 3 : - Ensure that the crew can give a concise CAT II approach briefing.
- Stress task sharing, weather minima, crew qualification, alternate planning, fuel requirements, aircraft or airfield servicing, SOP, flight deck lighting, etc...
- Check crew seating position
- LO or MED autobrake is recommended
- Check autoland limitations.

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CAT II TRAINING FFS SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

- 4 : - The crew must check autoland function prior to approach (CAT 3 SINGLE, CAT 3 DUAL).
 - The crew must acknowledge all FMA changes.
 - The crew must call and acknowledge approach std. call-out.
 - Check that Go Around ALT is properly set.

A. Freeze the approach at DH 150 and review visual segment [change RVR 550 m (CAT 1) to RVR 300 m (CAT 2)].

- Ask crew to switch landing lights ON and OFF, to show the change in visual clues.
- Vary the flight deck lightening to illustrate the necessity of low intensity.

B. Freeze SIM at DH 100 ft and review visual segment at RVR 350 m and vert. vis. 100 ft (CAT 2 min).

- Release SIM and perform autoland.
- Observe FLARE mode latest at 30 ft RA.
- Observe autobrake "DECEL"
- Check autopilot roll-out mode.

NOTE : *During landing roll when starting manual braking, disconnect autopilot at the same time.*

- 6 : Insert STBY horizon when ILS established but above 1000 ft AGL.
NOTE : *There is NO ECAM warning and NO approach capability change on FMA, but CAT 2 approach is NOT allowed (CAT 1 only).*

- 8 : - Reduce visibility to zero and insert eng failure at 100 kt (before V1).
 - Ensure that the PF is using YAW-BAR guidance during rejected take-off.

- 10 : A. Insert LOC transmitter failure before OM (or FAF) (restore).
NOTE : - AP's and FD's remain engaged in approach mode (G/S and LOC green)
 - LOC index is removed
 - LOC scale flashes ONLY if LOC transm. failure occurs when aircraft is captured on the localizer.

CAUTION : NO RED LOC WARNING

B. Insert LOC transmitter failure for the second time at 200 ft RA.

- Check indications mentioned in A plus RED AUTOLAND WARNING
- Crew must initiate GA if visual references are not sufficient

- 11 : - Insert A/THR 1 failure at 2000 ft
 Insert A/THR 2 failure at 500 ft RA
 ...Crew initiates a go around
 - Restore A/THR before next approach

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CAT II TRAINING FFS SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- 12 : - Insert eng. failure at or below 100 ft (when visual), and illustrate single eng. capability of the autopilot (CAT 3 single).
- Autoland is allowed.
- 13 : If ATT warning is inserted :
- Check that PF is doing a manual go around using STDBY HORIZON.
- Attitude warning must be analysed after GA.
- 14 : - Captain's (LH seat) failure to respond to standard call-out is to be considered as his incapacitation.
- Once the incapacitation has been established the F/O (RH seat) must make a go around.
- 15 : - Insert engine failure at 500 ft RA.
- Check that the eng failure is noticed without delay
- In this case go around must be initiated.
NOTE : *Sometimes failure is noticed too late (below 100 ft) and therefore autoland is performed.*
- 16 : Insert LOC beam deviation at 300 ft RA
- 17 : Insert A/P failure at 80 ft RA, Manual landing is allowed if visual references are sufficient.

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INSTRUCTOR ONLY

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CAT II EVALUATION FFS TAKE-OFF DATA

CAT II EVALUATION FFS TAKE-OFF DATA			
INIT PAGE CO RTE ALTN/CO RTE ECAM1A FLT NBR [Airline ID] 182 LAT 4338.1N COST INDEX 30 CRZ FL/TEMP 3000 ft / -3°C FROM/TO LFBO/LFBO LONG 00122.1E TROPO 36 090		TRIP DIST LOCAL CRZ WIND ALTN LFBT ALTN DIST 123 NM FL to ALTN 140 RWY 15 R WIND 100°/5 kt VISI Per syllabus CEILING Per syllabus TEMP 2°C/36°F DEW POINT ... 1°C/34°F QNH 1020 hPa QFE 1002 hPa RWY COND ... DRY Observations : _____ _____ _____ _____	
INIT NEXT PAGE ZFCG/ZFW 28.4%-48 t 28.4%-105 800 lb BLOCK 10 t 22 000 lb	PERF PAGE V1 123118 VR 131126 V2 132127 FLEX 6055 DRT T/O FLAPS 2 T/O C.G. 26.6% TOGA FLEX DRT —DRT—		NOTE : F/PLN : LFBO 15 R Local flight Traffic patterns T/O performance data are not corrected ALTN : LFBO LACOU SID - LACOU MIRBA STAR - LFBF ILS 23

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CAT II LOW VISIBILITY OPERATIONS TRAINING SYLLABI	2.18.03 Page 6A <i>E F18</i>
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CAT II EVALUATION FFS SESSION GUIDE

01 - SESSION OBJECTIVE

- Demonstration of competence to operate aircraft in CAT II weather conditions as Captain or First Officer.

02 - TRAINING TOPICS

A. REVIEW

NIL

B. INTRODUCE

Evaluation in CAT II weather conditions and :

- In normal configuration
- With engine failure
- With autothrust failure

03 - SESSION PROFICIENCY CRITERIA

- To demonstrate that all proficiency requirements are mastered.

04 - SESSION GUIDE

- Avoid using INIT function as much as possible.
- Connect the exercises with the radar vectoring.
- Lead the session as close as possible to line-oriented flight philosophy.
- Use headsets
- Remember the importance of task sharing and good crew coordination.
- Crew is assessed as Captain and First Officer.
- Don't let yourself get involved in a discussion during session. Make your own judgement and revert to your instructor role again if for example an exercise is unsatisfactorily carried out.

- 5 : RVR = 200 m or company lowest applicable minimum.

INSTRUCTOR ONLY

INSTRUCTOR ONLY



CHAPTER 19

- CAT III LOW VISIBILITY OPERATIONS -

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CAT III LOW VISIBILITY OPERATIONS TABLE OF CONTENTS	2.19.00 Page 1 <i>E F19</i> REV 23 JUL 99

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2.19.01 - INTRODUCTION

2.19.02 - TRAINING FOOTPRINT

2.19.03 - TRAINING SYLLABI

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CAT III LOW VISIBILITY OPERATIONS TABLE OF CONTENTS	2.19.00 Page 2 <i>E F19</i> REV 23 JUL 99

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The CAT 3 course provides the specific training required to prepare trainees to practice CAT 3 approaches as allowed by local Authorities.

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TRAINING DAILY FOOTPRINT

DAY 1		DAY 2	
VACBI :	3:00	TRAINING FFS :	2:00
		- Training practice	
		EVALUATION FFS :	1:00
		- Review and check	

AIRBUS INDUSTRIE Training & Flight Operations Support Division  A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CAT III LOW VISIBILITY OPERATIONS TRAINING FOOTPRINT	2.19.02 Page 2
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FFS syllabus (*Training*) Page 03

FFS syllabus (*Evaluation*) Page 05

NOTE : *Instructors' FCTM include the "Session Guides"*

CAT III TRAINING FFS TAKE-OFF DATA

CAT III TRAINING FFS TAKE-OFF DATA			
INIT PAGE CO RTE ALTN/CO RTE FLT NBR [Airline ID] 191 LAT 4338.1N COST INDEX 30 CRZ FL/TEMP FL 350 / -59°C FROM/TO LFBO/LFPO LONG 00122.1E TROPO 36 090	TRIP DIST 345 NM CRZ WIND ALTN LFPG ALTN DIST 80 NM FL to ALTN 100	ATIS RWY 15 R WIND 170°/5 kt VISI Per syllabus CEILING Per syllabus TEMP 12°C DEW POINT ... 12°C QNH 1020 hPa QFE 1002 hPa RWY COND ... DRY Observations : _____ _____	
INIT NEXT PAGE ZFCG/ZFW 28.4%-48 t 28.4%-105.800 lb BLOCK 10 t 22.000 lb	PERF PAGE V1 123 118 VR 131 126 V2 132 127 FLEX 60 55 DRT IAE CFM	T/O FLAPS 2 T/O C.G. 26.6% TOGA FLEX ~~DRT~~	NOTE : F/PLN : LFBO 15 R FISTO SID - FISTO LMG - MORIK AMB - VILRO VIA EPR LFPO ILS 26 T/O performance data are not corrected

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CAT III PRECISION APPROACHES TRAINING SYLLABI	2.19.03 Page 4 R E F19
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MALFUNC REF.	- CAT III TRAINING FFS - (2:00 session per crew)	-	+
	AIRLINE OPERATIONAL MINIMUM :		
	LOW VISIBILITY TAKE-OFF : RVR : DH :		
	INIT T/O		
	■ 1 - COCKPIT PREPARED BY INSTRUCTOR - LOW VISIBILITY OPS T/O BRIEFING		
	ENGINES RUNNING - FUEL FREEZE		
125 M	■ 2 - TAKE-OFF- FOG PATCHES FOLLOW YAW BAR		
	■ 3 - HOLDING CAT III BRIEFING		
	■ 4 - APPROACH CAT III DUAL		
	REVIEW VISUAL SEGMENT		
150 FT	DH 100 FT - FREEZE AT 100 FT - RVR 300 M		
80 FT	DH 50 FT - FREEZE AT 50 FT - RVR 200 M		
60 FT	DH 20 FT - FREEZE AT 20 FT - RVR 125 M		
	AUTOLAND		
125 M	5 - TAKE-OFF		
60 FT	■ 6 - APPROACH ABOVE 1000 FT		
125 M	REVIEW LOSS OF ILS TRANSMITTER		
	REVIEW LOSS OF ILS RECEIVERS		
	REVIEW LOSS OF RADIO ALTIMETER		
	REVIEW LOSS OF STANDBY HORIZON		
	REVIEW INSTRUMENT FAILURES		
	7 - AUTOLAND		
60 FT	■ 8 - TAKE-OFF FOG PATCHES (*)		
125 M	ENGINE FAILURE ABOVE 100 KT/ BEFORE V1 (*)		
	REJECTED TAKE-OFF (*)		
	(ITEM NOT REQUIRED IN CASE OF 2 FIRST OFFICER CREW)		
125 M	9 - TAKE-OFF (*) (**)		
60 FT	10 - APPROACH CAT3 DUAL DH 20 FT (*) (**)		
125 M	LOSS OF LOC TRANSMITTER AT 200 FT - AUTOLAND WARNING (*) (**)		
	GO AROUND - Restore (*) (**)		
60 FT	■ 11 - APPROACH CAT 3 DUAL DH 20 FT (*) (**)		
125 M	CHECK ATT WARNING AT 100 FT (*) (**)		
	GO AROUND USING STANDBY HORIZON (*) (**)		
60 FT	■ 12 - APPROACH CAT 3 DUAL - ILS PERFORMANCE : CAT II (*) (**)		
125 M	ENG FAIL AT 200 FT - GO AROUND - CLEAN UP (*) (**)		
60 FT	13 - APPROACH CAT 3 SINGLE DH 50 FT		
125 M	AUTOPILOT DISCONNECT AT 100 FT - GO AROUND		
125 M	■ 14 - APPROACH CAT 3 DUAL - CAPT INCAPACITATION - F/O GO AROUND (**)		
	(ITEM NOT REQUIRED IN CASE OF 2 CAPTAIN CREW)		
60 FT	■ 15 - APPROACH CAT 3 DUAL DH 50 FT (*)		
125 M	ATHR 1 FAIL AT 300 FT - GO AROUND - RESTORE (*)		
60 FT	■ 16 - APPROACH CAT 3 DUAL DH 20 FT - ENG FAIL BELOW 50 FT (*) (**)		
125 M	AUTOLAND (*) (**)		
	(*) ITEMS TO BE REPEATED IN CASE OF 2 CAPTAIN CREW		
	(**) ITEMS TO BE REPEATED IN CASE OF 2 FIRST OFFICER CREW		

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CAT III LOW VISIBILITY OPERATIONS TRAINING SYLLABI	2.19.03 Page 4A E F19
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R

CAT III TRAINING FFS SESSION GUIDE

01 - SESSION OBJECTIVE

- Complete CAT III training so that the crew reach the required level of proficiency for CAT III and low visibility operations.

02 - TRAINING TOPICS

A. REVIEW

NIL

B. INTRODUCE

- CAT III and low visibility training

03 - SESSION PROFICIENCY CRITERIA

- The crew has reached a good level of proficiency so as to operate low visibility and CAT III.

04 - SESSION GUIDE

*The minimum specified on the syllabus are compliant with J.A.A requirements.
For all exercises, the instructor must adapt RVR and cloud base settings to the Airline operational minimum when they are different. In this case they must be mentioned on the syllabus page, in the appropriate box.*

- 1 : - Ensure that the trainee does not waste time in setting-up prior to start
- An appropriate take-off alternate should be inserted in the SEC F/PLAN.
- 2 : - Brief the crew that visibility will be reduced to zero on the take-off run to illustrate the effectiveness of the YAW-BAR.
(NOTE : YAW-BAR will appear only if the ILS/LOC is available for the same RWY direction)
- Ask the PF to continue T/O for training purposes, using the YAW-BAR only.
- Freeze SIM just prior to V1, increase visibility to show aircraft on centerline, then continue the take-off.
- 3 : - Ensure that the crew can give a concise CAT III approach briefing.
- Stress task sharing, weather minima, crew qualification, alternate planning, fuel requirements, aircraft or airfield servicibility, SOP, flight deck lighting, etc...
- Check crew seating position
- LO or MED autobrake is recommended
- Check autoland limitations.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

CAT III TRAINING FFS SESSION GUIDE (END)

04 - SESSION GUIDE (END)

- 4 : - The crew must check autoland function prior to approach (CAT 3 SINGLE, CAT 3 DUAL).
 - The crew must acknowledge all FMA changes.
 - The crew must call and acknowledge approach std. call-out.
 - Check that Go Around ALT is properly set.

A. Freeze the approach at DH 100 and review visual segment [change RVR 300 m (CAT 2) to RVR 200 m].

 - Ask crew to switch landing lights ON and OFF, to show the change in visual clues.
 - Vary the flight deck lightening to illustrate the necessity of low intensity.

B. Freeze SIM at DH 50 ft and review visual segment at RVR 200 m and vert. vis. 60 ft.

C. Freeze SIM at DH 20 ft and review visual segment at RVR 125 m and vert. vis. 30 ft.

 - Release SIM and perform autoland.
 - Observe FLARE mode latest at 30 ft RA.
 - Observe autobrake "DECEL"
- 8 : - Reduce visibility to zero and insert eng failure at 100 kt (before V1).
 - Ensure that the PF is using YAW-BAR guidance during rejected take-off.
- 11 : Insert STBY horizon when ILS established but above 1000 ft AGL.

NOTE : *There is NO ECAM warning and NO approach capability change on FMA, but CAT 2 approach is NOT allowed (CAT 1 only).*
- 12 : With and ILS CAT 2, CAT 2 minimum only are available.
In France, some airports are allowed to use CAT 3 minimums with DH 50 ft
- 14 : - Captain's (LH seat) failure to respond to standard call-outs is to be considered as his incapacitation.
 - Once the incapacitation has been established the F/O (RH seat) must make a go around
- 15 : - Insert A/THR 1 + 2 failure at 500 ft RA
 - ...Crew initiates a go around
 - Restore A/THR before next approach
- 16 : - Insert eng. failure at or below 50 ft, and illustrate single eng. capability of the autopilot (CAT 3 single).

INSTRUCTOR ONLY

INSTRUCTOR ONLY

CAT III EVALUATION FFS TAKE-OFF DATA

CAT III EVALUATION FFS TAKE-OFF DATA				
INIT PAGE CO RTE ALTN/CO RTE FLT NBR [Airline ID] 192 LAT 4338.1N COST INDEX 30 CRZ FL/TEMP FL 350 / -59°C FROM/TO LFBO/LFPO LONG 00122.1E TROPO 36 090		TRIP DIST 345 NM CRZ WIND ALTN LFPG ALTN DIST 80 NM FL to ALTN 100		ATIS RWY 15 R WIND 170°/5 kt VISI Per syllabus CEILING Per syllabus TEMP 12°C DEW POINT ... 12°C QNH 1020 hPa QFE 1002 hPa RWY COND ... DRY Observations : _____ _____ _____ _____
INIT NEXT PAGE ZFCG/ZFW 28.4%-48 t 28.4%-105 800 lb BLOCK 10 t 20 000 lb	PERF PAGE IAE CFM V1 123 118 VR 131 126 V2 132 127 FLEX 60 55 DRT	T/O FLAPS 2 T/O C.G. 26.6% TOGA FLEX ~~DRT~~	NOTE : F/PLN : LFBO 15 R FISTO SID - FISTO LMG - MORIK AMB - VILRO VIA EPR LFPO ILS 26 T/O performance data are not corrected	

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	CAT III LOW VISIBILITY OPERATIONS TRAINING SYLLABI	2.19.03 Page 6A <i>E F19</i>
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CAT III EVALUATION FFS SESSION GUIDE

01 - SESSION OBJECTIVE

- Demonstration of competence to operate aircraft in low visibility and CAT III operations.

02 - TRAINING TOPICS

A. REVIEW

NIL

B. INTRODUCE

Evaluation in CAT III weather conditions and :

- In normal configuration
- With engine failure
- With autothrust failure

03 - SESSION PROFICIENCY CRITERIA

- To demonstrate that all proficiency requirements are mastered.

04 - SESSION GUIDE

- Avoid using INIT function as much as possible.
- Connect the exercises with the radar vectoring.
- Lead the session as close as possible to line-oriented flight philosophy.
- Use headsets
- Remember the importance of task sharing and good crew coordination.
- Crew is assessed as Captain and First Officer.
- Don't let yourself get involved in a discussion during session. Make your own judgement and revert to your instructor role again if for example an exercise is unsatisfactorily carried out.

- 5 : RVR = 125 m or company lowest applicable minimum.

INSTRUCTOR ONLY

INSTRUCTOR ONLY



CHAPTER 20

- EXECUTIVE FAMILIARIZATION COURSE -

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	EXECUTIVE FAMILIARIZATION COURSE TABLE OF CONTENTS	2.20.00 Page 1 <i>E F20</i> REV 21 MAY 98

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2.20.02 - TRAINING FOOTPRINT

2.20.03 - TRAINING SYLLABI

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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	EXECUTIVE FAMILIARIZATION COURSE INTRODUCTION	2.20.01 Page 1 <i>E F20</i> REV 21 MAY 98

01 - GENERAL

This Executive Familiarization course is taught to the Flight Management personnel of the airlines for whom a general knowledge of the aircraft is necessary.

02 - OBJECTIVES OF THE COURSE

This course give an overview of the main systems in the aircraft

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	EXECUTIVE FAMILIARIZATION COURSE INTRODUCTION	2.20.01 Page 2 <i>E F20</i> REV 21 MAY 98

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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	EXECUTIVE FAMILIARIZATION COURSE TRAINING FOOTPRINT	2.20.02 Page 1 <i>E F20</i>
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TRAINING DAILY FOOTPRINT

N. B. : FFS duration is 3:00 per crew

DAY 1 7:00 VACBI : - Electronic Instrument System (EIS) - FMGS - ECAM	DAY 2 7:00 VACBI : - Flight controls - Navigation - Performance	DAY 3 FFS 1 : - Review of the various systems through the handling of the aircraft.
DAY 4 FFS 2 : - Review of the various systems through the handling of the aircraft.	DAY 5 FFS 3 : - Review of the various systems through the handling of the aircraft.	

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	EXECUTIVE FAMILIARIZATION COURSE TRAINING FOOTPRINT	2.20.02 Page 2 <i>E F20</i>
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FFS 1 TAKE-OFF DATA
INIT PAGE

CO RTE

N. A.

ALTN/CO RTE

N. A.

FLT NBR

[Airline ID] 201

LAT

4338.1N

COST INDEX

30

CRZ FL/TEMP

FL 100 / -7°C

FROM/TO

LFBO/LFBO

LONG

0122.1E

TROPO

DEFAULT

TRIP DIST

LOCAL

CRZ WIND

VRB

ALTN

LFBO

ALTN DIST

N. A.

FL to ALTN

N. A.

ATIS

RWY 15 R

WIND 180°/12 kt

VISI CAVOK

CEILING

TEMP 14°C

DEW POINT ... 10°C

QNH 1015 hPa/29.97 inHg

QFE 997 hPa/29.44 inHg

RWY COND ... DRY

Observations : AIR COND ON

INIT NEXT PAGE

ZFCG/ZFW

37%-48 t

37%-105.600 lb

BLOCK

 10 t
 22.000 lb

PERF PAGE

IAE CFM

V1

122 118

VR

132 126

V2

132 127

FLEX

56 56

DRT

T/O FLAPS

2

T/O C.G.

35%

—TOGA—

FLEX

—DRT—

NOTE :

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MALFUNC REF.	- FFS 1 -	-	+
	1 - SIMULATOR SAFETY BRIEFING		
	INIT GATE		
	2 - SEAT ADJUSTEMENTS, PEDALS, LIGHTS, ETC		
	3 - RAPID COCKPIT PREPARATION BY INSTRUCTOR		
	DEMO OF COCKPIT LIGHTS AND P/B PHILOSOPHY		
	SHORT EXPLANATION OF EIS, FCU AND ECAM INDICATIONS AND FUNCTIONS		
	4 - DEMONSTRATION OF MCDU PREPARATION		
	5 - AUTO ENGINE START		
	6 - AFTER START CHECK LIST BY INSTRUCTOR		
	INIT T/O		
	7 - BEFORE TAKE-OFF CHECK LIST BY INSTRUCTOR		
	8 - TAKE-OFF - INSTRUCTOR EXPLAINS FMA INDICATIONS		
	9 - CLIMB TO 5000 FT (AP ENGAGED DURING CLIMB AS REQUIRED)		
	10 - RADAR VECTORS TO DOWNWIND		
	11 - APPROACH CHECK-LIST AND MCDU PREPARATION DEMO BY INSTRUCTOR		
	12 - ILS APPROACH AND AUTOLAND TO FULL STOP DEMO (MED AUTO BRAKE)		
	INIT T/O		
	13 - TAKE-OFF (BEFORE TAKE-OFF CHECK LIST BY INSTRUCTOR)		
	14 - CLIMB TO 10 000 FT (AP AS REQUIRED)		
	15 - EXPLANATION OF FMA INDICATIONS DURING CLIMB		
	16 - DEMO ND MODES AND SYMBOLS, EXPLAIN FCU CONTROLS AND FUNCTIONS		
	SELECTED V MANAGED GUIDANCE PHILOSOPHY (HDG, DIRTO, ALT, ETC...)		
	17 - FLIGHT CONTROLS (NORMAL LAW) - HANDLING AND PROTECTIONS		
	(STABILITY, LIMITS, HI-SPEED, HI AOA, ALPHA-FLOOR, ETC...)		
	18 - RADAR VECTORS TO IAF FOR ILS APPROACH		
	19 - APPROACH CHECK LIST AND MCDU PREPARATION BY INSTRUCTOR		
	20 - MANUAL ILS APPROACH WITH FD AND ATHR		
	21 - LANDING (MANUAL BRAKES)		
	22 - TAXI TO END OF RUNWAY - 180 DEG TURN		
	23 - TAKE-OFF (BEFORE TAKE-OFF CHECKS BY INSTRUCTOR)		
	24 - TURN DOWNWIND AT 2000 FT FOR VISUAL PATTERN		
	25 - FD OFF - USE OF FPV (LEVEL FLIGHT AND FINAL APPROACH)		
	26 - VISUAL APPROACH AND LANDING		
	IF TIME PERMITS :		
	CM2		
	27 - TAKE-OFF (BEFORE TAKE-OFF CHECK LIST BY INSTRUCTOR)		
	28 - RADAR VECTORS TO IAF FOR ILS APPROACH		
	29 - APPROACH CHECK LIST AND MCDU PREPARATION BY INSTRUCTOR		
	30 - MANUAL ILS APPROACH WITH FD AND ATHR		
	31 - LANDING (MANUAL BRAKES)		
	32 - TAXI TO END OF RUNWAY - 180° DEG TURN		

FFS 2 TAKE-OFF DATA				
INIT PAGE CO RTE N. A. ALTN/CO RTE N. A. FLT NBR [Airline ID] 202 LAT 4338.1N COST INDEX 30 CRZ FL/TEMP FL 150 / -15°C FROM/TO LFBO/LFBO LONG 00122.1E TROPO DEFAULT		TRIP DIST LOCAL CRZ WIND VRB ALTN LFBO ALTN DIST N. A. FL to ALTN N. A.		ATIS RWY 33 L WIND 240°/10 kt VISI CAVOK CEILING TEMP 14°C DEW POINT ... 10°C QNH 1010 hPa/29.83 inHg QFE 992 hPa/29.29 inHg RWY COND ... DRY Observations : AIR COND ON _____ _____ _____
INIT NEXT PAGE ZFCG/ZFW 28%-48 t 28%-105.600 lb BLOCK 10 t 22.000 lb	PERF PAGE IAE CFM V1 124 124 VR 133 134 V2 133 134 FLEX 56 52 DRT	T/O FLAPS 1 + F T/O C.G. 26.6% —TOGA— FLEX —DRT—	NOTE :	

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	EXECUTIVE FAMILIARIZATION COURSE TRAINING SYLLABI	2.20.03 Page 6 <i>E F20</i> REV 21 MAY 98

MALFUNC REF.	- FFS 2 -	-	+
	INIT T/O		
	1 - TRANSIT COCKPIT PREPARATION DEMO BY INSTRUCTOR		
	2 - MCDU PREPARATION BY CM1 (TALK THROUGH BY INSTRUCTOR)		
	3 - INSTANT ENGINE START		
	4 - AFTER START CHECK LIST EXCEPT FLAPS		
	DEMO TAKE-OFF CONFIG TEST ON ECAM CONTROL PANEL		
	COMPLETE AFTER START CHECK LIST		
	5 - BEFORE TAKE-OFF CHECK LIST BY INSTRUCTOR		
	6 - TAKE-OFF - DEMO FLT CTL REACTION TO ENGINE FAILURE AFTER ROTATION		
	CM1 MAKES ROTATION TO 15° PITCH THEN HANDS AND FEET OFF		
	ENGINE 1 FLAME OUT - EXPLAIN FLT CTL REACTION AND BETA TGT		
	INDICATE BANK ANGLE, RUDDER POSITION AND AIRSPEED INDICATIONS		
	(ALPHA PROT, ALPHA FLOOR)		
	INIT T/O		
	7 - TAKE-OFF - ENG 1 FLAME OUT AFTER GEAR UP		
	MANUAL CONTROL BY CM1 OF FLIGHT PATH AND BETA TGT TO 1000 FT		
	INIT T/O		
	8 - TAKE-OFF - ENG 1 FLAME OUT AFTER GEAR UP		
	MANUAL CONTROL BY CM1 OF FLIGHT PATH AND BETA TGT TO 1000 FT		
	INIT T/O		
	9 - TAKE-OFF - ENG 1 FLAME OUT AFTER ROTATION - ENGAGE AP 1		
	INDICATE AP CONTROL OF FLIGHT PATH AND RUDDER		
	ABOVE 400 FT AGL EXPLAIN AND CARRY OUT ECAM PROCEDURE FOR ENG FLAME OUT		
	10 - MAINTAIN 3000 FT - RADAR VECTORS DOWNWIND FOR ILS APPROACH		
	11 - APPROACH CHECK LIST AND MCDU PREPARATION		
	12 - ONE ENGINE OUT ILS APPROACH WITH AP ENGAGED TO MDA		
	AT MDA DISCONNECT AP FOR MANUAL LANDING		
	INIT T/O		
	13 - TAKE-OFF - SID (MANAGED NAV AND VERTICAL - CLB/CLB/NAV)		
	14 - CLIMB TO 15 000 FT - INSERT ALTITUDE AND SPEED CONSTRAINTS DURING CLIMB		
	(EXPLAIN INDICATIONS ON FMA, MCDU AND ND)		
	15 - HYD : GREEN RSVR LO LVL - EXPLAIN TASK SHARING AND ECAM PROCEDURE		
	16 - HYD : BLUE RSVR L LVL - HYD : G + B SYS LO PRE - ECAM PROCEDURE		
	CM1 AND CM2 FLT CTLS A/C HANDLING - EXPLAIN SYS PAGE AND STATUS PAGE - Restore		
	17 - RADAR VECTORS FOR VOR APPROACH		
	18 - MCDU PREPARATION EXPLANATION BY INSTRUCTOR - APPROACH CHECK LIST		
	19 - VOR APPROACH - A/P ENGAGED, MANAGED NAV AND VERTICAL (APPR MODE ENGAGED)		
	20 - GO AROUND AT MDA - RADAR VECTORS		
	21 - VOR APPROACH - A/P ENGAGED, SELECTED TRACK/FPA (EXPLAIN TRACK/FPA FUNCTION)		
	IF TIME PERMITS :		
	CM2		
	22 - MCDU PREPARATION EXPLANATION BY INSTRUCTOR - APPROACH CHECK LIST		
	23 - VOR APPROACH - A/P ENGAGED, MANAGED NAV AND VERTICAL (APPR MODE ENGAGED)		
	24 - GO AROUND AT MDA - RADAR VECTORS		
	25 - VOR APPROACH - A/P ENGAGED, SELECTED TRACK/FPA (EXPLAIN TRACK/FPA FUNCTION)		

FFS 3 TAKE-OFF DATA
INIT PAGE

CO RTE

N. A.

ALTN/CO RTE

N. A.

FLT NBR

[Airline ID] 203

LAT

4338.1N

COST INDEX

30

CRZ FL/TEMP

FL 140 / -13°C

FROM/TO

LFBO/LFBD

LONG

0122.1E

TROPO

DEFAULT

TRIP DIST

126 NM

CRZ WIND

VRB

ALTN

LFBO

ALTN DIST

126 NM

FL to ALTN

150

ATIS

RWY 33 L

WIND 240°/10 kt

VISI CAVOK

CEILING

TEMP 14°C

DEW POINT ... 10°C

QNH 1015 hPa/29.97 inHg

QFE 997 hPa/29.44 inHg

RWY COND ... DRY

Observations : AIR COND ON

INIT NEXT PAGE

ZFCG/ZFW

28%-48 t

28%-105.600 lb

BLOCK

 10 t
 22.000 lb

PERF PAGE

IAE CFM

V1

123 118

VR

131 126

V2

132 127

FLEX

56 52

DRT

T/O FLAPS

2

T/O C.G.

26.6%

—TOGA—

FLEX

—DRT—

NOTE :
F/PLN :

LFBO 33

LACOU DEP - LACOU

DIR MIRBA

MIRBA APP

ALTN : LFBD 23 - SAU DEP - SAU

A25-AGN - AGN ARR - LFBO ILS 15R

ATIS LFBD 240°/10 kt

VISI 4 km - OVC 600 ft

QNH 1005 hPa - NOSIG

TEMP 14°C



CHAPTER 21

- UPGRADING OF FIRST OFFICER TO CAPTAIN -

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	UPGRADING OF F/O TO CAPTAIN (Simulator phase 2 ONLY) TABLE OF CONTENTS	2.21.00 Page 1 <i>E F21</i> REV 21 MAY 98

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2.21.02 - TRAINING FOOTPRINT

2.21.03 - TRAINING SYLLABI

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01 - GENERAL

The Upgrading of First Officer to Captain course is designed for trainees who have been selected by their own Company to be upgraded to Captain position according to specific requirements defined by the local airworthiness Authorities.

It applies to :

- Currently rated First Officers experienced in operating the aircraft (minimum 300 hours)
- Proficient aircraft pilots well versed in core system knowledge, system integration and normal, abnormal/emergency procedures
- First Officer having already followed a command conversion course in their own Company as defined by the local airworthiness Authorities.

NOTE : *This course is not a command conversion course*

02 - OBJECTIVES OF THE COURSE

The objective of this course is to prepare the trainees to safely, knowledgeably and effectively pilot the A320 at type rating proficiency from the left hand seat according to Airbus task sharing philosophy.

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	UPGRADING OF F/O TO CAPTAIN (Simulator phase 2 ONLY) INTRODUCTION	2.21.01 Page 2 <i>E F21</i>
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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	UPGRADING OF F/O TO CAPTAIN (Simulator phase 2 ONLY) TRAINING FOOTPRINT	2.21.02 Page 1 E F21
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TRAINING DAILY FOOTPRINT

N. B. : FBS and FFS duration is 3:00 per crew

Optional 7:00 Airbus Crew Resource Management (ACRM)	DAY 1 7:00 VACBI : (at home if required) - System review - Performance review	DAY 2 FBS : (ACRM) - New task sharing study (CM1 - CM2) - Crew coordination review in normal - abnormal situations
DAY 3 FFS : (ACRM) - Review of some abnormal/emergency situations with new task sharing and decision making - Study of all abnormal/emergency situations to be handled only from the left hand seat	DAY 4 LOFT FFS : (ACRM) - Review of decision making and leadership	DAY 5 L.O.E.⁽¹⁾ FFS : - Individual and crew member performance evaluation - Decision making evaluation (1) Line Oriented Evaluation
DAY 6 EVALUATION FFS : - Check		

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	UPGRADING OF F/O TO CAPTAIN (Simulator phase 2 ONLY) TRAINING FOOTPRINT	2.21.02 Page 2 <i>E F21</i>
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FBS syllabus	Page 03
FFS syllabus	Page 05
LOFT FFS	Page 07
L.O.E. FFS	Page 09
Evaluation FFS	Page 13

NOTE : *Instructors' FCTM includes the "Session Guides"*

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	UPGRADING OF F/O TO CAPTAIN (Simulator phase 2 ONLY) TRAINING SYLLABI	2.21.03 Page 2 <i>E F21</i> REV 21 MAY 98

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FBS TAKE-OFF DATA
INIT PAGE

CO RTE

F2FBS

ALTN/CO RTE

N. A.

FLT NBR

[Airline ID] 210

LAT

4338.1N

COST INDEX

30

CRZ FL/TEMP

FL 330 / -51°C

FROM/TO

LFBO/LFPO

LONG

00122.1E

TROPO

DEFAULT

TRIP DIST

345 NM

CRZ WIND

VRB

ALTN

LFPG

ALTN DIST

80 NM

FL to ALTN

100

ATIS

RWY 15 R

WIND 180°/10 kt

VISI CAVOK

CEILING

TEMP 15°C

DEW POINT ... 10°C

QNH 1018 hPa/30.06 inHg

QFE 1000 hPa/29.53 inHg

RWY COND ... DRY

Observations : AIR COND ON

INIT NEXT PAGE

ZFCG/ZFW

39.3%-60 t

39.3%-120.230 lb

BLOCK

 14 t
 30.900 lb

PERF PAGE

IAE CFM

V1

VR

V2

FLEX

DRT

T/O FLAPS

2

T/O C.G.

35%

—TOGA—

FLEX

—DRT—

NOTE :
F/PLN :

LFBO 15 R

LMG DEP - LMG

UR10 - CDN

DIR MEL

VIA MEL

LFPO ILS 26

ALTN : POGN DEP - CLM - NO STAR
 NO VIA - LFPG ILS 27

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FBS SESSION GUIDE

01 - BRIEFING TOPICS

- CRM issue : Team Performance
- Task sharing (CM1 / CM2)
- Review dual hydraulic failure
- All engine flame out

02 - SESSION OBJECTIVE

- To study new task sharing
- To review crew coordination in normal and abnormal situation

03 - SESSION PROFICIENCY CRITERIA

- Ability to fly as Captain

04 - SESSION GUIDE

- 9 : Start the exercise crossing FL 250
- 18 : CM2 incapacitation after V1 at "rotate" call
- 30 : Enter unextinguishable fire

INSTRUCTOR ONLY

INSTRUCTOR ONLY

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	UPGRADING OF F/O TO CAPTAIN (Simulator phase 2 ONLY) TRAINING SYLLABI	2.21.03 Page 4B <i>E F21</i> REV 21 MAY 98

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INSTRUCTOR ONLY

INSTRUCTOR ONLY

FFS TAKE-OFF DATA
INIT PAGE

CO RTE

N. A.

ALTN/CO RTE

N. A.

FLT NBR

[airline ID] 211

LAT

4338.1N

COST INDEX

30

CRZ FL/TEMP

FL 330 / -51°C

FROM/TO

LFBO/LFPO

LONG

00122.1E

TROPO

DEFAULT

TRIP DIST

372 NM

CRZ WIND

VRB

ALTN

LFPG

ALTN DIST

80 NM

FL to ALTN

100

ATIS

RWY 33 L

WIND 060°/20 kt

VISI CAVOK

CEILING

TEMP 15°C

DEW POINT ... 10°C

QNH 1015 hPa/29.97 inHg

QFE 997 hPa/29.44 inHg

RWY COND ... DRY / WET

Observations : AIR COND ON

Braking action good

INIT NEXT PAGE

ZFCG/ZFW

39.4%-54 t

39.4%-119.050 lb

BLOCK

 10 t
 22.000 lb

PERF PAGE

IAE CFM

V1

VR

V2

FLEX

DRT

T/O FLAPS

1 + F

T/O C.G.

36%

—TOGA—

FLEX

—DRT—

NOTE :
F/PLN :

LFBO 33 L

NO SID

DIR AGN

UA34 - AMB

UR10 - CDN

DIR MEL

VIA MEL

LFPO ILS 26

ALTN : LFPO 26 - POGN DEP - CLM

NO STAR - NO VIA - LFPG ILS 27

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FFS SESSION GUIDE

01 - BRIEFING TOPICS

- CRM issue : Decision making
- All generator failure
- ILS approach in raw data
- RTO and evacuation

02 - SESSION OBJECTIVE

- To review task sharing and decision making
- To study abnormal or emergency situations which can only be handle from the left seat

03 - SESSION PROFICIENCY CRITERIA

- Ability to work as Captain in abnormal or emergency situations
- Workload management

04 - SESSION GUIDE

- 1 : Enter 1 main fuel pump failure and give the MMEL page only on request
- 9 : Enter the failure crossing FL 150
- 19 : Enter engine flame out at V1 -15 kt
Emphasize the decision making before and after the stop
- 26 : Enter unextinguishable fire at V1 -15 kt

INSTRUCTOR ONLY

INSTRUCTOR ONLY

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	UPGRADING OF F/O TO CAPTAIN (Simulator phase 2 ONLY) TRAINING SYLLABI	2.21.03 Page 6B <i>E F21</i>
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INSTRUCTOR ONLY

INSTRUCTOR ONLY

LOFT FFS TAKE-OFF DATA
PARIS ORLY / TOULOUSE
INIT PAGE

CO RTE

ORYTLS

ALTN/CO RTE

FLT NBR

[Airline ID] 260

LAT

4843.6N

COST INDEX

30

CRZ FL/TEMP

FL 370 / -57°C

FROM/TO

LFPO/LFBO

LONG

00222.2E

TROPO

TRIP DIST

325 NM

CRZ WIND

320°/15 kt

ALTN

LFBD

ALTN DIST

116 NM

FL to ALTN

240

ATIS

RWY 08

WIND 180°/16 kt

VISI Over 10 km

CEILING 1500 ft

TEMP 6°C

DEW POINT ... 1°C

QNH 1007 hPa/29.73 inHg

QFE 997 hPa/29.44 inHg

RWY COND ... DRY

Observations : ORY / CDG

 closed after take-off
 due to strike

INIT NEXT PAGE

ZFCG/ZFW

37.5%-57.8 t

37.5%-127 200 lb

BLOCK

PERF PAGE

IAE CFM

V1

VR

V2

FLEX

DRT

T/O FLAPS

T/O C.G.

35.5%

TOGA

FLEX

—DRT—

NOTE :

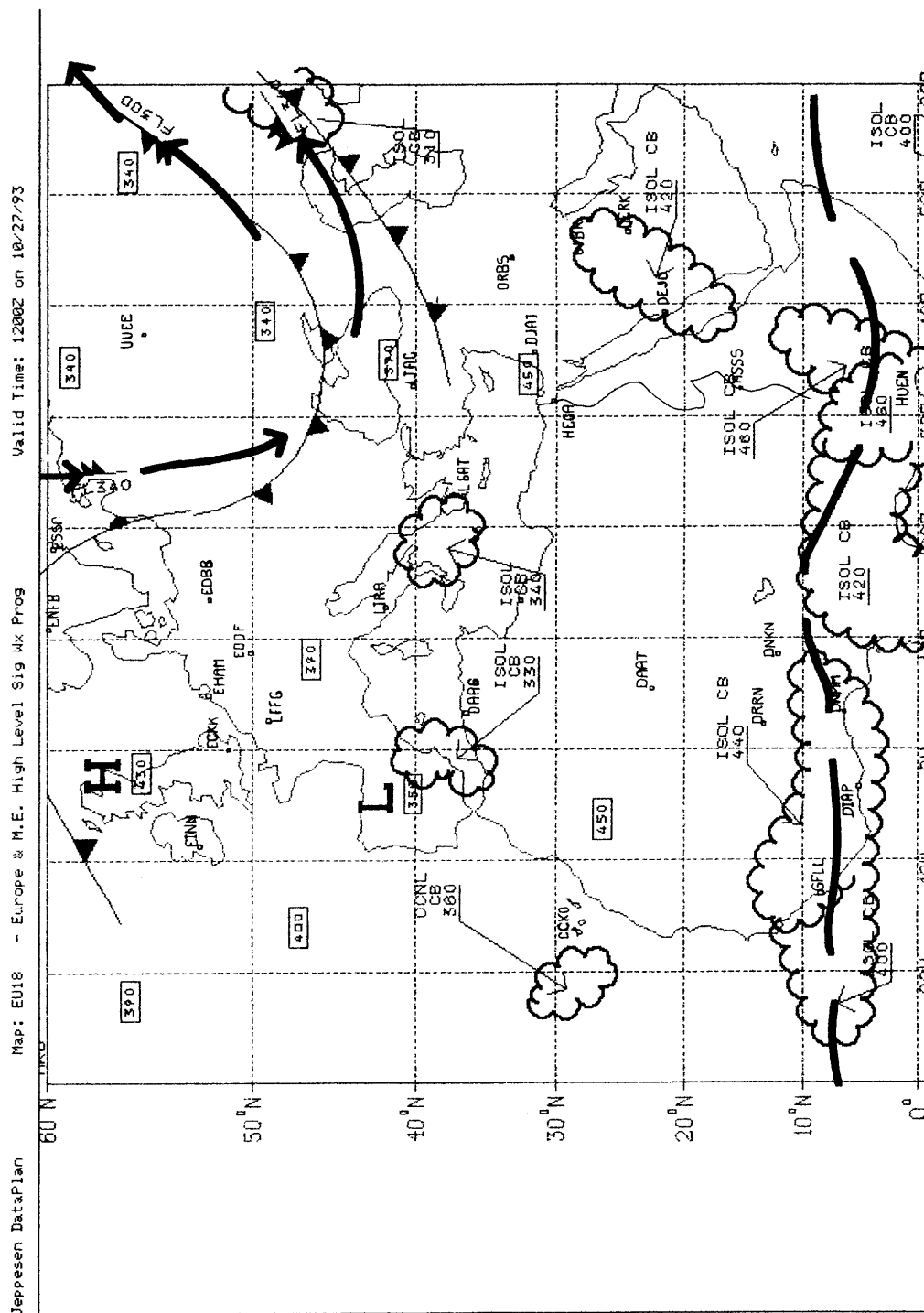
Parking POS E 08

SID PTV 7V - PTV UB 31 - BELPA

UG 365 - AULON 2N

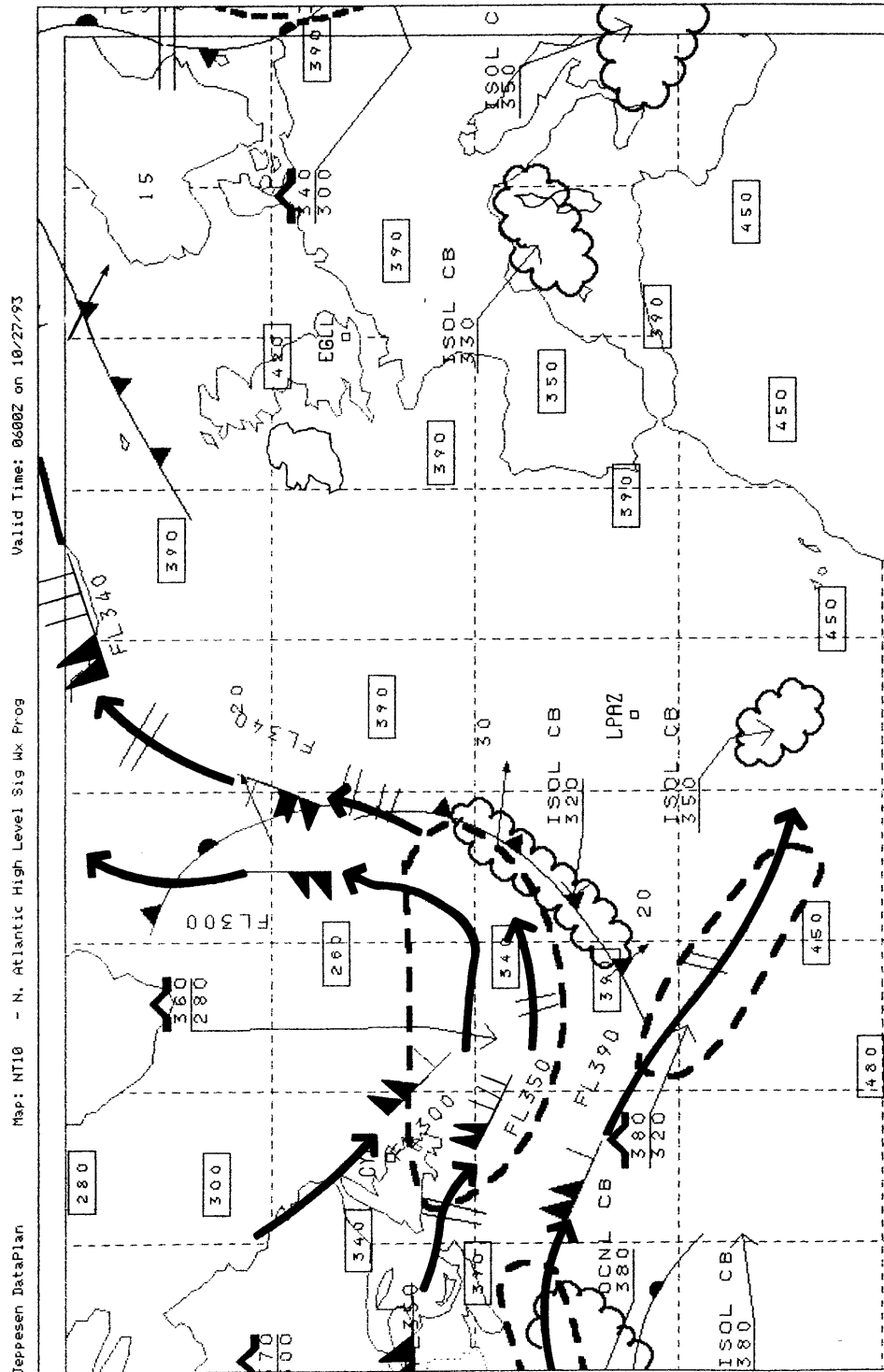
ALTN : DCT - AGN - STAR MIRBA 4

LOFT FFS - SURFACE



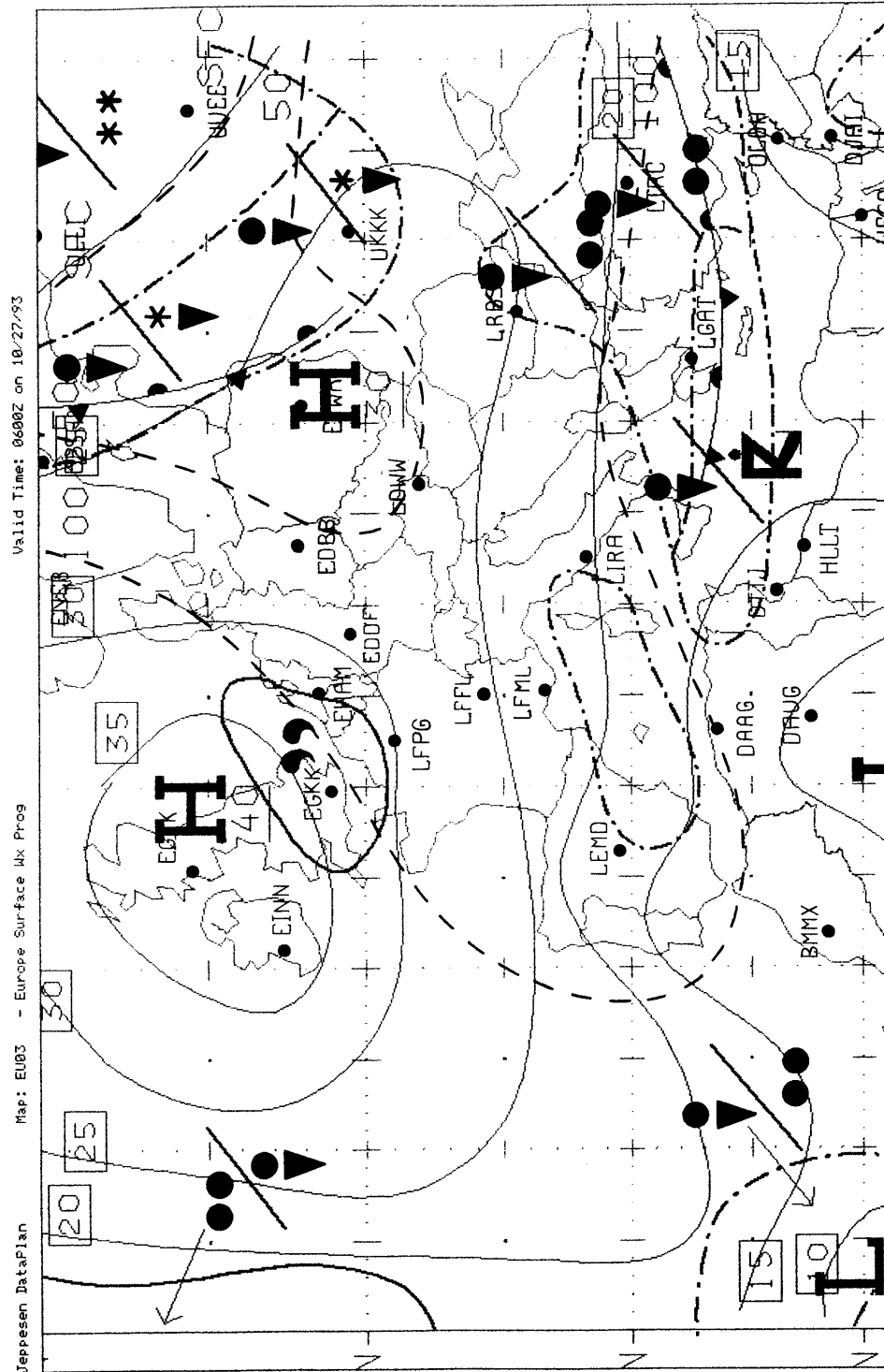
(SURFACE1.PCX)

LOFT FFS - SURFACE



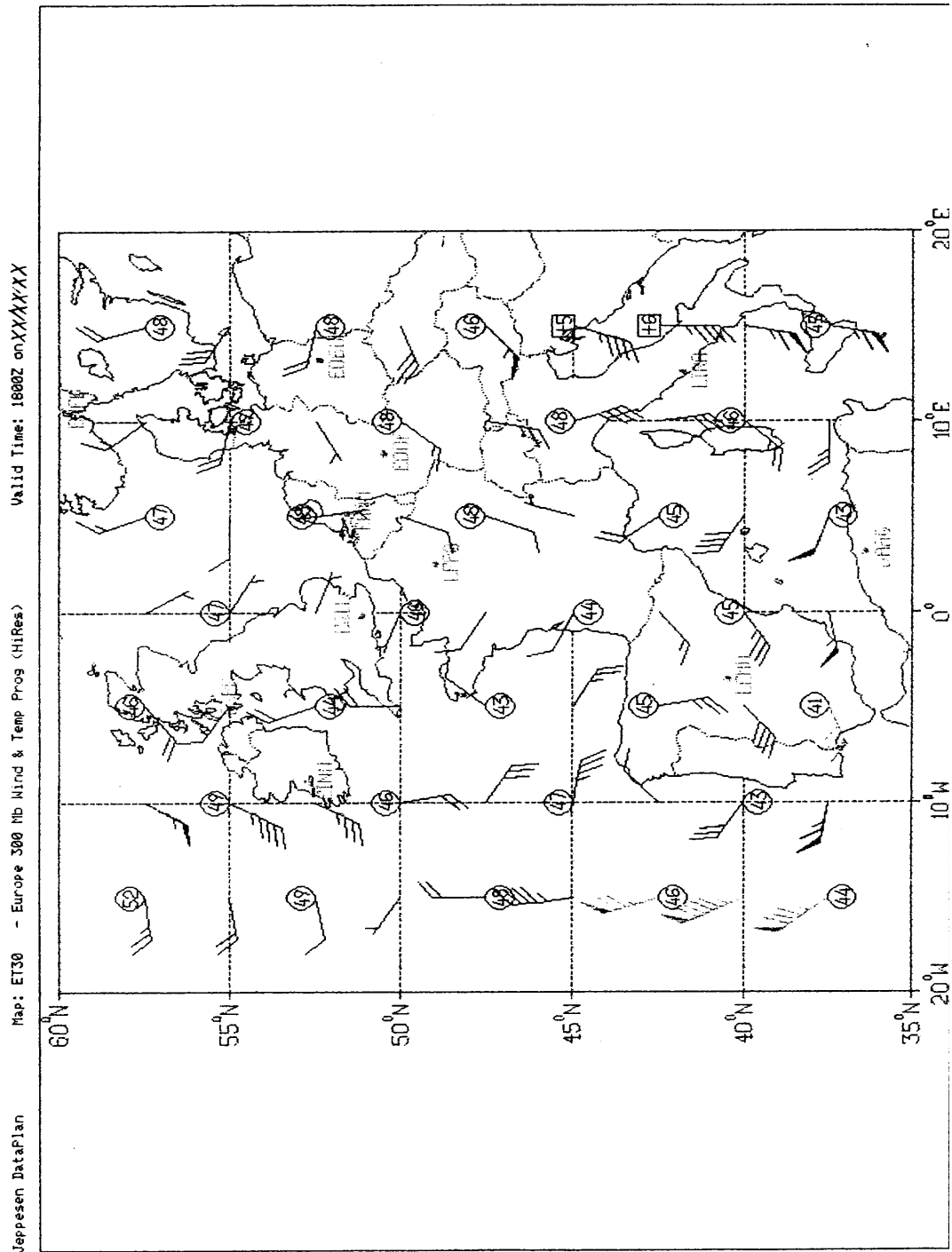
(SURFACE2.PCX)

LOFT FFS - SURFACE



(SURFACE3.PCX)

LOFT FFS - FLIGHT DATA 1



(WIND1.PCX)

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LOFT FFS - FLIGHT DATA 2

T/EU03 - XX/XX/XX, 21:39:56

LOW LEVEL SURFACE WEATHER PROG FOR EUROPE, THE MIDDLE
EAST AND NORTH AFRICA.

SOLID LINES ENCLOSE AREAS OF CONTINUOUS PRECIPITATION.
 DOT DASH LINES ENCLOSE AREAS OF SHOWERY PRECIPITATION.
 DOTTED LINES WITHIN PRECIPITATION AREAS DIVIDE LIQUID FROM SOLID
 PRECIPITATION. IF A PRECIPITATION AREA IS COVERED BY VERTICAL
 SHADING, THEN HALF OR MORE OF THIS AREA IS EXPECTED TO EXPERIENCE
 PRECIPITATION AT ANY ONE TIME. IF A PRECIPITATION AREA IS NOT
 COVERED BY VERTICAL SHADING, THEN LESS THAN HALF OF THIS AREA IS
 EXPECTED TO EXPERIENCE PRECIPITATION AT ANY ONE TIME.

A SINGLE DOT MEANS INTERMITTENT RAIN.
 TWO DOTS SIDE BY SIDE MEANS CONTINUOUS RAIN.
 AN ASTERICK MEANS INTERMITTENT SNOW.
 TWO ASTERICKS SIDE BY SIDE MEANS CONTINUOUS SNOW.
 A CURL WITH A DOT UNDERNEATH MEANS FREEZING RAIN.
 AN INVERTED TRIANGLE WITH A DOT OR ASTERIC ON TOP
 MEANS RAIN SHOWERS OR SNOW SHOWERS RESPECTIVELY.
 A COMMA MEANS DRIZZLE.
 A 'K' WITH A LINE OVER IT AND AN ARROW AT THE END
 MEANS THUNDERSTORM. IF THE TOP LINE HAS A DOT OVER IT,
 THIS MAKES IT A THUNDER SHOWER.
 A THIN SOLID LINE DEPICTS ISOBARS AT 8 MB INTERVALS LABELED
 WITH A TWO DIGIT PRESSURE VALUE INSIDE A BOX.
 A H OR L DEPICTS A HIGH OR LOW RESPECTIVELY WITH THE CENTRAL
 PRESSURE GIVEN IN A TWO DIGIT NUMBER BELOW THE FEATURE AND
 UNDERLINED.

THE FOLLOWING WEATHER MAP IS A FORECAST BASED ON DATA ANALYZED
 APPROXIMATELY 8-12 HOURS PRIOR TO THE INDICATED VALID TIME.
 FORECASTS ARE MADE FOR VALID TIMES 0600Z AND 1800Z.

&+&+

M/EU03 - XX/XX/XX, 08:06:21

&+&PMAP

(SURFTXT.PCX)

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LOFT FFS - FLIGHT DATA 3

"@\$\$"

PLAN1190 LFPO TO LFBO A320 M79 / F IFR 28/11/96
 NONSTOP COMPUTED 10:55 FOR ETD 13:00 PROGS 280000Z KGS

ATTN CAPT
 FLT RELEASE LFPO / LFBO ON 28/11/96

FTL / DAY	ORG / DEST	TTL NAM	PRF	ROUTE	AVG WIND /	AVG TEMP
/ 28	LFPO / LFBO	0323		RAP	P011	/ M057
	E. FUEL	A. FUEL	E. TIME	NM	NAM	FL
DEST LFBO	003100	.....	00 / 48	0331	0323	370
RESV 0.05	000155	.....	00 / 04			
ALT LFBD	001600	.....	00 / 21	0116	0113	140
HOLD	001040	.....	00 / 30			
ETOPS RES	000000	.....	00 / 00			
ETOPS XPRT	000000	.....	00 / 00			
XTR	000000	.....	00 / 00	CAPT. SIGN	.....	
TOF	005895	.....	01 / 43			
TAXI	000200	CORR.	+ / -			
BLOCK	006095	.....	01 / 43	BLOCK FUEL	.....	

FUEL BURN ADJUSTMENT FOR 4000FT DECREASE IN ALTITUDE : KGS

FUEL BURN ADJUSTMENT FOR 1000 KG DECREASE/INCREASE IN TOW : 10 KGS

	E. WT	CORR.	OP. LIMIT	STRUC.	REASONS FOR OP. LIMIT
BASIC WT	043000	.....			
EPLD	014760	.....			
EZFW	057760	.....	ZFW . . . . .	/	.....
TOF	005895	.....			
ETOW	063655	.....	OTOW . . . . .	/	.....
EB / O	003100	.....			
ELAW	060555	.....	LAW . . . . .	/	.....

LFPO PTV7V PTV UB31 BELPA UG365 AULON AULN2N LFBO

BLOCK IN		LDG		FU1	
BLOCK OFF		T. OFF		FU2	
BLOCK TIME		F. TIME		FU3	

(FFS-LOAD.VPO)

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LOFT FFS - FLIGHT DATA 4

WPT AWY	FLT MSA	WIND OAT	TAS GS	OTT ITT	OMT IMT	DST RDST	NAM RNAM	E.T C.T	E. TA A. TA	ECBO ACBO	EFOB AFOB	E. WT
LFPO ELEV 0292 FT												
D164T	...	.../...	..	154	155	014	014	0003	....	000.4	005.7	063.3
PTV7V	...	...		154	155	0317	0308	0003	....	....	....	....
PTV	...	.../...	..	208	210	034	033	0005	....	001.4	004.7	062.3
UB31	...	...		208	210	0283	0275	0008	....	....	....	....
CAROS			..	183	185	068	066	0010	....	001.8	004.3	061.9
UB31				183	185	0215	0209	0018	....	....	....	....
TOC	370	019 / 030	396	183	185	016	016	0002	....	002.1	004.0	061.6
UB31	040	M55	426	183	185	0199	0193	0020	....	....	....	....
LCA	370	019 / 030	449	183	185	004	004	0001	....	002.3	003.8	061.4
UB31	040	M54	478	183	185	0195	0189	0021	....	....	....	....
GUERE	370	020 / 031	450	185	187	030	029	0004	....	002.6	003.5	061.1
UB31	087	M54	480	185	187	0165	0160	0025	....	....	....	....
TOD	370	021 / 034	450	185	187	054	051	0007	....	003.0	003.1	060.7
UB31	087	M55	483	185	187	0111	0109	0032	....	....	....	....
BELPA	...	.../...	..	185	187	018	018	0003	....	003.0	003.1	060.7
UB31	...	...		185	187	0093	0091	0035	....	....	....	....
AULON	...	.../...	..	199	201	039	037	0006	....	003.2	002.9	060.5
UG365	...	...		199	201	0054	0054	0042	....	....	....	....
LFBO	...	.../...	..	...	...	0054	054	009	....	003.4	002.7	060.3
AULN2N	...	...		...	...	0000	0000	0051	....	....	....	....
..	...	.../...	..	...	...	...	...	...				
..	...	...		...	...	...	...	...				
..	...	.../...	..	...	...	...	...	...				
..	...	...		...	...	...	...	...				

WP	NAME	CO-ORDINATES	WP	NAME	CO-ORDINATES
..	LFPO	N48 43.4 E002 22.8	..	D164T	N48 39.6 E002 37.2
..	PTV	N48 09,3 E002 15,9	..	CAROS	N47 01,2 E002 57,8
..	TOC		..	LCA	N46 41.5 E002 09.1
..	GUERE	N46 11.4 E002 05.4	..	TOD	
..	BELPA	N44 59.5 E001 56.7	..	AULON	N44 22.7 E001 38.8
..	LFBO	N43 37.4 E001 22.9			

END OF DATAPLAN
 REQUEST NO .. 1190
 (FFS-FPLN.VPO)

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LOFT FFS - FLIGHT DATA 5

PLAN 2676

METPLAN WEATHER

XX/XX/XX

-

SURFACE OBSERVATION

LFPO	XX/XX/XXZ	18016KT	9999	BKN015	06/03	Q1007	NOSIG
LFPG	XX/XX/XXZ	06014KT	9999	FEW12	SCT015	05/03	Q1007 NOSIG
EBBR	XX/XX/XXZ	0703KT	8000	SCT100	07/06	Q1009	NOSIG

FLIGHT PLAN DEPARTURE INFORMATION

TERMINAL FORECAST

LFPO XX/XX/XXZ XXXXX 13005KT 8000 SCT030 BECMG 0003 4000 BR SCT010 TEMPO
 XXXX 1500 VCFG BKN 005 BECMG 0709 16005KT CAVOK
 LFPG NIL
 EBBR XX/XX/XXZ XXXXX 04005KT 5000 BR SCT008 BKN 015 PROB 30 TEMPO XXXX
 1500 BR BKN 005

NOTAM

LFPO ARPT SUBJECT TO CLOSURE AT SHORT NOTICE DUE TO GROUND CONTROLLERS STRIKE.

PIREPS

NONE REPORTED

FLIGHT PLAN - HAZARD TO FLIGHT INFORMATION

CONVECTIVE SIGMETS/SIGMETS

LFPG SIGMET SST 3 VALID XX XX XX XX LFPO ON UIR FRANCE MOD TO SEV TURB FCST
 BLW FL 360 ON SE QUAD OF UIR FRANCE MOV W 10KT NC

FLIGHT PLAN EN ROUTE INFORMATION

SURFACE OBSERVATION

LFPV NIL
 LFOJ NIL

TERMINAL FORECAST

NONE AVAILABLE

WINDS/TEMPERATURES ALOFT FORECASTS

FD DATA BASED ON XX XX XX Z

VALID XX XX XX Z FOR USE XX XX XX Z TO XX XX XX Z

12000	18000	24000	30000	34000	39000
4634N-00194E					
2109M03	2212M14	2006M28	3105M41	3419M48	3623M51
4501N-00166E					
2408M03	2512M15	2911M26	3518M39	3224M46	3423M51

(NOTAMS1.PCX)

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LOFT FFS - FLIGHT DATA 6

FLIGHT PLAN ARRIVAL INFORMATION

SURFACE OBSERVATION

LFBO XX XX XX Z 03002KT 1500 SCT 003 BKN 005 15/13 Q1005 NOSIG

TERMINAL FORECAST

LFBO XX XX XX Z XX XX XX 04005KT 2000 BR BKN 003 OVC 008 BECMG XX XX OVC 003

LFBD XX XX XX Z XX XX XX 05020KT 8000 OVC 020 BKN 050 TEMPO XXXX 9999 BKN 020

NOTAMS

TOU VOR ON TEST. DISREGARD ALL INFORMATION.

RWY 15L/33R CLSD UFN WIP.

ILS RWY 33L UNSERVICEABLE

SURFACE OBSERVATION

LFBD XX XX XX Z XX XX XX 06015KT 8000 OVC 020 BKN 050 14/11 Q1004 NOSIG

NOTAMS

VOR TAC APP RWY 05 IS PROHIBITED FROM XX XX XX Z TO XX XX XX Z DUE TO MILITARY ACTIVITY SOUTH OF AIRPORT.

PIREPS

NONE REPORTED

(NOTAMS2.PCX)

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NOTE : *LOFT briefing + F/PLN decode keys : refer to FCTM Vol 1 - "Normal Operations Briefings" chapter*

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LOFT FFS SESSION GUIDE - Standard Crew -

01 - BRIEFING TOPICS

- CRM issue : Decision making
- 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 points trainees may have regarding documentation.
- He will take the role of dispatcher and action the trainee crew decisions regarding extra fuel, deferred items, etc... Once the crew has entered the simulator, the instructor will communicate with them as required, in the role of ground mechanic, ATC, cabin crew or company agent.
- Any malfunction actuated must be allowed to continue either to corrective action by the crew or to final landing and arrival at the gate for parking.
- Except in the event of simulator problems, the instructor must not interrupt the crew in any way, particularly concerning crew decisions and actions.

02 - SESSION OBJECTIVE

- This session is to demonstrate a real time flight with real time problems.
- After lift off, only two failures will be permitted (see session guide) :
 - One malfunction is mandatory during climb and must be kept to the top of descent (see malfunction list).
 - One other failure is permitted during the flight. The failures must be taken from the malfunction list.
Second failure can be inserted enroute to the destination or the alternate.
- Flight from LFPO - PARIS ORLY to LFBO - TOULOUSE BLAGNAC.
- Departure with a deferred item.
- Landing in TOULOUSE becomes impossible.
- Diversion to LBD - BORDEAUX MERIGNAC.

03 - SESSION PROFICIENCY CRITERIA

(NIL)

INSTRUCTOR ONLY

INSTRUCTOR ONLY

LOFT FFS SESSION GUIDE (CONT'D)
- Standard Crew -

04 - SESSION GUIDE

■ IN THE BRIEFING ROOM :

The crew must be provided with documents required for the flight :

COMPUTERIZED FLIGHT PLAN (CFP) :

CFP should be checked by the crew before the flight, and fuel corrections may be made by the captain.

Block fuel may be increased due to weather and NOTAMS.

MET REPORTS :

Weather should be analysed, wind and temperature at FL 370 to be inserted into MCDU during cockpit preparation.

XXXXXX Z indicates that day and time of weather data are valid for the intended flight period.

NOTAMS :

Should be analysed and inoperative VOR's deselected during cockpit preparation (TOU VOR on test).

TECHNICAL LOG BOOK : (SEC 3 FAULT - MANDATORY malfunction)

Crew should analyse deferred item, using pages from FCTM (MMEL chapter) :

- T/O with full thrust must be performed,
- MTOW must be reduced,
- T/O speed corrections must be applied,
- Landing distance must be increased by 10% and
- C/B SEC 3/SPLY ---- Q19 must be pulled.

LOAD AND TRIM SHEET :

Should be analysed and corrected if necessary (e.g. : increased block fuel)

- Stress that ideal CG = 33% and when T/O CG is lower than 27% MAC the basic performance must be corrected (see FCOM VOL 2).

- With AFT CG and crosswind, special T/O procedure should be applied (see SOP A320).

INSTRUCTOR ONLY

INSTRUCTOR ONLY

LOFT FFS SESSION GUIDE (CONT'D)
 - Standard Crew -

04 - SESSION GUIDE (CONT'D)

■ IN THE BRIEFING ROOM (END)

TAKE-OFF PERF TABLES

Crew should define T/O configuration, T/O speed and accelerat. alt. (FLX T/O is NOT allowed. Therefore see FCTM - Chapter MMEL).

- If the crew has NOT completed PERF CRS yet, the instructor will define all TAKE-OFF DATA as shown below :

BLOCK FUEL	TOW	T/O THRUST	T/O CONF	V1	VR	V2	1 ENG OUT ACC ALT
6.1 t	63.9 t	TOGA	2	140 kt	142 kt	143 kt	1500 FT QNH
(1)	-	See FCTM Chapter MMEL	-	143-3 See FCTM Chapter MMEL	143-1 See FCTM Chapter MMEL	144-1 See FCTM Chapter MMEL	is between MINI and MAXI accel. alt.

(1) Block fuel may be increased due to weather, notams, low holding fuel in CFP, possible lower cruise flight level as determined by the crew.

■ PREFLIGHT :

Select malfunction : **SEC 3 INOP (MANDATORY)**.

When engine n° 2 is stabilized after start, select **APU FAULT (OPTIONAL)**.

TAKE-OFF DATA

ATIS : see T/O data page, insert turbulence level 30%.

Enter T/O data according to the crew preparation, or instructor definition (if crew has not completed performance course).

PARKING GATE POSITION

Aircraft is parked at Gate D08 (Coordinates : N 4843.6 E 0222.2).

Set left window visual ON, press INIT GATE.

Check that gate coordinates have been entered and cross checked by the crew.

LOFT FFS SESSION GUIDE (CONT'D)
- Standard Crew -

04 - SESSION GUIDE (CONT'D)

■ PREFLIGHT (END) :

INITIAL CALL

ORLY FLIGHT DATA (Cpt) 121.05

"[Airline ID] XXX - information ... , are you ready for clearance ?"

DEPARTURE CLEARANCE

"[Airline ID] XXX - ATC clearance from LFPO to LFBO FL 370 via PTV ... departure, flight planned route, squawk A0304, call Orly Ground 121.70 for start and push."

ENGINE START

ORLY GROUND 121.70

When start and push requested :

"[Airline ID] XXX - start and push approved, QNH 1007, call ready for taxi."

Select malfunction : **APU FAULT** when engine n° 2 is stabilized (OPTIONAL).

NOTE : *Because of APU FAULT cross bleed eng start is required. Check that proper procedure is being used (FCOM VOL 3) and MMEL consulted (See FCTM - Chapter MMEL).*

■ PUSH BACK AND TAXI :

ORLY GROUND 121.70

Push back NOSE pointing LEFT.

When taxi requested :

"[Airline ID] XXX - taxi to holding position RWY 08 and change to TWR 118.70."

The aircraft is released at push back completion on HDG 310°.

Set CAVOK and TWILIGHT visual. Taxi to the left of the apron on HDG 260 until reaching RWY 08 on the left hand side, slightly after abeam on RWY 08 threshold.

Set HIRL intensity to level 5 on visual page.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

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LOFT FFS SESSION GUIDE (CONT'D) - Standard Crew -

04 - SESSION GUIDE (CONT'D)

■ TAKE-OFF :

ORLY TOWER 118.70

At holding point and ready for line up and T/O - T/O clearance :

"[Airline ID] XXX - after take-off, maintain 220 kt until intercepting BT radial 164°, wind 180°/16 kt, RWY 08 - cleared for take off ".

- Check how speed restriction is inserted as a constraint.
- Check that for combination of crosswind and aft C/G, PF applied full fwd side stick, and moved thr. levers progressively to reach FLX/TOGA gate at 40 kt (see A320 SOP).
- Check that noise abatement restrictions are respected (Maintain RWY centerline and acceleration alt. is 3000' AAL).

■ AFTER TAKE-OFF - CLIMB:

ORLY TOWER 118.70

Crew is after T/O and reporting airborne and passing current ALT :

"[Airline ID] XXX - airborne at ... , change Orly Departure 127.75."

NOTE : *Check how the crew is operating with RMP's.*

ORLY DEPARTURE 127.75

Crew reports on FRQ, passing ... ft :

"[Airline ID] XXX - radar contact, passing FT. Climb to FL 210 initially, speed restrictions terminated."

NOTE : *Check how speed restrictions 220 kt and 250 kt are cleared. Crew reports approaching FL 210.*

"[Airline ID] XXX - maintain FL 210 and change to Paris Control 125.45."

INSTRUCTOR ONLY

INSTRUCTOR ONLY

LOFT FFS SESSION GUIDE (CONT'D)
- Standard Crew -

04 - SESSION GUIDE (CONT'D)

■ AFTER TAKE-OFF - CLIMB (END)

PARIS CONTROL 125.45

Crew reports on FRQ, maintaining FL 210 :

"[Airline ID] XXX - radar contact. Climb to FL 290 - will be your final level, expedite climb until passing FL 280."

NOTE : *Check level change on progress page. Check exp. climb (not recommended abv FL 250 [See FCOM 4.05.40])*

Crew reports out of FL 280, if not, instructor mentions it :

"[Airline ID] XXX - resume normal climb to FL 290, and contact Bordeaux Control 133.75."

NOTE : *Insert malfunction in climb, preferably at the end of climb phase (mandatory). FL 290 and FL 410 are the only FL available for cruise due to airspace restriction (Preferably HYD G RSVR OVHT).*

■ CRUISE:

BORDEAUX CONTROL 133.75

Crew reports on FRQ and reaching, maintaining FL 290 :

"[Airline ID] XXX - radar contact, maintain FL 290, proceed from present position direct LMG, AULON next, flight planned route and call ready for descent."

Check that crew reviews revised fuel predictions after reclearance.

Enter moderate turbulence (50%) and check that crew applies turbulence penetration procedure.

If necessary increase turbulence to 80%.

At instructor discretion insert second malfunction in cruise.

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		REV 21 MAY 98

LOFT FFS SESSION GUIDE (CONT'D) - Standard Crew -

04 - SESSION GUIDE (CONT'D)

■ DESCENT :

BORDEAUX CONTROL 133.75

NOTE : *Check that TOU VOR has been failed*

The following weather for LFBO should be inserted :
030°/02 kt 1500 OVC 003 15/6 QNH 1005 NOSIG.

BORDEAUX CONTROL 133.75

Crew reports ready for descent :

"[Airline ID] XXX - for further change Bordeaux Control 129.40."

BORDEAUX CONTROL 129.40

Crew reports on FRQ, current FL and ready for descent :

"[Airline ID] XXX - radar contact squawk A0304 ident, proceed inbound AULON and descend to FL 150."

Crew reports reaching and maintaining FL 150 :

"[Airline ID] XXX - copied, change to Toulouse Radar 129.30."

TOULOUSE RADAR 129.30

Crew reports on FRQ, approaching AULON and maintaining FL 150 :

"[Airline ID] XXX - radar contact continue inbound to NOPTA, descent to FL 070, number 4 for approach, expect 10 min delay over NOPTA, AULON ... arrival, ILS APPR 15R. "

NOTE : *Check that the crew has inserted the proper arrival and that they have checked holding LAST EXIT - UTC and holding LAST EXIT - FUEL (see FCOM 4.04.30 p 15).*

Crew reports reaching and maintaining FL 070 and is probably about to join the NOPTA holding :

"[Airline ID] XXX - roger, change Toulouse Approach 121.10."

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LOFT FFS SESSION GUIDE (CONT'D) - Standard Crew -

04 - SESSION GUIDE (CONT'D)

■ APPROACH :

TOULOUSE APPROACH 121.10

Crew reports on FRQ, maintaining FL 070 and considers to restore the G HYD system prior to commence approach normally at that stage :

"[Airline ID] XXX - you are Nr. 2, no delay expected, turn right HDG 240°, radar vectors ILS approach RWY 15R, descent to 4000 ft QNH 1005."

When about to approach LOC intercept and G HYD system has been resored normally by utilisation of the correct procedure during radar leg :

"[Airline ID] XXX - turn left HDG 190°, cleared to intercept the localiser, maintain 4000 ft for the time being you are still Nr. 2."

Keep aircraft at 4000 ft until reaching 9.3 TBS DME for G/S interception from above (Max 2 dots above). Watch preparation for stabilized approach principle.

"[Airline ID] XXX - cleared to approach RWY 15R, Nr. 1 now."

Check that crew is utilising proper procedure for G/S interception from above. At VAPP and V/S - 1500 ft/min, A/C should be established on G/S at approx 5.8 TBS/1900 ft RA.

When established on G/S (G/S* comes up) :

"[Airline ID] XXX - change Blagnac Tower 118.10."

BLAGNAC TOWER 118.10

Crew reports on FRQ, ILS 15R established :

"[Airline ID] XXX - Nr. 1, cleared to land RWY 15R, wind calm."

NOTE : At 1000 ft AGL insert G/S transmitter failure.

Check that G/A is initiated not later than LOC minimum (MDA 870 ft).

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LOFT FFS SESSION GUIDE (CONT'D) - Standard Crew -

04 - SESSION GUIDE (CONT'D)

■ GO AROUND :

BLAGNAC TOWER 118.10

Crew reports on go around :

"[Airline ID] XXX - glide slope RWY 15R is out of service, follow standard missed approach procedure, maintain 4000 ft, change Toulouse Radar 121.10."

NOTE : *Landing in Toulouse becomes impossible because of :*

- Low cloud base and G/S failure,
- RWY 15L/33R is closed (see notam) and
- ILS 33L U/S (see notam).

■ DIVERSION (to LFBD) :

TOULOUSE RADAR 121.10

Crew reports on go around inbound NOPTA, maintaining 4000 ft and has normally decided after a brief review of the conditions to divert to ALTN airport LFBD :

"[Airline ID] XXX - from present position proceed direct AGN climb to FL 100 initially and contact Bordeaux Control 124.25."

BORDEAUX CONTROL 124.45

Crew reports on FRQ and inbound AGN, climbing to FL100 with decision to divert to LFBD and asking for further advise :

"[Airline ID] XXX - maintain FL 100 on reaching, squawk A5420, proceed AGN-MIRBA direct. Expect MIRBA arrival, ILS RWY 23, what is your requested level ?"

Check that crew considers use of optimum FL and is requesting further climb :

"[Airline ID] XXX - climb and maintain FL ... , report ready for descent."

ECAM amber caution L + R WING TK LO LVL may come on during diversion.
If G HYD SYS not restored and landing gear extended, FOB might not be sufficient to reach LFBD. Check crew awareness and freeze fuel if necessary to avoid negative impact on trainees of a inflight fuel starvation.

Insert the following weather for LFBD :

050 15 KT 9999 OVC 020 15/12 Q1005 NOSIG

INSTRUCTOR ONLY

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LOFT FFS SESSION GUIDE (CONT'D)
- Standard Crew -

04 - SESSION GUIDE (CONT'D)

■ **DESCENT AND APPROACH AT LFBD**

BORDEAUX CONTROL 124.45

Crew is reaching TOD and reports ready for descend :

"[Airline ID] XXX - descend to FL 080 and contact Merignac Approach 121.20."

MERIGNAC APPROACH 121.20

Crew reports on FRQ, passing ALT, descending to FL 080 :

"[Airline ID] XXX - radar contact, proceed to MIRBA, expect MIRBA 4 arrival for ILS RWY 23 circle to land RWY 05" - (use of VOR TAC RWY 05 prohibited by NOTAM).

MERIGNAC APPROACH 121.20

Crew is approaching to MIRBA and shortly prior to passing :

"[Airline ID] XXX - inbound LIBRU descent to 5000 ft QNH 1004 BE next."

NOTE : *Check that the crew has inserted proper arrival for ILS RWY 23 and that SEC-F/PLAN is prepared for CIRCLING APPCH RWY 05.*

When passing LIBRU :

"[Airline ID] XXX - continue descent to 2000 ft, QNH 1004, proceed direct BE."

When passing BE :

"[Airline ID] XXX - cleared for ILS APPR RWY 23, report RWY in sight."

Set TWILIGHT visual and HIRL intensity 5, then set CAVOK when aircraft is below 2000 ft and established on ILS RWY 23.

When RWY in sight reported :

"[Airline ID] XXX - cleared for circling approach RWY 05, contact TWR 118.30."

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LOFT FFS SESSION GUIDE (CONT'D) - Standard Crew -

04 - SESSION GUIDE (END)

■ DESCENT AND APPROACH AT LFBD (END)

MERIGNAC TOWER 118.30

Crew reports on FRQ and position :

Check that correct circling procedure is followed (Prohibited SE of RWY 05/23).

"[Airline ID] XXX - continue circling approach for RWY 05, report LH base."

NOTE : *Check that the crew has activated SEC F/PLAN for RWY 05, with the correct headwind for RWY 05.*

Crew reports on left hand base for RWY 05 :

"[Airline ID] XXX - cleared to land RWY 05 wind 050°/15 kt gustings 20 kt."

NOTE : *Check that managed speed is being used for the approach RWY 05 if SEC FPLN activated for that runway, or selected speed + wind correction if SEC FPLN not activated.*

■ AFTER LANDING AND PARKING:

MERIGNAC TOWER 118.30

Bordeaux SIM visual scenario is generic, therefore RWY will have to be left to the right. Aircraft has landed at RWY 05 and is on roll out

"[Airline ID] XXX - leave RWY at first taxiway to the right and call vacated."

Crew calls RWY 05 vacated :

"[Airline ID] XXX - change Merignac Ground 121.70."

MERIGNAC GROUND 121.70

Crew reports on FRQ and asks for taxi instructions :

"[Airline ID] XXX - follow green lights report at gate and marshaller contact." Thence.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

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LOFT FFS SESSION GUIDE (CONT'D) - Standard Crew -

05 - CHOISE OF MALFUNCTIONS

(A max of 2 malfunctions to be selected during the entire flight)

- COCKPIT PREPARATION

SEC 3 FAULT (MANDATORY) - Deferred item.

AND

APU FAULT (OPTIONAL) - Insert malfunction when ENG N° 2 is stabilized.

- CLIMB

NOTE : ONE failure is mandatory and must be kept on, up to the top of descent (TOD).

GREEN RSVR OVERHEAT

OR

FMGC 2 FAILURE (If crew attempts a reset, it will be successfull).

- CRUISE

R WING LEAK and PCK 1 OVERHEAT

NOTE : *Emerg. descent is required approx 5 min after PACK 1 OVERHEAT selection.*

OR

ENG FAILURE IN CRUISE - (No damage - Eng relight).

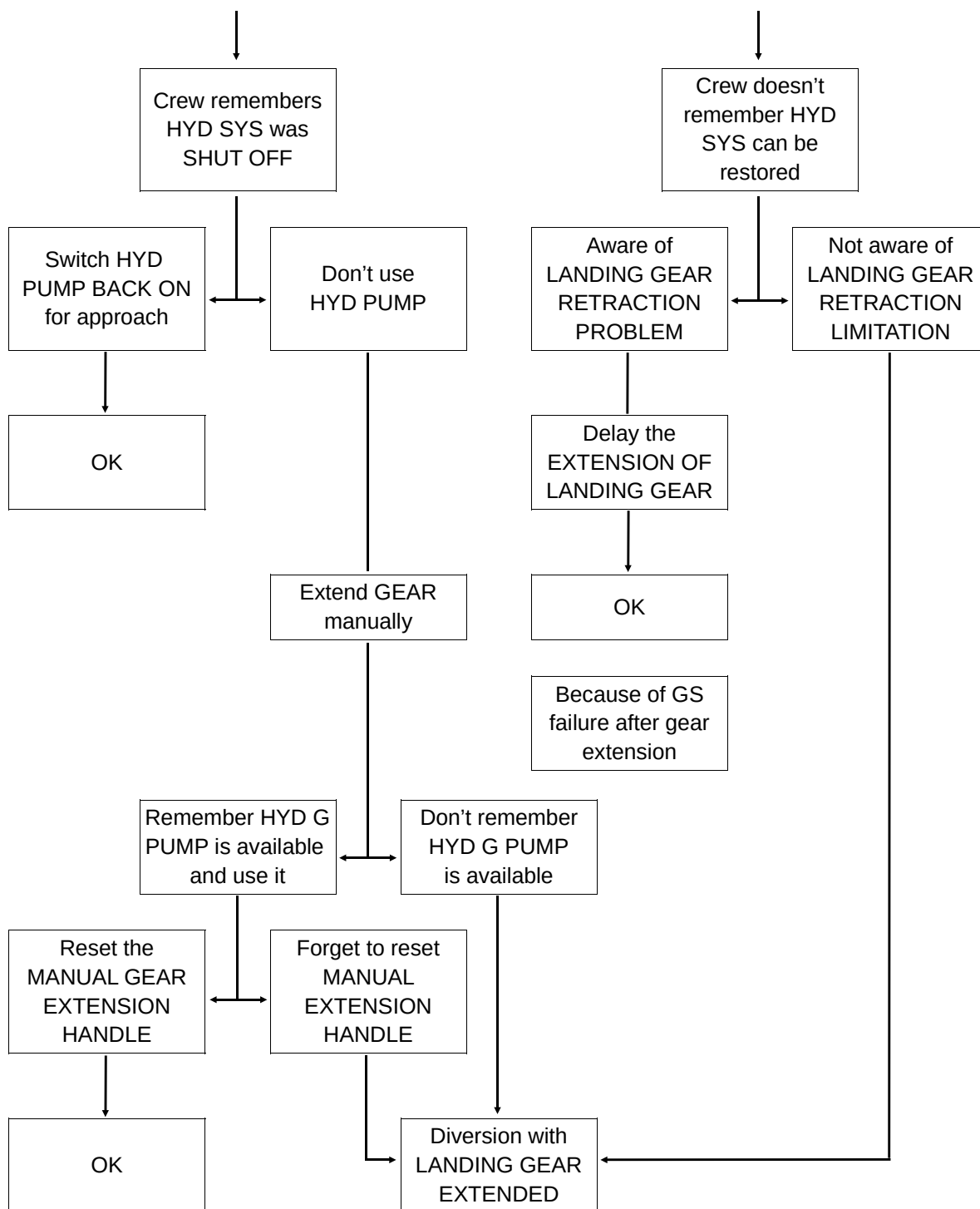
- DIVERSION

No failure, but ECAM amber caution L + R WING TK LO LVL might be triggered depending on remaining FOB.

LOFT FFS SESSION GUIDE (END) - Standard Crew -

05 - CHOICE OF MALFUNCTIONS (END)

If **RSVR OVERHEAT GREEN** is selected as malfunction, different scenarios are possible depending on the Crew proficiency :



LOFT FFS - APPENDIX 1

AAA

K0FC-02-0140-005-A970AA

Mod : 20167+21615

CFM Eng : 56-5-A1

AIRBUS INDUSTRIE		LOAD and TRIM SHEET ANSETT		A320-211 VERSION 40FCB4YC OR 60BCB4YC																																																																													
DRY OPERATING WEIGHT <table border="1"> <tr> <td>W WEIGHT(kg)</td> <td>CG %MAC</td> </tr> <tr> <td>43.000</td> <td>26</td> </tr> <tr> <td colspan="2"> $I = \frac{(CG - 25) \times W}{20000} + 50$ </td> </tr> <tr> <td>DRY OPER. WEIGHT INDEX</td> <td>52,1</td> </tr> </table>		W WEIGHT(kg)	CG %MAC	43.000	26	$I = \frac{(CG - 25) \times W}{20000} + 50$		DRY OPER. WEIGHT INDEX	52,1	AIRCRAFT A-320 REGISTER: F-WWFT DATE: XX/XX/XX PREPARED BY: FLT N°: A1-02 KRALJ F. FROM: LFPO TO: LFB0		DRY OPERATING WEIGHT 43.000 WEIGHT DEVIATION 0 CORRECTED DRY OPER. WEIGHT 43.000 CARGO 3.960 PASSENGERS 10.800 ZERO FUEL WEIGHT 57.760 TOTAL FUEL 6.500 TOTAL WEIGHT 64.260																																																																					
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CAUTION : WHEN THE T.O CG IS LOWER THAN 27% MAC THE BASIC PERFORMANCE MUST BE CORRECTED : - T.O : Use appropriate RTOLW chart, or, make CG correction on QUICK REF TABLE - LDG : Make CG correction on LDG speed and distance.																																																																																	

A320
FLIGHT CREW OPERATING MANUAL
LOADING
WEIGHT and BALANCE
2.01.40 P 5/6

(EFCOM1.PCX)

L.O.E. FFS TAKE-OFF DATA
- (LEG A) -
LYON - TARBES

INIT PAGE			ATIS
CO RTE	FROM/TO	TRIP DIST	RWY 18 R
N.A.	LFL/LFBT	282 NM	WIND 270°/12 kt
ALTN/CO RTE		CRZ WIND	VISI 1200 m
N.A.		360°/85 kt	CEILING OVC 1500 ft
FLT NBR		ALTN	TEMP 8°C
[Airline ID] 212		LFBO	DEW POINT ... 4°C
LAT	LONG	ALTN DIST	QNH 1019 hPa/30.10inHg
4543.6N	00504.9E	65 NM	QFE 989 hPa/29.20 inHG
COST INDEX		FL to ALTN	RWY COND ... WET
30		FL 240	Observations : AIR COND ON
CRZ FL/TEMP	TROPO		ANTI ICE ON
FL 350 / -56°C	DEFAULT		Braking action medium

INIT NEXT PAGE	PERF PAGE	T/O FLAPS	NOTE:
ZFCG - ZFW	IAE CFM		FPLN :
38.5%-55.9 t	V1		LFL 18R
38.5%-122980 lb	VR	T/O C.G.	MEN DEP
	V2	%	G5 - GAI
BLOCK		TOGA	DIR AUCHE
t	FLEX	FLEX	AUCHE ARR
lb	DRT	—DRT—	LFBT ILS 20
			ALTN : LFBT 20 - TBO DEP -
			TBO ARR - LFBO VOR 33L

L.O.E. FFS TAKE - OFF DATA
- (LEG B) -
TOULOUSE - MARSEILLE

INIT PAGE

CO RTE

N.A.

ALTN/CO RTE

N.A.

FLT NBR

[Airline ID] 213

LAT

4337.1N

COST INDEX

30

CRZ FL/TEMP

FL 290 / -45°C

FROM/TO

LFBO/LFML

LONG

00122.1E

TROPO

DEFAULT

TRIP DIST

213 NM

CRZ WIND

300°/70 kt

ALTN

LFLL

ALTN DIST

138 NM

FL to ALTN

FL 240

ATIS

RWY 15 R

WIND 110°/12 - 25 kt

VISI 2000 m

CEILING BKN 1500 ft

TEMP 12°C

DEW POINT ... 8°C

QNH 1018hPa/30.10inHg

QFE 1000 hPa/29.53 inHg

RWY COND ... DRY

Observations : AIR COND ON

ANTI ICE OFF

Braking action good

INIT NEXT PAGE

ZFCG - ZFW

38.5%-55.9 t

38.5%-122980 lb

BLOCK

t

lb

PERF PAGE

IAE CFM

V1

VR

V2

FLEX

T/O FLAPS

T/O C.G.

%

TOGA

FLEX

—DRT—

NOTE:
FPLN :

LFBO 15R

PPG DEP

PPG

PPG ARR

LFML NDB 14L

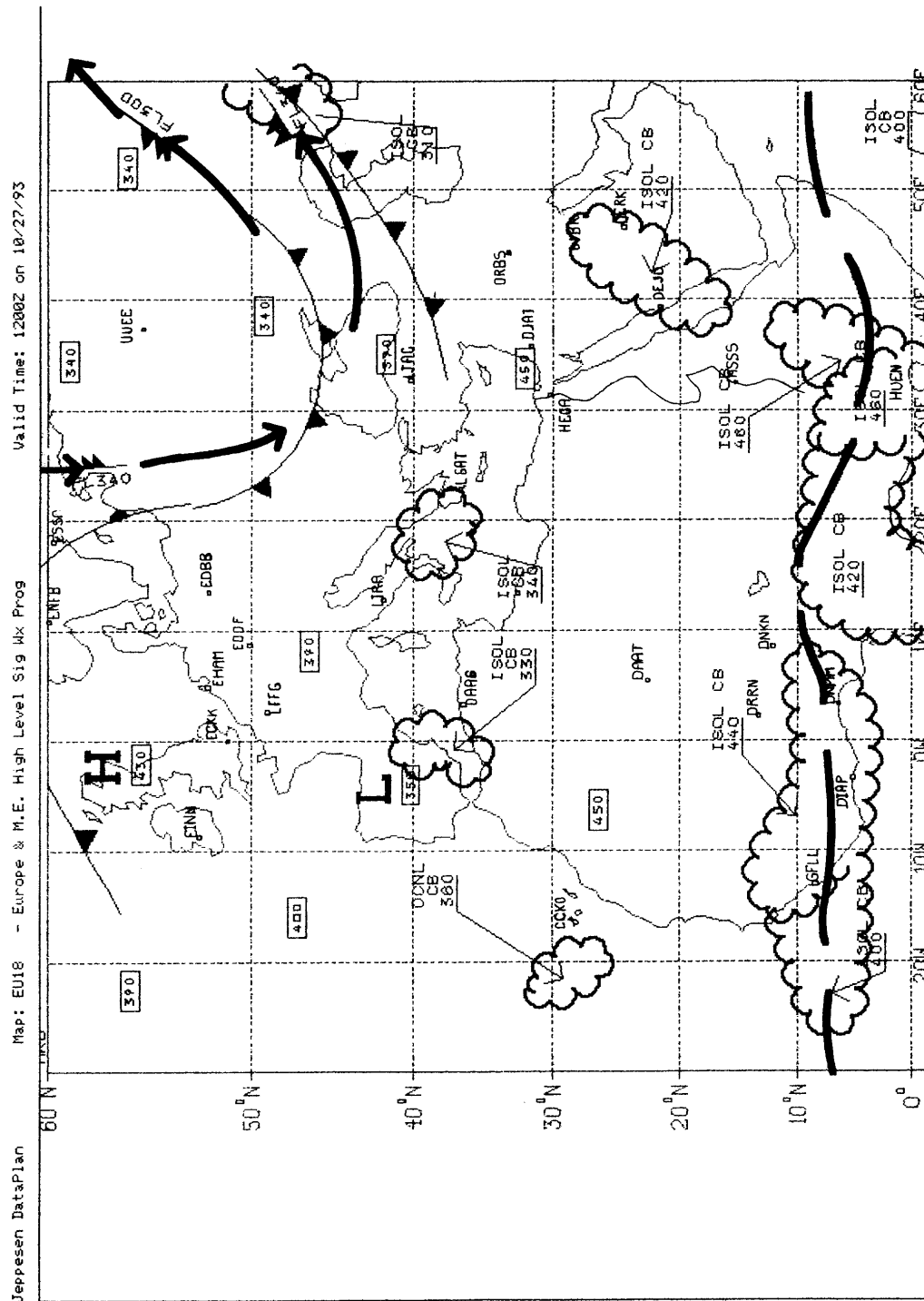
ALTN : LFML 14L - MTL DEP - MTL -

MTL ARR - LFLL ILS 36L

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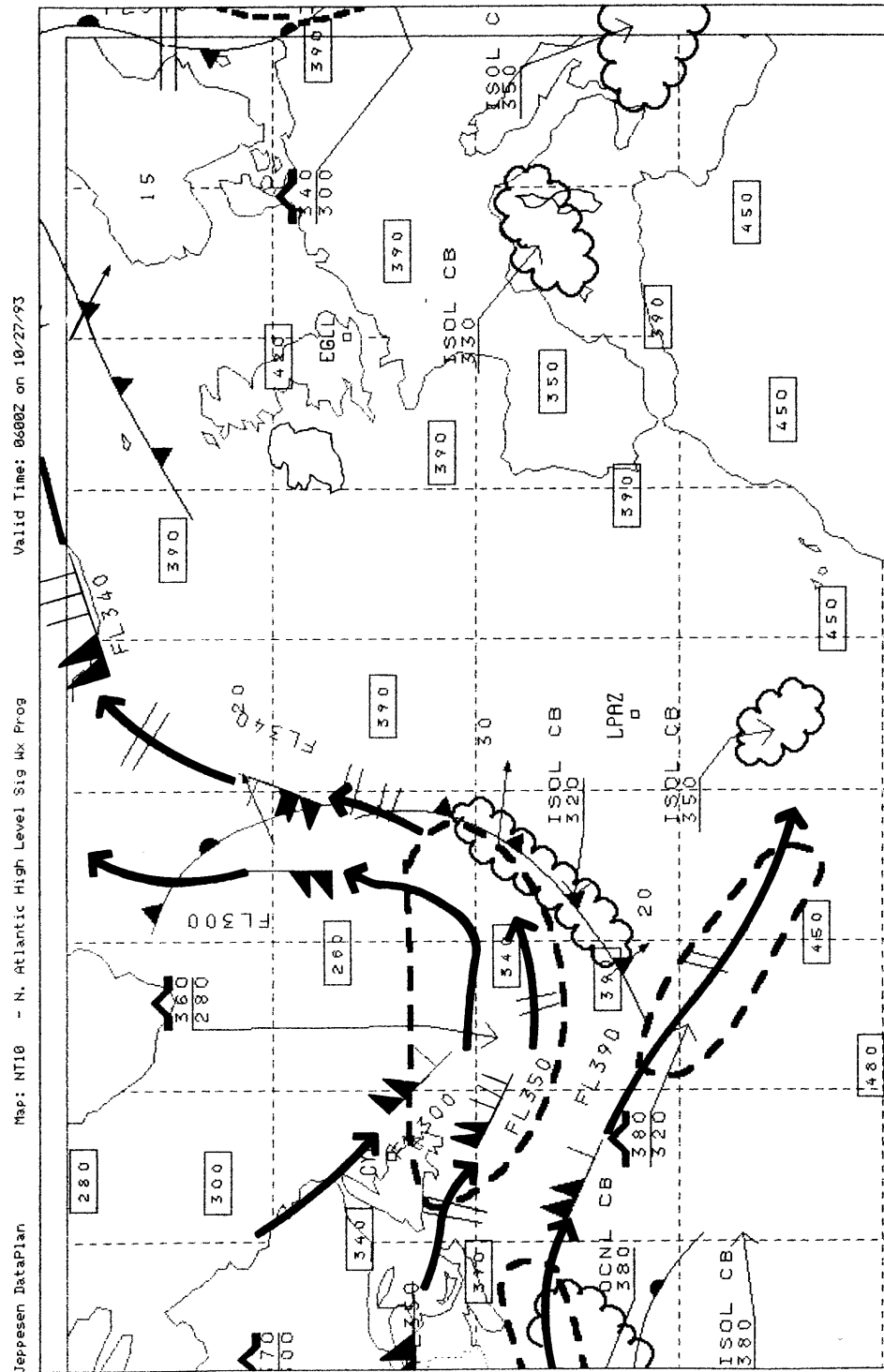
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L.O.E. FFS - METEO 1



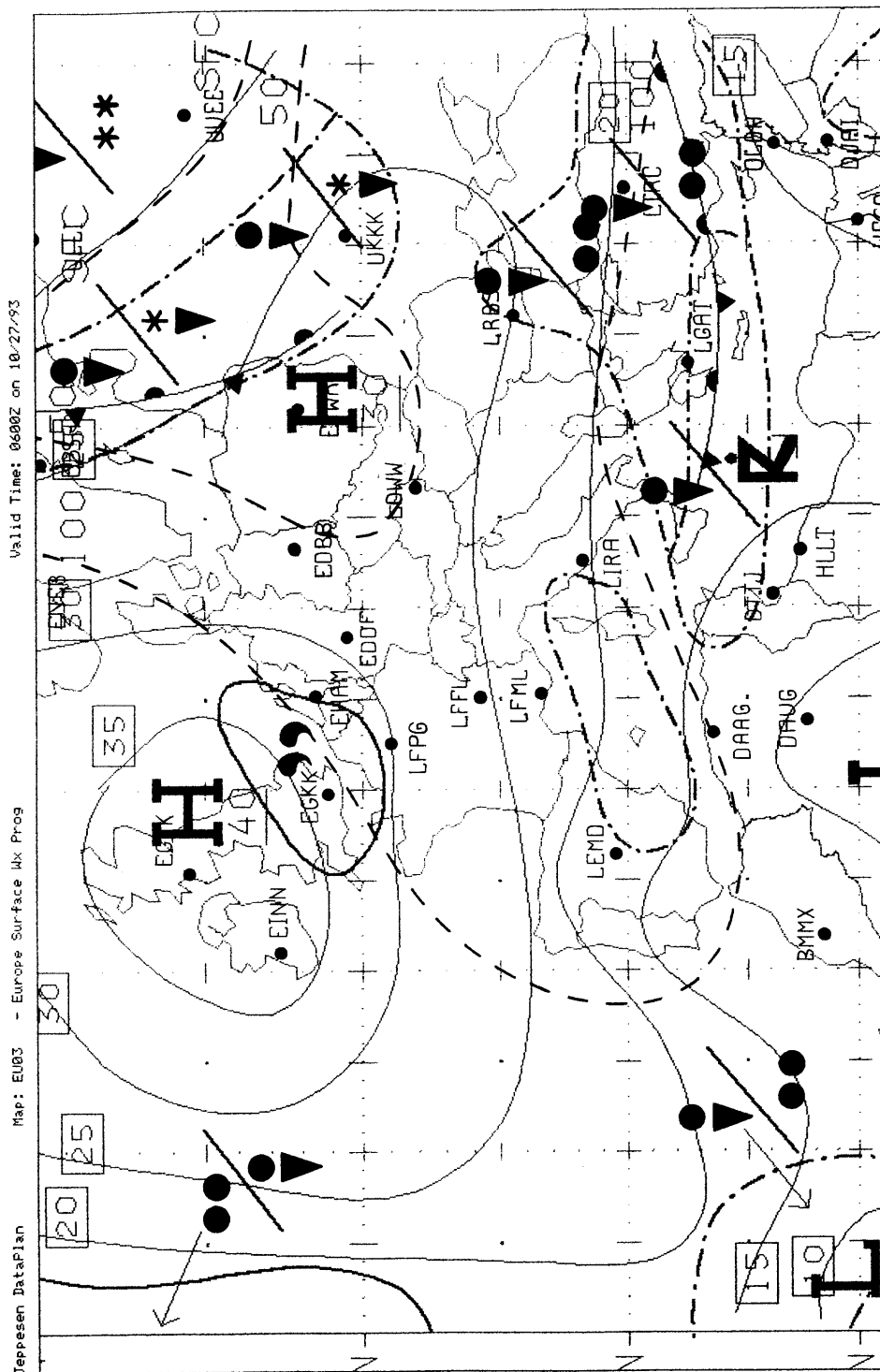
(SURFACE1.PCX)

L.O.E. FFS - METEO 2



(SURFACE2.PCX)

L.O.E. FFS - METEO 3



(SURFACE3.PCX)

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L.O.E. FFS (LEG A) - FLIGHT PLAN

***** JAS SESSION Mon May 18 15:41:45 1998 j7067660.txt *****

PLAN 3541 LFLM TO LFBT A320 LRC/F IFR 05/18/98
 NONSTOP COMPUTED 1340Z FOR ETD 1000Z PROGS 1800ADF AIB320 KGS

ATTN CAPT. STRAUB
 FLT RELEASE AIB320 LFLM/LFBT ON 05/19/98

FLT/DAY	ORG /DEST	TTL NAM	PRF	ROUTE	AVG WIND/	AVG TEMP
AIB320 /19	LFLM/LFBT	0281	F	STRA	P004 /	M45

	E.FUEL	A.FUEL	E.TME	NM	NAM	FL
DEST LFBT	001741	...	00/45	0282	0281	290
RESV 0.05	000087	...	00/03			
ALT LFBO	000572	...	00/14	0066	0067	240
HOLD	000924	...	00/30			
ETOPS RES	000000	...	00/00			
ETOPS XPRT	000000	...	00/00			
XTR	000000	...	00/00	CAPT.SIGN		
TOF	003324	...	01/32	STRAUB		
TAXI	000300	CORR.	+ / -			
BLOCK	003624	...	01/32	BLOCK FUEL.		

FUEL BURN ADJUSTMENT FOR 4000FT DECREASE IN CRZ ALTITUDE : KGS

FUEL BURN ADJUSTMENT FOR 1000KGS INCREASE/DECREASE IN TOW : 0023 KGS

	E.WT	CORR.	OP.LIMIT	STRUC.	REASONS FOR OP.LIMIT
BASIC WT	042165	...			
EPLD	013735	...			
EZFW	055900	...	ZFW 061000 /.		
TOF	003324	...			
ETOW	059223	...	OTOW 073500 /.		
EB/O	001741	...			
ELAW	057482	...	LAW 064500 /.		

LFLM MEN2N MEN UG5 GAI..LFBT

BLOCK IN LDG FU1 FU3

BLOCK OFF T.OFF FU2 FU4

BLOCK TIME F.TIME

WPT	FLT	WIND	TAS	OTT	OMT	DST	NAM	E.T.	E.TA	ECBO	EFOB.	E.WT.
AWY	MSA	OAT	GS	ITT	IMT	RDST	RNAM	C.T.	A.TA	ACBO	AFOB.	

LFLM ELEV 00820FT

D354F	...	.../...	353	354	005	005	0001	....	000.4	003.3	059.2
MEN2N	...	...	353	354	0277	0276	0001	....	.....	.....	.....

LSA	...	.../...	188	189	009	009	0002	....	000.5	003.1	059.0
MEN2N	...	...	188	189	0268	0267	0003	....	.....	.....	.....

MURRO	...	.../...	231	232	039	038	0007		001.0	002.6	058.5
MEN2N	...	...	230	232	0229	0229	0010				

(LOEA.PCX)

L.O.E. FFS (LEG A) - FLIGHT PLAN (END)

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TOC 290 345/024 344 231 232 011 011 0002 .... 001.2 002.4 058.3
MEN2N 081 M45 354 231 232 0218 0218 0012 .... .....

- - - - -
MEN 290 345/024 414 231 232 056 055 0008 .... 001.5 002.2 058.1
MEN2N 081 M45 423 231 233 0162 0163 0020 .... .....

- - - - -
GAI 290 332/024 413 236 238 070 069 0010 .... 001.8 001.8 057.7
UG5 081 M45 416 235 237 0092 0094 0030 .... .....

- - - - -
TOD 290 315/025 414 241 242 021 021 0003 .... 002.0 001.7 057.6
.. 092 M44 406 239 242 0071 0073 0033 .... .....

- - - - -
LFBT ... .../... .. 071 073 0012 .... 002.0 001.6 057.5
.. ... .. 0000 0000 0045 .... .....

- - - - -
WP NAME CO-ORDINATES WP NAME CO-ORDINATES
.. LFL  N45 43.5 E005 04.9 .. D354F N45 48.9 E005 04.5
.. LSA  N45 43.5 E005 05.4 .. MURRO N45 19.0 E004 22.8
.. MEN  N44 36.5 E003 09.7 .. GAI    N43 57.2 E001 49.5
.. LFBT N43 11.1 W000 00.2
- - - - -

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(FPL-AIB320-IX
-A320/M-SDHI/C
-LFLL1000
-N0414F290 DCT MEN UG5 GAI DCT
-LFBT0045 LFBO
-REG/9A-CTF SEL/XXXX
-E/0132 P/TBN R/VE S/M J/L D/06 C WHITE
A/WHITE
C/STRAUB)

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END OF JEPPESEN DATAPLAN
REQUEST NO. 3541

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(LOEA2.PCX)

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	UPGRADING OF F/O TO CAPTAIN (Simulator phase 2 ONLY) TRAINING SYLLABI	2.21.03 Page 12F E F21
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L.O.E. FFS (LEG B) - FLIGHT PLAN

PLAN 3573 LFBO TO LFML A320 LRC/F IFR 05/18/98
 NONSTOP COMPUTED 1341Z FOR ETD 1000Z PROGS 1800ADF AIB320 KGS

ATTN CAPT. STRAUB
 FLT RELEASE AIB320 LFBO/LFML ON 05/19/98

FLT/DAY	ORG /DEST	TTL NAM	PRF	ROUTE	AVG WIND/	AVG TEMP
AIB320 /19	LFBO/LFML	0187	F	STRA	P029 /	M44

	E.FUEL	A.FUEL	E.TME	NM	NAM	FL
DEST LFML	001296	...	00/32	0203	0187	290
RESV 0.05	000065	...	00/02			
ALT LFL	001014	...	00/26	0138	0147	240
HOLD	000923	...	00/30			
ETOPS RES	000000	...	00/00			
ETOPS XPRT	000000	...	00/00			
XTR	000000	...	00/00	CAPT.SIGN		
TOF	003298	...	01/30	STRAUB		
TAXI	000300	CORR.	+ / -			
BLOCK	003598	...	01/30	BLOCK FUEL.		

FUEL BURN ADJUSTMENT FOR 4000FT DECREASE IN CRZ ALTITUDE : KGS

FUEL BURN ADJUSTMENT FOR 1000KGS INCREASE/DECREASE IN TOW : KGS

	E.WT	CORR.	OP.LIMIT	STRUC.	REASONS FOR OP.LIMIT
BASIC WT	042165	...			
EPLD	013735	...			
EZFW	055900	...	ZFW	061000 /.	
TOF	003298	...			
ETOW	059198	...	OTOW	073500 /.	
EB/O	001296	...			
ELAW	057902	...	LAW	064500 /.	

LFBO PPG4A PPG PPG3B LFML

BLOCK IN LDG FU1 FU3

BLOCK OFF T.OFF FU2 FU4

BLOCK TIME F.TIME

WPT	FLT	WIND	TAS	OTT	OMT	DST	NAM	E.T.	E.TA	ECBO	EFOB.	E.WT.
AWY	MSA	OAT	GS	ITT	IMT	RDST	RNAM	C.T.	A.TA	ACBO	AFOB.	

LFBO ELEV 00499FT

TS	...	.../...	143	144	009	008	0002	....	000.4	003.2	059.1
PPG4A	...	...	143	145	0194	0179	0002	....	....	....	....

GALDO	...	.../...	142	144	019	017	0003	....	000.7	002.9	058.8
PPG4A	...	...	143	144	0175	0162	0005	....	....	....	....

TOU43	...	.../...	096	098	014	013	0002		000.9	002.7	058.6
PPG4A	...	...	097	098	0161	0149	0007				

(LOEB1.PCX)

L.O.E. FFS (LEG B) - FLIGHT PLAN (CONT'D)

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MORIL ... .../... 129 131 016 015 0003 .... 001.1 002.5 058.4
PPG4A ... .. 129 131 0145 0134 0010 .... .. .

- - - - -
TOC 290 301/035 344 130 132 007 006 0001 .... 001.2 002.4 058.3
PPG4A 120 M44 377 130 132 0138 0128 0011 .... .. .

- - - - -
PPG 290 301/035 415 130 132 023 021 0003 .... 001.3 002.3 058.2
PPG4A 120 M44 450 130 132 0115 0107 0014 .... .. .

- - - - -
TOD 290 303/037 415 078 080 041 039 0006 .... 001.5 002.1 058.0
PPG3B 120 M44 440 078 080 0074 0068 0020 .... .. .

- - - - -
SUBIL ... .../... 078 080 038 035 0006 .... 001.6 002.0 057.9
PPG3B ... .. 078 079 0036 0033 0026 .... .. .

- - - - -
BORG0 ... .../... 045 046 010 009 0002 .... 001.6 002.0 057.9
PPG3B ... .. 045 046 0026 0024 0028 .... .. .

- - - - -
LFML ... .../... ... 026 024 0004 .... 001.6 002.0 057.9
PPG3B ... .. 0000 0000 0032 .... .. .

- - - - -
WP NAME CO-ORDINATES WP NAME CO-ORDINATES
.. LFBO N43 38.1 E001 22.1 .. TS N43 30.4 E001 29.2
.. GALDO N43 15.6 E001 44.8 .. TOU43 N43 14.0 E002 04.2
.. MORIL N43 04.0 E002 21.0 .. PPG N42 45.0 E002 52.0
.. SUBIL N43 01.7 E004 36.5 .. BORG0 N43 08.8 E004 46.2
.. LFML N43 26.2 E005 12.9
- - - - -

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(FPL-AIB320-IX
-A320/M-SDHI/C
-LFBO1000
-N0415F290 DCT PPG DCT
-LFML0032 LFLL
-REG/9A-CTF SEL/XXXX
-E/0130 P/TBN R/VE S/M J/L D/06 C WHITE
A/WHITE
C/STRAUB)

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END OF JEPPESEN DATAPLAN
REQUEST NO. 3573
(LOEB2.PCX)

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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	UPGRADING OF F/O TO CAPTAIN (Simulator phase 2 ONLY) TRAINING SYLLABI	2.21.03 Page 12H E F21
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L.O.E. FFS (LEG B) - FLIGHT PLAN (CONT'D)

PLAN 3604 LFBO TO LFML A320 LRC/F IFR 05/18/98
 NONSTOP COMPUTED 1344Z FOR ETD 1000Z PROGS 1800ADF AIB320 KGS

ATTN CAPT. STRAUB
 FLT RELEASE AIB320 LFBO/LFML ON 05/19/98

FLT/DAY	ORG /DEST	TTL NAM	PRF	ROUTE	AVG WIND/	AVG TEMP
AIB320 /19	LFBO/LFML	0213	F	STRA	P026 /	M45

	E.FUEL	A.FUEL	E.TME	NM	NAM	FL
DEST LFML	001416	...	00/36	0224	0213	290
RESV 0.05	000071	...	00/02			
ALT LFLL	001014	...	00/26	0138	0147	240
HOLD	000923	...	00/30			
ETOPS RES	000000	...	00/00			
ETOPS XPRT	000000	...	00/00			
XTR	000000	...	00/00	CAPT.SIGN		
TOF	003424	...	01/34	STRAUB		
TAXI	000300	CORR.	+ / -			
BLOCK	003724	...	01/34	BLOCK FUEL.		

FUEL BURN ADJUSTMENT FOR 4000FT DECREASE IN CRZ ALTITUDE : KGS

FUEL BURN ADJUSTMENT FOR 1000KGS INCREASE/DECREASE IN TOW : 0016 KGS

	E.WT	CORR.	OP.LIMIT	STRUC.	REASONS FOR OP.LIMIT
BASIC WT	042165	...			
EPLD	013735	...			
EZFW	055900	...	ZFW	061000 /.	
TOF	003424	...			
ETOW	059324	...	OTOW	073500 /.	
EB/O	001416	...			
ELAW	057908	...	LAW	064500 /.	

LFBO AFRI4A AFRIC..FJR..VARES VARES3 LFML

BLOCK IN LDG FU1 FU3

BLOCK OFF T.OFF FU2 FU4

BLOCK TIME F.TIME

WPT	FLT	WIND	TAS	OTT	OMT	DST	NAM	E.T.	E.TA	ECBO	EFOB.	E.WT.
AWY	MSA	OAT	GS	ITT	IMT	RDST	RNAM	C.T.	A.TA	ACBO	AFOB.	

LFBO ELEV 00499FT

D145H	...	.../...	143	145	004	004	0001	....	000.4	003.4	059.3
AFRI4	...	...	..	143	145	0220	0209	0001	....	.....	.....

D087L	...	.../...	033	035	012	012	0002	....	000.5	003.2	059.1
AFRI4	...	...	..	033	035	0208	0197	0003	....	.....	.....

FINOT	...	.../...	086	088	019	019	0003		000.8	002.9	058.8
AFRI4	...	...	..	087	088	0189	0178	0006			

(LOEB3.PCX)

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L.O.E. FFS (LEG B) - FLIGHT PLAN (END)

TOC	290	320/028	344	084	086	028	028	0005		001.2	002.5	058.4
AFRI4	054	M44	350	085	086	0161	0150	0011	....	....	....	....
- - - - -												
AFRIC	290	320/028	415	084	086	009	009	0001	....	001.2	002.5	058.4
AFRI4	054	M44	430	085	086	0152	0141	0012	....	....	....	....
- - - - -												
FJR	290	319/031	415	103	105	049	046	0007	....	001.5	002.2	058.1
..	054	M44	440	104	106	0103	0095	0019	....	....	....	....
- - - - -												
VARES	290	317/034	414	106	109	016	015	0002	....	001.6	002.2	058.1
..	051	M45	443	107	108	0087	0080	0021	....	....	....	....
- - - - -												
TOD	290	315/036	414	107	108	013	012	0002	....	001.6	002.1	058.0
VARES	028	M45	445	107	108	0074	0068	0023	....	....	....	....
- - - - -												
RHONE	...	.../...	...	107	108	011	010	0002	....	001.6	002.1	058.0
VARES	...	...	..	107	108	0063	0058	0025	....	....	....	....
- - - - -												
FJR46	...	.../...	...	110	111	006	006	0001	....	001.6	002.1	058.0
VARES	...	...	..	110	111	0057	0052	0026	....	....	....	....
- - - - -												
D214Y	...	.../...	...	213	214	022	020	0004	....	001.7	002.1	058.0
VARES	...	...	..	213	214	0035	0032	0030	....	....	....	....
- - - - -												
BORGO	...	.../...	...	044	045	009	008	0002	....	001.7	002.0	057.9
VARES	...	...	..	044	045	0026	0024	0032	....	....	....	....
- - - - -												
LFML	...	.../...	...	...	...	026	024	0004	....	001.7	002.0	057.9
VARES	...	...	..	...	...	0000	0000	0036	....	....	....	....
- - - - -												
WP	NAME	CO-ORDINATES				WP	NAME	CO-ORDINATES				
- - - - -												
..	LFBO	N43	38.1	E001	22.1	..	D145H	N43	34.4	E001	25.3	
..	D087L	N43	41.7	E001	35.5	..	FINOT	N43	42.9	E002	01.8	
..	AFRIC	N43	46.5	E002	52.2	..	FJR	N43	34.8	E003	58.2	
..	VARES	N43	30.2	E004	19.4	..	RHONE	N43	23.2	E004	50.7	
..	FJR46	N43	21.1	E004	58.5	..	D214Y	N43	02.2	E004	46.6	
..	BORGO	N43	08.8	E004	46.2	..	LFML	N43	26.2	E005	12.9	
- - - - -												

(FPL-AIB320-IX
 -A320/M-SDHI/C
 -LFBO1000
 -N0415F290 DCT AFRIC DCT FJR DCT VARES DCT
 -LFML0036 LFLL
 -REG/9A-CTF SEL/XXXX
 -E/0134 P/TBN R/VE S/M J/L D/06 C WHITE
 A/WHITE
 C/STRAUB)

END OF JEPPESEN DATAPLAN
 (LOEB4.PCX)

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	UPGRADING OF F/O TO CAPTAIN (Simulator phase 2 ONLY) TRAINING SYLLABI	2.21.03 Page 12J <i>E F21</i> REV 21 MAY 98

NOTE : *LOFT briefing + F/PLN decode keys : refer to FCTM Vol 1 - "Normal Operations Briefings" chapter*

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	UPGRADING OF F/O TO CAPTAIN (Simulator phase 2 ONLY) TRAINING SYLLABI	2.21.03 Page 12K <i>E F21</i>
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L.O.E. FFS (LEG A) - SESSION GUIDE

01 - BRIEFING TOPICS

- Standard LOFT briefing.
- Instructor will take the role of dispatcher and action the trainee crew decisions regarding extra fuel etc... Once the crew has entered the simulator, the instructor will communicate with them as required, in the role of ground mechanic, ATC, cabin crew or company agent.
- Except in the event of simulator problems, the instructor must not interrupt the crew in any way, particularly concerning crew decisions and actions.
- Performance Calculation.
- Non Precision Approach and Circling.
- Diversion to ALTN airport.
- Turbulence penetration procedure.

02 - SESSION OBJECTIVE

Crew should apply good crew coordination as PF and PNF within a Line Oriented Flight Training environment.

- This session is to demonstrate a real time flight with real time problems.
- 1st flight (Leg A) from LFLL - LYON / SATOLAS to LFBT - TARBES / OSSUN - LOURDES.
- Approach and Landing in LFBT are to be done as a Precision Approach and normal landing planning.
- Go around and diversion (weather below minimum - airport closed for certain period of time).
- Decision making and diversion to LFBO - TOULOUSE / BLAGNAC.

03 - SESSION PROFICIENCY CRITERIA

The trainees must be proficient in:

- Crew coordination (ACRM tasks),
- Decision making process,
- FMGS utilization,
- Radio communication and use of technical equipment (use of RMP and ACP) and
- A/C handling on all flight phases.

INSTRUCTOR ONLY

INSTRUCTOR ONLY

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	UPGRADING OF F/O TO CAPTAIN (Simulator phase 2 ONLY) TRAINING SYLLABI	2.21.03 Page 12L <i>E F21</i> REV 21 MAY 98

L.O.E. FFS (LEG A) - SESSION GUIDE (CONT'D)

04 - SESSION GUIDE

■ IN THE BRIEFING ROOM :

The crew must be provided with documents required for the flight:

COMPUTERIZED FLIGHT PLAN (CFP) :

CFP should be checked by the crew before the flight, and fuel corrections may be made by the captain.

Block fuel may be increased due to weather and NOTAMS if applicable.

MET REPORTS :

Weather should be analysed, wind and temperature at FL 9000 m (FL 295) to be inserted into MCDU during cockpit preparation.

XXXXXX Z indicates that day and time of weather data are valid for the intended flight period.

NOTAMS :

Should be analysed and inoperative VOR's (if applicable) deselected during cockpit preparation (i.e. VOR on test).

- T/O with full thrust or flexible thrust should be performed,

LOAD AND TRIM SHEET

Should be analysed and corrected if necessary (e.g. : increased block fuel)

- Stress that ideal CG = 33% and when T/O CG is lower than 27% MAC the basic performance must be corrected (see FCOM VOL 2).

- With AFT CG and crosswind, special T/O procedure should be applied if applicable (see SOP A320).

L.O.E. FFS (LEG A) - SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ IN THE BRIEFING ROOM (END)

TAKE-OFF PERF TABLES

Crew should define T/O configuration, T/O speed and acceleration altitude.

- If the crew has NOT completed PERF CRS yet, the instructor will define all TAKE-OFF DATA as shown below (AIR COND ON / ANTI ICE OFF) :

BLOCK FUEL	TOW	T/O THRUST	T/O CONF	V1	VR	V2	ENG OUT ACC ALT
8.0 t (1)	62 t	IAE FLEX 52°C	2	152 kt	152 kt	152 kt	1000 ft QNH
8.0 t (1)	62 t	CFM FLEX 53°C	2	149 kt	149 kt	150 kt	1000 ft QNH

(1) Block fuel may be increased due to weather, notams, Low holding fuel in CFP, possible lower cruise flight level as determined by the crew.

■ PREFLIGHT :

TAKE-OFF DATA

ATIS : see T/O data page, insert turbulence level 10%.

Enter T/O data according to the crew preparation, or instructor definition (if crew has not completed performance course).

PARKING GATE POSITION

Aircraft is at Gate parking position (select MAP on IOS to validate LL).

Set left window visual ON, press INIT GATE.

Check that gate coordinates have been entered and cross checked by the crew.

AIRPORT INFORMATION AND WEATHER DATA (provided by operations office)

LFBT : ILS 20 240/15 1800 BKN1000 OVC 2000 18/16 Q1018 NOSIG DRY BRKNG ACT GOOD

LFBO : VOR 33L 240/20 2400 BKN1000 OVC2000 18/17 Q1018 NOSIG DRY BRKNG ACT GOOD

LFBD : ILS 23 240/15 750 R1000 OVC450 17/15 Q1018 RERA PROB 40 TS WET BRKNG ACT MED

LFLL : 18R 270/15 1200 OVC1500 8/4 Q1019 RESH NOSIG WET BRKNG ACT GOOD

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L.O.E. FFS (LEG A) - SESSION GUIDE (CONT'D)

04 - SESSION GUIDE

■ PREFLIGHT (END) :

Crew is requested in accordance to a LMC to dispatch the a/c with 3 t extra cargo and has to decide whether it is possible or not, since the current fuel figures cannot be changed anymore without significant delay.

Note : *Because penalty ration is 23 kg / 1000 kg the expected extra fuel burn off will be $3 \times 23 = 66 + 5\%$ Rte Res. This needs to carry 70 kg extra fuel for 3 t extra cargo.*

INITIAL CALL

SATOLAS FLIGHT DATA (Cpt) 121.70

"[Airline ID] XXX - information ... , are you ready to copy your ATC ?"

DEPARTURE CLEARANCE

"[Airline ID] XXX - ATC clearance from LFLL to LFBT, FL 110 initially, flight planned route, MEN ... departure, level change enroute, squawk A3615, for push and start change SATOLAS GROUND 121.82."

■ ENGINE START AND PUSH BACK :

SATOLAS GROUND 121.82

When start and push requested:

"[Airline ID] XXX - start and push approved, QNH 1012, call ready for taxi."

■ AFTER PUSH BACK AND TAXI :

SATOLAS GROUND 121.82

Push back NOSE pointing proper direction.

When taxi requested:

"[Airline ID] XXX - taxi to holding position RWY 18R, via TWY's T5, T4, T3 and A3, due to digging works expect take-off from intersection A3, 2900 m remaining distance, at A3 holding change SATOLAS TOWER 120.45 and report ready for departure."

The before T/O check list to the line should have been completed prior to asking for line-up and take-off. When lining up the proper actions should be noticed and mentioned if necessary and the before T/O c/l below the line should be performed.

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L.O.E. FFS (LEG A) - SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ AFTER PUSH BACK AND TAXI (END) :

Furthermore it should be noticed how the crew is dealing with the revised RWY length (new performance data) and insertion of the take-off shift into T/O PERF page. Upon arriving the holding position, the PNF should have been solved the problems. Instructor may prepare the crew during briefing on short notice concerning works in progress, since they do'nt have handsome performance data sheets in order to achieve the new performance calculation within a suitable period of time during taxi.

■ TAKE-OFF:

SATOLAS TOWER 120.45

At holding point and ready for line up and T/O - T/O clearance to be given :

"[Airline ID] XXX - line-up RWY 18R, cleared for take-off, wind 270°/22 kt.

- Check how expedite climb is initiated after T/O or speed restriction is inserted as a constraint (green - dot speed) and how the crew is watching to meet the required constraining speeds and / or altitudes if applicable.*
- Check that for combination of crosswind and aft C/G (if applicable) for this particular T/O, PF applied full fwd side stick, and moved thr. levers progressively to reach FLX / TOGA detent at 40 kt (see A320 SOP).*
- Check that noise abatement restrictions are respected.*

■ AFTER TAKE-OFF - CLIMB :

SATOLAS TOWER 120.45

Crew is after T/O and reporting airborne and passing current ALT :

"[Airline ID] XXX - airborne at ... , remain on this FRQ, report passing 4500 ft on SATOLAS RADAR 127.57 climbing to FL 110, if no contact continue this FRQ."

NOTE : *Check how the crew is operating with RMP's.*

Crew reports passing 4500 ft ALT on SATOLAS RADAR :

SATOLAS RADAR 127.57

"[Airline ID] XXX - radar contact, climb to FL 110 initially and change MARSEILLE CONTROL 134.10."

INSTRUCTOR ONLY

INSTRUCTOR ONLY

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L.O.E. FFS (LEG A) - SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ AFTER TAKE-OFF - CLIMB (END) :

MARSEILLE CONTROL 134.10

Crew reports on FRQ, climbing to FL 110 initially :

"[Airline ID] XXX - squawk 5746 ident, climb to FL 200 initially and maintain until further advised, check passing FL 190."

NOTE : *Check level change on progress page to activate the FMGS cruise phase.
Check transponder operations. ATC reports RADAR CONTACT after ident.*

Crew reports passing FL 190 and reaching FL 200, if not, instructor mentions it:

"[Airline ID] XXX - climb to FL 280, will be your final level due to traffic, for your information a preceding a/c has reported moderate to severe turbulence between FL's 260 and 330 close to 45N04E."

Crew reports approaching and maintaining FL 280.

"[Airline ID] XXX - maintain FL 280 and change to BORDEAUX CONTROL 124.07."

■ CRUISE:

BORDEAUX CONTROL 124.07

Crew reports on FRQ and maintaining FL 280 and estimate next WPT :

It should be watched how the crew is dealing with turbulence and turbulence penetration procedures. After proper application of the procedures the turbulence should be removed on IOS and an appropriate level should be set again (i.e. 10%).

"[Airline ID] XXX - radar contact, maintain FL 280, MEN, GAI, AUCHE, expect AUCHE arrival and ILS approach RWY 20, descent at own discretion, report leaving FL 280, arrange your descent so as to be passing AUCHE at FL 130, report leaving FL 280."

Check that crew reviews revised fuel predictions after reclearance and checks the TOD the FMGS preparation for arrival and the insertion of an ALT constraint at AUCHE. The following TARBES weather should have been provided to the crew :
*LFBT : ILS 20 240/15 1200 BKN1000 OVC2000 18/16 Q1018 NOSIG RWY WET
 BRKNG ACT GOOD. For information LFL, LFMT and LFML are closed currently due to weather.*

Crew reports commencing descent to FL 130.

"[Airline ID] XXX - descent to FL 180 initially, contact TOULOUSE RADAR 125.17."

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L.O.E. FFS (LEG A) - SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ DESCENT:

TOULOUSE RADAR 125.17

Crew reports on FRQ, passing a certain FL :

"[Airline ID] XXX - TOULOUSE RADAR is on test , inbound AUCHE descent to FL 130 and report reaching."

It should be watched how the crew is respecting the ALT restrictions inbound to AUCHE and is managing the descent to be passing at FL 130.

The following weather should be prepared and provided to the crew on request for the ALTN airport LFBO TOULOUSE BLAGNAC :
LFBO : VOR 33L 240/20 1800 BKN1200 OVC2000 18/17 Q1018 RASH WET BRKNG ACT MEDIUM TO GOOD.

Crew reports approaching AUCHE and reaching FL130.

"[Airline ID] XXX - change to LOURDES APPROACH 120.30."

■ APPROACH :

LOURDES APPROACH 120.30

Crew reports on FRQ passing AUCHE and maintaining FL 130.

"[Airline ID] XXX - descent to 3000 ft inbound TBO, AUCHE ... arrival, ILS approach RWY 20, Nr. 1, no delay expected."

While the a/c is descending the TARBES weather should be set appropriately on IOS with RWY light system at max brightness (5) and during approach 0/0 on visibility and cloud base should be set to make the crew going around. Check how the crew is dealing with approach preparation, briefing and a/c handling during approach. The choosen approach (stabilized or decelerated) and the selection of auto brake should be noticed.

Crew reports passing TBO and maintaining 3000 ft ALT.

"[Airline ID] XXX - remain on this frequency, cleared to intercept the ILS RWY 20, cleared to land, wind 230°/15 kt."

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L.O.E. FFS (LEG A) - SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ GO AROUND :

LOURDES APPROACH 120.30

Crew reports on go around RWY 20. The correct a/c handling and procedure application during go around should have been watched.

"[Airline ID] XXX - follow standard go around procedure to TBO, clearance limit, climb to 4000 ft ALT initially, airport is closed for the time being, advise your decisions."

The decision making should be noticed with regards to the already known closed airports and the fuel requirements for a diversion should have been checked. The crew should have chosen the ALTN Toulouse and informs the ATC accordingly.

"[Airline ID] XXX - expect TBO ... arrival, RWY in use 33L, what is your requested level."

Crew may chose the defaulted FL 240. It should be noticed that the crew is using the FMGS in order to decide the ALT for diversion.

"[Airline ID] XXX - climb to FL 130, will be your final level, TBO ... arrival, change TOULOUSE RADAR 129.30."

■ DIVERSION :

TOULOUSE RADAR 129.30

Crew reports on FRQ and reaching and maintaining FL 130.

[Airline ID] XXX - maintain FL 130, TBO ... arrival, expect VOR approach RWY 33L, report ready for descent, how long can you hold over SULIT for delaying actions ?"

It should be noticed how the crew satisfies the ATC demand concerning the holding time at SULIT and reports it accordingly. The crew calls ready for descent.

[Airline ID] XXX - descent to 5000 ft ALT, QNH 1018, report passing SULIT, no delay expected."

The following weather should be prepared for Toulouse :

*LFBO : VOR 33L 290/15 G20 1800 BKN1200 OVC2000 18/17 Q1018 RESH WET
BRKNG ACT GOOD.*

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L.O.E. FFS (LEG A) - SESSION GUIDE (END)

04 - SESSION GUIDE (END)

■ DESCENT AND APPROACH :

TOULOUSE RADAR 129.30

Crew reports reaching 5000 ft ALT and overflight SULIT.

"[Airline ID] XXX - cleared for standard VOR approach RWY 33L, descent to 3000 ft, report leaving 4000 ft and final intercept."

It should have been watched how the crew prepared the non precision approach and how the briefing was done. Furthermore should be noticed how the crew is dealing with the altitude constraint at D165 (4000 ft ALT), how the crew is using the AFS during approach (i.e. TRK - FPA when cleared to approach, watching the decel point) and the proper a/c handling and raw data checking.

Crew reports maintaining 3000 ft and turning final.

"[Airline ID] XXX - change BLAGNAC TOWER 118.10."

■ LANDING AND AFTER LANDING :

BLAGNAC TOWER 118.10

Crew reports on FRQ, final course established, ready to land.

"[Airline ID] XXX - cleared to land RWY 33L, vacate RWY first TWY to the left, wind 300°/15 kt gusts 25 kt."

Crew reports landing.

"[Airline ID] XXX - landing time ... , report RWY vacated."

crew reports RWY vacated.

"[Airline ID] XXX - change BLAGNAC GROUND 121.90."

■ PARKING :

Crew reports on FRQ.

"[Airline ID] XXX - gate E42, report marshaller contact."

Proper a/c taxiing should be noticed and c/l application as well should be noticed during taxi...

INSTRUCTOR ONLY

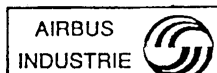
INSTRUCTOR ONLY

APPENDIX 1

AA 80FC-02-0140-005-A970AA

Mod : 20167+21615

CFM Eng : 565-A1



LOAD and TRIM SHEET
ANSETT

A320-211

VERSION 40FC/B4YC
OR 60BC/B4YC

DRY OPERATING WEIGHT	
W WEIGHT(kg)	CG %MAC
43.000	26
$I = \frac{(CG - 25) \times W}{20000} + 50$	
DRY OPER. WEIGHT INDEX	52,1

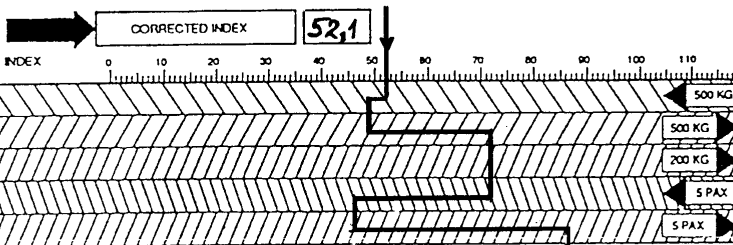
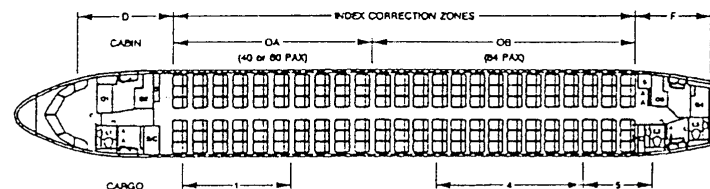
AIRCRAFT A-320
REGISTER: F-WWFT
DATE: XX/XX/XX PREPARED BY:
FLT N°: A1-02 KRALJ F.
FROM: LFPO TO: LFB0

DRY OPERATING WEIGHT	43.000
WEIGHT DEVIATION	0
CORRECTED DRY OPER. WEIGHT	43.000
CARGO	3.960
PASSENGERS	10.800
ZERO FUEL WEIGHT	57.760
TOTAL FUEL	6.500
TOTAL WEIGHT	64.260

ZONES	D	F
WEIGHT(kg)	0	0
DEVIATION	0	0

BASIC INDEX CORRECTION		
DRY OPER. WEIGHT DEVIATION	ZONES	
	D	F
+100kg	-1.4	-1.8
-100kg	+1.4	+1.8
INDEX CORRECTION	0	

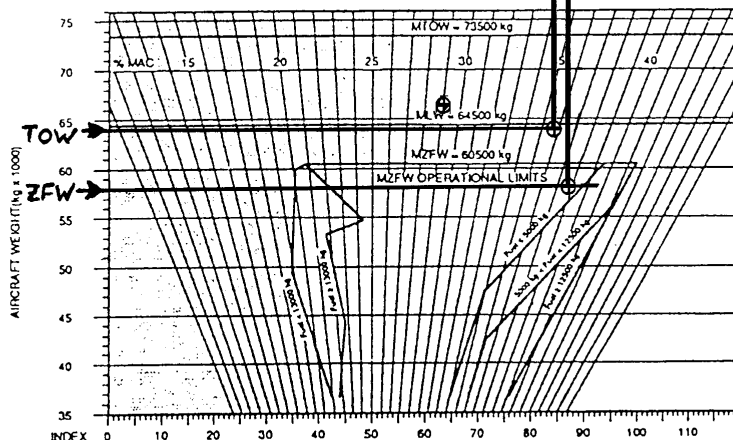
ZONES	Nr	WEIGHT(kg)
CARGO 1		460
CARGO 4		3500
CARGO 5		
CABIN OA	60	
CABIN OB	80	



FUEL CORRECT.	-2

FUEL INDEX CORRECTION

WEIGHT (kg)	I	WEIGHT (kg)	I
3000	2	12000	2
3500	1	12500	-2
4000	1	13000	-3
4500	0	13500	-3
5000	0	14000	-4
5500	-1	14500	-5
6000	-1	15000	-6
6500	-2	15500	-7
7000	-2	16000	-8
7500	-3	16500	-9
8000	-3	17000	-10
8500	-4	17500	-11
9000	-4	18000	-12
9500	-4	18500	-13
10000	-4	18730	-13
10500	-4		
11000	-3		
11500	-3		



CAUTION : WHEN THE T.O CG IS LOWER THAN 27% MAC THE BASIC PERFORMANCE MUST BE CORRECTED :
- T.O : Use appropriate RTOLW chart, or, make CG correction on QUICK REF TABLE
- LDG : Make CG correction on LDG speed and distance.

FLIGHT CREW TRAINING MANUAL
A320
LOADING
WEIGHT and BALANCE
2.01.40
P 5 / 6

INSTRUCTOR ONLY

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(EFCOM1.PCX)

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L.O.E. FFS (LEG B) - SESSION GUIDE

01 - BRIEFING TOPICS

- Standard LOFT briefing.
- Instructor will take the role of dispatcher and action the trainee crew decisions regarding extra fuel etc... Once the crew has entered the simulator, the instructor will communicate with them as required, in the role of ground mechanic, ATC, cabin crew or company agent.
- Except in the event of simulator problems, the instructor must not interrupt the crew in any way, particularly concerning crew decisions and actions.
- Performance Calculation.
- Non Precision Approach and Circling.
- Diversion to ALTN airport.
- Turbulence penetration procedure.

02 - SESSION OBJECTIVE

Crew should apply good crew coordination as PF and PNF within a Line Oriented Flight Training environment.

- This session is to demonstrate a real time flight with real time problems.
- 2nd flight (Leg B) from LFBO - TOULOUSE / BLAGNAC to LFML - MARSEILLE / PROVENCE.
- 1st approach at LFML will be a LOC approach with go around - weather improves.
- 2nd approach is to be done as a NDB approach with circling and normal landing.

03 - SESSION PROFICIENCY CRITERIA

The trainees must be proficient in:

- Crew coordination (ACRM tasks),
- Decision making process,
- FMGS utilization,
- Radio communication and use of technical equipment (use of RMP and ACP) and
- A/C handling on all flight phases.

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L.O.E. FFS (LEG B) - SESSION GUIDE (CONT'D)

04 - SESSION GUIDE

■ IN THE BRIEFING ROOM :

The crew must be provided with documents required for the flight:

COMPUTERIZED FLIGHT PLAN (CFP) :

CFP should be checked by the crew before the flight, and fuel corrections may be made by the captain.

Block fuel may be increased due to weather and NOTAMS if applicable.

MET REPORTS :

Weather should be analysed, wind and temperature at FL 9000 m (FL 295) to be inserted into MCDU during cockpit preparation.

XXXXXX Z indicates that day and time of weather data are valid for the intended flight period.

NOTAMS :

Should be analysed and inoperative VOR's (if applicable) deselected during cockpit preparation (i.e. VOR on test).

- T/O with full thrust flexible thrust should be performed,

LOAD AND TRIM SHEET

Should be analysed and corrected if necessary (e.g. : increased block fuel)

- Stress that ideal CG = 33% and when T/O CG is lower than 27% MAC the basic performance must be corrected (see FCOM VOL 2).

- With AFT CG and crosswind, special T/O procedure should be applied if applicable (see SOP A320).

L.O.E. FFS (LEG B) - SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ IN THE BRIEFING ROOM (END)

TAKE-OFF PERF TABLES

Crew should define T/O configuration, T/O speed and acceleration altitude.

- If the crew has NOT completed PERF CRS yet, the instructor will define all TAKE-OFF DATA as shown below (AIR COND ON / ANTI ICE OFF):

BLOCK FUEL	TOW	T/O THRUST	T/O CONF	V1	VR	V2	ENG OUT ACC ALT
8.0 t ⁽¹⁾	62 t	IAE FLEX 56°C	1 + F	150 kt	152 kt	152 kt	1000 ft QNH
8.0 t ⁽¹⁾	62 t	CFM FLEX 52°C	1 + F	135 kt	141 kt	141 kt	1000 ft QNH

⁽¹⁾ Block fuel may be increased due to weather, notams, Low holding fuel in CFP, possible lower cruise flight level as determined by the crew.

■ PREFLIGHT:

TAKE-OFF DATA

ATIS : see T/O data page, insert turbulence level 10 % and top of clouds 500 ft.
 Enter T/O data according to the crew preparation, or instructor definition (if crew has not completed performance course).

PARKING GATE POSITION

Aircraft is at Gate parking position (select MAP on IOS to validate LL).
 Set left window visual ON, press INIT GATE.
 Check that gate coordinates have been entered and cross checked by the crew.

AIRPORT INFORMATION AND WEATHER DATA (provided by operations office)

LFBO : 15R/L 110/15 G25 2000 BKN1500 12/8 Q1018 NOSIG DRY BRKNG ACT GOOD

LFML : ILS 14R 050/12 G18 4000 BRK1500 OVC2500 16/14 Q1020 RAIN PROB 40 TS WET BRKNG ACT MED

LFLL : ILS 36L 060/18 G25 1200 OVC1800 11/7 Q1018 RESH NOSIG WET BRKNG ACT GOOD

LFMT : ILS 31R 040/18 G25 4000 BKN1500 OVC2500 16/7 1020 PROB40 TS WET BRKNG ACT GOOD

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L.O.E. FFS (LEG B) - SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ PREFLIGHT (END) :

Crew is requested in accordance to a LMC to dispatch the a/c with 3 t extra cargo and has to decide whether it is possible or not, since the current fuel figures cannot be changed anymore without significant delay if applicable.

NOTE : *Because penalty ration is 23 kg / 1000 kg the expected extra fuel burn off will be $3 \times 23 = 66 + 5\%$ Rte Res. This needs to carry 70 kg extra fuel for 3 t extra cargo.*

INITIAL CALL

BLAGNAC FLIGHT DATA (Cpt) 121.70

"[Airline ID] XXX - information ... , are you ready to copy your ATC ?"

DEPARTURE CLEARANCE

"[Airline ID] XXX - ATC clearance from LFBO to LFML, FL 180 initially, flight planned route, PPG ... departure, level change enroute, squawk A2475, for push and start change TOULOUSE GROUND 121.90."

SELCAL COMPANY OPS 130.20

On short notice a NOTAM by MARSEILLE has been received concerning all MARSEILLE FIR traffic : Due to navy rocket exercises 100 NM south of FJR VOR at position 4155.0N 00358.0E radius 50 NM, all overflying traffic prohibited within the assigned area.

■ ENGINE START AND PUSH BACK :

BLAGNAC GROUND 121.90

Crew reports on FRQ and is advised on first contact that the routing cannot be provided without delay. Crew requests a new clearance and start and push.

"[Airline ID] XXX - flight plan is cancelled, request your decision."

Crew requests new flight plan via Montpellier and has already prepared the most probable routing on SEC FPLN.

"[Airline ID] XXX - your ATC to LFML, AFRIC ... departure - G393 - FJR - G6 - MTG clearance limit, climb FL 180 initially, level change enroute, squawk 2475, start and push approved, call ready for taxi."

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L.O.E. FFS (LEG B) - SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ AFTER PUSH BACK AND TAXI :

BLAGNAC GROUND 121.90

Push back NOSE pointing proper direction.
When taxi requested:

"[Airline ID] XXX - taxi to holding position RWY 33L, cleared to cross 33R, at holding change BLAGNAC TOWER 118.10, and report ready for departure."

The before T/O check list to the line should have been completed prior to asking for line-up and take-off. When lining up the proper actions should be noticed and mentioned if necessary and the before T/O c/l below the line should be performed. It should be noticed how the crew is preparing the new departure route because of RWY change from 15R to 33L.

■ TAKE-OFF :

BLAGNAC TOWER 118.10

At holding point and ready for line up and T/O - T/O clearance to be given :

"[Airline ID] XXX - here is an amendment to your ATC proceed AFRIC ... departure, line-up RWY 33L, cleared for take-off, wind 050°/15 kt."

- Check how expedite climb is initiated after T/O or speed restriction is inserted as a constraint (green - dot speed) and how the crew is watching to meet the required constraining speeds and / or altitudes if applicable.
- Check that for combination of crosswind and aft C/G (if applicable) for this particular T/O, PF applied full fwd side stick, and moved thr. levers progressively to reach FLX / TOGA detent at 40 kt (see A320 SOP).
- Check that noise abatement restrictions are respected.

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L.O.E. FFS (LEG B) - SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ AFTER TAKE-OFF - CLIMB :

BLAGNAC TOWER 118.10

Crew is after T/O and reporting airborne and passing current ALT :

"[Airline ID] XXX - airborne at ... , change TOULOUSE DEPARTURE 125.17."

TOULOUSE DEPARTURE 125.17

NOTE : *Check how the crew is operating with RMP's again.*

Crew reports on FRQ, passing a certain ALT.

"[Airline ID] XXX - radar contact, climb to FL 180 initially, call passing FINOT on MARSEILLE CONTROL 126.25."

If applicable during this phase, FMGS may fail for a short period of time to make the crew changing to back up navigation through RMP's checking at the same time how the crew is dealing with this problem and if continuously checking raw data during all phases of flight. Furthermore may be noticed at this occasion how the crew is doing the computer restart attempt by application of the proper procedures (Vol 4 or QRH).

■ CRUISE :

MARSEILLE CONTROL 126.25

Crew reports on FRQ reaching or maintaining FL 180 and passing FINOT.

"[Airline ID] XXX - squawk 5736 ident, climb to FL 290 will be your final level, proceed FJR - G6 - VARES, expect VARES arrival, RWY 14L LOC approach."

NOTE : *Check level change on progress page if applicable to activate the FMGS cruise phase. Check transponder operations. ATC reports RADAR CONTACT after ident.*

Crew reports passing FJR, maintaining FL 290 :

"[Airline ID] XXX - maintain and change to PROVENCE APPROACH 120.20."

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L.O.E. FFS (LEG B) - SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ CRUISE (END) :

PROVENCE APPROACH 120.20

Crew reports on FRQ and maintaining FL 290, proceeding inbound VARES.
 "[Airline ID] XXX - maintain FL 290, report ready for descent, VARES ... arrival, LOC approach RWY 14L, circling RWY 32L."

Crew checks TOD and reports ready for descent
 "[Airline ID] XXX - descent to 5000 ft initially, QNH 1020, proceed VARES, RHONE, BORG0, join BORG0 holding at 5000 ft for short delay until further advised, report your last BORG0 exit time."

■ DESCENT :

Check that crew reviews revised fuel predictions after reclearance and checks the TOD the FMGS preparation for arrival and preparation of FMGS SEC FPLN for circling regarding the restrictions. Notice the application of correct briefing for non precision approach and circling, the insertion of ALT constraints on BORG0, the correct checking of the last exit time from holding page and the insertion of and regarding to an ALT constraint on final (1650 ft ALT) if applicable. Crew has to set the correct MDA for circling.

The following MARSEILLE Provence weather should have been provided to the crew :
LFML : NDB 14L 320/12 3000 BKN1500 OVC2000 18/16 Q1020 RAIN RWY WET BRKNG ACT MEDIUM. (Rain should be inserted from IOS just to make the crew use of screen wipers).

PROVENCE APPROACH 120.20

Crew reports reaching 5000 ft and proceeding to BORG0.
 "[Airline ID] XXX - maintain 5000 ft for the time being, report outbound end."

Crew joins the holding and reports outbound end.

■ APPROACH :

PROVENCE APPROACH 120.20

"[Airline ID] XXX - proceed MTG, outbound BORG0 descent to 3500 ft, QNH 1020."

Crew reports approaching MTG and reaching 3500 ft ALT.
 "[Airline ID] XXX - cleared for standard LOC approach RWY 14L, descent to 1650 ft, QNH 1020, change to PROVENCE TOWER 119.50."

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L.O.E. FFS (LEG B) - SESSION GUIDE (CONT'D)

04 - SESSION GUIDE (CONT'D)

■ APPROACH AND GO AROUND :

PROVENCE TOWER 119.50

Crew reports on FRQ descending 1650 ft.

"[Airline ID] XXX - cleared for LOC approach RWY 14L, when field in sight break off to the right."

While the a/c is on approach the PROVENCE weather should be set appropriately on IOS with RWY light system at max brightness (5) and during approach CAT III on visibility and cloud base should be set to make the crew going around. Check how the crew is dealing with approach preparation, briefing and a/c handling during approach. The chosen approach (stabilized or decelerated) and the selection of auto brake should be noticed.

Crew reports passing outre marker and on go around.

"[Airline ID] XXX - follow standard go around procedure, weather is improving, climb 3500 ft, change PROVENCE APPROACH 120.20."

PROVENCE APPROACH 120.20

Crew reports on FRQ, reaching and maintaining 3500 ft ALT, proceeding to MTG.

"[Airline ID] XXX - LOC transmitter u/s for the time being, expect NDB approach, RWY 14L, circling RWY 32R, copy weather, wind 320°/12 kt OVC 1800 ft visibility 3500 m, temperature 18, dew point 17, QNH 1020 nosig, rwy is wet breaking action good."

crew reports passing MTG, maintaining 3500 ft ALT.

The weather data should be set on IOS in accordance to the report above.

It should be noticed how the crew introduces the new approach procedure and how a short briefing is performed accordingly.

"[Airline ID] XXX - cleared for NDB approach RWY 14L, descent to 1650 ft, QNH 1020 and change to PROVENCE TOWER 119.50

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L.O.E. FFS (LEG B) - SESSION GUIDE (END)

04 - SESSION GUIDE (END)

■ 2ND APPROACH AND CIRCLING :

PROVENCE APPROACH 119.50

Crew reports on FRQ and reaching and maintaining 1650 ft ALT.

"[Airline ID] XXX - standard NDB approach RWY 14L, call OM and airfield in sight, break off to the right."

Crew reports OM and ground contact.

Cavok should be selected on IOS. It should be noticed how the crew performs the entire circling approach, particularly procedure application and a/c handling on manual and visual flight. Rain should be removed if applicable

"[Airline ID] XXX - report on short final RWY 32R and ready to land."

■ FINAL APPROACH AND LANDING :

PROVENCE TOWER 119.50

Crew reports on short final and ready to land.

"[Airline ID] XXX - cleared to land RWY 32R, wind 320°/12 kt, report RWY vacated."

■ AFTER LANDING AND PARKING :

PROVENCE TOWER 119.50

Crew reports on RWY 32R vacated.

"[Airline ID] XXX - landing time ... , change PROVENCE GROUND 121.90."

Crew reports on FRQ.

"[Airline ID] XXX - gate ... , report marshaller contact."

Proper aircraft taxiing should be noticed and c/l application as well should be noticed during taxi...

INSTRUCTOR ONLY

INSTRUCTOR ONLY

APPENDIX 1

AA 80FC-02-0140-005-A970AA

Mod : 20107+21615

CFM Eng : 56.5-A1



LOAD and TRIM SHEET
ANSETT

A320-211

VERSION 40FC/84YC
OR 60BC/84YC

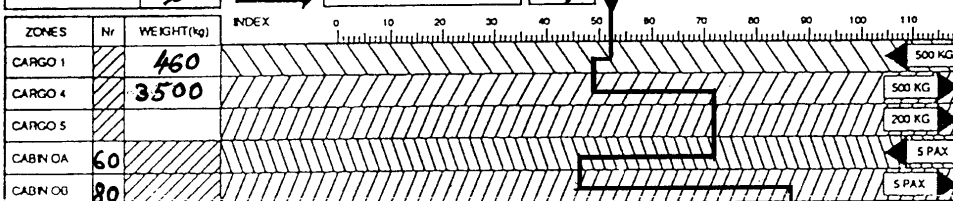
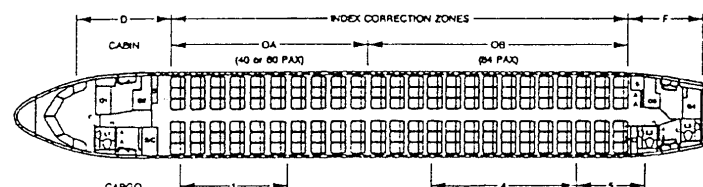
DRY OPERATING WEIGHT	
W WEIGHT(kg)	CG %MAC
43.000	26
$I = \frac{(CG - 25) \times W}{20000} + 50$	
DRY OPER. WEIGHT INDEX	52,1

AIRCRAFT A-320
REGISTER F-WWFT
DATE: XX/XX/XX PREPARED BY:
FLT N°: A1-02 KRALJ F.
FROM: LFPO TO: LFB0

DRY OPERATING WEIGHT	43.000
WEIGHT DEVIATION	0
CORRECTED DRY OPER. WEIGHT	43.000
CARGO	3.960
PASSENGERS	10.800
ZERO FUEL WEIGHT	57.760
TOTAL FUEL	6.500
TOTAL WEIGHT	64.260

ZONES	D	F
WEIGHT(kg)	0	0
DEVIATION	0	0

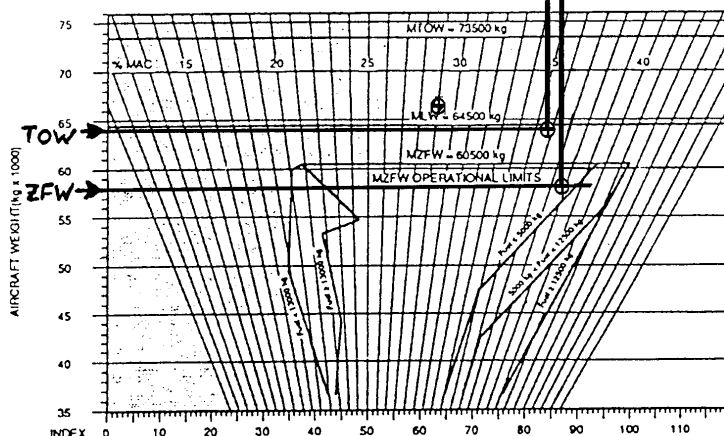
BASIC INDEX CORRECTION			
DRY OPER. WEIGHT DEVIATION	ZONES		
	D		F
+100kg	-1.4		+1.8
-100kg	+1.4		-1.8
INDEX CORRECTION		Ø	



FUEL CORRECT.	-2
INDEX	50

FUEL INDEX CORRECTION

WEIGHT (kg)	I	WEIGHT (kg)	I
3000	2	12000	2
3500	1	12500	-2
4000	0	13000	-3
4500	0	13500	-3
5000	0	14000	-4
5500	-1	14500	-5
6000	-1	15000	-6
6500	-2	15500	-7
7000	-2	16000	-8
7500	-3	16500	-9
8000	-3	17000	-10
8500	-4	17500	-11
9000	-4	18000	-12
9500	-4	18500	-13
10000	-4	18750	-13
10500	-4		
11000	-3		
11500	-3		



CAUTION : WHEN THE T.O CG IS LOWER THAN 27% MAC THE BASIC PERFORMANCE MUST BE CORRECTED :
- T.O : Use appropriate RTOLW chart, or, make CG correction on QUICK REF TABLE
- LDG : Make CG correction on LDG speed and distance.



LOADING
WEIGHT and BALANCE

2.01.40 P 5/6

INSTRUCTOR ONLY

INSTRUCTOR ONLY

(EFCOM1.PCX)

EVALUATION FFS TAKE-OFF DATA
INIT PAGE

CO RTE

N.A.

ALTN/CO RTE

N.A.

FLT NBR

[Airline ID] 270

LAT

4338.1N

COST INDEX

30

CRZ FL/TEMP

FL 310 / -46°C

FROM/TO

LFBO/LFPO

LONG

0122.1E

TROPO

DEFAULT

TRIP DIST

345 NM

CRZ WIND

VRB

ALTN

LFPG

ALTN DIST

80 NM

FL to ALTN

100

ATIS

RWY 15 R

WIND 240°/10 kt

VISI 4 km

CEILING OVC 600 ft

TEMP 25°C

DEW POINT ... 18°C

QNH 1008 hPa/29.77 inHg

QFE 990 hPa/29.23 inHg

RWY COND ... DRY

Observations : AIR COND ON

INIT NEXT PAGE

ZFCG/ZFW

36% / 55 t

36% / 121.280 lb

BLOCK

[] t

[] lb

PERF PAGE

IAE CFM

V1

VR

V2

FLEX

DRT

T/O FLAPS

[]

T/O C.G.

34%

TOGA

FLEX

—DRT—

NOTE :

F/PLN :

LFBO 15 R

LMG DEP - LMG

UR10 - AMB

DIR VILRO

NO STAR

VIA MEL

LFPO ILS 26

ALTN : POGN DEP - CLM - NO STAR

NO VIA - LFPG ILS 27

EVALUATION SESSION GUIDE

01 - BRIEFING TOPICS

- Evaluation in normal and abnormal or emergency configuration.

02 - SESSION OBJECTIVE

- Demonstration of the competence to operate A320 as Captain or First Officer, Pilot flying or Pilot not flying.
- Completion of simulator syllabus in order to start aircraft training.

03 - SESSION PROFICIENCY CRITERIA

(TBD)

04 - SESSION GUIDE

TOW	T/O flaps	Air cond	Anti-ice	Eng	V1	VR	V2	Flex
64 t	1 + F	ON	OFF	IAE	151 kt	155 kt	155 kt	52°
				CFM	155 kt	158 kt	158 kt	55°

Suggested briefing :

- The flight will consist of a normal airline flight from Toulouse to Orly with a Limoge departure.
Please use your actual Company and Airbus procedures.
- You will be responsible for liaison with ATC, safe operation and navigation of the aircraft. Make sure that you correctly understand ATC instructions. During the flight it will be necessary for me to initialize the simulator in order to carry out certain exercises ; I will inform you when I have control of the simulator and when I return control to you.
- You may communicate to each other in your mother language to facilitate procedures, but please keep me informed about what you are doing and remember you must speak English to ATC.
- Remember this is normal commercial flight: do not waste time but do not allow yourselves to be rushed. You must tell ATC what you require.
- Make good use of the published documentation for en route and terminals areas. Set and observe the appropriate minimas.
- Make full use of all aircraft equipment. If I do not wish you to use something, I may cause it to fail.
- Remember the importance of task sharing and good crew coordination. You are assessed as PF AND PNF.
- Use headsets and consider me as ATC.
- Engine failure Flaps Retraction Altitude will be XXX feed.
- Single Engine Go around Acceleration Altitude will be XXX feed.
- The weather for departure will be....
- The aircraft weight and C.G. will be....

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	UPGRADING OF F/O TO CAPTAIN (Simulator phase 2 ONLY) TRAINING SYLLABI	2.21.03 Page 14B <i>E F21</i>
		REV 21 MAY 98

EVALUATION SESSION GUIDE (END)

04 - SESSION GUIDE

Try to avoid INIT's during the session.

Endeavour to run exercises in a logical sequence and make sure that the trainees understand your instructions. Don't let yourself get involved in discussions.

Make your own judgment during the session and revert to your instructor role again if, for example, an exercise is unsatisfactorily carried out.

- 8 : Among exercises, insert a change of altitude when ALT*.
- 19 : Insert "800 ft / 6 km" to check go around in FPV or FPD.
- 23 : Insert wing tip brake (WTB) when flaps between 1 and 0.
- 31 : For engine fire on ground and on ground emergency evacuation - insert unextinguishable fire.

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CHAPTER 23

- REFRESHER COURSES -

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	REFRESHER COURSE TABLE OF CONTENTS	2.23.00 Page 1 <i>E F23</i> REV 21 MAY 98

2.23.01 - INTRODUCTION

2.23.02 - TRAINING FOOTPRINT

2.23.03 - TRAINING SYLLABI

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	REFRESHER COURSE TABLE OF CONTENTS	2.23.00 Page 2 <i>E F23</i> REV 21 MAY 98

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01 - REFRESHER POLICY BETWEEN EVALUATION FFS AND BASE TRAINING INTERRUPTION

A. AFTER TRANSITION COURSE :

R
R
R

Interruption length :	Until 21 days (1)	22 to 42 days	43 days to 2 months	2 to 3 months	3 to 6 months	6 to 9 months	9 to 12 months	Above
Refresher course to be performed :	None	REF # 1 (2)	REF # 2	REF # 3	REF # 4	REF # 5	REF # 6	New Type Rating
+ Base Training								

(1) The period of 21 days may be extended to a maximum of 1 month by issue of a training deviation.

(2) Refresher # 1 can be performed in either the simulator or the aircraft ; if performed in the aircraft, the Training Captain must refer to the Refresher Flight syllabus.

B. AFTER CCQ COURSE :

a. Case 1 :

Base aircraft not flown during the following periods (i. e. pilot **not current on base aircraft** at time of Base Training) :

R
R
R

Interruption length :	Until 2 months	2 to 3 months	3 to 6 months	6 to 9 months	9 to 12 months	12 to 18 months	18 to 24 months	Above
Refresher course to be performed :	None	REF # 1 (2)	REF # 2	REF # 3	REF # 4	REF # 5	REF # 6	New Type Rating
+ Base Training								

(2) Refresher # 1 can be performed in either the simulator or the aircraft ; if performed in the aircraft, the Training Captain must refer to the Refresher Flight syllabus.

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	REFRESHER COURSE INTRODUCTION	2.23.01 Page 2 E F23
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01 - REFRESHER POLICY BETWEEN EVALUATION FFS AND BASE TRAINING INTERRUPTION (END)

B. AFTER CCQ COURSE (END) :

b. Case 2 :

Pilot **current on base aircraft** at the time of Base Training :

<i>Interruption length :</i>	Until 6 months	6 to 9 months	9 to 12 months	12 to 18 months	18 to 24 months	Above
<i>Refresher course to be performed :</i>	None	REF # 1 (2)	REF # 2	REF # 3	REF # 4	New Type Rating
	+ Base Training					

(2) Refresher # 1 can be performed in either the simulator or the aircraft ; if performed in the aircraft, the Training Captain must refer to the Refresher Flight syllabus.

02 - REFRESHER POLICY BETWEEN BASE TRAINING AND I.O.E INTERRUPTION

<i>Interruption length :</i>	Until 1 month	1 to 2 months	2 to 3 months	3 to 6 months	6 to 9 months	9 to 12 months	12 to 18 months	Above
<i>Refresher course to be performed :</i>	None	REF # 1	REF # 2	REF # 3	REF # 4	REF # 5	REF # 6	New Type Rating

03 - REFRESHER POLICY : FLIGHT INTERRUPTION

Unless more restrictive rules are edicted by the Airline or local Authority, a Recurrent Training is recommended after a 6 month to 9 month flight interruption.

Specific Refresher course is recommended when flight interruption exceeds 9 months.

<i>Interruption length :</i>	Until 6 months	6 to 9 months	9 to 12 months	12 to 18 months	18 to 48 months	Above
<i>Refresher course to be performed :</i>	None	Recurrent Training	REF # 4	REF # 5	REF # 6	New Type Rating

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	REFRESHER COURSE TRAINING FOOTPRINT	2.23.02 Page 1 <i>E F23</i> REV 22 OCT 98

01 - TRAINING DEVICE TIME SHARING

REFRESHER # 1		1 working day
FFS : 1 session		3:00
OR		
1 flight		At Flight Instructor discretion
REFRESHER # 2		2 working days
FBS : 1 session.....		3:00
FFS : 1 session.....		3:00
REFRESHER # 3		3 working days
CBT : review.....		6:00
FBS : 1 session.....		3:00
FFS : 2 sessions		6:00 (2 x 3:00)
REFRESHER # 4		4 working days
CBT : review.....		9:00
FBS : 1 session.....		3:00
FFS : 3 sessions		9:00 (3 x 3:00)
REFRESHER # 5		5 working days
CBT : review.....		12:00
FBS : 2 sessions		6:00 (2 x 3:00)
FFS : 3 sessions		9:00 (3 x 3:00)
REFRESHER # 6		6 working days
CBT : review.....		15:00
FBS : 2 sessions		6:00 (2 x 3:00)
FFS : 4 sessions		12:00 (4 x 3:00)

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AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	REFRESHER COURSE TRAINING SYLLABI	2.23.03 Page 1 E F23 REV 21 MAY 98

FBS 1 syllabus Page 03

FBS 2 syllabus Page 05

FFS 1 syllabus Page 07

FFS 2 syllabus Page 09

FFS 3 syllabus Page 11

FFS 4 syllabus Page 13

Flight syllabus Page 15

NOTE : *Instructors' FCTM includes the "Session Guides"*

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REFRESHER FBS 1 TAKE-OFF DATA

REFRESHER FBS 1 TAKE-OFF DATA			
INIT PAGE			ATIS
CO RTE 	FROM/TO 	TRIP DIST 	RWY 15 R
ALTN/CO RTE 		CRZ WIND 	WIND 240°/10 kt
FLT NBR 		ALTN 	VISI CAVOK
[Airline ID] 2301		LFBO 	CEILING
LAT 	LONG 	ALTN DIST 	TEMP 30°C
COST INDEX 		FL to ALTN 	DEW POINT ... 18°C
CRZ FL/TEMP 	TROPO 		QNH 1010 hPa/29.83 inHg
FL 090 / - 4°C	36 090		QFE 992 hPa/29.29 inHg
			RWY COND ... DRY
			Observations : _____ _____ _____ _____
INIT NEXT PAGE	PERF PAGE	T/O FLAPS	NOTE :
ZFCG/ZFW 	IAE CFM V1		FPLN :
28%-48 t	VR	T/O C.G. 	LFBO 15 R
28%-105.600 lb	V2		NO SID
BLOCK 	FLEX		TOU - AUCHE
10 t	DRT		AUCHE STAR
22.000 lb			TBO - TL
			LFBO NDB 20
			ALTN : LFBO 20 - NO SID - SULIT
			NO STAR - VIA SULIT -
			LFBO VOR 33 L

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	REFRESHER COURSE TRAINING SYLLABI	2.23.03 Page 4A <i>E F23</i> REV 23 JUL 99

R

REFRESHER FBS 1 SESSION GUIDE

01 - SESSION OBJECTIVE :

- To practice non precision approaches in automatic flight and in accordance with SOPs
- To use automation during non precision approaches and discuss "Procedures and Practices" issue as discussed in the ACRM workshop

02 - TRAINING TOPICS

A. REVIEW

- ACRM : Procedures and practices
- Non precision approaches
- Protections with AP engaged in V/S mode

B. INTRODUCE

NIL

03 - SESSION PROFICIENCY CRITERIA :

- Good execution of non precision approaches in accordance with SOPs.

04 - SESSION GUIDE :

- 7 : Insert an altitude constraint in the SID.
- 9 : FMGS exercise :
 - Deselect function
Display selected nav aids page (DATA - POSITION MONITOR - SEL NAVAIDS)
Insert a nav aid in use into DESELECT field. Note the rearrangement of the selected nav aids. Clear the deselected nav aid in order to revert to initial display.
 - Use direct to function (DIR TO)
- 10, 29 : Use NDB APP runway 20 at LFBT.
This approach can be flown either in managed or in selected guidance.
- 17, 18 : Point out that AP maintains VLS (or VMAX) and V/S obtained whatever V/S selected on FCU.
- Item 27 : Use TS Locator 33L at LFBO
This approach will be flown in selected guidance (not in database).

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INSTRUCTOR ONLY

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REFRESHER FBS 2 TAKE-OFF DATA
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 15 R

WIND 240°/10 kt

VISI CAVOK

CEILING

TEMP 10°C

DEW POINT ... 6°C

QNH 1020 hPa/30.12 inHg

QFE 1002 hPa/29.59 inHg

RWY COND ... DRY

Observations : _____

INIT NEXT PAGE

ZFCG/ZFW

BLOCK

PERF PAGE

IAE CFM

V1	123	118

VR	131	126

V2	132	127

FLEX	56	52

DRT		

T/O FLAPS

T/O C.G.

~~TOGA~~

FLEX

~~DRT~~

NOTE :
F/PLN :

LFBO 15 R

FISTO SID - LMG

MORIK - AMB

DIR VILRO

NO STAR

VIA EPR

LFPO ILS 26

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	REFRESHER COURSE TRAINING SYLLABI	2.23.03 Page 6 R E F23
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MALFUNC REF.	- REFRESHER FBS 2 - FLIGHT CONTROLS - PNEUMATIC - PRESSURIZATION - ELECTRICS NAVIGATION - INSTRUMENTS - HYDRAULICS - LANDING GEAR	-		+	
	TRAINEE 1				
	1 - PRELIMINARY COCKPIT PREPARATION				
	2 - BEFORE START				
	3 - ENGINE START (ABNORMAL STARTS)				
	1st ENGINE - START VALVE FAILS TO OPEN (START VALVE MANUAL OPERATION)				
	2nd ENGINE - START VALVE FAILS TO CLOSE - Restore				
	4 - AFTER START				
	5 - TAXI				
	6 - BEFORE TAKE-OFF				
	7 - TAKE-OFF SID				
	8 - CLIMB FL 110				
	9 - SIDESTICK FAULT - Restore				
	10 - CLIMB FL 310				
	11 - CPC 1 then CPC 2 FAULT - PRESS MANUAL OPERATION - Restore				
	12 - CRUISE : PACK 2 OVERHEAT then				
	13 - LEFT WING LEAK (EMERGENCY DESCENT) - Restore at FL 100				
	14 - RETURN TO DEPARTURE				
	15 - FLAPS JAMMED				
	16 - ILS APPROACH NO FLAPS				
	17 - GO AROUND - Restore				
	INIT FL 100				
	18 - ALL GEN FAULT				
	19 - REVIEW OF EMER ELEC CONFIG - Restore				
	20 - RADAR VECTORS				
	21 - RA 1 + 2 FAULT				
	22 - ILS APPR - DIRECT LAW				
	23 - GO AROUND - Restore				
	TRANSFER OF CONTROLS TO TRAINEE 2				
	24 - CLIMB FL 110				
	25 - HYD G + B RSVR LO LVL				
	26 - HOLD then RADAR VECTORS				
	27 - LANDING GEAR GRAVITY EXTENSION				
	28 - ILS APPR NO SLATS				
	29 - GO AROUND - Restore				
	INIT T/O				
	30 - TAKE OFF - ADR or IR FAILURE				
	31 - RADAR VECTORS				
	32 - 2nd ADR or IR FAILURE (OR 2nd IR FAILURE)				
	33 - ILS APPR - DIRECT LAW				
	34 - GO AROUND - Restore				
	INIT T/O				
	35 - AFTER LANDING CHECK-LIST				
	36 - PARKING CHECK-LIST				
	37 - SECURING AIRCRAFT				

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	REFRESHER COURSE TRAINING SYLLABI	2.23.03 Page 6A E F23
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REFRESHER FBS 2 SESSION GUIDE

01 - SESSION OBJECTIVE

- To review main systems
- To review main failures and related procedure
- To prepare trainees for the recurring FFS sessions

02 - TRAINING TOPICS

A. REVIEW

- Abnormal engine start
- Sidestick fault
- Pressurization problems with emergency descent
- Abnormal slats / flaps procedure and approach
- Electrical emergency configuration and associated procedure
- Dual RA fault
- Dual hydraulic system malfunction and associated procedure
- Dual ADR or dual IR faults

B. INTRODUCE

NIL

03 - SESSION PROFICIENCY CRITERIA

- To be able to apply procedural knowledge to the current situation

04 - SESSION GUIDE

- According to exercise, insert failure during phase of flight giving the most realistic training.
- Restore failure or malfunction either after procedure completion (single failure) or after go around (failure which affects handling such as dual hydraulic failure, flight control problems, etc)

INSTRUCTOR ONLY

INSTRUCTOR ONLY

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INSTRUCTOR ONLY

INSTRUCTOR ONLY

REFRESHER FFS 1 TAKE-OFF DATA				
INIT PAGE CO RTE FROM/TO LFBO/LFBO ALTN/CO RTE FLT NBR [Airline ID] 2303 LAT 4338.1N LONG 00122.1E COST INDEX 30 CRZ FL/TEMP 4 000 ft / 7°C		TRIP DIST CRZ WIND ALTN ALTN DIST FL to ALTN		ATIS RWY 15 R WIND 240°/12 kt VISI CAVOK CEILING TEMP 20°C DEW POINT ... 18°C QNH 1005 hPa/29.68 inHg QFE 987 hPa/29.14 inHg RWY COND ... DRY Observations : _____ _____ _____ _____
INIT NEXT PAGE ZFCG/ZFW 28%-48 t 28%-105.600 lb BLOCK 10 t 22.000 lb	PERF PAGE IAE CFM V1 123 124 VR 131 134 V2 132 134 FLEX 56 52 DRT	T/O FLAPS 2 T/O C.G. 26.5% —TOGA— FLEX —DRT—	NOTE : Local flight Blue pattern (if applicable)	

MALFUNC REF.	- REFRESHER FFS 1 - VISUAL PATTERNS - ENGINE										-	+
	TRAINEE 1											
	1 - PRELIMINARY AND COCKPIT PREPARATION											
	2 - ENGINE START											
	■ 3 - AFTER START AND TAXI											
	4 - BEFORE TAKE-OFF											
	5 - TAKE-OFF											
	6 - RADAR VECTORS FOR ILS APPROACH				FD	ATHR						
	7 - ILS APPROACH				FD	ATHR						
	8 - WINDSHEAR - GO AROUND - Restore											
	9 - VISUAL PATTERN					ATHR	FPV					
	10 - VISUAL APPROACH AND LANDING					ATHR	FPV					
	INIT T/O											
	11 - TAKE-OFF - ENGINE 1 FAIL ABOVE V1		AP		FD	ATHR						
	12 - VISUAL PATTERN					ATHR	FPV					
	13 - LANDING ONE ENG OUT- Restore											
	INIT T/O											
	■ 14 - TAKE-OFF - FLAPS JAMMED DURING RETRACTION				FD	ATHR						
	15 - ILS APPROACH (FLAPS LOCKED) - LANDING - Restore						FPV					
	INIT T/O											
	16 - TAKE-OFF - VISUAL PATTERN					ATHR	FPV					
	17 - VISUAL APPROACH (ILS ASSISTED)											
	■ 18 - TOUCH AND GO				FD	ATHR						
	19 - VISUAL PATTERN					ATHR	FPV					
	20 - LANDING											
	TRAINEE 2											
	INIT T/O											
	21 - TAKE-OFF											
	22 - RADAR VECTORS FOR ILS APPROACH				FD	ATHR						
	23 - WINDSHEAR - GO AROUND - Restore				FD	ATHR						
	24 - VISUAL PATTERN					ATHR	FPV					
	25 - LANDING											
	INIT T/O											
	26 - TAKE-OFF - ENGINE 2 FIRE AFTER V1				FD	ATHR						
	27 - VISUAL PATTERN					ATHR	FPV					
	28 - LANDING ONE ENG OUT - Restore											
	INIT T/O											
	29 - TAKE-OFF - VISUAL PATTERN					ATHR	FPV					
	30 - VISUAL APPROACH (ILS ASSISTED)											
	■ 31 - TOUCH AND GO				FD	ATHR						
	32 - VISUAL PATTERN					ATHR	FPV					
	33 - LANDING											
	34 - AFTER LANDING											
	■ 35 - TAXI TO THE RAMP (IF TIME PERMITS)											
	36 - PARKING											
	37 - SECURING AIRCRAFT											

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	REFRESHER COURSE TRAINING SYLLABI	2.23.03 Page 8A E F23
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R

REFRESHER FFS 1 SESSION GUIDE

01 - SESSION OBJECTIVE

- The Trainees must demonstrate the ability to apply SOPs in normal, abnormal and emergency situations.

02 - TRAINING TOPICS

A. REVIEW

- Full cockpit preparation (cold aircraft).
- Windshear recovery
- Visual patterns
- Crosswind take-off and landing
- Engine out on take-off

B. INTRODUCE

- Touch and go procedure
(Refer to Base Training briefing in FCTM Vol 1 - "Normal Operation briefings" chapter)

03 - SESSION PROFICIENCY CRITERIA

- To demonstrate the ability to perform maneuvers required by the syllabus using the correct procedure and technique, according to the standard of accuracy.

04 - SESSION GUIDE

- 3, 35 : Taxi may be reduced if time limited.
- 14 : Insert failure (flaps jammed - WTB) when flaps less than 2.
- Item 18, 31: *Briefing downwind* :
 - Spoilers not armed
 - No use of reversers
 - No use of brakes after touchdown

Final approach :

 - ECAM landing memo - spoilers blue

On ground :

 - nosewheel down
 - maintain centerline

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REFRESHER FFS 1 SESSION GUIDE (END)

04 - SESSION GUIDE (END)

■ 18, 31 (end): *Crew actions (instructor checks) :*

1. RUDDER TRIM RESET
2. FLAPS "2"
3. THRUST 50% N1 (1.05 EPR)
4. PITCH TRIM SET
5. FCU "HDG-V/S"
6. FLAPS CHECK
7. CALL "GO"
8. CALL "ROTATE" AT VR

INSTRUCTOR ONLY

INSTRUCTOR ONLY

REFRESHER FFS 2 TAKE-OFF DATA

REFRESHER FFS 2 TAKE-OFF DATA			
INIT PAGE CO RTE ALTN/CO RTE FLT NBR [Airline ID] 2304 LAT 4338.1N COST INDEX 30 CRZ FL/TEMP FL 310 / -47°C FROM/TO LFBO/LFPO LONG 00122.1E TROPO 36 090	TRIP DIST 345 NM CRZ WIND 250°/30 kt ALTN EDDF ALTN DIST 279 NM FL to ALTN 250	ATIS RWY 15 R WIND 120°/6 kt VISI CAVOK CEILING TEMP 14°C DEW POINT ... 7°C QNH 1020 hPa/30.08 inHg QFE 1002 hPa/29.55 inHg RWY COND ... DRY Observations : AIR COND ON 	
INIT NEXT PAGE ZFCG/ZFW 30.4%-55 t 30.4%-121 000 lb BLOCK 18 t 390600 lb	PERF PAGE V1 156 154 VR 156 154 V2 158 156 FLEX DRT IAE CFM	T/O FLAPS 1 + F T/O C.G. 26.5% TOGA ~~FLEX~~ ~~DRT~~ ~~DRT~~	NOTE : F/PLN : LFBO 15 R FISTO SID - LMG MORIK - AMB DIR VILRO NO STAR VIA EPR LFPO ILS 07 ALTN : LFPG 07 - DIR CLM - CTL UR 10 - MMD - LUXIE - NTM - NTM STAR - VIA MTR EDDF ILS 25R

AIRBUS INDUSTRIE Training & Flight Operations Support Division A319/A320/A321 FLIGHT CREW TRAINING MANUAL	REFRESHER COURSE TRAINING SYLLABI	2.23.03 Page 10 <i>R</i> E F23
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MALFUNC REF.	- REFRESHER FFS 2 - RECONFIGURATION CONTROLS LAWS - HYDRAULICS - ONE ENG OUT					-	+
	TRAINEE 1						
	1 - TRANSIT COCKPIT PREPARATION						
	2 - BEFORE START						
	3 - ENGINE START						
	4 - AFTER START CHECK LIST						
	5 - TAXI						
	6 - BEFORE TAKE-OFF						
	7 - TAKE-OFF (MTOW / AFT CG MAX)						
	8 - CLIMB FL110						
	■ 9 - IRS 3 FAULT THEN IRS 1/2 ATT DISCREPANCY						
	10 - APPROACH TO STALL T/O AND LDG CONFIG						
	11 - TRANSFER CONTROLS TO TRAINEE 2						
	12 - APPROACH TO STALL TAKE OFF AND LDG CONFIG - Restore						
	■ 13 - B HYD - ELAC 2 - SEC 2 FAULT - MECHANICAL BACK-UP						
	14 - CLIMB 1000 FT THEN TURN 90° BANK 15° MAX						
	15 - TRANSFER OF CONTROL TO TRAINEE 1 then restore						
	16 - RADAR VECTORS TO LFBO						
	■ 17 - HYD G + Y RSVR LO LVL						
	18 - VISUAL PATTERN						
	19 - LANDING NO FLAPS - Restore						
	INIT T/O						
	■ 20 - TAKE-OFF - ENG 1 STALL AT V1 + 5 KT						
	21 - VISUAL PATTERN						
	22 - LANDING 1 ENG OUT - Restore						
	TRAINEE 2						
	23 - TAKE-OFF- CLIMB 4000 FT						
	■ 24 - HYD G + B RSVR LO LVL						
	25 - VISUAL PATTERN						
	26 - LANDING NO SLATS - Restore						
	INIT T/O						
	■ 27 - TAKE-OFF - ENG 2 STALL AT V1 + 5 KT						
	28 - VISUAL PATTERN						
	29 - LANDING 1 ENG OUT- Restore						
	INIT T/O						
	30 - TAKE-OFF						
	31 - ELAC 1 + 2 FAULT						
	32 - VISUAL PATTERN						
	33 - LANDING - DIRECT LAW - Restore						
	INIT T/O						
	■ 34 - TAKE-OFF - ENG FIRE AT V1 -10 KT						
	35 - REJECTED TAKE-OFF - ON GROUND EMERGENCY EVACUATION - Restore						

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REFRESHER FFS 2 SESSION GUIDE

01 - SESSION OBJECTIVE

- To practice stall recovery
- To review dual hydraulic failure procedure and handling
- To review one engine out operation

02 - TRAINING TOPICS

A. REVIEW

- Flight control reconfiguration laws
- Approach to stall and recovery
- Dual hydraulic failures
- One engine out pattern

B. INTRODUCE

NIL

03 - SESSION PROFICIENCY CRITERIA

- To demonstrate the ability to perform manoeuvres required by the syllabus using the correct procedure and technique, according to the standard of accuracy

04 - SESSION GUIDE

- 9 : IR 3 fault then PITCH or ROLL discrepancy between two remaining IRs.
Review the various reconfiguration laws (Direct then Alternate)
Restore normal weight (below max landing weight) prior to starting exercises.
- 13 : Fail Blue HYD and ELAC 2. Carry out ECAM actions and point out that the remaining computers are still able to control the aircraft. The crew must be prepared for mechanical back-up (probability 10^{-9}). Fail SEC 2 in order to obtain mechanical back-up. Let the trainees fly the aircraft then restore all systems.
- 17, 24 : Insert second HYD RSVR Lo Level when crew reads status page.
- 20, 27 : After stall, insert flame out for one and extinguishable fire for the other exercise.
- 34 : Insert unextinguishable fire.

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REFRESHER FFS 3 TAKE-OFF DATA

REFRESHER FFS 3 TAKE-OFF DATA			
INIT PAGE		ATIS	
CO RTE 	FROM/TO 	TRIP DIST 	RWY 33 L
ALTN/CO RTE 		CRZ WIND 	WIND 230°/25 kt *
FLT NBR 		ALTN 	VISI 4 km
[Airline ID] 2305		LFBO	CEILING OVC 600 ft
LAT 	LONG 	ALTN DIST 	TEMP 10°C
COST INDEX 		FL to ALTN 	DEW POINT ... 7°C
CRZ FL/TEMP 	TROPO 		QNH 1005 hPa/29.68 inHg
			QFE 987 hPa/29.14 inHg
			RWY COND ... DRY
			Observations : _____ _____ _____ _____
INIT NEXT PAGE	PERF PAGE	T/O FLAPS	NOTE :
ZFCG/ZFW 	IAE CFM 		* 1st T/O : max Xwind for each pilot
28%-48 t	V1 	T/O C.G. 	F/PLN :
28%-105 600 lb	VR 		LFBO 33L LACOU SID - MIRBA STAR
BLOCK 	V2 		VIA LIBRU - LFBD VOR 23
10 t	FLEX 		ALTN : LFBD 23 SAU SID
22 000 lb	DRT 		AGN STAR - LFBO ILS 15 R
			Weather : LFBD 27012 kt 6000
			OVC008 12/10 Q1000 QFE994
			NOSIG

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REFRESHER FFS 3 SESSION GUIDE

01 - SESSION OBJECTIVE

- To be able to execute normal and abnormal procedures and handling.

02 - TRAINING TOPICS

A. REVIEW

- Crosswind take-off procedure
- Engine out non precision approaches
- Circle to land procedure
- Windshear recovery
- Dual malfunction and landing in direct law
- Engine out visual pattern approaches and landings
- Use of STBY navigation

B. INTRODUCE

- TCAS traffic and resolution advisories

03 - SESSION PROFICIENCY CRITERIA

- To demonstrate the ability to perform maneuvers required by the syllabus using the correct procedure and technique, according to the standard of accuracy.

04 - SESSION GUIDE

- 7, 19 : Select 25 kt XWIND for these 2 take-off only, then set 8 kt XWIND for the session.
Enter windshear after V1.
- 9, 11, 21: TCAS exercises should be briefed and inserted if simulator features are available
- 13, 28 : LFBD : VOR APP RWY 05 then circling for landing RWY 23.
LFBO : VOR APP RWY 33 L then circling for landing RWY 15 R
This type of non precision approach is requested by some Authorities.
- 16, 31 : Select windshear after VR

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REFRESHER FFS 4 TAKE-OFF DATA
INIT PAGE

CO RTE

ALTN/CO RTE

FLT NBR

LAT

COST INDEX

CRZ FL/TEMP

FROM/TO

LONG

TROPO

TRIP DIST

CRZ WIND

ALTN

ALTN DIST

FL to ALTN

ATIS

RWY 15 R

WIND CALM

VISI 400 m

CEILING OVC 100 ft

TEMP -5°C

DEW POINT ... -5°C

QNH 1020 hPa/30.12 inHg

QFE 1002 hPa/29.59 inHg

RWY COND ... WET

Observations : _____

INIT NEXT PAGE

ZFCG/ZFW

BLOCK

PERF PAGE

IAE CFM

V1	135	114

VR	144	133

V2	144	133

FLEX	51	54

DRT		

T/O FLAPS

T/O C.G.

TOGA

FLEX

~~DRT~~
NOTE :
F/PLN :

LFBO 15 R

FISTO SID - LMG

MORIK - AMB

DIR VILRO

NO STAR

VIA EPR

LFPO ILS 26

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MALFUNC REF.	- REFRESHER FFS 4 - EMERGENCY PROCEDURES DESCENT - RTO - EVACUATION										-	+
	TRAINEE 1											
	1 - TRANSIT COCKPIT PREPARATION											
	2 - BEFORE START											
	3 - ENGINE START											
	4 - AFTER START CHECK-LIST											
	5 - TAXI											
	6 - BEFORE TAKE-OFF CHECK-LIST											
	■ 7 - TAKE-OFF (CAT II CONDITIONS)											
	8 - SID CLIMB FL 310											
	9 - TCAS (OPTIONAL) RESOLUTION ADVISORY											
	■ 10 - SEVERE TURBULENCE EXERCISE											
	11 - STRUCTURAL DAMAGE - EMERGENCY DESCENT											
	12 - RETURN TO DEPARTURE- Restore											
	13 - HYD : G RSVR LO LVL											
	14 - HYD : B OR Y RSVR LO LVL											
	15 - DUAL HYD SYS LOW PRESS PROCEDURE											
	16 - ILS APPROACH											
	17 - LANDING NO SLATS OR NO FLAPS - Restore											
	INIT T/O											
	18 - TAKE-OFF											
	19 - VISUAL PATTERN - ELAC 1 + 2 FAULT											
	20 - LANDING DIRECT LAW - Restore											
	TRAINEE 2											
	INIT T/O											
	21 - TAKE-OFF SID											
	■ 22 - ABNORMAL FLAPS OR SLATS DURING RETRACTION (WTB)											
	23 - ILS APPROACH											
	24 - LANDING NO FLAPS OR NO SLATS - Restore											
	INIT T/O											
	25 - TAKE-OFF - ENG 2 FAIL AT V1 + 5 KT											
	26 - ILS APP - 1 ENG OUT											
	■ 27 - GO AROUND - Restore											
	INIT FL 350											
	28 - RAPID DECOMPRESSION OR SMOKE											
	29 - EMERGENCY DESCENT - Restore FL 100											
	30 - RADAR VECTORS											
	31 - NON PRECISION APPR											
	32 - LANDING											
	INIT T/O											
	■ 33 - TAKE-OFF ENG FIRE BEFORE V1											
	34 - REJECTED TAKE-OFF											
	35 - ON GROUND EMERGENCY EVACUATION - Restore											

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REFRESHER FFS 4 SESSION GUIDE

01 - SESSION OBJECTIVE

- To be able to execute abnormal and emergency procedures
- To attain sufficient proficiency for the recurring Evaluation

02 - TRAINING TOPICS

A. REVIEW

- Low visibility during take-off
- Turbulence penetration procedure
- Dual hydraulic malfunction
- Emergency descent
- Rejected take-off
- On ground emergency evacuation

B. INTRODUCE

- NIL

03 - SESSION PROFICIENCY CRITERIA

- To demonstrate the ability to perform maneuvers required by the syllabus using the correct procedure and technique, according to the standard of accuracy and in accordance with SOPs.

04 - SESSION GUIDE

- 7 : After take-off the weather should improve accordingly
- 10 : Enter severe turbulence and check that the crew reacts accordingly. (procedure and handling) [Ref : FCOM Vol 3 supplementary techniques].
- 22 : Insert a malfunction (SLAT or FLAP stuck by WTB) that covers the opposite of the one selected in the Trainee 1 part.
- 27 : Activate a traffic or any problem to justify a go around
- 33 : Enter unextinguishable fire at V1 -30 kt.

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