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Revision Letter For Cycle 15-2013

Change Notices

Notebook

General Information

Location: London Gbr
IATA Code: LHR
Lat/Long: N51° 28.6' W000° 27.7'
Elevation: 83 ft

Airport Use: Public
Magnetic Variation: 1.3°W

Fuel Types: Jet A-1
Repair Types: Major Airframe, Major Engine
Customs: Yes
Airport Type: IFR
Landing Fee: Yes
Control Tower: Yes
Jet Start Unit: No
LLWS Alert: No
Beacon: No

Sunrise: 0409 Z
Sunset: 2007 Z,

Runway Information

Runway: 09L
Length x Width: 12802 ft x 164 ft
Surface Type: asphalt
TDZ-Elev: 81 ft
Lighting: Edge, ALS, Centerline, TDZ
Displaced Threshold: 1007 ft

Runway: 09R
Length x Width: 12008 ft x 164 ft
Surface Type: asphalt
TDZ-Elev: 76 ft
Lighting: Edge, ALS, Centerline, TDZ
Displaced Threshold: 1007 ft

Runway: 27L
Length x Width: 12008 ft x 164 ft
Surface Type: asphalt
TDZ-Elev: 78 ft
Lighting: Edge, ALS, Centerline, TDZ

Runway: 27R
Length x Width: 12802 ft x 164 ft
Surface Type: asphalt
TDZ-Elev: 79 ft
Lighting: Edge, ALS, Centerline, TDZ

Communication Information

- ATIS 128.075 Arrival Service
- ATIS 121.935 Departure Service
- ATIS 115.1 Arrival Service
- ATIS 113.75 Arrival Service
- Heathrow Ground Tower 121.9
- Heathrow Ground Tower 121.85
- Heathrow Ground Tower 121.7
- Heathrow Delivery Tower 121.975
- Heathrow Tower 124.475
- Heathrow Tower 118.7
- Heathrow Tower 118.5
- Heathrow Director Approach Control 134.975
- Heathrow Director Approach Control 127.525
- Heathrow Director Approach Control 120.4
- Heathrow Director Approach Control 119.725
- Heathrow Radar 127.525
- Heathrow Radar 125.625

1. GENERAL

1.1. ATIS

- * D-ATIS Arrival 113.75 115.1 128.07
- * D-ATIS Departure 121.935 (Non 833 Khz equiped ACFT should contact Heathrow Delivery.)

1.2. NOISE ABATEMENT PROCEDURES**1.2.1. GENERAL**

The following procedures may at any time be departed from to the extent necessary for avoiding immediate danger or for complying with ATC instructions. Every operator of ACFT using the APT shall ensure at all times that ACFT are operated in a manner calculated to cause the least disturbance practicable in areas surrounding the APT.

1.2.2. PREFERENTIAL RUNWAY SYSTEM

When tailwind component is not greater than 5 KT on RWYs 27R/L, these RWYs will be used in preference to RWYs 09R/L, provided the RWY surface is dry. Pilots asking for permission to use the RWY into the wind when RWYs 27R or 27L are in use, should understand that their arrival or departure may be delayed.

1.2.3. REVERSE THRUST

Avoid use of reverse thrust between 2330-0600LT except for safety reasons.

1.2.4. RUN-UP TESTS

Run-up tests are controlled in accordance with instructions issued by Heathrow APT LTD.

1.2.5. NIGHTTIME RESTRICTIONS

Any ACFT which has a noise classification greater than 95.9 EPNdB may not be scheduled to take-off or land between 2330-0600LT.

Any ACFT which has a noise classification greater than 98.9 EPNdB may not take-off between 2300-0700LT, except between 2300-2330LT when

- it was scheduled to take-off prior to 2300LT,
- take-off was delayed for reasons beyond control of the ACFT operator,
- APT authority has not given notice to the ACFT operator precluding take-off.

Any ACFT may not take-off or be scheduled to land between 2300-0700LT where the operator of that ACFT has not provided (prior to its take-off or prior to its scheduled landing times as appropriate) sufficient information to enable the APT authority to verify its noise classification.

None of the provisions above shall apply to a take-off or landing which is made in an emergency consisting of an immediate danger to life or health, whether human or animal.

1.3. LOW VISIBILITY PROCEDURES**1.3.1. GENERAL**

During CAT II and III operations, special ATC Low Visibility Procedures will be applied. Pilots will be informed when these procedures are in operation via ATIS or RTF.

1.3.2. ARRIVAL

- Surface Movement Guidance and Control System (SMGCS) is normally available and all RWY exits will then be illuminated. Pilots should select the first convenient exit.
- Pilots are to delay the call "runway vacated" until ACFT has completely passed the end of the green/yellow colour coded TWY centerline lights.

1.3.3. DEPARTURE

ATC will require departing ACFT to use the CAT III holding points listed below. However, other departure points may be used at ATC discretion in which case due allowance will be made by ATC for the necessary ILS protection.

- RWY 09L: A13.
- RWY 09R: N11 and S7.
- RWY 27L: N2W, N2E, N3, S1S, S1N and S3.
- RWY 27R: A1, A2, A3, A4 and A5.

1. GENERAL

1.4. SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM

APT is equipped with Mode S movement radar. Pilots must ensure that:
ACFT transponder is set to transmit Mode S signals, and associated Mode A code,
from the request for push-back or taxi, whichever is earlier and after landing,
continuously until ACFT is fully parked on stand.

After parking, Mode A code 2000 must be set before selecting OFF or STDBY.

1.5. RWY OPERATIONS**1.5.1. RWY CROSSING PROCEDURE**

After crossing RWY 09R/27L and having reported RWY vacated, the ACFT will be instructed to revert to Ground for further clearance. In absence of further clearance it is essential that ACFT holds position when clear of RWY.

1.6. TAXI PROCEDURES**1.6.1. GENERAL**

Pilots who intent to execute a reduced engine taxi out must report their intention to Delivery on first contact. Reduced engine taxi is not available to ACFT to cross an active RWY.

Pilots are to use the minimum power necessary when manoeuvring on the TWY system. This is of particular importance when manoeuvring in the apron cul-de-sacs, where jet blast can affect adjacent stands.

Pilots are reminded of the extreme importance of maintaining a careful lookout at all times and are at all times responsible for wingtip clearance, notwithstanding the TWY lighting system.

1.6.2. RESTRICTIONS TO LARGE ACFT

- A380 ACFT: Reduced "TWY centerline to object clearance" of 161'/49m applies on TWY E between TWY B and Link 36 and on TWY W between TWY S and Link 42. Reduced clearance of 156'/47.5m applies on TWY A at MORRA. Pilots are to ensure that ACFT remain on TWY centerline at all times.
- Pilots of Code E ACFT must exercise caution when using TWY S between reporting point SY6 and TWY Z as wingtip clearances to the South are minimal.
- All B747-400 ACFT on TWY Z must be under tow.
- A340-600 and B777-300 ACFT: It is recommended that flight crews use judgemental steering at all times when manoeuvring on the TWYs.
These ACFT are not permitted to use the following routes:
Eastbound on TWY S, at SIN turning RIGHT onto Link 41 to face West.

1.6.3. TWY ROUTE WEST ON TWY S - RIGHT TO S3/SB3

During DAY and good visibility only and MAX wingspan 91' /27.7m.

1.6.4. CODE E TWY to TWY SEPARATION

Separation of 262'/80m is not met as follows: TWYs A and B between TWY H and AY5.

1.6.5. CODE E TWY TO STAND OR TWY TO OBJECT SEPARATION

Separation of 156'/47.5m is not met on the following TWYs:

Minimum clearance 139'/42.5m

TWY B from TWY F to TWY J.

All of TWY F.

TWY S from reporting point SY6 East to TWY W.

Minimum clearance 121'/37m

TWY S between reporting point SY6 and TWY Z to the South.

1.6.6. RWY STOP BARS

The RWY stop bars at N4E, N4W, N5W, S4 and S5 are not positioned perpendicular to the TWY centerline.

1. GENERAL

1.7. PARKING INFORMATION

All stands except 101, 103, 122, 174, 176, 192, 192L, 192R, 233L, 247L, 254, 258L, 258R, 303L, 305L, 334, 350, 354, 355, 363, 418, 454L, 511, 515, 517, 520, 526, 563, 564, 572, 573, 582 thru 592, 601 thru 606, 611 thru 703, RSA and RSB equipped with visual docking guidance system SAFEGATE.

A318, A319, B737-500 and B737-600 ACFT using stands 102, 103, 104, 105 and 109 must have the port engine fully shut down before entering stands. If stand entry guidance is unservicable and ACFT is marshalled onto stand, it will be stopped short and require towing forward to correct stop position.

2. ARRIVAL

2.1. SPEED RESTRICTIONS

Pilots should typically expect the following speed restrictions to be enforced:

- 220 KT from the holding facility during the initial approach phase;
 - 180 KT on base leg/closing heading to the final apch;
 - between 180 KT and 160 KT when established on the final apch;
- and thereafter 160 KT to D4.0.

These speeds are applied for ATC separation purposes and are mandatory. In the event of a new (non-speed related) ATC clearance being issued (e.g. an instruction to descend on ILS), pilots shall continue to maintain a previously allocated speed. All speed restrictions are to be flown as accurately as possible. ACFT unable to conform to these speeds should inform ATC and state what speeds can be used. In the interests of accurate spacing, pilots are requested to comply with speed adjustments as promptly as feasible within their own operational constraints, advising ATC if circumstances necessitate a change of speed for ACFT performance reasons.

2.2. NOISE ABATEMENT PROCEDURES

The following procedures may at any time be departed from to the extent necessary for avoiding immediate danger or for complying with ATC instructions.

Every operator of ACFT using the APT shall ensure at all times that ACFT are operated in a manner calculated to cause the least disturbance practicable in areas surrounding the airport.

An ACFT approaching to land shall according to its ATC clearance minimize noise disturbance by the use of continuous descent and low power, low drag operating procedures (see below).

Where the use is not practicable, ACFT shall maintain an altitude as high as possible.

Propeller-driven ACFT with MTOW above 5700 KGS and jet ACFT:

ACFT approaching RWY 27L/R between 0600-2330LT and using the ILS shall not descend below 2500' (Heathrow QNH) on GS before being established on LOC, nor thereafter fly below GS. ACFT approaching without ILS assistance shall follow a descent path which will not result in its being at any time lower than the approach path that would be followed by an ACFT using the ILS GS, and shall follow a track to intercept the extended RWY centerline at or above 2500'.

ACFT approaching RWY 27L/R between 2330-0600LT and using the ILS shall not descend below 3000' (Heathrow QNH) on GS before being established on LOC at not less than 10 NM from touchdown, nor thereafter fly below GS. ACFT approaching without ILS assistance shall follow a descent path which will not result in its being at any time lower than the approach path that would be followed by an ACFT using the ILS GS, and shall follow a track to intercept the extended RWY centerline at or above 3000'.

ACFT approaching RWY 09L/R between 0700-2300LT and using the ILS shall not descend below 2500' (Heathrow QNH) on GS before being established on LOC, nor thereafter fly below GS. ACFT approaching without ILS assistance shall follow a descent path which will not result in its being at any time lower than the approach path that would be followed by an ACFT using the ILS GS, and shall follow a track to intercept the extended RWY centerline at or above 2500'.

ACFT approaching RWY 09L/R between 2300-0700LT and using the ILS shall not descend below 3000' (Heathrow QNH) on GS before being established on LOC at not less than 10 NM from touchdown, nor thereafter fly below GS. ACFT approaching without ILS assistance shall follow a descent path which will not result in its being at any time lower than the approach path that would be followed by an ACFT using the ILS GS, and shall follow a track to intercept the extended RWY centerline at or above 3000'.

2. ARRIVAL

CONTINUOUS DESCENT APPROACH

Headings and flight levels/altitudes by ATC. ACFT will be radar vectored. An estimate of track distance to touchdown will be passed with descent clearance. Further distance information will be given between descent clearance and the intercept heading to the ILS LOC.

On receipt of descent clearance descend at the rate best suited to a continuous descent so as to join the GS at the appropriate height for the distance without recourse to level flight.

2.3. CAT II/III OPERATIONS

RWYs 09L/27R and 09R/27L approved for CAT II/III operations, special aircrew and ACFT certification required.

2.4. RWY OPERATIONS

2.4.1. MINIMUM RWY OCCUPANCY TIME

Pilots are reminded that rapid exit from the landing RWY enables ATC to apply the minimum spacing on final approach that will achieve maximum RWY utilisation and will minimize the occurrence of go-arounds.

2.4.2. RWY VACATION GUIDELINES

ACFT lands but cannot contact HEATHROW Ground due to RTF congestion:

In this case the pilot should completely vacate the landing RWY and taxi into the first TWY available. The pilot should then hold position until contact with Ground can be established.

2.5. OTHER INFORMATION

2.5.1. GENERAL

WARNING: The possibility of building-induced turbulence and large windshear effects may occur when landing on RWY 27R in strong southerly / south westerly winds.

2.5.2 "LAND AFTER" PROCEDURE

Normally, only one ACFT is permitted to land or take-off on the RWY-in-use at any one time. However, when the traffic sequence is two successive landing ACFT, the second one may be allowed to land before the first one has cleared the RWY-in-use, providing:

- The RWY is long enough;
- it is during daylight hours;
- the second ACFT will be able to see the first ACFT clearly and continuously until it is clear of the RWY;
- the second ACFT has been warned.

ATC will provide this warning by issuing the second ACFT with the instruction "**Land after ... (first ACFT type)**" in place of the usual instruction "Cleared to land". Responsibility for ensuring adequate separation between the two ACFT rests with the pilot of the second ACFT.

2.5.3. SPECIAL LANDING PROCEDURES

Special landing procedures may be in force in conditions hereunder, when the use will be as follows:

- When the RWY-in-use is temporarily occupied by other traffic, landing clearance will be issued to an arriving ACFT provided that at the time the ACFT crosses the THR of the RWY-in-use the following separation distances will exist:
 - **Landing following landing** - The preceding landing ACFT will be clear of the RWY-in-use or will be at least 2500m/1.35 NM from the THR of the RWY-in-use.
 - **Landing following departure** - The departing ACFT will be airborne and at least 2000m/1.1 NM from the threshold of the RWY-in-use, or if not airborne, will be at least 2500m/1.35 NM from the THR of the RWY-in-use.

2. ARRIVAL

- Reduced separation distances as follows will be used where both the preceding and succeeding landing ACFT or both the landing and departing ACFT are propeller driven and have a maximum total weight authorized not exceeding 5700 kg:
 - **Landing following landing** - The preceding ACFT will be clear of the RWY-in-use or will be at least 1500m/0.8 NM from the THR of the RWY-in-use.
 - **Landing following departure** - The departing ACFT will be airborne or will be at least 1500m/0.8 NM from the THR of the RWY-in-use.
- Conditions of Use
The procedures will be used by **DAY only** under the following conditions:
 - When the reported meteorological conditions are equal to or better than a visibility of 6 KM and a ceiling of 1000' and the air controller is satisfied that the pilot of the next arriving ACFT will be able to observe continuously the relevant traffic.
 - When both the preceding and succeeding ACFT are being operated in the normal manner. (Pilots are responsible for notifying ATC if they are operating their ACFT in other than the normal manner).
 - When the RWY is dry and free of all precipitants.
 - When the air controller is able to assess the separation either visually or by means of aerodrome traffic monitor.

When issuing a landing clearance following the application of these procedures ATC will issue the second ACFT with the following instructions:

..... (call sign) after landing/departing

..... (ACFT Type) cleared to land

RWY (designator).

3. DEPARTURE

3.1. START-UP & PUSH-BACK PROCEDURES

3.1.1. APT-COLLABORATIVE DECISION MAKING (A-CDM)

3.1.1.1. TARGET OFF BLOCK TIME (TOBT)

This is the time, that an ACFT expects to be ready to leave its stand.

TOBTs must be updated to an accuracy of +/-5 min.

TOBTs should be updated through the usual channels if the time that the ACFT will be ready to leave stand changes.

For a delay of 15 min or more, a DLA message must be sent.

3.1.1.2. TARGET START UP APPROVAL TIME (TSAT)

This is the time provided by ATC, that an ACFT can reasonably expect to receive start-up approval, taking into account the TOBT and overall traffic situation.

Pilots will be notified of their TSAT and any subsequent changes to it by their AO/GH or from Delivery when they call ready.

3.1.1.3. REMOTE HOLDING REQUEST

If an airline operator is aware of a CTOT and wishes to take the delay on a TWY rather than on the stand, then they should contact the Tower supervisor via phone to arrange it.

In this instance, TSAT will be adjusted to allow ACFT to be transferred to HEATHROW Ground earlier for remote hold.

3.1.2. DATALINK DEPARTURE CLEARANCE (DCL)

DCL via SITA or ARINC.

DCL available from 25 min prior to EOBT to 15 min after EOBT. Clearance will not be issued if requested later than 15 min after EOBT.

Successful clearance must be accepted within 5 min after receipt or a "Revert to voice" message will be received.

If the attempt to obtain a clearance is unsuccessful the ACFT should revert to RTF.

Regardless of clearance source, departing ACFT must report ACFT type, stand number, QNH and the identification letter of the received ATIS information to HEATHROW Delivery when fully ready for push-back and start.

3.1.3. START-UP

On first contact with HEATHROW Delivery, pilots are to report ACFT type, stand number, QNH and identification letter of received ATIS info.

Between 0630-1400 LT and between 1500-2200 LT pilots of operators who have been briefed with regard to the correct phraseology may call for ATC clearance up to 15min prior to being fully ready to push-back. All other operators must be fully ready before calling on frequency.

Pilots who wish to start engines on stand must request permission from HEATHROW Ground not later than 5 min after being transferred from Delivery.

All jet ACFT are to advise ATC, if for any reason they are unable to accelerate after noise abatement procedures to 250 KT.

If within 30 min of a previously issued Calculated Take-off Time (CTOT) the flight is unable to comply with that CTOT, the pilot should advise ATC as soon as possible.

Pilots are advised that delays in excess of 10 min can be expected at holding position. Sufficient time should be allowed for start, push-back and taxi to take account of such a delay especially if required to comply with a Calculated Take-off Time (CTOT).

3.1.4. PUSH-BACK

Following push-back from cul-de-sac stands, all ACFT must pull forward to a minimum of 328'/100m from the blast screen (indicated by a painted mark on the TWY centerline) before disconnecting the tug. Due to exhaust fume ingestion within the buildings at the end of all cul-de-sacs, engine start-up must be delayed until the ACFT has reached the 328'/100m mark.

Push-back approval must be obtained from HEATHROW Ground not later than 5 min after being transferred from Delivery.

Push-back approval includes permission to start engines during push-back.

3. DEPARTURE**3.2. NOISE ABATEMENT PROCEDURES****3.2.1. GENERAL**

The following procedures may at any time be departed from to the extent necessary for avoiding immediate danger or for complying with ATC instructions.

Every operator of ACFT using the APT shall ensure at all times that ACFT are operated in a manner calculated to cause the least disturbance practicable in areas surrounding the airport.

After take-off operate ACFT so that it is at or above 1090' at 6.5 km from start of roll as measured along the departure track and so that it will not cause more than:

- 94 dBA between 0700-2300LT,
- 89 dBA between 2300-2330LT and between 0600-0700LT,
- 87 dBA between 2330-0600LT

at any noise monitoring terminal. Jet ACFT maintain a minimum climb gradient of 243' per NM (4%) to at least 4000' to ensure progressively decreasing noise levels at points on the ground under the flight path beyond the monitoring terminal.

Noise preferential routing procedures applicable for all jet ACFT and other ACFT with MTWA of more than 5700 KGS (between 0600-2330 LT of more than 17000 KGS and except any Dash 7 ACFT) are depicted on London Heathrow SID charts and on page 10-4.

3.2.2. NOISE QUOTA SYSTEM DURING NIGHT (2300-0700LT)

Main restrictions are as follows:

- Night Period (2300-0700LT)
- Night Quota Period (2330-0600LT)

The quota count is to be calculated based on the noise classification for the ACFT as follows:

Noise Classification	QUOTA Count
84 - 86.9	0.25
87 - 89.9	0.5
90 - 92.9	1
93 - 95.9	2
96 - 98.9	4
99 - 101.9	8
more than 101.9	16

3. DEPARTURE

3.4. RWY OPERATIONS

3.4.1. MINIMUM RWY OCCUPANCY TIME

On receipt of line up clearance pilots should ensure, commensurate with safety and standard operating procedures, that they are able to taxi into the correct position at the hold and line up on the RWY as soon as the preceding ACFT has commenced its take-off roll.

Pilots in receipt of a conditional line up clearance on a preceding departing ACFT (for example; 'ABC123, after the departing Sky Train DC10, line up RWY 27L via N2E') should remain behind the subject ACFT but may cross the RWY holding point (subject to there being no illuminated red stop bar) and enter the RWY upon receipt of the clearance. There is no requirement for the subject ACFT to have commenced its take-off roll before entering the RWY. Pilots must be aware that there may be a blast hazard as the ACFT on the RWY applies power.

Pilots in receipt of a conditional line up clearance on a preceding arriving ACFT (for example; 'ABC123, after the landing Sky Train DC10, line up RWY 27L via N2E') may cross the RWY holding point (subject to there being no illuminated red stop bar) as soon as the landing ACFT has passed the RWY entry point.

Pilots who require to back-track the RWY (including line up from N2W onto RWY 27L) must notify ATC prior to arrival at the holding point.

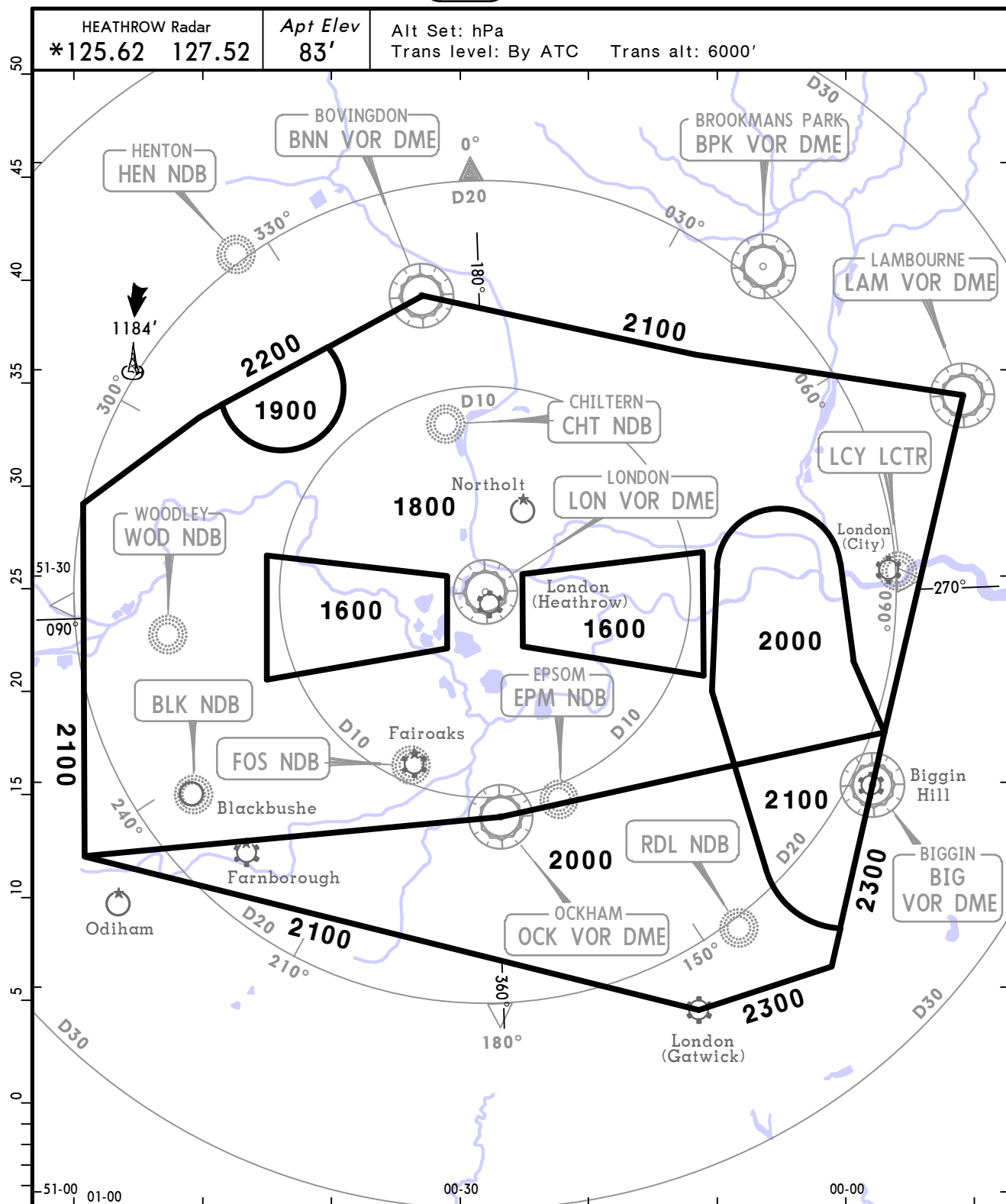
Pilots are advised that there is an increased risk of RWY Incursions when holding at N11 and NB11. Pilots may mistakenly believe that when on reaching the front of the queue, they have been given permission to line up in turn. Pilots are to be extra vigilant as to whether they have received a line-up clearance from ATC and seek confirmation where there is doubt.

Whenever possible, cockpit checks must be completed prior to line up and any checks requiring completion whilst on the RWY should be kept to the minimum required. Pilots should ensure that they are able to commence the take-off roll immediately after take-off clearance is issued.

Pilots not able to comply with these requirements should notify ATC as soon as possible once transferred to HEATHROW Tower.

3.4.2. RWY HOLDING AREAS

In promulgated holding areas, ATC may require ACFT to pass each other. Avoidance of other ACFT is the responsibility of the flight crew involved. If doubt exists as to whether other ACFT can be safely overtaken, ACFT must stop, advise ATC and request alternative instructions.



OUTSIDE THE DESIGNATED RADAR MINIMUM ALTITUDE AREA

The minimum altitude to be allocated by the radar controller will be either the Minimum Sector Altitude or 1000' above any fixed obstacles:

- within 5 NM ❶ of the aircraft and
- within the sector 15 NM ❷ ahead of and within 20° either side of the aircraft's track.

3 NM ❶ or 10 NM ❷ when the aircraft is within 15 NM of the radar antennae.

PROCEDURE	RWY	LOSS OF COMMUNICATION PROCEDURE
INITIAL APPROACH	09L/27R	Continue visually or by means of an appropriate approved final approach aid. If not possible proceed to CHT or last assigned level if higher.
	09R/27L	Continue visually or by means of an appropriate approved final approach aid. If not possible proceed to EPM or last assigned level if higher.
INTERMEDIATE AND FINAL APPROACH	09L/27R	Continue visually or by means of an appropriate approved final approach aid. If not possible follow the Missed Approach Procedure to CHT.
	09R/27L	Continue visually or by means of an appropriate approved final approach aid. If not possible follow the Missed Approach Procedure to EPM.

In all cases where the acft returns to the holding facility the procedures to be adopted are the Approach Radio Failure Procedures on charts 11-5/11-6.

*D-ATIS
113.75 115.1 128.07Apt Elev
83'Alt Set: hPa
Trans level: By ATC Trans alt: 6000'

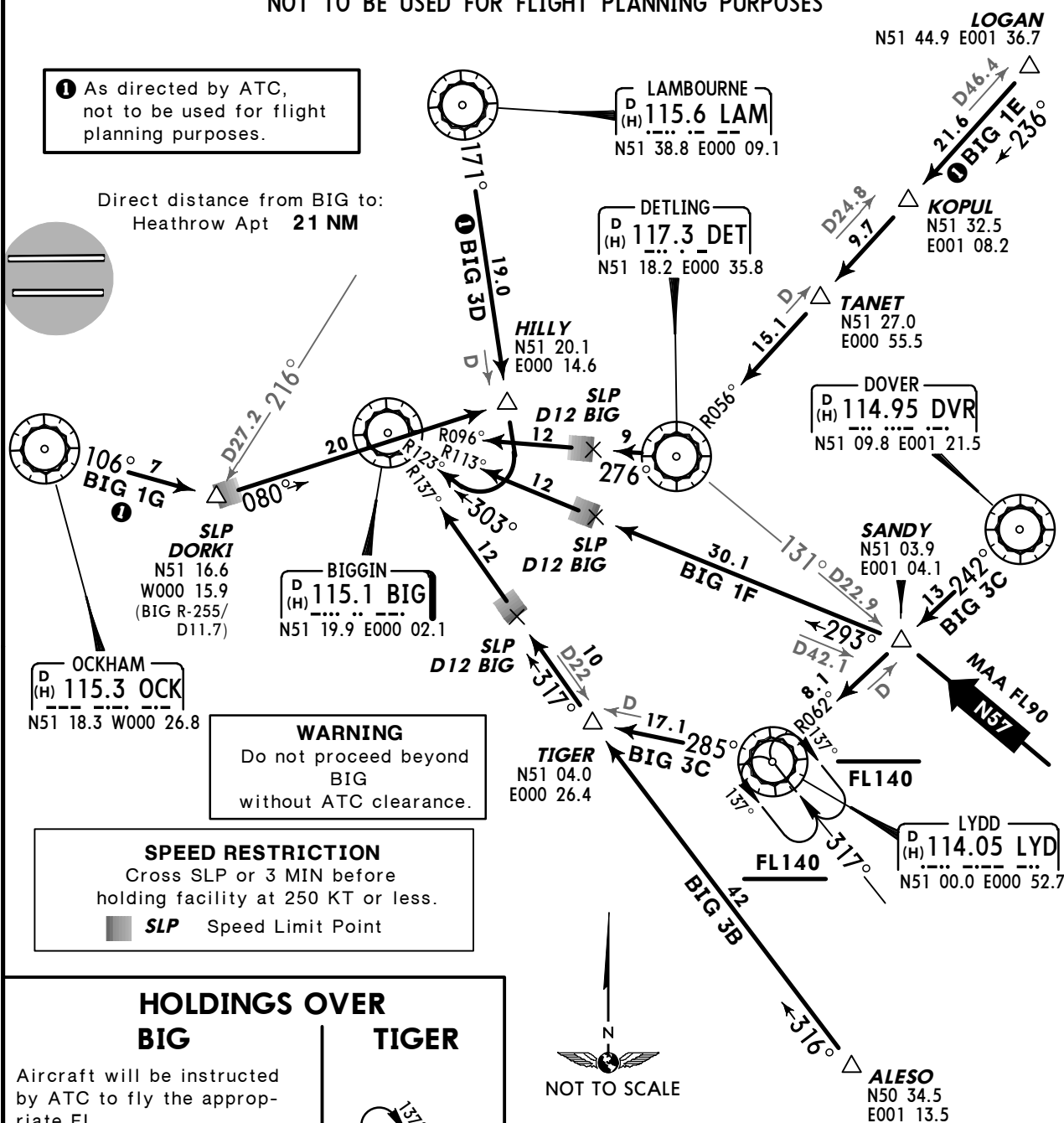
BIGGIN THREE BRAVO (BIG 3B)
BIGGIN THREE CHARLIE (BIG 3C)
BIGGIN THREE DELTA (BIG 3D)①
BIGGIN ONE ECHO (BIG 1E)①
BIGGIN ONE FOXTROT (BIG 1F)
BIGGIN ONE GOLF (BIG 1G)①

ARRIVALS

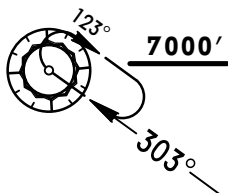
DURING PERIODS OF CONGESTION TRAFFIC MAY BE ROUTED
VIA OCK 1G AS DIRECTED BY ATC
NOT TO BE USED FOR FLIGHT PLANNING PURPOSES

① As directed by ATC,
not to be used for flight
planning purposes.

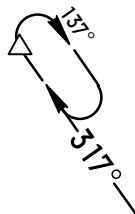
Direct distance from BIG to:
Heathrow Apt 21 NM

HOLDINGS OVER
BIG

Aircraft will be instructed
by ATC to fly the appropriate FL.



TIGER



DESCENT PLANNING

Pilots should plan for possible descent clearance
as follows:

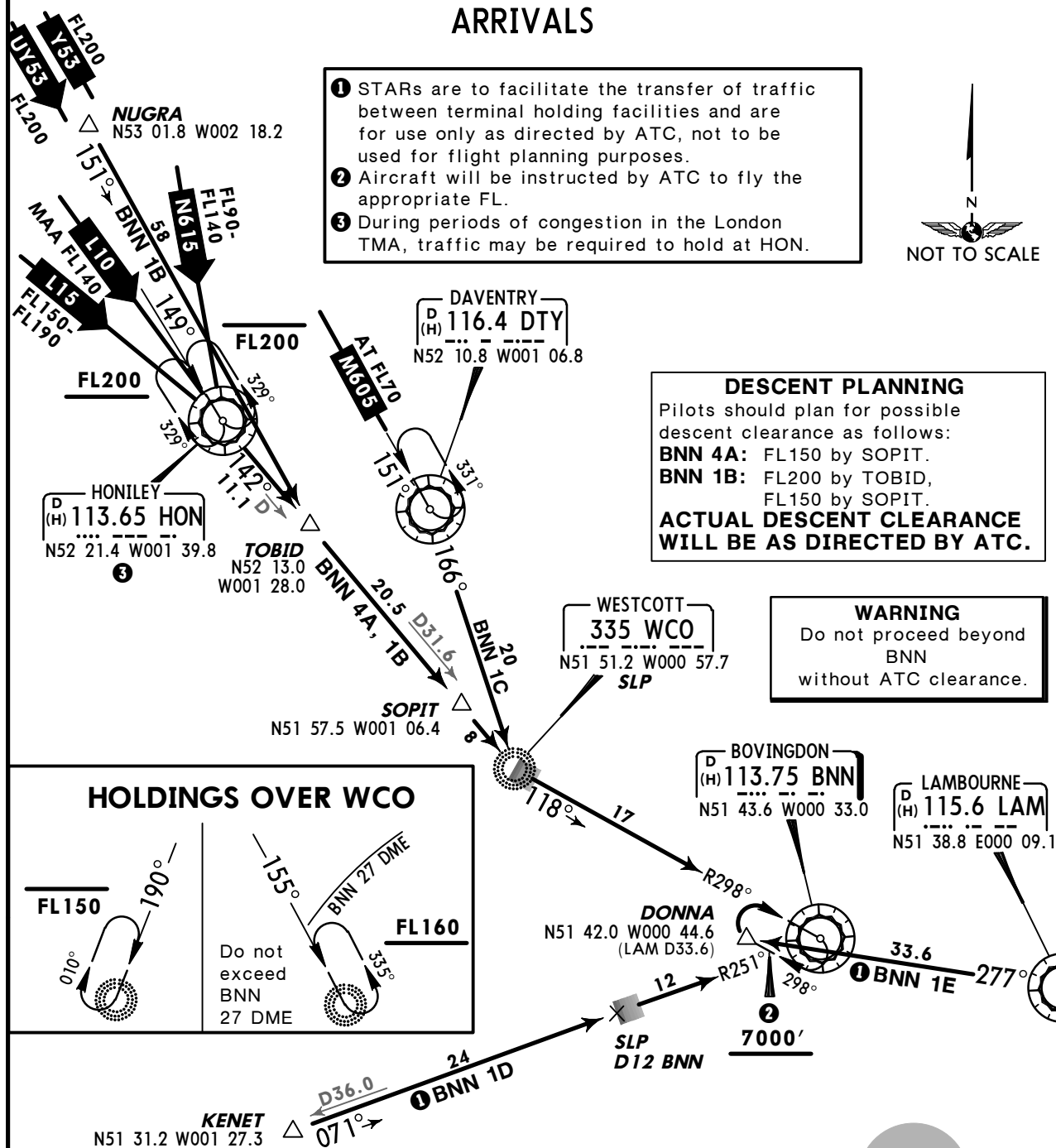
BIG 3B: FL150 by TIGER,
BIG 3C, 3D, 1E, 1F, 1G: As directed by ATC.
**ACTUAL DESCENT CLEARANCE WILL BE AS
DIRECTED BY ATC.**

Alt Set: hPa
Trans level: By ATC Trans alt: 6000'

**ACTUAL DESCENT CLEARANCE WILL BE AS
DIRECTED BY ATC.**

*D-ATIS
113.75 115.1 128.07Apt Elev
83'Alt Set: hPa
Trans level: By ATC Trans alt: 6000'**BNN 4A, BNN 1B, BNN 1C
BNN 1D, BNN 1E**
ARRIVALS

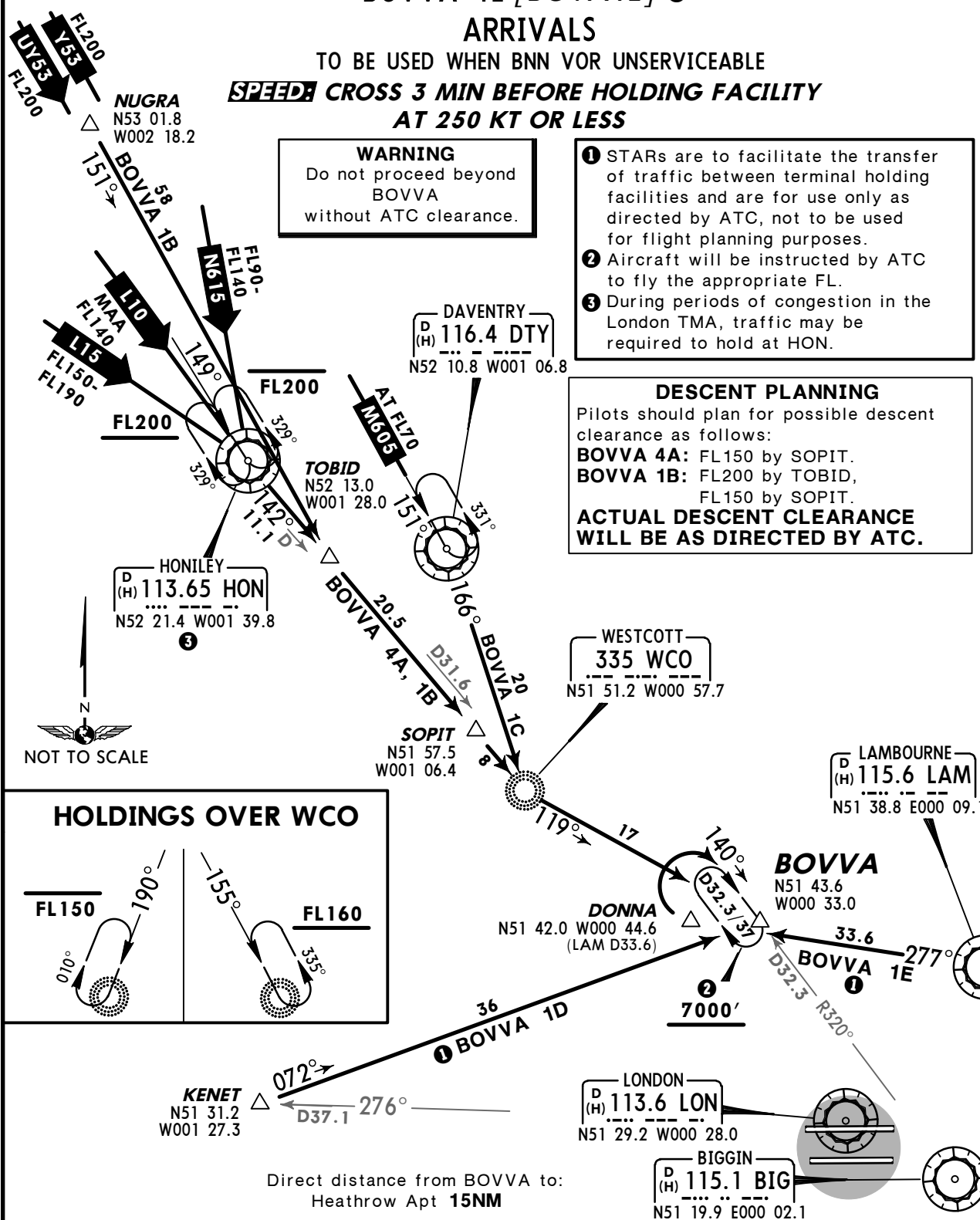
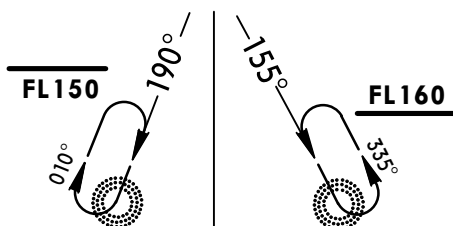
- 1 STARs are to facilitate the transfer of traffic between terminal holding facilities and are for use only as directed by ATC, not to be used for flight planning purposes.
- 2 Aircraft will be instructed by ATC to fly the appropriate FL.
- 3 During periods of congestion in the London TMA, traffic may be required to hold at HON.

**SPEED RESTRICTION**
Cross SLP or 3 MIN before
holding facility at 250 KT or less.
■ SLP Speed Limit PointDirect distance from BNN to:
Heathrow Apt 15NM

STAR	ROUTING
BNN 4A	At HON, intercept HON R-142 via TOBID and SOPIT to WCO, turn LEFT, intercept BNN R-298 inbound to BNN.
BNN 1B	At NUGRA, 151° track to TOBID, turn LEFT, intercept HON R-142 via SOPIT to WCO, turn LEFT, intercept BNN R-298 inbound to BNN.
BNN 1C	At DTY, intercept DTY R-166 to WCO, turn LEFT, intercept BNN R-298 inbound to BNN.
BNN 1D	At KENET, intercept BNN R-251 inbound to BNN.
BNN 1E	At LAM, intercept LAM R-277 to DONNA, turn RIGHT, 118° track on holding track to BNN.

*D-ATIS
113.75 115.1 128.07Apt Elev
83'Alt Set: hPa
Trans level: By ATC Trans alt: 6000'**BOVVA 4A [BOVA4A], BOVVA 1B [BOVA1B]
BOVVA 1C [BOVA1C], BOVVA 1D [BOVA1D] ①
BOVVA 1E [BOVA1E] ①****ARRIVALS**

TO BE USED WHEN BNN VOR UNSERVICEABLE

**SPEED: CROSS 3 MIN BEFORE HOLDING FACILITY
AT 250 KT OR LESS****WARNING**Do not proceed beyond
BOVVA
without ATC clearance.① STARs are to facilitate the transfer
of traffic between terminal holding
facilities and are for use only as
directed by ATC, not to be used
for flight planning purposes.② Aircraft will be instructed by ATC
to fly the appropriate FL.③ During periods of congestion in the
London TMA, traffic may be
required to hold at HON.**DESCENT PLANNING**Pilots should plan for possible descent
clearance as follows:**BOVVA 4A:** FL150 by SOPIT.**BOVVA 1B:** FL200 by TOBID,
FL150 by SOPIT.**ACTUAL DESCENT CLEARANCE
WILL BE AS DIRECTED BY ATC.****HOLDINGS OVER WCO****STAR****ROUTING**

BOVVA 4A	At HON, intercept HON R-142 via TOBID and SOPIT to WCO, turn LEFT, 119° bearing to BOVVA.
BOVVA 1B	At NUGRA, 151° track to TOBID, turn LEFT, intercept HON R-142 via SOPIT to WCO, turn LEFT, 119° bearing to BOVVA.
BOVVA 1C	At DTY, intercept DTY R-166 to WCO, turn LEFT, 119° bearing to BOVVA.
BOVVA 1D	At KENET, 072° track to BOVVA.
BOVVA 1E	At LAM, intercept LAM R-277 to DONNA, turn RIGHT, 140° track on holding track to BOVVA.

113.75 115.1 128.07

*D-ATIS

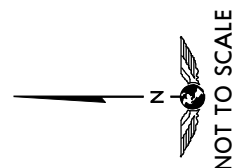
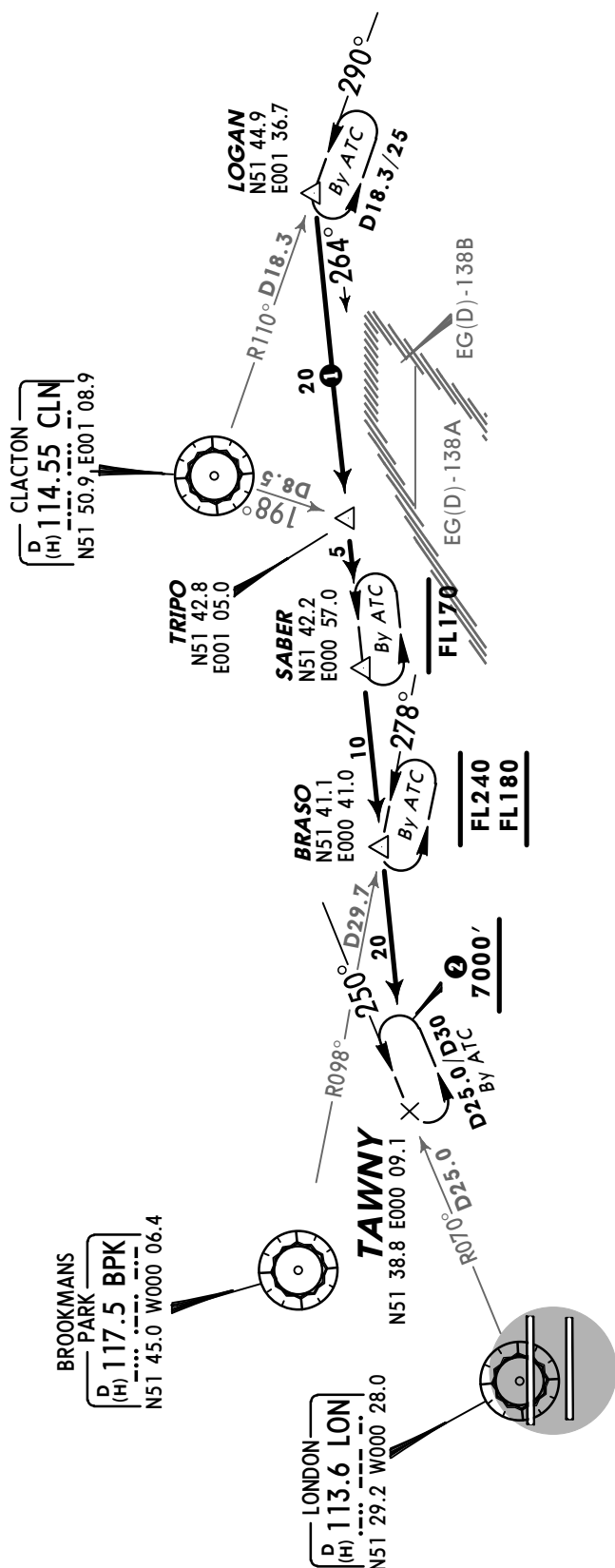
Apt Elev
83'

Alt Set: hPa
Trans level: By ATC Trans alt: 6000'

No MSA
published

TAWNY 3A [TAWN3A] ARRIVAL

TO BE USED WHEN LAM VOR UNSERVICEABLE
DURING PERIODS OF CONGESTION TRAFFIC MAY BE ROUTED VIA
BIG 3D, BIG 1E, BNN 1E & OCK 1H AS DIRECTED BY ATC
NOT TO BE USED FOR FLIGHT PLANNING PURPOSES
CROSS 3 MIN BEFORE HOLDING FACILITY AT 250 KT OR LESS



- 1 Due to proximity of EG(D)-138 do not fly south of track Abeam CLN until BRASO.
- 2 Aircraft will be instructed by ATC to fly the appropriate FL.

DESCENT PLANNING

Pilots should plan for possible descent clearance as follows:

FL250 by LOGAN (Aircraft Flight Planned at or above FL300 and all aircraft via airway UP-7),
FL240 by LOGAN (Aircraft Flight Planned at or below FL290),
FL150 by SABER.

**ACTUAL DESCENT CLEARANCE
WILL BE AS DIRECTED BY ATC.**

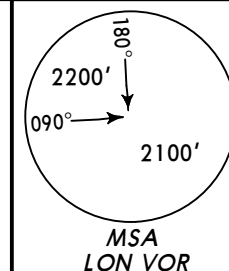
*D-ATIS
113.75 115.1 128.07

Apt Elev
83'

Alt Set: hPa
Trans level: By ATC Trans alt: 6000'

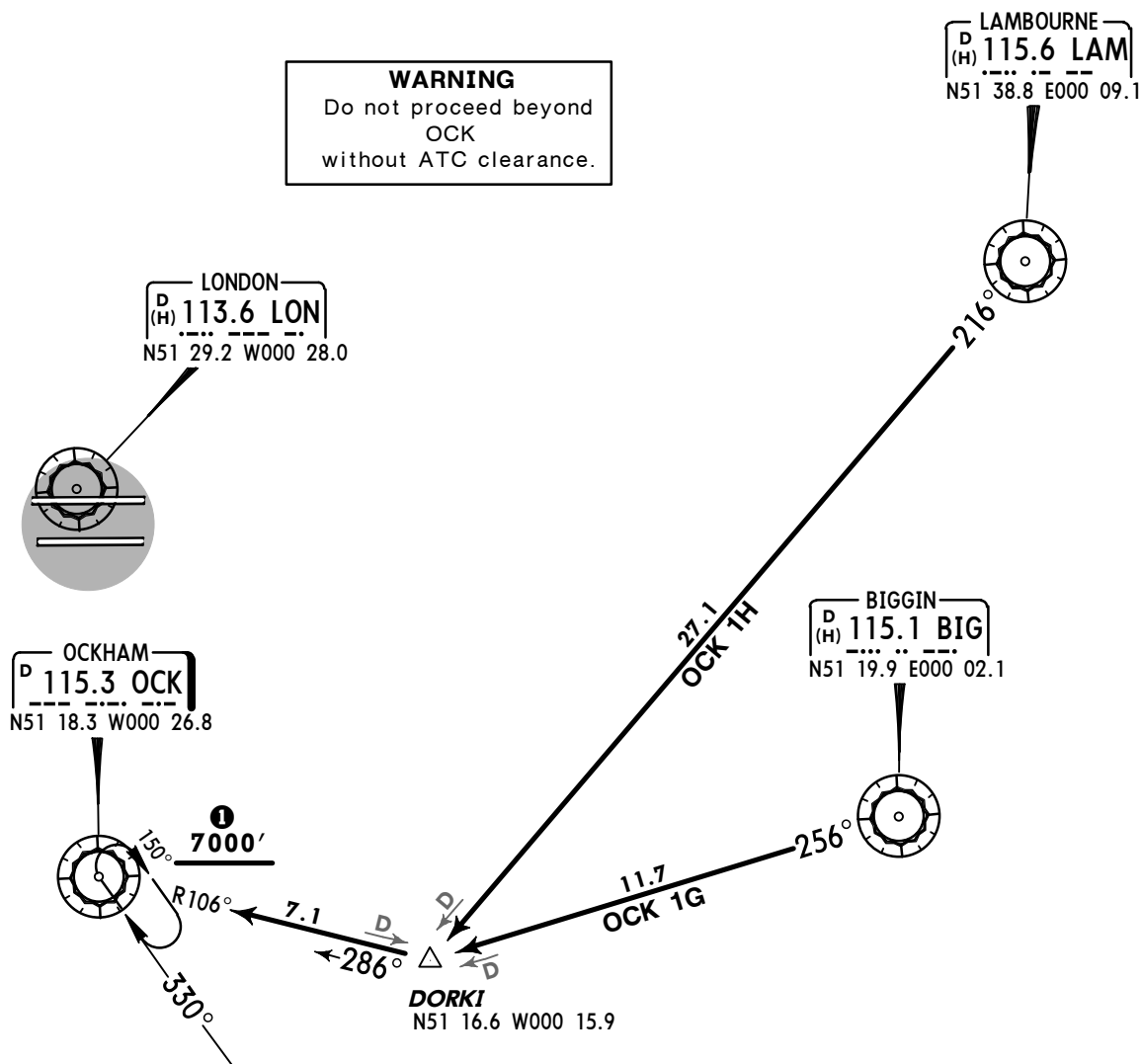
OCK 1G, OCK 1H ARRIVALS

STARS ARE TO FACILITATE THE TRANSFER OF
TRAFFIC BETWEEN TERMINAL HOLDING FACILITIES
AND ARE FOR USE ONLY AS DIRECTED BY ATC
NOT TO BE USED FOR FLIGHT PLANNING PURPOSES
CROSS 3 MIN BEFORE HOLDING FACILITY AT 250 KT OR LESS
DURING PERIODS OF CONGESTION TRAFFIC MAY
BE ROUTED VIA BIG 1G AS DIRECTED BY ATC



WARNING

Do not proceed beyond
OCK
without ATC clearance.



① Aircraft will be instructed by
ATC to fly the appropriate FL.

DESCENT PLANNING

Pilots should plan for possible descent
clearance as follows:

OCK 1G: FL150 by TIGER.

OCK 1H: FL150 by SABER.

**ACTUAL DESCENT CLEARANCE
WILL BE AS DIRECTED BY ATC.**

STAR

ROUTING

OCK 1G

At BIG, intercept BIG R-256 to DORKI, turn RIGHT, intercept OCK R-106 in-bound to OCK.

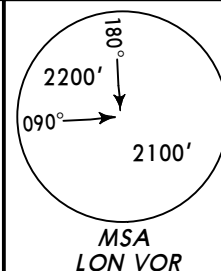
OCK 1H

At LAM, intercept LAM R-216 to DORKI, turn RIGHT, intercept OCK R-106 in-bound to OCK.

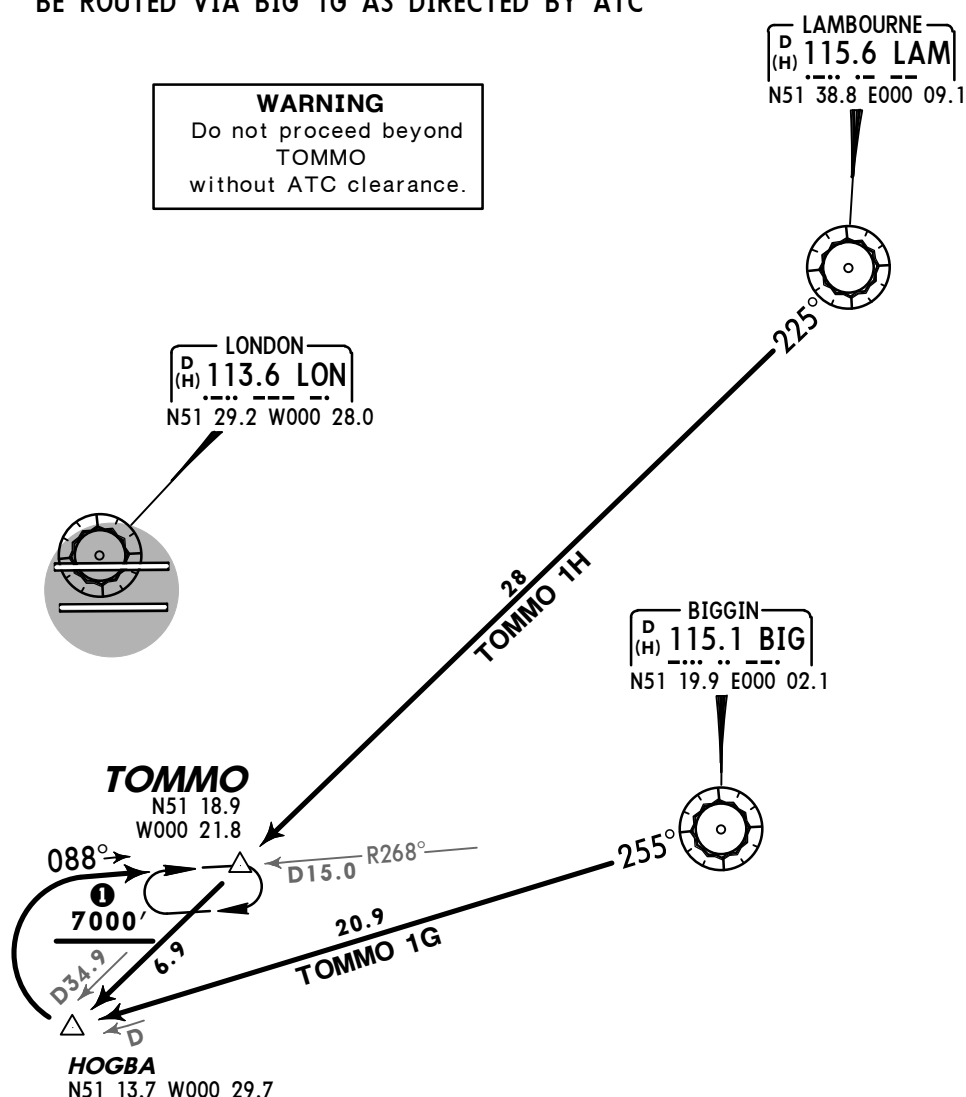
113.75 *D-ATIS 115.1 128.07 Apt Elev 83' Alt Set: hPa Trans level: By ATC Trans alt: 6000'

TOMMO 1G [TOMO1G] TOMMO 1H [TOMO1H] ARRIVALS

TO BE USED WHEN OCK VOR UNSERVICEABLE
STARS ARE TO FACILITATE THE TRANSFER OF
TRAFFIC BETWEEN TERMINAL HOLDING FACILITIES
AND ARE FOR USE ONLY AS DIRECTED BY ATC
NOT TO BE USED FOR FLIGHT PLANNING PURPOSES
CROSS 3 MIN BEFORE HOLDING FACILITY AT 250 KT OR LESS
DURING PERIODS OF CONGESTION TRAFFIC MAY
BE ROUTED VIA BIG 1G AS DIRECTED BY ATC

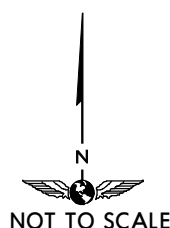


WARNING
Do not proceed beyond
TOMMO
without ATC clearance.

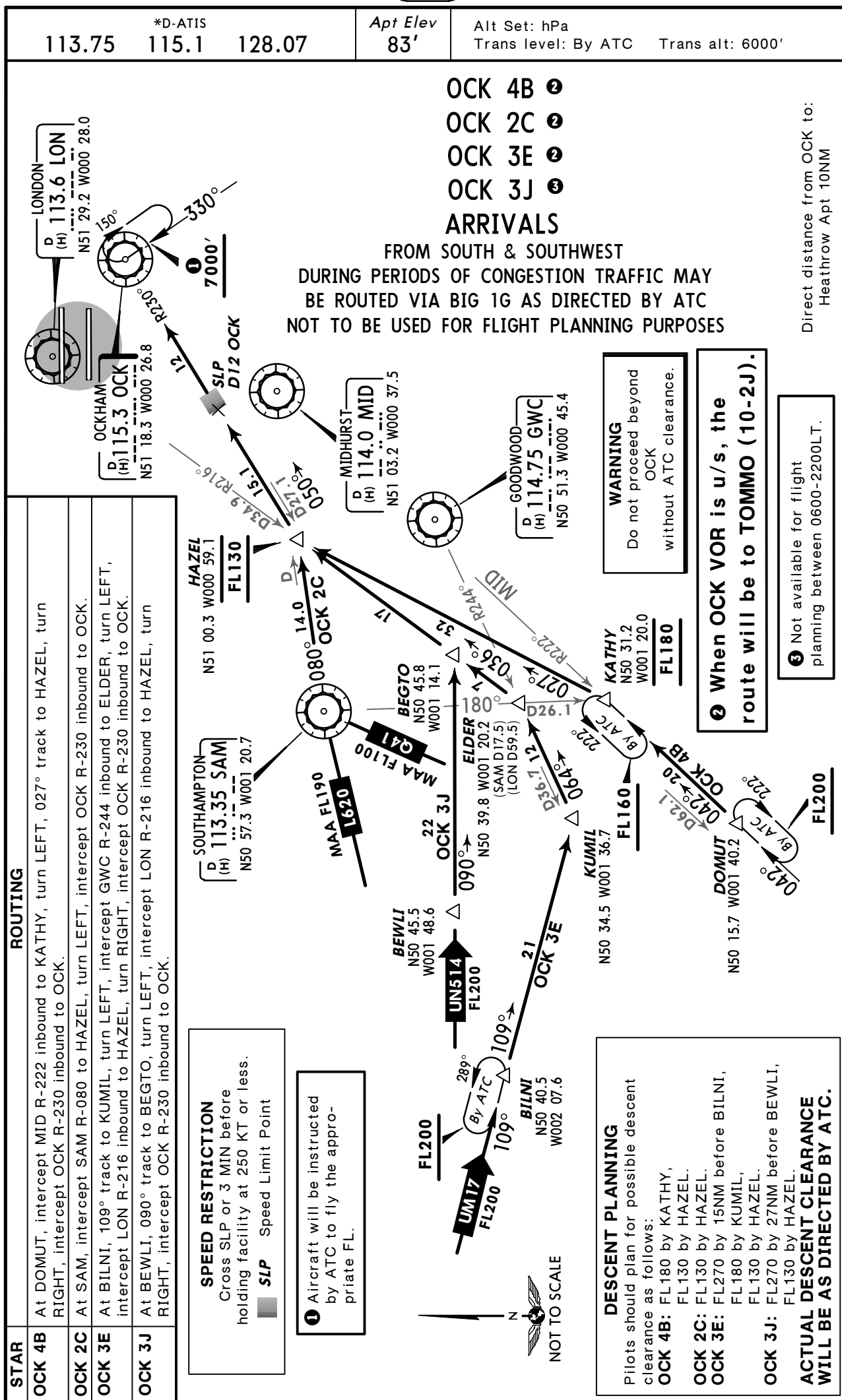


① Aircraft will be instructed by
ATC to fly the appropriate FL.

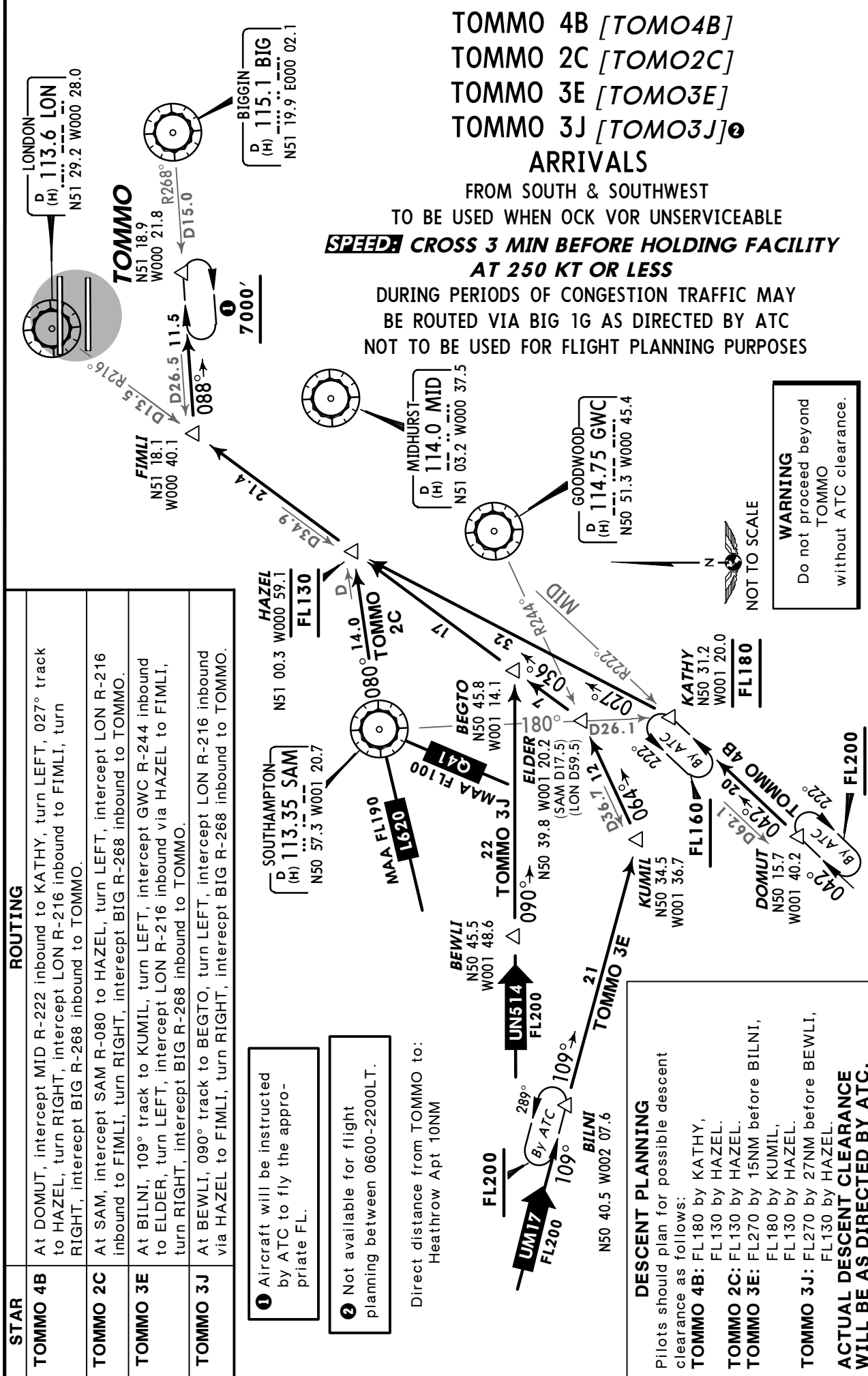
DESCENT PLANNING
Pilots should plan for possible descent
clearance as follows:
TOMMO 1G: FL150 by TIGER.
TOMMO 1H: FL150 by SABER.
**ACTUAL DESCENT CLEARANCE
WILL BE AS DIRECTED BY ATC.**



STAR	ROUTING
TOMMO 1G	At BIG, intercept BIG R-255 to HOGBA, turn RIGHT, 088° track to TOMMO.
TOMMO 1H	AT LAM, intercept LAM R-225 to HOGBA, turn RIGHT, 088° track to TOMMO.



Direct distance from OCK to:
Heathrow Apt 10NM

*D-ATIS
113.75 115.1 128.07Apt Elev
83'Alt Set: hPa
Trans level: By ATC Trans alt: 6000'

*D-ATIS
113.75 115.1 128.07

Apt Elev
83'

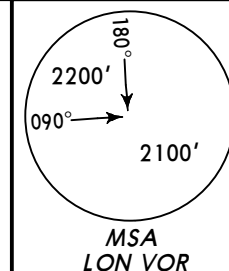
Alt Set: hPa
Trans level: By ATC Trans alt: 6000'

OCK 1A ②
OCK 1D
OCK 2F ②

ARRIVALS

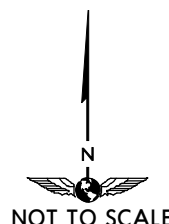
FROM WEST & NORTHWEST

WHEN OCK VOR UNSERVICEABLE REFER TO CHART 10-2L
DURING PERIODS OF CONGESTION TRAFFIC MAY
BE ROUTED VIA BIG 1G AS DIRECTED BY ATC
NOT TO BE USED FOR FLIGHT PLANNING PURPOSES



WARNING

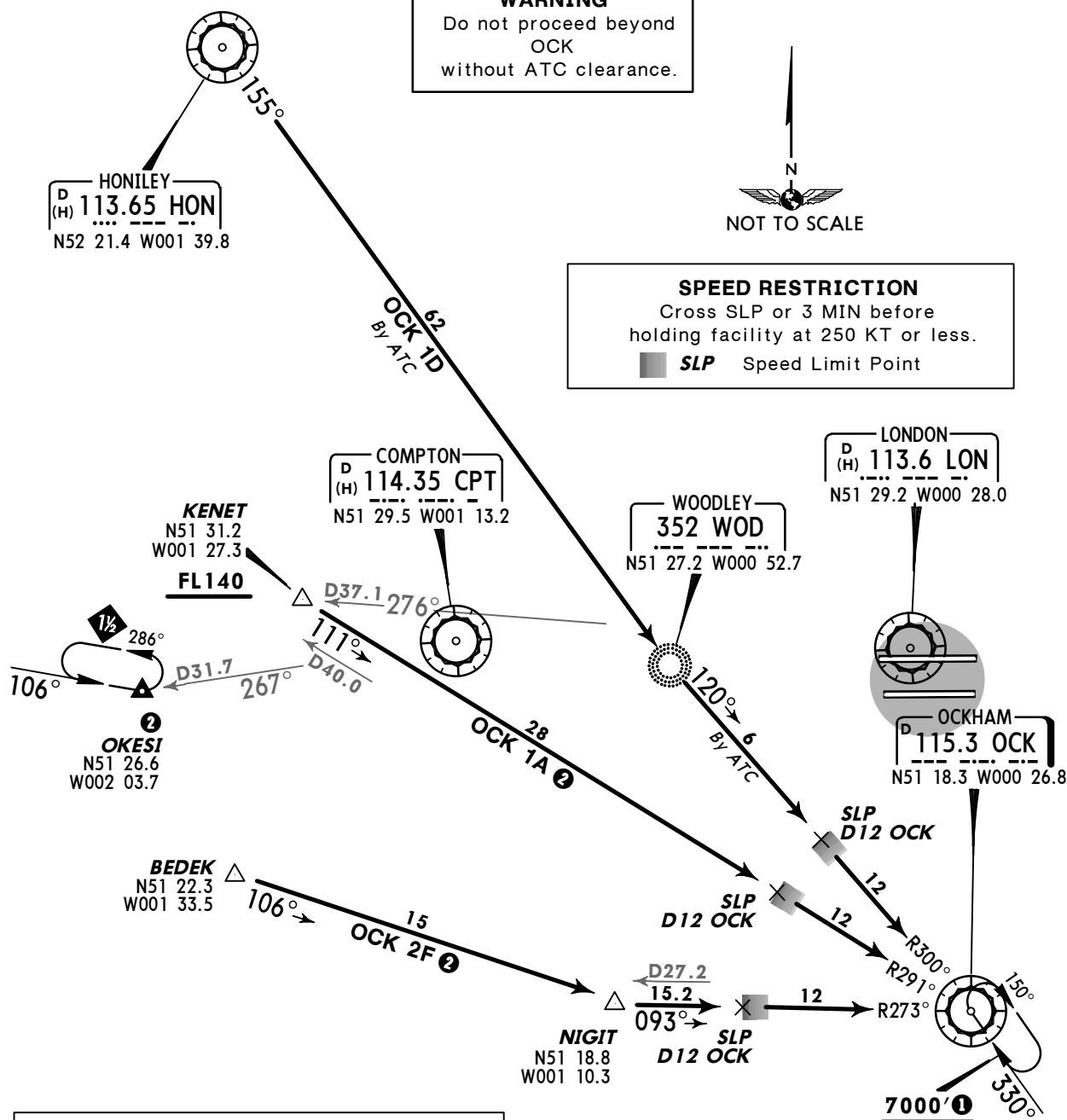
Do not proceed beyond
OCK
without ATC clearance.



SPEED RESTRICTION

Cross SLP or 3 MIN before
holding facility at 250 KT or less.

■ SLP Speed Limit Point



DESCENT PLANNING

Pilots should plan for possible descent
clearance as follows:

OCK 1A: FL140 by 40 NM before OCK.

OCK 1D: As directed by ATC.

OCK 2F: FL140 by BEDEK.

**ACTUAL DESCENT CLEARANCE WILL
BE AS DIRECTED BY ATC.**

① Aircraft will be instructed by ATC to
fly the appropriate FL.

② During periods of congestion in the
London TMA, traffic may be required
to hold at OKESI.

*D-ATIS 113.75	115.1	128.07	Apt Elev 83'	Alt Set: hPa Trans level: By ATC	Trans alt: 6000'
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TOMMO 1A [TOMO1A] ②

TOMMO 1D [TOMO1D]

TOMMO 2F [TOMO2F] ②

ARRIVALS

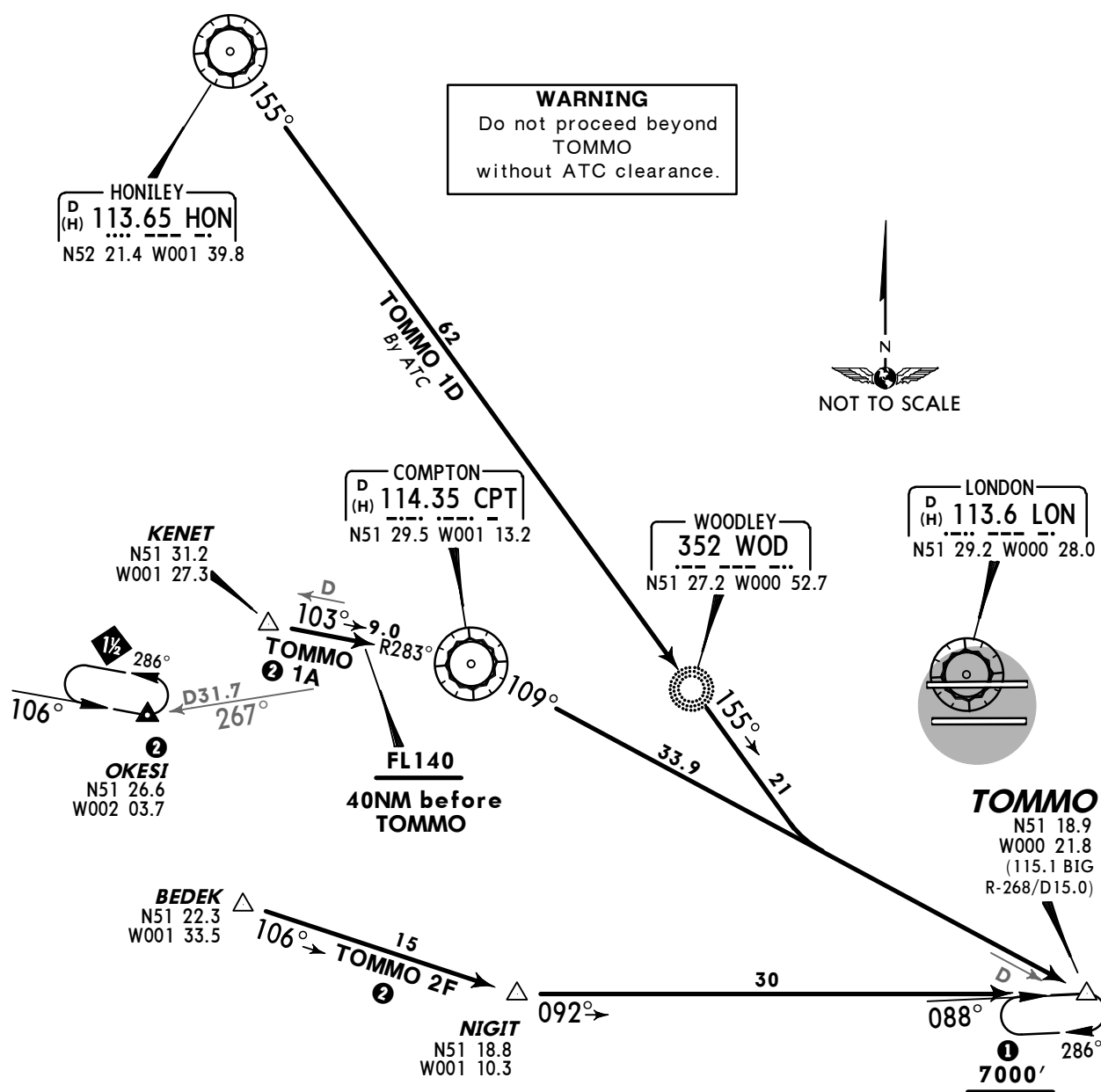
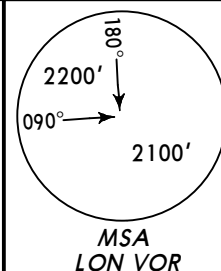
FROM WEST & NORTHWEST

TO BE USED WHEN OCK VOR UNSERVICEABLE

SPEED: CROSS 3 MIN BEFORE HOLDING FACILITY

AT 250 KT OR LESS

DURING PERIODS OF CONGESTION TRAFFIC MAY
BE ROUTED VIA BIG 1G AS DIRECTED BY ATC
NOT TO BE USED FOR FLIGHT PLANNING PURPOSES



DESCENT PLANNING

Pilots should plan for possible descent clearance as follows:

TOMMO 1A: FL140 by 40 NM before TOMMO.

TOMMO 1D: As directed by ATC.

TOMMO 2F: FL140 by BEDEK.

ACTUAL DESCENT CLEARANCE WILL BE AS DIRECTED BY ATC.

① Aircraft will be instructed by ATC to fly the appropriate FL.

② During periods of congestion in the London TMA, traffic may be required to hold at OKESI.

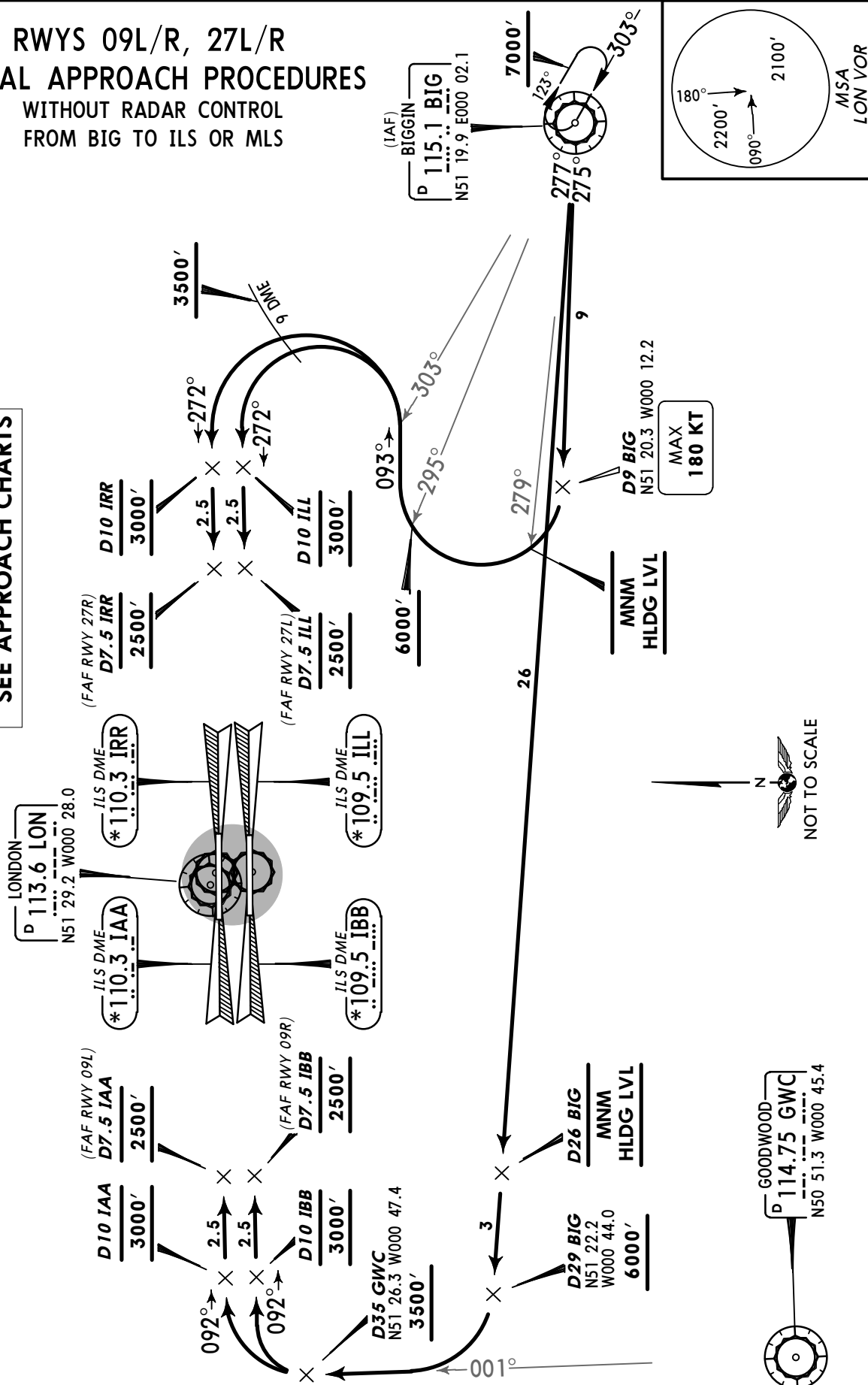
*D-ATIS
113.75
115.1
128.07

Apt Elev
83'

- Alt Set: hPa Trans level: By ATC Trans alt: 6000'
1. Minimum holding level (Flight Level equivalent of 7000') is above TA and will be allocated by ATC.
 2. Initial approach procedures are designed for manoeuvring speeds up to 220 KT and assume acft can maintain a descent gradient of approximately 320' per NM.
 3. Continuous descent approach should be used whenever practicable unless otherwise instructed by ATC. Procedure design is compatible with 3° descent path from 6000'.

RWYS 09L/R, 27L/R INITIAL APPROACH PROCEDURES WITHOUT RADAR CONTROL FROM BIG TO ILS OR MLS

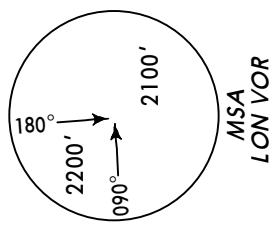
FOR FINAL APPROACH
SEE APPROACH CHARTS



*D-ATIS
113.75
115.1
128.07

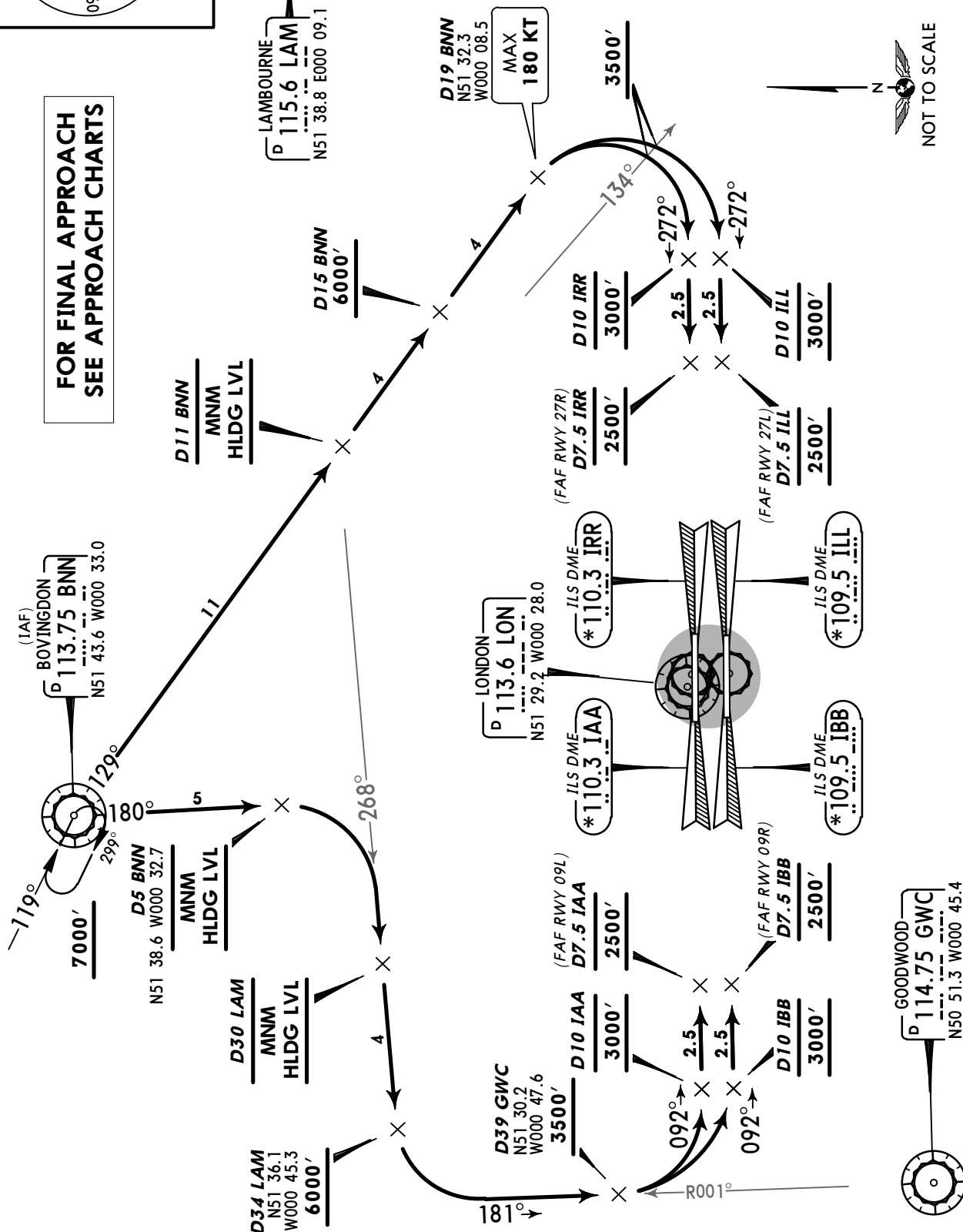
Apt Elev
83'

- Alt Set: hPa Trans level: By ATC Trans alt: 6000'
1. Minimum holding level (Flight Level equivalent of 7000') is above TA and will be allocated by ATC.
 2. Initial approach procedures are designed for manoeuvring speeds up to 220 KT and assume acft can maintain a descent gradient of approximately 320' per NM.
 3. Continuous descent approach should be used whenever practicable unless otherwise instructed by ATC. Procedure design is compatible with 3° descent path from 6000'.



RWYS 09L/R, 27L/R INITIAL APPROACH PROCEDURES WITHOUT RADAR CONTROL FROM BNN TO ILS OR MLS

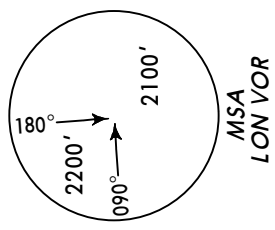
FOR FINAL APPROACH
SEE APPROACH CHARTS



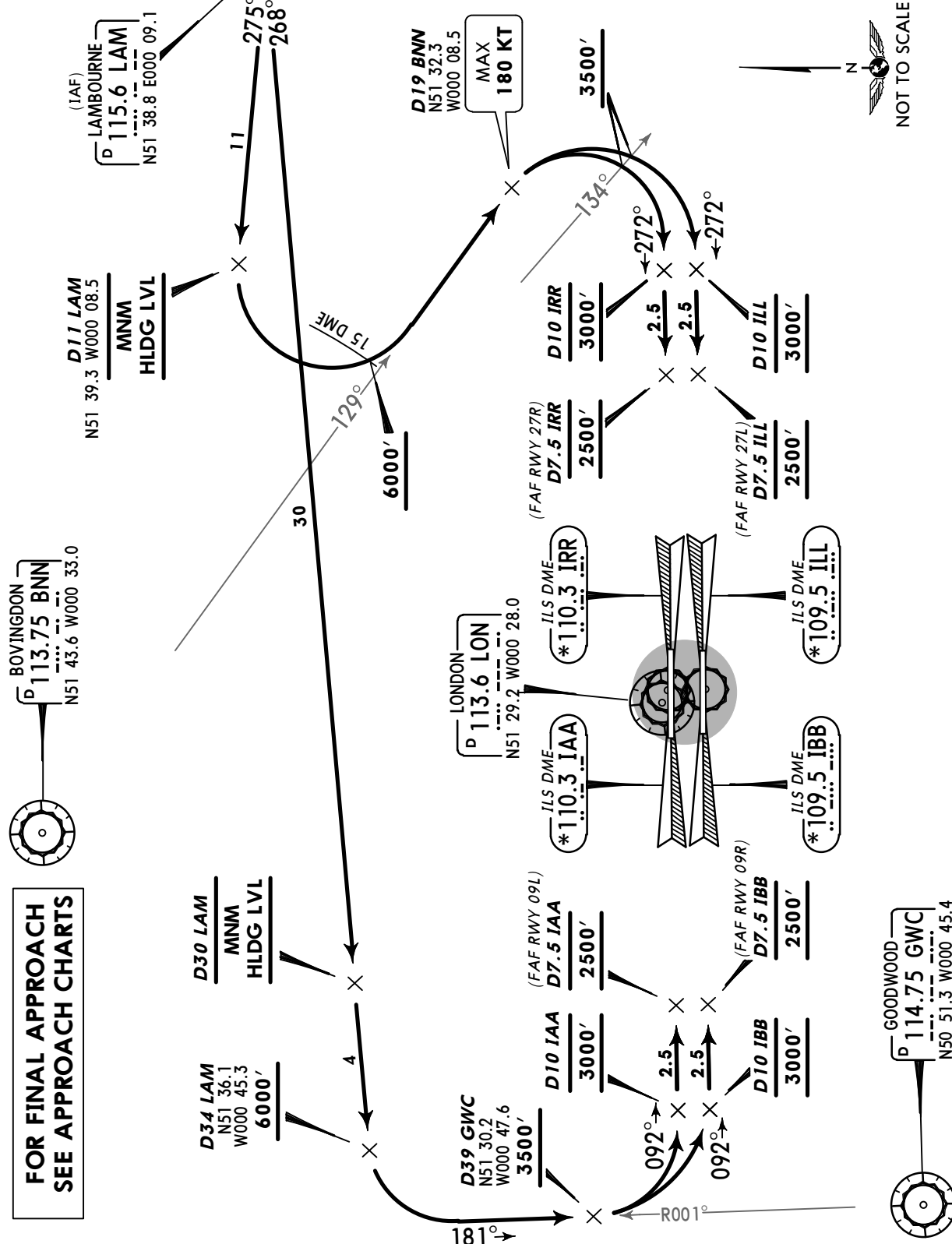
*D-ATIS
113.75
115.1
128.07

Apt Elev
83'

- Alt Set: hPa Trans level: By ATC Trans alt: 6000'
1. Minimum holding level (Flight Level equivalent of 7000') is above TA and will be allocated by ATC.
 2. Initial approach procedures are designed for manoeuvring speeds up to 220 KT and assume acft can maintain a descent gradient of approximately 320' per NM.
 3. Continuous descent approach should be used whenever practicable unless otherwise instructed by ATC. Procedure design is compatible with 3° descent path from 6000'.



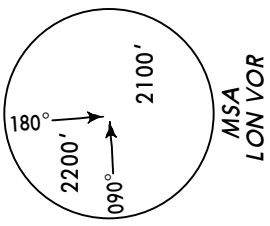
RWYS 09L/R, 27L/R INITIAL APPROACH PROCEDURES WITHOUT RADAR CONTROL FROM LAM TO ILS OR MLS



*D-ATIS
113.75
115.1
128.07

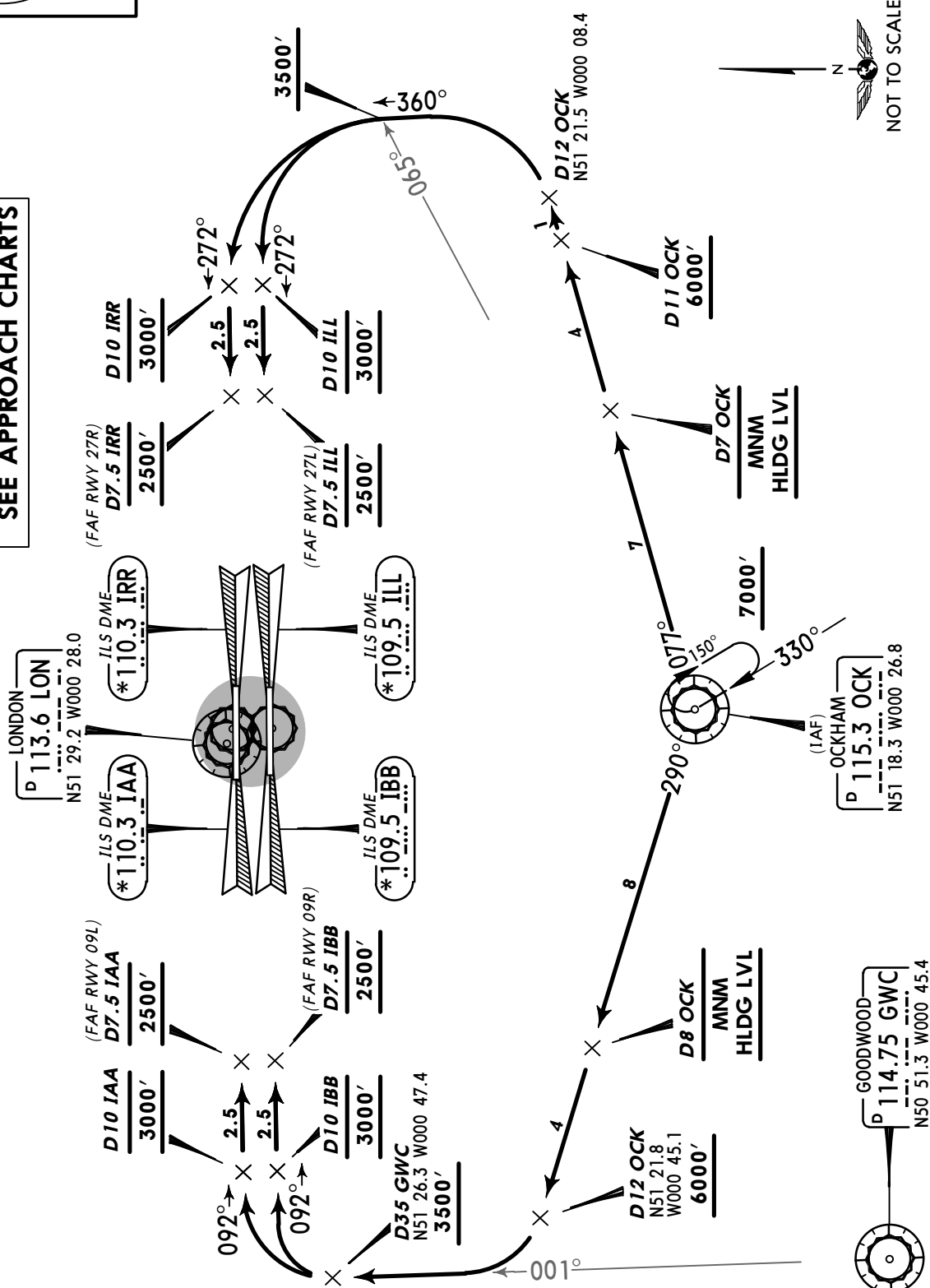
Apt Elev
83'

Alt Set: hPa Trans level: By ATC Trans alt: 6000'
1. Minimum holding level (Flight Level equivalent of 7000') is above TA and will be allocated by ATC.
2. Initial approach procedures are designed for manoeuvring speeds up to 220 KT and assume acft can maintain a descent gradient of approximately 320' per NM.
3. Continuous descent approach should be used whenever practicable unless otherwise instructed by ATC. Procedure design is compatible with 3° descent path from 6000'.



RWYS 09L/R, 27L/R INITIAL APPROACH PROCEDURES WITHOUT RADAR CONTROL FROM OCK TO ILS OR MLS

FOR FINAL APPROACH
SEE APPROACH CHARTS



LONDON Control
118.82Apt Elev
83'

Trans level: By ATC Trans alt: 6000'

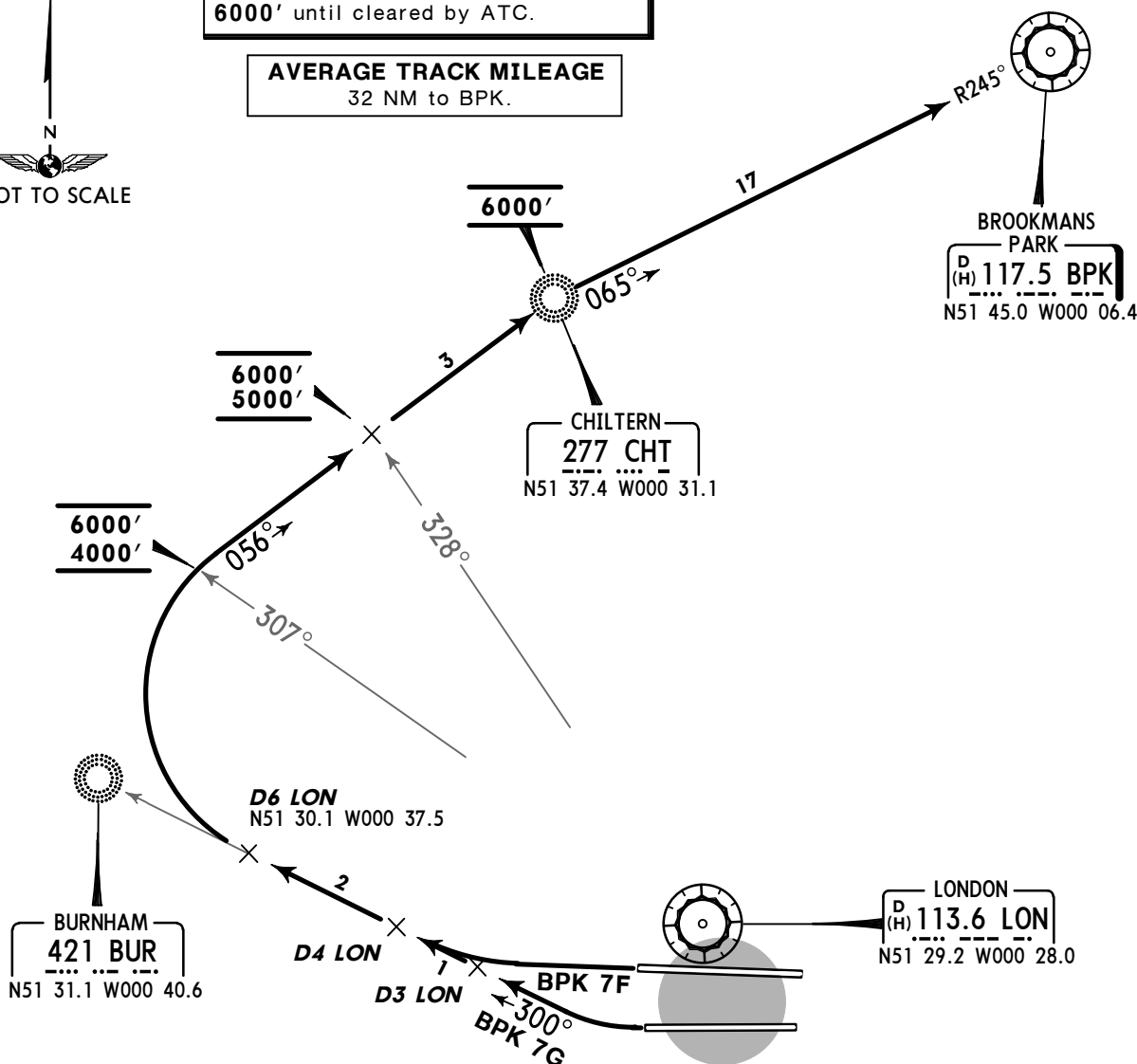
1. When instructed contact LONDON Control.
2. SIDs include noise preferential routes (refer to 10-4).
3. No turns below 590'.
4. Cruising levels will be issued after take-off by LONDON Control.
5. Do not climb above SID levels until instructed by ATC.

BROOKMANS PARK SEVEN FOXTROT (BPK 7F)
BROOKMANS PARK SEVEN GOLF (BPK 7G)
RWYS 27R/L DEPARTURES
~~SPEED~~ MAX 250 KT BELOW FL100
UNLESS OTHERWISE AUTHORISED

No MSA
published

WARNING: Due to interaction with
other routes do not climb above
6000' until cleared by ATC.

AVERAGE TRACK MILEAGE
32 NM to BPK.



Cross appropriate Noise Monitoring Terminal
(refer to chart 10-4) at or above 1090',
thereafter maintain a minimum climb gradient
of
4% up to 4000' for ATM purposes.

Gnd speed-KT	75	100	150	200	250	300
4% V/V (fpm)	304	405	608	810	1013	1215

If unable to comply with SID or climb gradient
inform ATC prior to take-off.

SID	RWY	ROUTING / ALTITUDE
BPK 7F	27R	Climb straight ahead, intercept 300° bearing towards BUR by D4 LON, at D6 LON turn RIGHT, intercept 056° bearing towards CHT, cross LON R-307 at or above 4000' (MAX 6000'), LON R-328 at or above 5000' (MAX 6000'), to CHT at 6000', turn RIGHT, intercept BPK R-245 inbound to BPK.
BPK 7G	27L	Climb straight ahead, intercept 300° bearing towards BUR by D3 LON, at D6 LON turn RIGHT, intercept 056° bearing towards CHT, cross LON R-307 at or above 4000' (MAX 6000'), LON R-328 at or above 5000' (MAX 6000'), to CHT at 6000' turn RIGHT, intercept BPK R-245 inbound to BPK.

LONDON Control
118.82

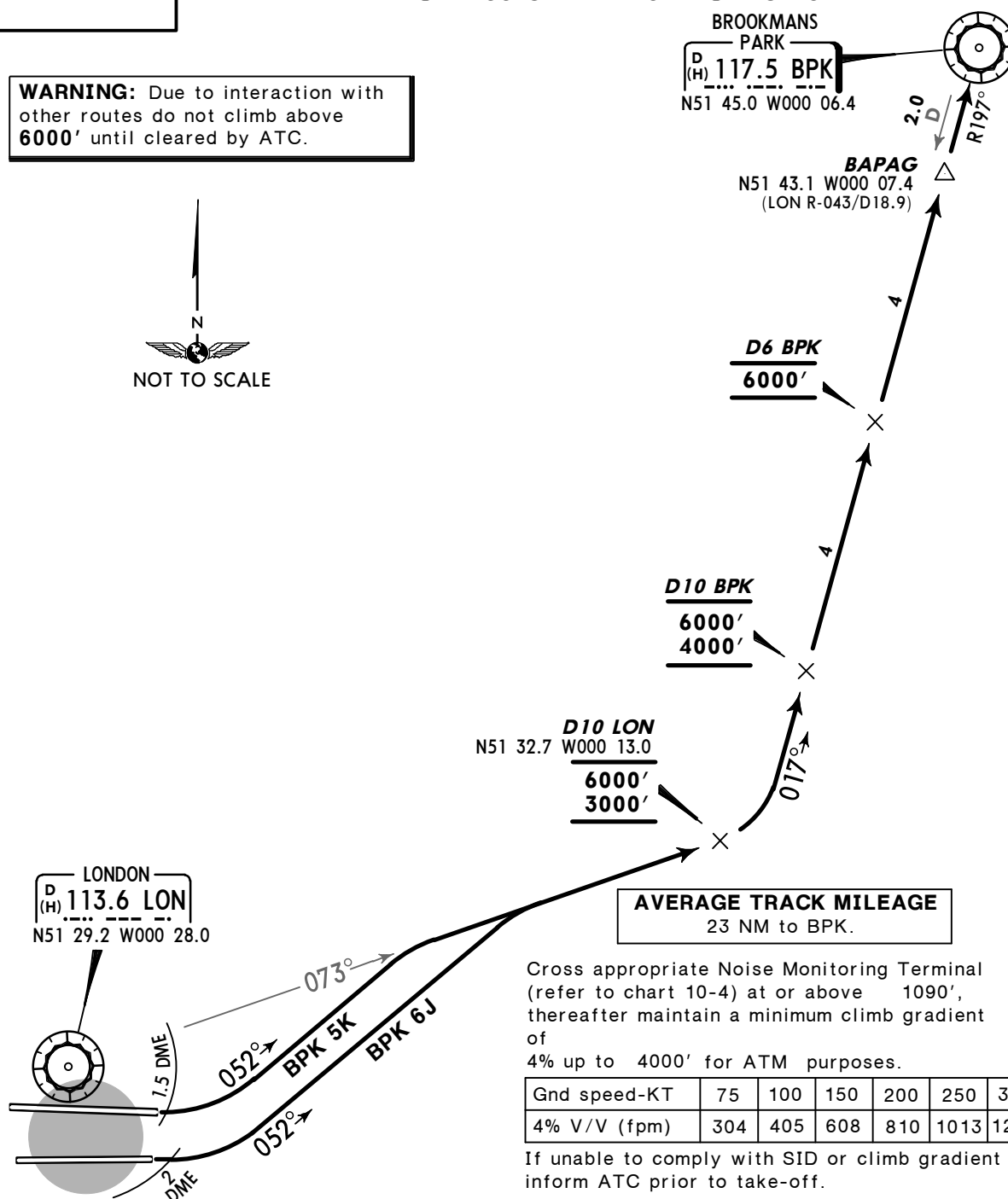
Apt Elev
83'

- Trans level: By ATC Trans alt: 6000'
1. When instructed contact LONDON Control.
 2. SIDs include noise preferential routes (refer to 10-4).
 3. No turns below 590'.
 4. Cruising levels will be issued after take-off by LONDON Control.
 5. Do not climb above SID levels until instructed by ATC.

No MSA
published

BROOKMANS PARK SIX JULIETT (BPK 6J)
BROOKMANS PARK FIVE KILO (BPK 5K)
RWYS 09R/L DEPARTURES
~~SPEED~~ MAX 250 KT BELOW FL100
UNLESS OTHERWISE AUTHORISED

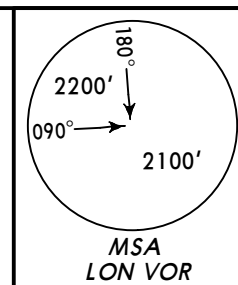
WARNING: Due to interaction with other routes do not climb above 6000' until cleared by ATC.



SID	RWY	ROUTING / ALTITUDE
BPK 6J	09R	Climb straight ahead, at LON 2 DME turn LEFT, 052° track, intercept LON R-073, cross D10 LON at or above 3000' (MAX 6000'), turn LEFT, intercept BPK R-197 inbound, cross D10 BPK at or above 4000' (MAX 6000'), D6 BPK at 6000', via BAPAG to BPK.
BPK 5K	09L	Climb straight ahead, at LON 1.5 DME turn LEFT, 052° track, intercept LON R-073, cross D10 LON at or above 3000' (MAX 6000'), turn LEFT, intercept BPK R-197 inbound, cross D10 BPK at or above 4000' (MAX 6000'), D6 BPK at 6000', via BAPAG to BPK.

LONDON Control 119.77	Apt Elev 83'	Trans level: By ATC Trans alt: 6000' 1. When instructed contact LONDON Control. 2. SIDs include noise preferential routes (refer to 10-4). 3. No turns below 590'. 4. Cruising levels will be issued after take-off by LONDON Control. 5. Do not climb above SID levels until instructed by ATC.
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**BUZAD FOUR JULIETT (BUZAD 4J) [BUZA4J]
BUZAD THREE KILO (BUZAD 3K) [BUZA3K]
RWYS 09R/L DEPARTURES
SPEED MAX 250 KT BELOW FL100
UNLESS OTHERWISE AUTHORISED**



WARNING: Due to interaction with other routes do not climb above 6000' until cleared by ATC.

DTY
126°
116.4 D25.2
BUZAD
N51 56.5
W000 33.1

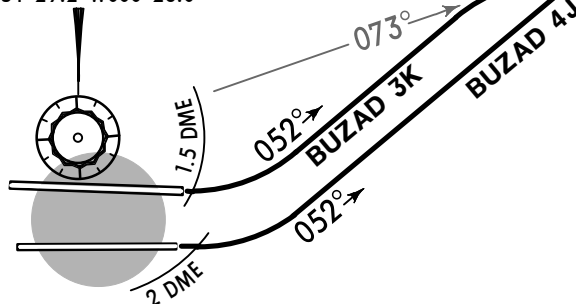
AVERAGE TRACK MILEAGE
38 NM to BUZAD.

Cross appropriate Noise Monitoring Terminal (refer to chart 10-4) at or above 1090', thereafter maintain a minimum climb gradient of 4% up to 4000' for ATM purposes.

Gnd speed-KT	75	100	150	200	250	300
4% V/V (fpm)	304	405	608	810	1013	1215

If unable to comply with SID or climb gradient inform ATC prior to take-off.

LONDON
D(H) 113.6 LON
N51 29.2 W000 28.0



D10 LON
N51 32.7 W000 13.0
6000'
3000'

D23 BIG
6000'

D20 BIG
6000'
5000'



SID	RWY	ROUTING / ALTITUDE
BUZAD 4J	09R	Climb straight ahead, at LON 2 DME turn LEFT, 052° track, intercept LON R-073, cross D10 LON at or above 3000' (MAX 6000'), turn LEFT, intercept BIG R-331, cross D20 BIG at or above 5000' (MAX 6000'), D23 BIG at 6000', to BUZAD.
BUZAD 3K	09L	Climb straight ahead, at LON 1.5 DME turn LEFT, 052° track, intercept LON R-073, cross D10 LON at or above 3000' (MAX 6000'), turn LEFT, intercept BIG R-331, cross D20 BIG at or above 5000' (MAX 6000'), D23 BIG at 6000', to BUZAD.

LONDON Control
134.12

Apt Elev
83'

- Trans level: By ATC Trans alt: 6000'
1. When instructed contact LONDON Control.
 2. SIDs include noise preferential routes (refer to 10-4).
 3. No turns below 590'.
 4. Cruising levels will be issued after take-off by LONDON Control.
 5. Do not climb above SID levels until instructed by ATC.

COMPTON THREE FOXTROT (CPT 3F)
COMPTON THREE GOLF (CPT 3G)
RWYS 27R/L DEPARTURES
***SPEEDS* MAX 250 KT BELOW FL100**
UNLESS OTHERWISE AUTHORISED

WARNING: Due to interaction with other routes do not climb above 6000' until cleared by ATC.

ROUTING / ALTITUDE

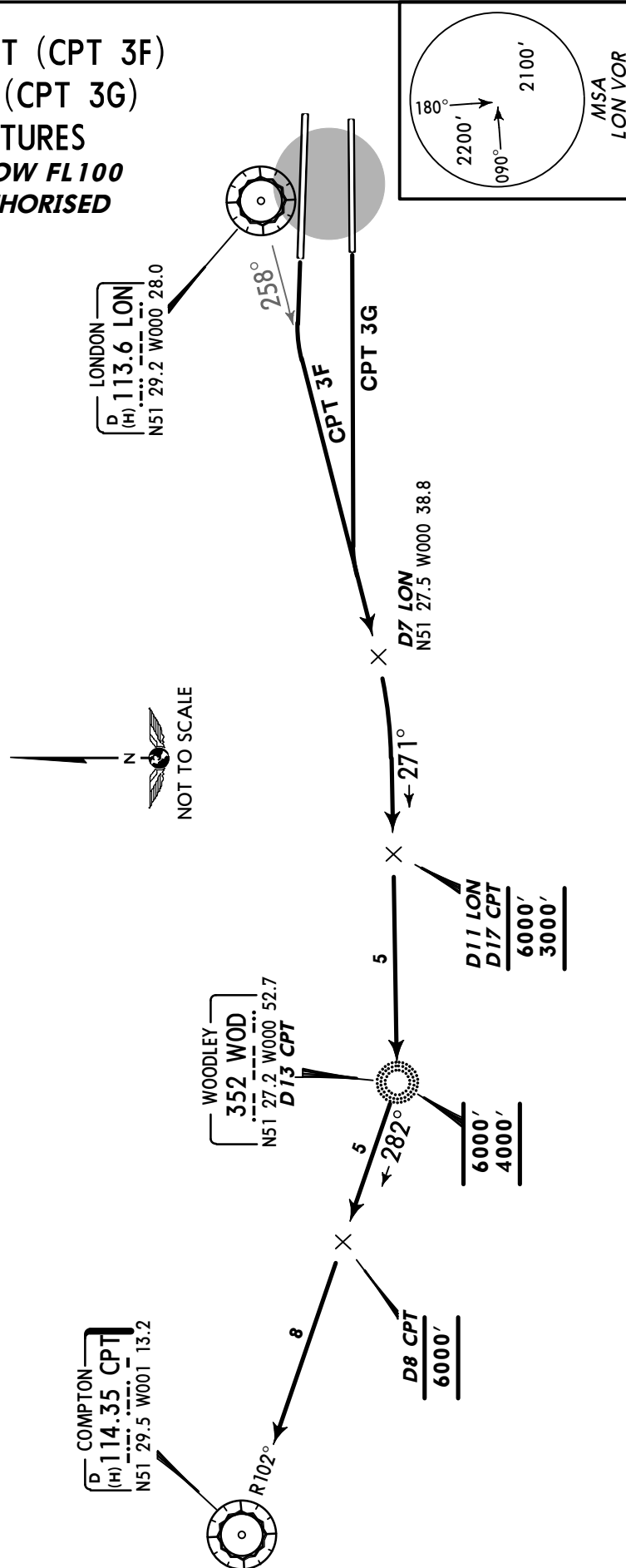
Straight ahead, intercept LON R-258 to D7 LON, turn RIGHT, intercept 271° bearing towards WOD (D13 CPT), cross D11 LON (D17 CPT) above 3000' (MAX 6000'), cross WOD (D13 CPT) above 4000' (MAX 6000'), then to CPT, cross D8 CPT at 6000'.

Cross appropriate Noise Monitoring Terminal (refer to chart 10-4) at or above 1090', thereafter maintain a minimum climb gradient of 4% up to 4000'.
These SIDs require a minimum climb gradient of 5% until D8 CPT due to ATC and airspace purposes.

Gnd speed-KT	75	100	150	200	250	300
5% V/V (fpm)	380	506	760	1013	1266	1519
4% V/V (fpm)	304	405	608	810	1013	1215

If unable to comply with SID or climb gradient inform ATC prior to take-off.

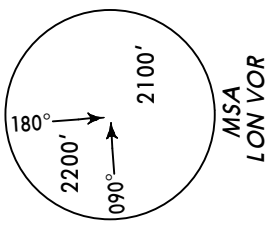
AVERAGE TRACK MILEAGE
15 NM to WOD.



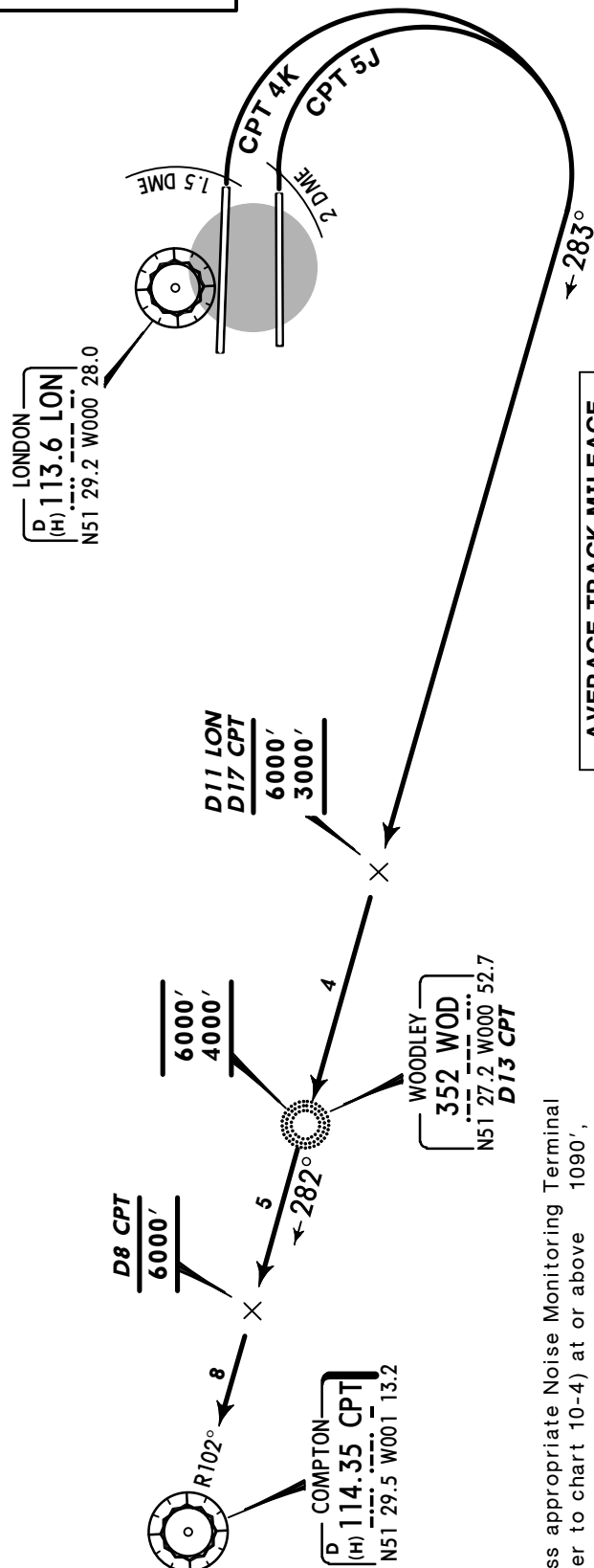
*HEATHROW
Director
134.97

Apt Elev
83'

- Trans level: By ATC Trans alt: 6000'
1. When instructed contact HEATHROW Director.
 2. SIDs include noise preferential routes (refer to 10-4).
 3. No turns below 590'.
 4. Cruising levels will be issued after take-off by HEATHROW Director.
 5. Do not climb above SID levels until instructed by ATC.

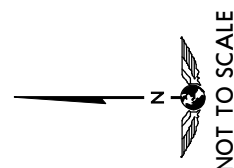


COMPTON FIVE JULIETT (CPT 5J)
COMPTON FOUR KILO (CPT 4K)
RWYS 09R/L DEPARTURES
~~SPEED~~ MAX 250 KT
BELOW FL100 UNLESS
OTHERWISE AUTHORISED



VERAGE TRACK MILEAGE
CPT 5J: 21 NM to WOD.
CPT 4K: 22 NM to WOD.

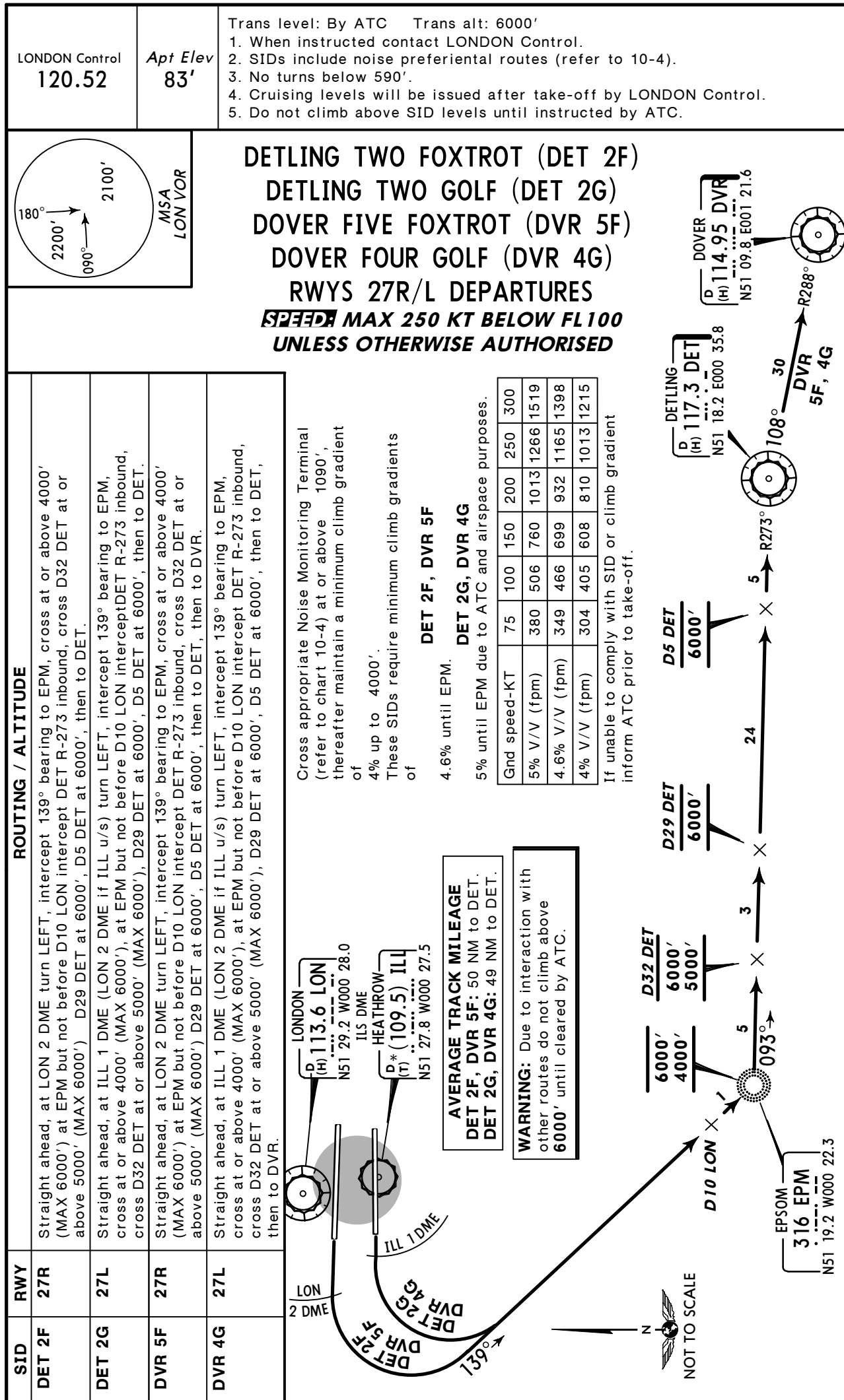
WARNING: Due to interaction with other routes do not climb above 6000' until cleared by ATC.



Gnd speed-KT	75	100	150	200	250	300
4% V/V (fpm)	304	405	608	810	1013	1215
3.5% V/V (fpm)	266	354	532	709	886	1063

If unable to comply with SID or climb gradient inform ATC prior to take-off.

SID	RWY	ROUTING / ALTITUDE
CPT 5J	09R	Straight ahead, at LON 2 DME turn RIGHT, intercept 283° bearing towards WOD, cross D11 LON (D17 CPT) above 3000' (MAX 6000'), WOD (D13 CPT) above 4000' (MAX 6000'), then to CPT, cross D8 CPT at 6000'.
CPT 4K	09L	Straight ahead, at LON 1.5 DME turn RIGHT, intercept 283° bearing towards WOD, cross D11 LON (D17 CPT) above 3000' (MAX 6000'), WOD (D13 CPT) above 4000' (MAX 6000'), then to CPT, cross D8 CPT at 6000'.



LONDON Control
120.52

Apt Elev
83'

Trans level: By ATC Trans alt: 6000'

1. When instructed contact LONDON Control.
2. SIDs include noise preferential routes (refer to 10-4).
3. No turns below 590'.
4. Cruising levels will be issued after take-off by LONDON Control.
5. Do not climb above SID levels until instructed by ATC.

**DETLING ONE JULIETT (DET 1J)
DETLING ONE KILO (DET 1K)
DOVER SIX JULIETT (DVR 6J)
DOVER SIX KILO (DVR 6K)
RWYS 09R/L DEPARTURES**
~~SPEED~~ MAX 250 KT BELOW FL100
UNLESS OTHERWISE AUTHORISED

ROUTING / ALTITUDE

SID	RWY	ROUTING / ALTITUDE
DET 1J	09R	Straight ahead, at LON 2 DME turn RIGHT, 123° track, at LON 4 DME turn LEFT, intercept DET R-285 inbound by D34 DET, cross D29 DET at or above 3000' (MAX 6000'), D20 DET at or above 5000' (MAX 6000'), D16 DET at 6000', D5 DET at 6000', then to DET.
DET 1K	09L	Straight ahead, at LON 1.5 DME turn RIGHT, 123° track, at LON 4 DME turn LEFT, intercept DET R-285 inbound by D34 DET, cross D29 DET at or above 3000' (MAX 6000'), D20 DET at or above 5000' (MAX 6000'), D16 DET at 6000', D5 DET at 6000', then to DET.
DVR 6J	09R	Straight ahead, at LON 2 DME turn RIGHT, 123° track, at LON 4 DME turn LEFT, intercept DET R-285 inbound by D34 DET, cross D29 DET at or above 3000' (MAX 6000'), D20 DET at or above 5000' (MAX 6000'), D16 DET at 6000', D5 DET at 6000', then to DVR.
DVR 6K	09L	Straight ahead, at LON 1.5 DME turn RIGHT, 123° track, at LON 4 DME turn LEFT, intercept DET R-285 inbound by D34 DET, cross D29 DET at or above 3000' (MAX 6000'), D20 DET at or above 5000' (MAX 6000'), D16 DET at 6000', D5 DET at 6000', then to DVR.

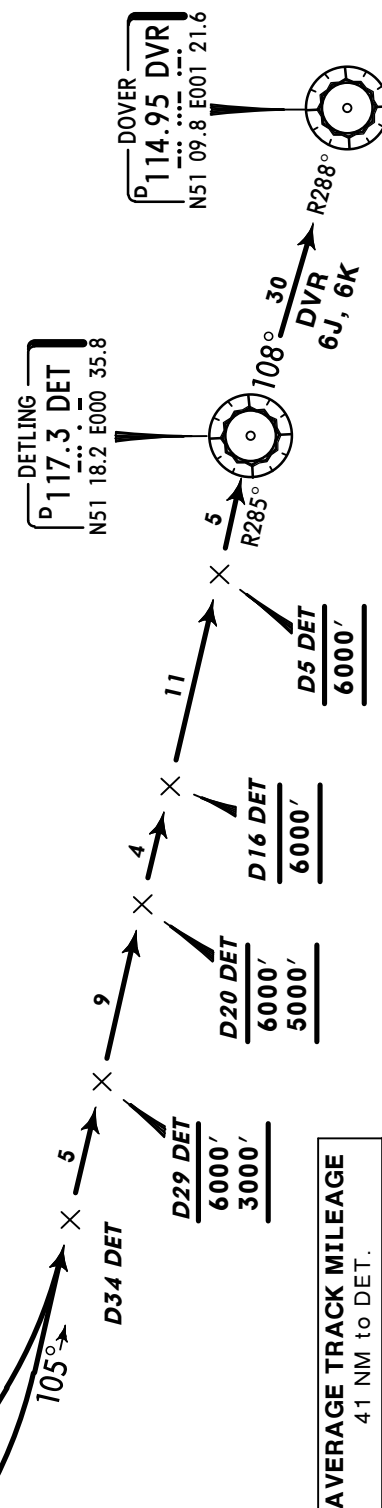
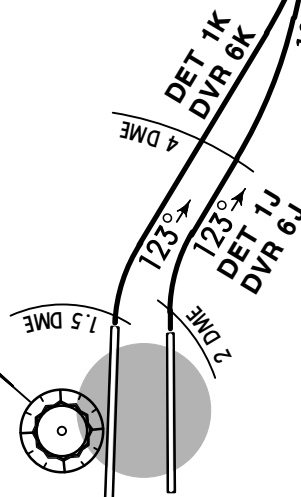
Cross appropriate Noise Monitoring Terminal (refer to chart 10-4) at or above **1090'**, thereafter maintain a minimum climb gradient of 243' per NM (4%) up to **4000'**.

Gnd speed-KT	75	100	150	200	250	300
243' per NM	304	405	608	810	1013	1215

If unable to comply with SID or climb gradient inform ATC prior to take-off.

WARNING: Due to interaction with other routes do not climb above **6000'** until cleared by ATC.

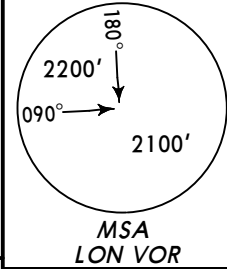
LONDON
D 113.6 LON
N51 29.2 W000 28.0



LONDON
Control
126.82

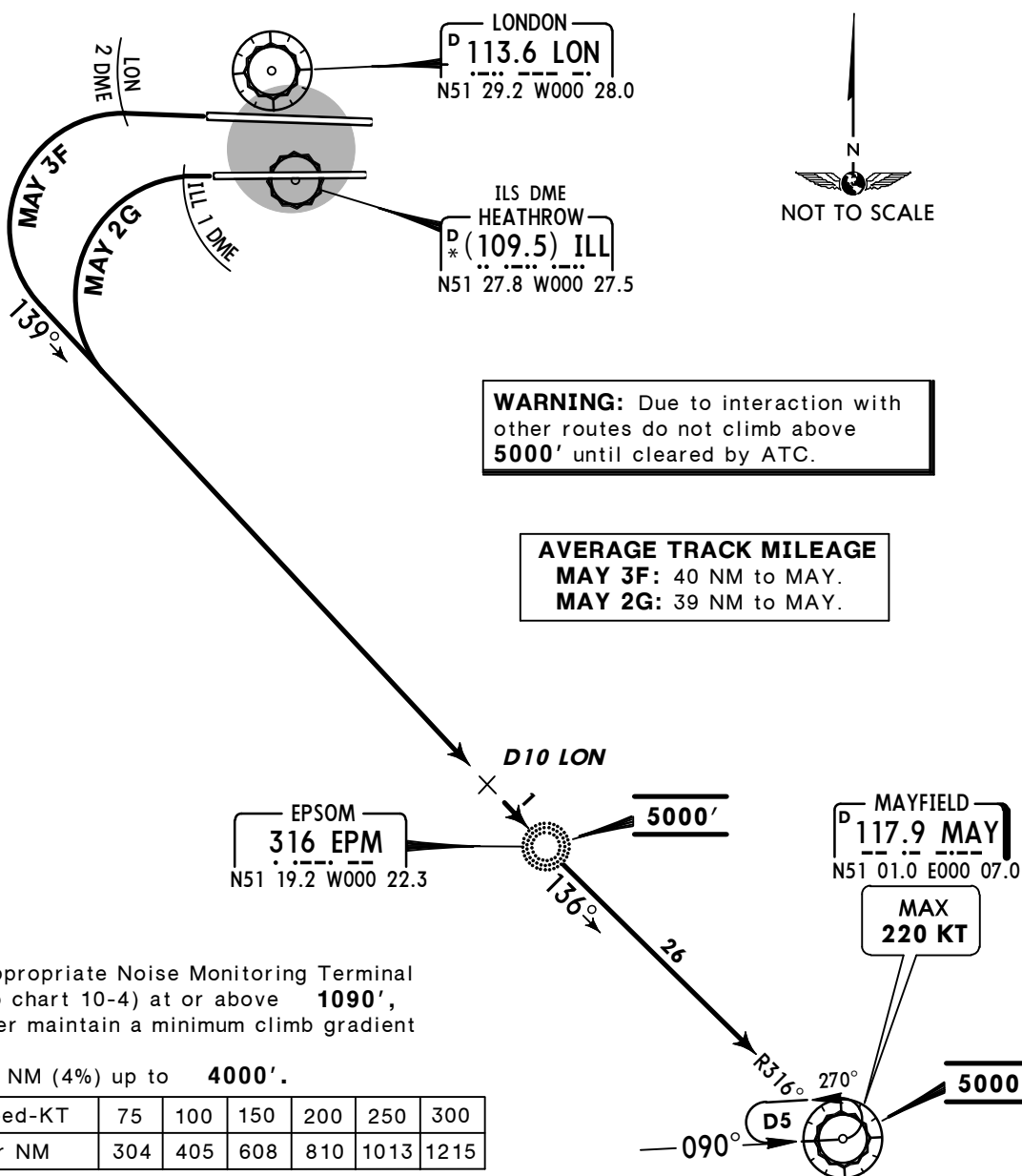
Apt Elev
83'

Trans level: By ATC Trans alt: 6000'
1. When instructed contact LONDON Control.
2. SIDs include noise preferential routes (refer to 10-4).
3. No turns below 590'.
4. Cruising levels will be issued after take-off by LONDON Control.
5. Do not climb above SID levels until instructed by ATC.
6. Aircraft VOR or DME failure advise ATC and comply with ATC instructions.



MAYFIELD THREE FOXTROT (MAY 3F)
MAYFIELD TWO GOLF (MAY 2G)
RWYS 27R/L DEPARTURES
TO EGKK ONLY

~~SPEED~~ MAX 250 KT BELOW FL100
UNLESS OTHERWISE AUTHORISED



SID	RWY	ROUTING / ALTITUDE
MAY 3F	27R	Straight ahead, at LON 2 DME turn LEFT, intercept 139° bearing to EPM, cross at 5000', at EPM but not before D10 LON intercept MAY R-316 inbound to MAY at 5000'.
MAY 2G	27L	Straight ahead, at ILL 1 DME (LON 2 DME if ILL u/s) turn LEFT, intercept 139° bearing to EPM, cross at 5000', at EPM but not before D10 LON intercept MAY R-316 inbound to MAY at 5000'.

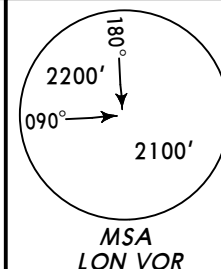
LONDON Control
126.82

Apt Elev
83'

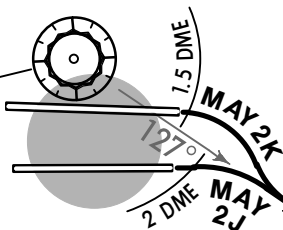
Trans level: By ATC Trans alt: 6000'
1. When instructed contact LONDON Control.
2. SIDs include noise preferential routes (refer to 10-4).
3. No turns below 590'.
4. Cruising levels will be issued after take-off by LONDON Control.
5. Do not climb above SID levels until instructed by ATC.
6. Aircraft VOR or DME failure advise ATC and comply with ATC instructions.

MAYFIELD TWO JULIETT (MAY 2J)
MAYFIELD TWO KILO (MAY 2K)
RWYS 09R/L DEPARTURES
TO EGKK ONLY

SPEED: MAX 250 KT BELOW FL100
UNLESS OTHERWISE AUTHORISED



LONDON
D 113.6 LON
N51 29.2 W000 28.0



WARNING: Due to interaction with other routes do not climb above 5000' until cleared by ATC.

AVERAGE TRACK MILEAGE
MAY 2J: 37 NM to MAY.
MAY 2K: 38 NM to MAY.



MIDHURST
D 114.0 MID
N51 03.2 W000 37.5

D20 MID
N51 21.4 W000 24.2
5000'

MAYFIELD
D 117.9 MAY
N51 01.0 E000 07.0

MAX 220 KT

D5
090°
5000'

Cross appropriate Noise Monitoring Terminal (refer to chart 10-4) at or above **1090'**, thereafter maintain a minimum climb gradient of **243' per NM (4%) up to 4000'**.

Gnd speed-KT	75	100	150	200	250	300
243' per NM	304	405	608	810	1013	1215

If unable to comply with SID or climb gradient inform ATC prior to take-off.

SID	RWY	ROUTING / ALTITUDE
MAY 2J	09R	Straight ahead, at LON 2 DME turn RIGHT, intercept LON R-127 to D3.5 LON, turn RIGHT, intercept MID R-027 inbound to D20 MID, cross at 5000', turn LEFT, intercept MAY R-316 inbound to MAY at 5000'.
MAY 2K	09L	Straight ahead, at LON 1.5 DME turn RIGHT, intercept LON R-127 to D3.5 LON, turn RIGHT, intercept MID R-027 inbound to D20 MID, cross at 5000', turn LEFT, intercept MAY R-316 inbound to MAY at 5000'.

LONDON Control
133.17Apt Elev
83'

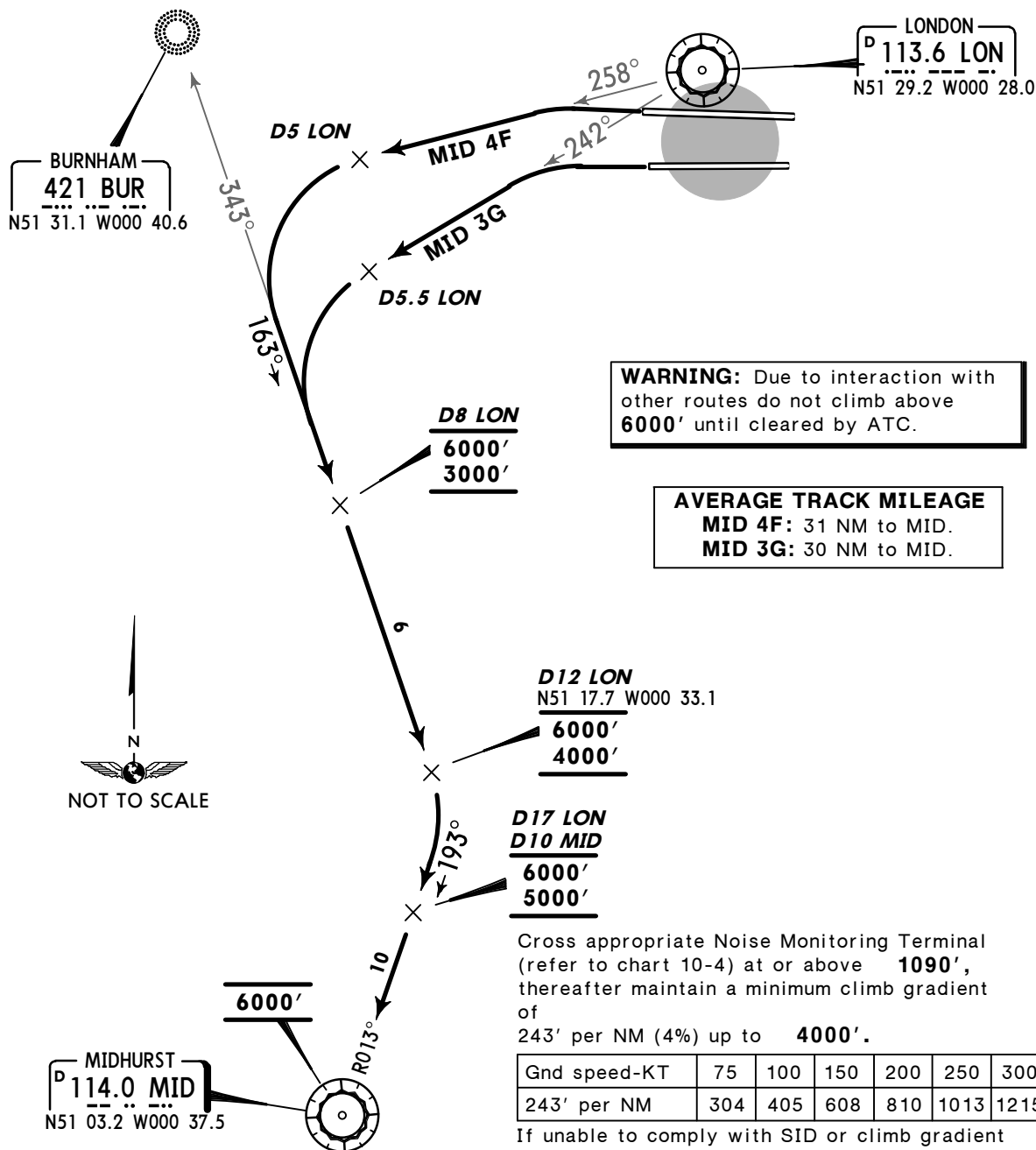
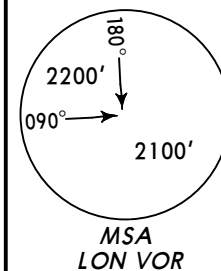
Trans level: By ATC Trans alt: 6000'

1. When instructed contact LONDON Control.
2. SIDs include noise preferential routes (refer to 10-4).
3. No turns below 590'.
4. Cruising levels will be issued after take-off by LONDON Control.
5. Do not climb above SID levels until instructed by ATC.

MIDHURST FOUR FOXTROT (MID 4F)

MIDHURST THREE GOLF (MID 3G)

RWYS 27R/L DEPARTURES

~~SPEED~~ MAX 250 KT BELOW FL100**UNLESS OTHERWISE AUTHORISED**

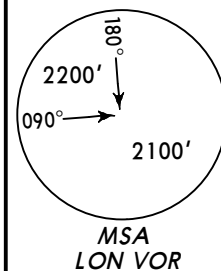
SID	RWY	ROUTING / ALTITUDE
MID 4F	27R	Straight ahead, intercept LON R-258 to D5 LON, turn LEFT, intercept 163° bearing from BUR, cross D8 LON above 3000' (MAX 6000'), D12 LON above 4000' (MAX 6000'), turn RIGHT, intercept MID R-013 inbound, cross D17 LON (D10 MID) above 5000' (MAX 6000'), then cross MID at 6000'.
MID 3G	27L	Straight ahead, intercept LON R-242 to D5.5 LON, turn LEFT, intercept 163° bearing from BUR, cross D8 LON above 3000' (MAX 6000'), D12 LON above 4000' (MAX 6000'), turn RIGHT, intercept MID R-013 inbound, cross D17 LON (D10 MID) above 5000' (MAX 6000'), then cross MID at 6000'.

LONDON Control
133.17

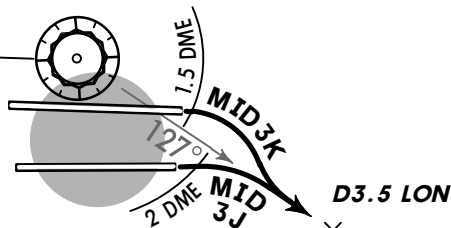
Apt Elev
83'

- Trans level: By ATC Trans alt: 6000'
1. When instructed contact LONDON Control.
 2. SIDs include noise preferential routes (refer to 10-4).
 3. No turns below 590'.
 4. Cruising levels will be issued after take-off by LONDON Control.
 5. Do not climb above SID levels until instructed by ATC.

MIDHURST THREE JULIETT (MID 3J)
MIDHURST THREE KILO (MID 3K)
RWYS 09R/L DEPARTURES
~~SPEED~~ MAX 250 KT BELOW FL100
UNLESS OTHERWISE AUTHORISED



LONDON
D (H) 113.6 LON
N51 29.2 W000 28.0



WARNING: Due to interaction with other routes do not climb above 6000' until cleared by ATC.

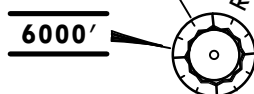
D19 MID
6000'
3000'

D15 MID
6000'
4000'

D12 MID
6000'
5000'

D8 MID
6000'

MIDHURST
D (H) 114.0 MID
N51 03.2 W000 37.5



AVERAGE TRACK MILEAGE
29 NM to MID.

Cross appropriate Noise Monitoring Terminal (refer to chart 10-4) at or above 1090', thereafter maintain a minimum climb gradient of 4% up to 4000'.

MID 3J

5% until D19 MID due to ATC and airspace purposes.

MID 3K

4.8% until D19 MID due to ATC and airspace purposes.

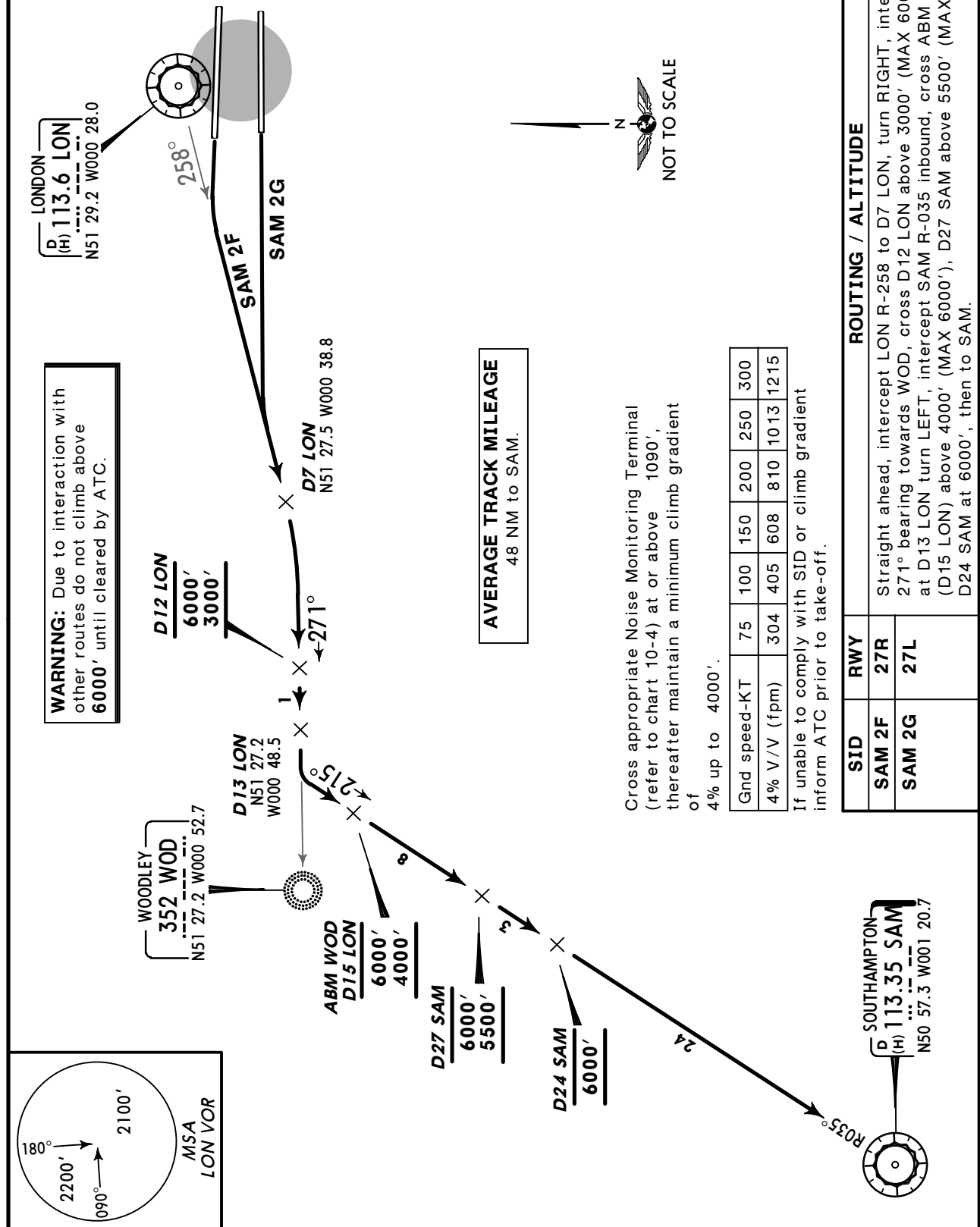
Gnd speed-KT	75	100	150	200	250	300
5% V/V (fpm)	380	506	760	1013	1266	1519
4.8% V/V (fpm)	365	486	729	972	1215	1458
4% V/V (fpm)	304	405	608	810	1013	1215

If unable to comply with SID or climb gradient inform ATC prior to take-off.

SID	RWY	ROUTING / ALTITUDE
MID 3J	09R	Straight ahead, at LON 2 DME turn RIGHT, intercept LON R-127 to D3.5 LON, turn RIGHT, intercept MID R-027 inbound, cross D19 MID at or above 3000' (MAX 6000'), D15 MID at or above 4000' (MAX 6000'), D12 MID at or above 5000' (MAX 6000'), D8 MID at 6000', then to MID at 6000'.
MID 3K	09L	Straight ahead, at LON 1.5 DME turn RIGHT, intercept LON R-127 to D3.5 LON, turn RIGHT, intercept MID R-027 inbound, cross D19 MID at or above 3000' (MAX 6000'), D15 MID at or above 4000' (MAX 6000'), D12 MID at or above 5000' (MAX 6000'), D8 MID at 6000', then to MID at 6000'.

LONDON Control 134.12	<i>Apt Elev</i> 83'	Trans level: By ATC Trans alt: 6000' 1. When instructed contact LONDON Control. 2. SIDs include noise preferential routes (refer to 10-4). 3. No turns below 590'. 4. Cruising levels will be issued after take-off by LONDON Control. 5. Do not climb above SID levels until instructed by ATC.
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SOUTHAMPTON TWO FOXTROT (SAM 2F)
SOUTHAMPTON TWO GOLF (SAM 2G)
RWYS 27R/L DEPARTURES
~~SPEEDS~~ MAX 250 KT BELOW FL100
UNLESS OTHERWISE AUTHORISED



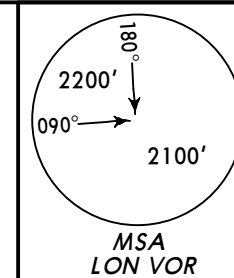
LONDON Control
134.12Apt Elev
83'

- Trans level: By ATC Trans alt: 6000'
1. When instructed contact LONDON Control.
 2. SIDs include noise preferential routes (refer to 10-4).
 3. No turns below 590'.
 4. Cruising levels will be issued after take-off by LONDON Control.
 5. Do not climb above SID levels until instructed by ATC.

SOUTHAMPTON THREE JULIETT (SAM 3J)

SOUTHAMPTON THREE KILO (SAM 3K)

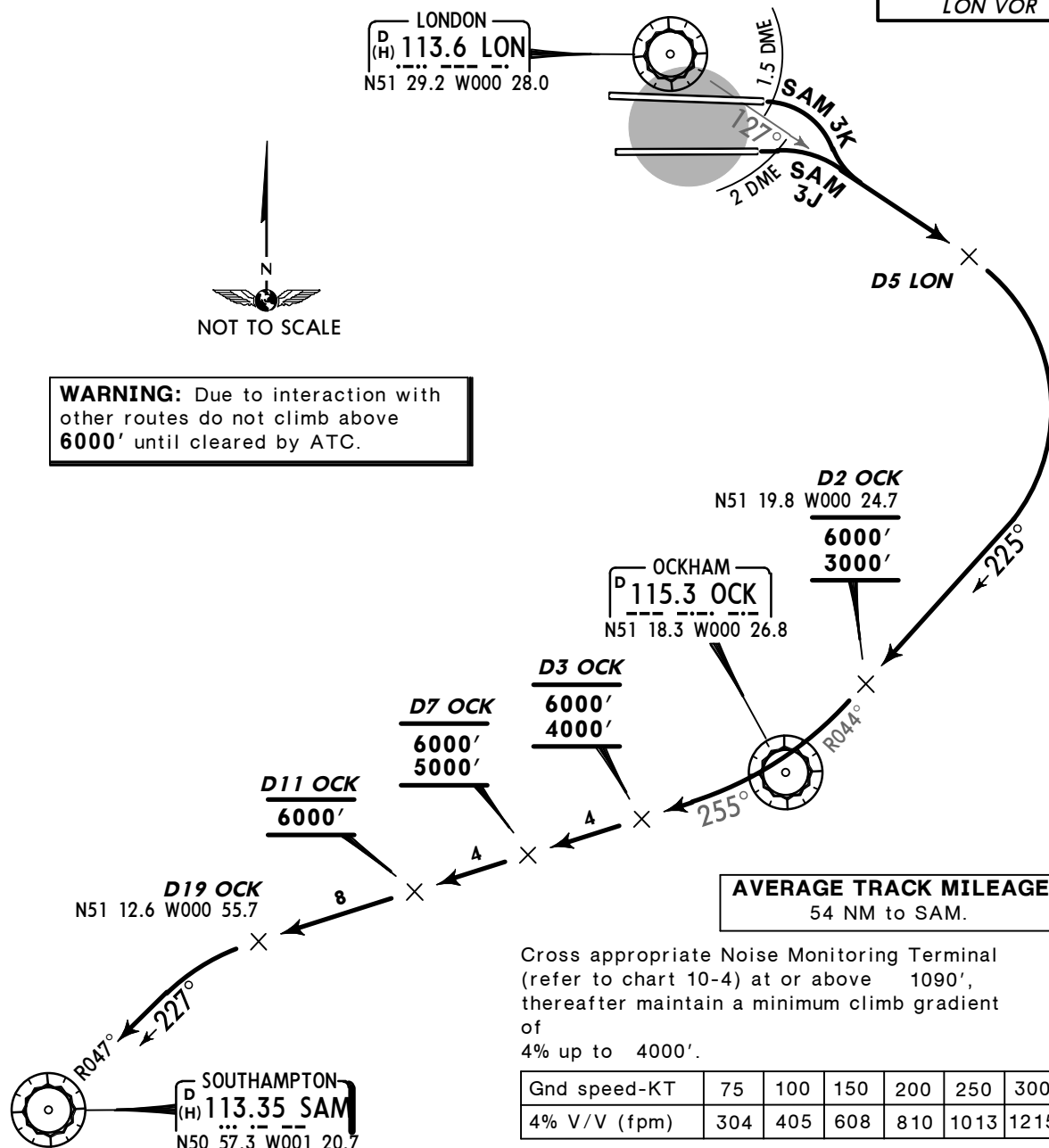
RWYS 09R/L DEPARTURES

~~SPEED~~ MAX 250 KT BELOW FL100**UNLESS OTHERWISE AUTHORISED**

LONDON
D (H) 113.6 LON
N51 29.2 W000 28.0



WARNING: Due to interaction with other routes do not climb above 6000' until cleared by ATC.



SID	RWY	ROUTING / ALTITUDE
SAM 3J	09R	Straight ahead, at LON 2 DME turn RIGHT, intercept LON R-127 to D5 LON, turn RIGHT, intercept OCK R-044 inbound, cross D2 OCK above 3000' (MAX 6000'), turn RIGHT, intercept OCK R-255, cross D3 OCK above 4000' (MAX 6000'), D7 OCK above 5000' (MAX 6000'), D11 OCK at 6000', at D19 OCK turn LEFT, intercept SAM R-047 inbound to SAM.
SAM 3K	09L	Straight ahead, at LON 1.5 DME turn RIGHT, intercept LON R-127 to D5 LON, turn RIGHT, intercept OCK R-044 inbound, cross D2 OCK above 3000' (MAX 6000'), turn RIGHT, intercept OCK R-255, cross D3 OCK above 4000' (MAX 6000'), D7 OCK above 5000' (MAX 6000'), D11 OCK at 6000', at D19 OCK turn LEFT, intercept SAM R-047 inbound to SAM.

LONDON Control
119.77

Apt Elev
83'

- Trans level: By ATC Trans alt: 6000'
1. When instructed contact LONDON Control.
 2. SIDs include noise preferential routes (refer to 10-4).
 3. No turns below 590'.
 4. Cruising levels will be issued after take-off by LONDON Control.
 5. Do not climb above SID levels until instructed by ATC.

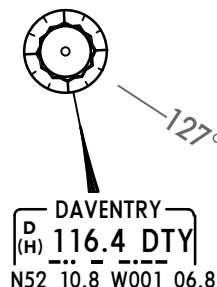
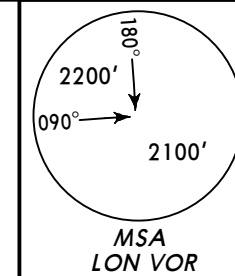
WOBUN THREE FOXTROT (WOBUN 3F) [WOBUN3F]

WOBUN THREE GOLF (WOBUN 3G) [WOBUN3G]

RWYS 27R/L DEPARTURES

~~SPEED~~ MAX 250 KT BELOW FL100

UNLESS OTHERWISE AUTHORISED



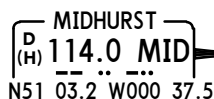
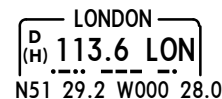
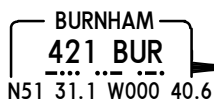
WOBUN

N52 01.2 W000 44.0



WARNING: Due to interaction with other routes do not climb above 6000' until cleared by ATC.

AVERAGE TRACK MILEAGE
37 NM to WOBUN.

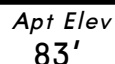


Cross appropriate Noise Monitoring Terminal (refer to chart 10-4) at or above 1090', thereafter maintain a minimum climb gradient of 4% up to 4000' for ATM purposes.

Gnd speed-KT	75	100	150	200	250	300
4% V/V (fpm)	304	405	608	810	1013	1215

If unable to comply with SID or climb gradient inform ATC prior to take-off.

SID	RWY	ROUTING / ALTITUDE
WOBUN 3F	27R	Climb straight ahead, intercept 300° bearing towards BUR by D4 LON to D7 LON, turn RIGHT, intercept 358° bearing from BUR (MID R-357), cross LON 8 DME at or above 3000' (MAX 6000'), D10 LON at or above 4000' (MAX 6000'), D14 LON at 6000' to WOBUN.
WOBUN 3G	27L	Climb straight ahead, intercept 300° bearing towards BUR by D3 LON to D7 LON, turn RIGHT, intercept 358° bearing from BUR (MID R-357), cross LON 8 DME at or above 3000' (MAX 6000'), D10 LON at or above 4000' (MAX 6000'), D14 LON at 6000' to WOBUN.



NOISE

Noise monitoring terminal

LON

ILL

DET

WOD

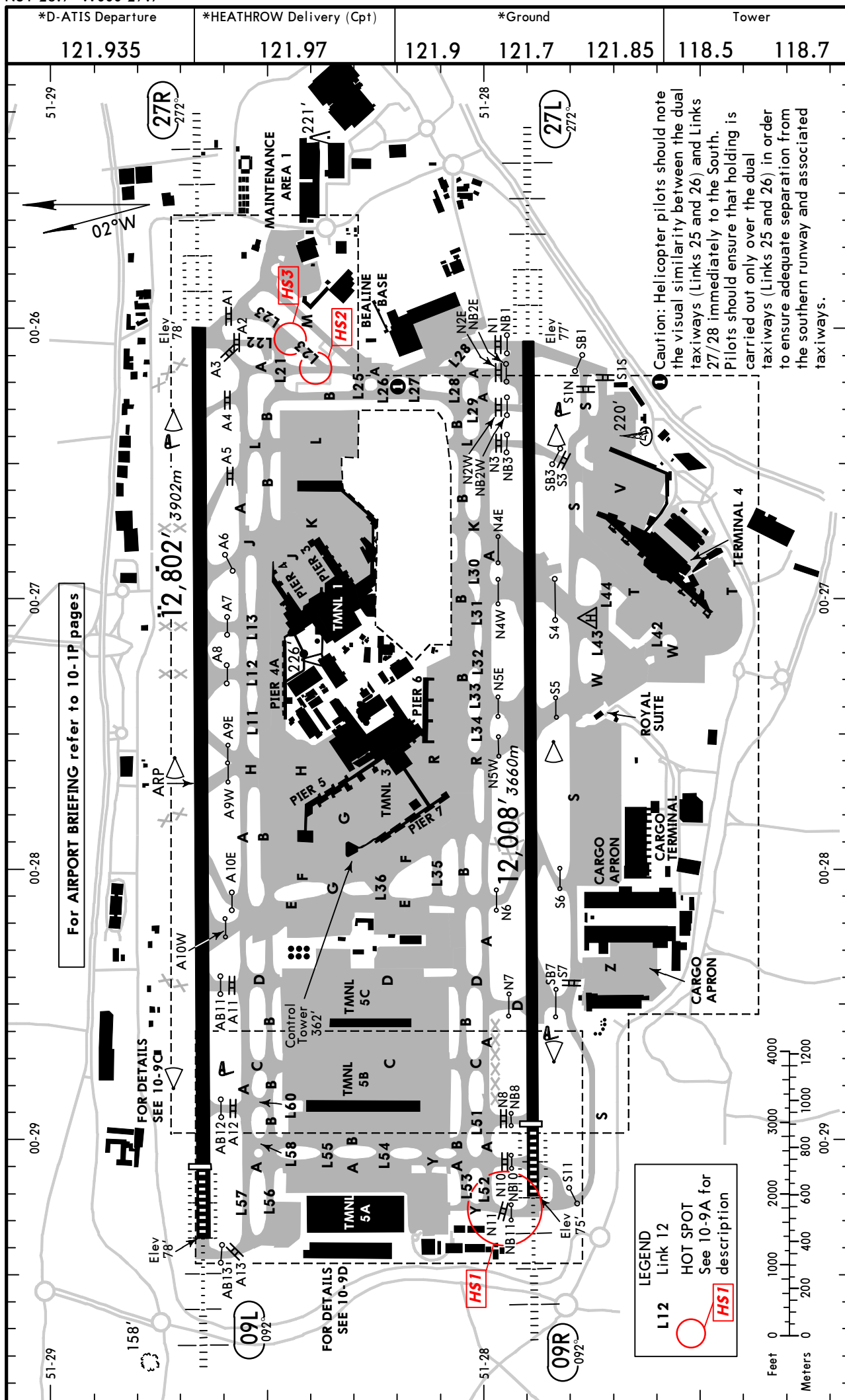
EPM

MAY 2J, 2K
MID 3J, 3K

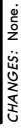
SAM
31.3K

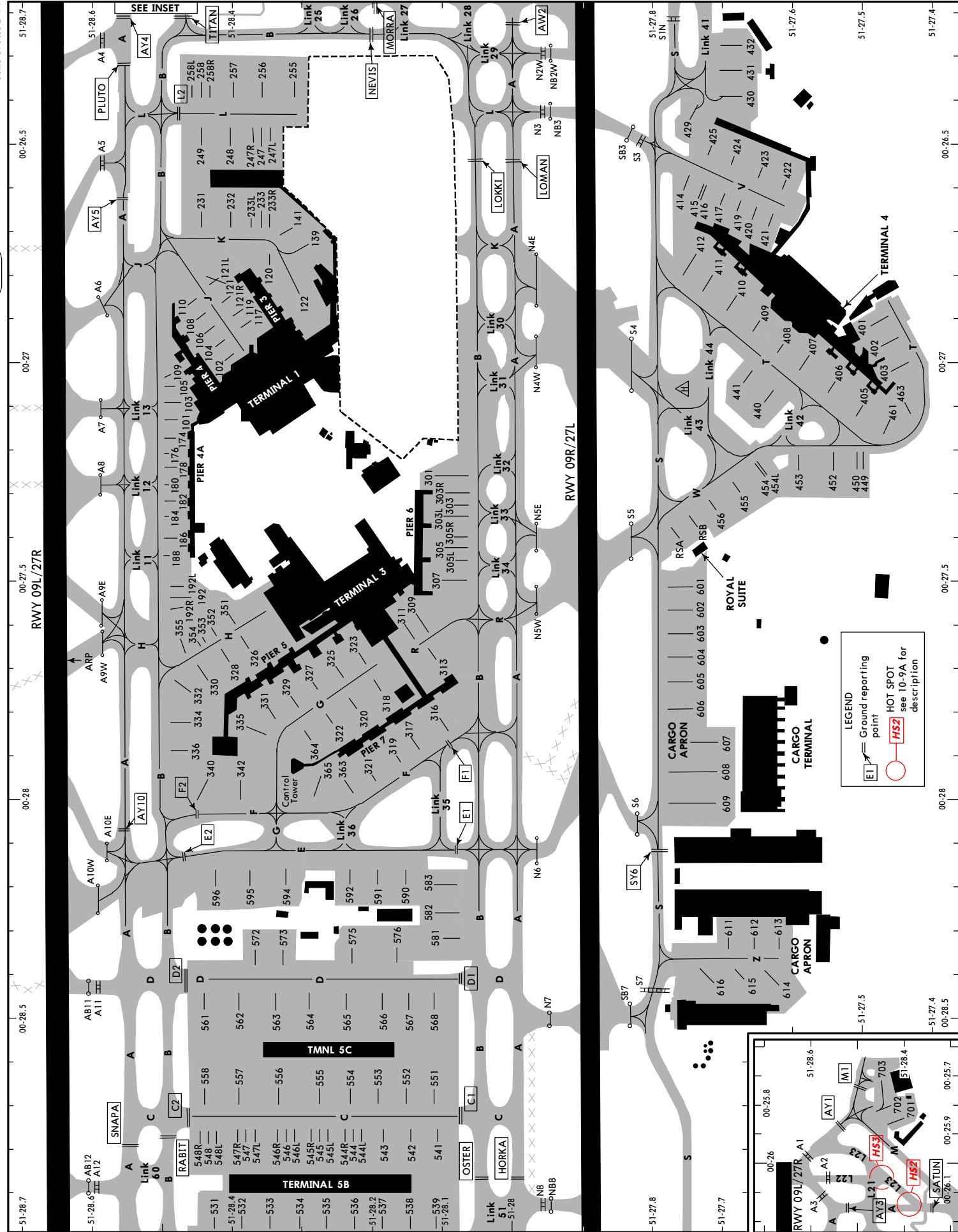
NOISE MONITORING TERMINAL/LOCATION/NAME	ELEVATION ABOVE AERODROME	ADJUSTMENT db(A)
 6 N51 27.9 W000 32.0 Thames Water, Wraysbury	- 6m	- 0.3
 A N51 29.0 W000 31.4 Colnbrook	- 4m	+ 2.3
 B N51 28.7 W000 31.3 Poyle	- 4m	+ 4.8
 C N51 28.2 W000 31.8 Horton	- 6m	- 0.3
 D N51 27.8 W000 32.0 Coppermill	- 7m	- 0.6
 E N51 27.4 W000 32.3 Wraysbury Reservoir (South)	- 7m	- 1.0
 F N51 28.4 W000 23.8 Hounslow West	- 3m	+ 0.9
 G N51 28.1 W000 23.6 Hounslow Cavalry Barracks	- 3m	- 0.1
 H N51 27.8 W000 23.7 Hounslow Heath	- 3m	+ 1.2
 I N51 27.2 W000 23.7 East Feltham	- 4m	- 0.3
 J N51 28.2 W000 23.6 Hounslow Cavalry Barracks North	- 3m	- 0.2

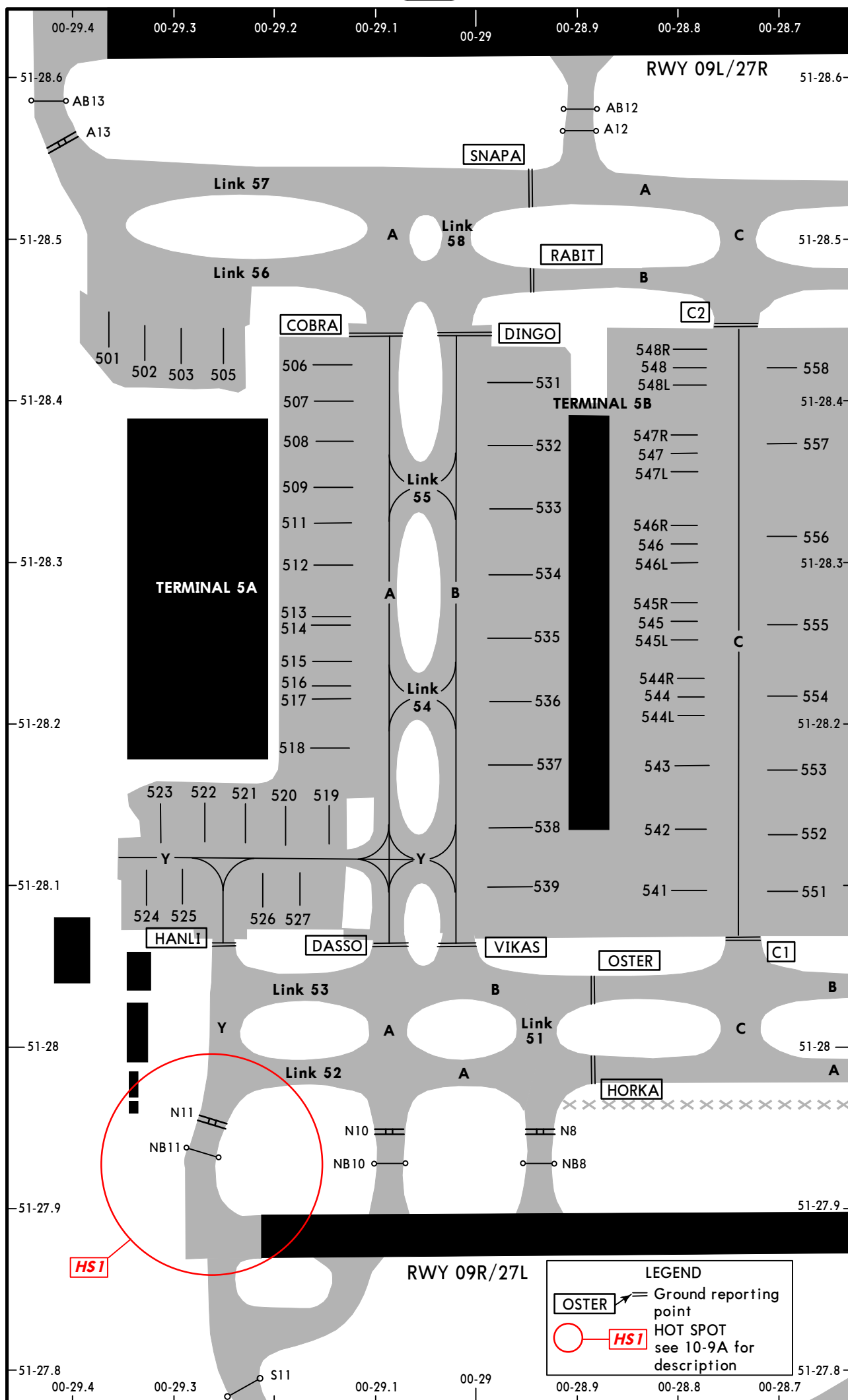
Tailwind component	≤1 KT	≤2 KT	≤3 KT	≤4 KT	> 4 KT
Amount to be disregarded	0.4 dB	0.8 dB	1.2 dB	1.6 dB	2.0 dB



ADDITIONAL RUNWAY INFORMATION																																									
RWY			USABLE LENGTHS		TAKE-OFF	WIDTH																																			
			Threshold	Glide Slope																																					
09L ① 27R	HIRL (60m) CL (15m) HIALS-II TDZ PAPI-L (3.0°)	RVR	11,795' 3595m	10,801' 3292m	②	164' 50m																																			
			12,743' 3884m	11,586' 3531m																																					
① RWY grooved. ② TAKE-OFF RUN AVAILABLE RWY 09L: From rwy head 12,802' (3902m) twy A12 int 11,043' (3366m) twy A11 int 9321' (2841m) twy A10W int 8750' (2667m) twy A10E int 7733' (2357m) RWY 27R: From rwy head 12,743' (3884m) twy A4 int 11,663' (3555m) twy A5 int 10,335' (3150m) twy A6 int 9446' (2879m) twy A7 int 8642' (2634m) twy A8 int 7976' (2431m)																																									
09R ③ 27L	HIRL (60m) CL (15m) HIALS-II TDZ PAPI-L (3.0°)	RVR	11,001' 3353m	9997' 3047m	⑤	164' 50m																																			
				10,905' 3324m																																					
③ RWY grooved. ④ HST - N6 ⑤ TAKE-OFF RUN AVAILABLE RWY 09R: From rwy head 12,008' (3660m) twy N10 int 11,585' (3531m) twy N8 int 11,001' (3353m) twy N7, SB7 int 9364' (2854m) twy N6 int 7635' (2327m) twy S6 int 7369' (2246m) RWY 27L: From rwy head 12,008' (3660m) twy N2E int 11,601' (3536m) twy N2W int 11,093' (3381m) twy N3 int 10,581' (3225m) twy S3 int 10,541' (3213m) twy N4E, N4W, S4 int 8878' (2706m)																																									
HOT SPOTS (For information only, not to be construed as ATC instructions.) HS1 Pilots are to ensure they have clearance to enter the RWY before crossing the stop bar. HS2 Pilots are to maintain a good lookout at all times and are responsible for wing tip clearance. HS3																																									
SEQUENCING OF AIRCRAFT GROUND MOVEMENTS FOR TAKE-OFF IN LOW VISIBILITY When the reported RVR is below 400m do not request start-up until the reported RVR is equal to or greater than the appropriate value as shown below: <table><tr><th>AIRCRAFT TAKE-OFF MINIMA</th><th>MINIMUM RVR FOR START-UP</th></tr><tr><td>350m RVR</td><td>300m</td></tr><tr><td>300m RVR</td><td>250m</td></tr><tr><td>250m RVR</td><td>200m</td></tr><tr><td>200m RVR</td><td>150m</td></tr><tr><td>150m RVR</td><td>150m</td></tr><tr><td>100m RVR</td><td>100m</td></tr><tr><td>75m RVR</td><td>75m</td></tr></table>							AIRCRAFT TAKE-OFF MINIMA	MINIMUM RVR FOR START-UP	350m RVR	300m	300m RVR	250m	250m RVR	200m	200m RVR	150m	150m RVR	150m	100m RVR	100m	75m RVR	75m																			
AIRCRAFT TAKE-OFF MINIMA	MINIMUM RVR FOR START-UP																																								
350m RVR	300m																																								
300m RVR	250m																																								
250m RVR	200m																																								
200m RVR	150m																																								
150m RVR	150m																																								
100m RVR	100m																																								
75m RVR	75m																																								
Standard TAKE-OFF ① <table><tr><th colspan="5">LVP must be in Force</th><th rowspan="2">RCLM (DAY only) or RL</th><th rowspan="2">NIL (DAY only)</th></tr><tr><th>Approved Operators HIRL, CL & mult. RVR req</th><th>RL, CL & mult. RVR req</th><th>RL & CL</th><th>RCLM (DAY only) or RL</th></tr><tr><td>A</td><td></td><td></td><td></td><td></td><td rowspan="3">400m</td><td rowspan="3">500m</td></tr><tr><td>B</td><td>125m</td><td>150m</td><td>200m</td><td>250m</td></tr><tr><td>C</td><td></td><td></td><td></td><td></td></tr><tr><td>D</td><td>150m</td><td>200m</td><td>250m</td><td>300m</td><td></td><td></td></tr></table>							LVP must be in Force					RCLM (DAY only) or RL	NIL (DAY only)	Approved Operators HIRL, CL & mult. RVR req	RL, CL & mult. RVR req	RL & CL	RCLM (DAY only) or RL	A					400m	500m	B	125m	150m	200m	250m	C					D	150m	200m	250m	300m		
LVP must be in Force					RCLM (DAY only) or RL	NIL (DAY only)																																			
Approved Operators HIRL, CL & mult. RVR req	RL, CL & mult. RVR req	RL & CL	RCLM (DAY only) or RL																																						
A					400m	500m																																			
B	125m	150m	200m	250m																																					
C																																									
D	150m	200m	250m	300m																																					
① Operators applying U.S. Ops Specs: CL required below 300m; approved HUD required below 150m.																																									







INS COORDINATES			
STAND No.	COORDINATES	STAND No.	COORDINATES
101	N51 28.5 W000 27.1	305, 305L/R	N51 28.1 W000 27.4
102	N51 28.4 W000 27.0	307	N51 28.1 W000 27.5
103	N51 28.5 W000 27.1	309	N51 28.1 W000 27.6
104	N51 28.4 W000 27.0	311	N51 28.2 W000 27.6
105	N51 28.5 W000 27.0	313	N51 28.1 W000 27.7
106	N51 28.4 W000 26.9	316	N51 28.1 W000 27.8
108	N51 28.5 W000 26.9	317	N51 28.1 W000 27.9
109	N51 28.5 W000 27.0	318	N51 28.2 W000 27.7
110	N51 28.5 W000 26.9	319	N51 28.2 W000 27.9
117, 119	N51 28.4 W000 26.9	320	N51 28.2 W000 27.8
120, 121, 121L	N51 28.4 W000 26.8	321	N51 28.2 W000 28.0
121R	N51 28.4 W000 26.9	322	N51 28.3 W000 27.8
122	N51 28.3 W000 26.8	323	N51 28.2 W000 27.7
139, 141	N51 28.3 W000 26.7	325	N51 28.3 W000 27.7
174, 176	N51 28.5 W000 27.2	326	N51 28.4 W000 27.6
178, 180, 182	N51 28.5 W000 27.3	327	N51 28.3 W000 27.7
184, 186, 188	N51 28.5 W000 27.4	328	N51 28.4 W000 27.7
192, 192L	N51 28.5 W000 27.5	329	N51 28.3 W000 27.8
192R	N51 28.5 W000 27.6	330	N51 28.4 W000 27.7
231 thru 233R	N51 28.4 W000 26.7	331	N51 28.3 W000 27.8
247	N51 28.4 W000 26.5	332, 334	N51 28.5 W000 27.8
247L	N51 28.3 W000 26.5	335	N51 28.4 W000 27.9
247R thru 249	N51 28.4 W000 26.5	336	N51 28.5 W000 27.9
254, 255	N51 28.3 W000 26.4	340, 342	N51 28.4 W000 28.0
256 thru 258	N51 28.4 W000 26.4	350 thru 354	N51 28.4 W000 27.6
258L	N51 28.5 W000 26.4	355	N51 28.5 W000 27.6
258R	N51 28.4 W000 26.4	363	N51 28.2 W000 28.0
301	N51 28.1 W000 27.3	364	N51 28.3 W000 27.9
303L	N51 28.1 W000 27.4	365	N51 28.3 W000 28.0
303, 303R	N51 28.1 W000 27.3		

INS COORDINATES			
STAND No.	COORDINATES	STAND No.	COORDINATES
401	N51 27.5 W000 26.9	545L thru 546R	N51 28.3 W000 28.8
402	N51 27.5 W000 27.0	547L thru 548L	N51 28.4 W000 28.8
403	N51 27.4 W000 27.0	548R	N51 28.5 W000 28.8
405	N51 27.5 W000 27.1	551	N51 28.1 W000 28.7
406	N51 27.6 W000 27.1	552 thru 554	N51 28.2 W000 28.7
407, 408	N51 27.6 W000 27.0	555, 556	N51 28.3 W000 28.7
409, 410	N51 27.7 W000 26.9	557, 558	N51 28.4 W000 28.7
411	N51 27.7 W000 26.8	561, 562	N51 28.4 W000 28.5
412	N51 27.8 W000 26.8	563, 564	N51 28.3 W000 28.5
414 thru 419	N51 27.7 W000 26.6	565, 566	N51 28.2 W000 28.5
420	N51 27.7 W000 26.7	567, 568	N51 28.1 W000 28.5
421	N51 27.6 W000 26.7	572	N51 28.4 W000 28.4
422, 423	N51 27.6 W000 26.6	573	N51 28.3 W000 28.4
424	N51 27.7 W000 26.6	575, 576	N51 28.2 W000 28.4
425	N51 27.7 W000 26.5	581, 582	N51 28.1 W000 28.3
429, 430	N51 27.7 W000 26.4	583	N51 28.1 W000 28.2
431, 432	N51 27.7 W000 26.3	590 thru 592	N51 28.2 W000 28.2
440	N51 27.6 W000 27.1	594	N51 28.3 W000 28.2
441	N51 27.7 W000 27.0	595, 596	N51 28.4 W000 28.2
449, 450, 452	N51 27.5 W000 27.2	601	N51 27.8 W000 27.5
453, 454L	N51 27.6 W000 27.2	602, 603	N51 27.8 W000 27.6
454	N51 27.6 W000 27.3	604	N51 27.8 W000 27.7
455, 456	N51 27.7 W000 27.3	605, 606	N51 27.8 W000 27.8
461	N51 27.5 W000 27.2	607	N51 27.8 W000 27.9
463	N51 27.4 W000 27.1	608, 609	N51 27.8 W000 28.0
501	N51 28.5 W000 29.4	611, 612	N51 27.7 W000 28.3
502, 503, 505	N51 28.5 W000 29.3	613	N51 27.6 W000 28.3
506 thru 509	N51 28.4 W000 29.1	614	N51 27.6 W000 28.4
511 thru 515	N51 28.3 W000 29.1	615, 616	N51 27.7 W000 28.4
516 thru 518	N51 28.2 W000 29.1	701	N51 28.4 W000 25.8
519	N51 28.1 W000 29.1	702	N51 28.4 W000 25.9
520, 521	N51 28.1 W000 29.2	703	N51 28.5 W000 25.8
522 thru 525	N51 28.1 W000 29.3	RSA	N51 27.8 W000 27.4
526, 527	N51 28.1 W000 29.2	RSB	N51 27.7 W000 27.4
531, 532	N51 28.4 W000 29.0		
533 thru 535	N51 28.3 W000 29.0		
536, 537	N51 28.2 W000 29.0		
538, 539	N51 28.1 W000 29.0		
541, 542	N51 28.1 W000 28.8		
543 thru 544R	N51 28.2 W000 28.8		

STAND ENTRY GUIDANCE SYSTEMS (SEG)

A. GENERAL

If a Stand Entry Guidance System becomes unserviceable or is not illuminated, call Ground Movement Control (GMC) to request marshalling assistance.

Aircrew must not attempt to self-park if the Stand Entry Guidance is unserviceable, uncalibrated or not switched on.

STOP SHORT PROCEDURE

The term "STOP SHORT" is defined as a requirement to stop the acft in a position that allows mobile or integral airstairs to be deployed, due to the unserviceability of the stand loading bridge or some other obstruction. The requirement to "STOP SHORT" will be indicated to the flight crew by marshalling signals.

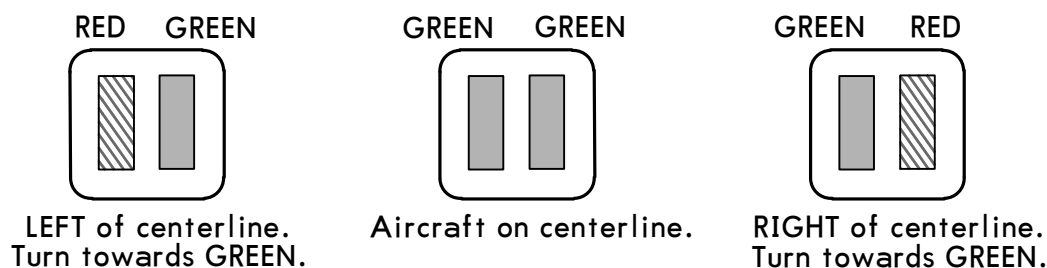
EMERGENCY STOP

Should an emergency arise as the acft is taxiing onto stand, the airline or handling agent representative can activate the SEG emergency over-ride button, colocated with all emergency stop buttons at ramp level at the head of the stand. This will instantly cut power to the parking aids and activate a sign mounted at pilot's eye level which will flash "STOP".

B. GUIDANCE SYSTEMS

1. AGNIS - AZIMUTH GUIDANCE FOR NOSE-IN STANDS

AGNIS units display red and/or green light signals through two parallel vertical slots. The system is aligned for interpretation from the left hand cockpit seat. Acft should be turned towards the green light to remain on centerline. AGNIS does not provide stopping guidance. Stopping guidance is provided by a sign (PAPA or STOP ARROW) positioned near the AGNIS unit.



2. APIS - AIRCRAFT POSITIONING AND INFORMATION SYSTEM

The unit combines both alignment and stopping signals in one visual display mounted ahead of the pilot and is to be used from the left hand cockpit seat.

Display can be used to show stand number, acft type selected and final STOP wording when the acft has reached its final stopping position.

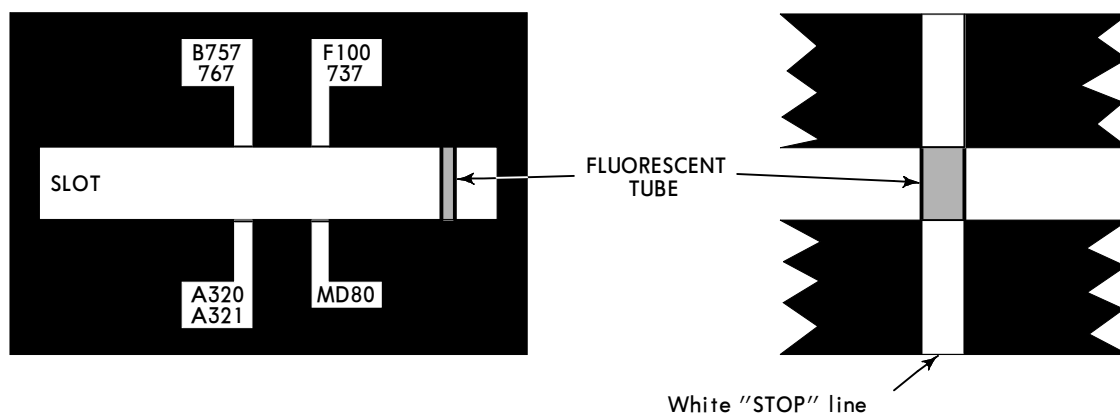
Indicates progress of the acft over the last 52'/16m of the approach to the stop position.

Azimuth guidance element



3. PAPA - PARALLAX AIRCRAFT PARKING AID

This stopping aid is commonly positioned to the right side of the stand centerline. On some stands it will be located to the left side and indicated as such by the sign adjacent to the AGNIS unit. The aid consists of a black board, bearing acft type identification labels and "STOP" lines, with a horizontal slot running across the center. Behind the board is a vertically mounted fluorescent light tube. As an acft is taxiing onto the stand, the pilot will see the fluorescent tube appear to move across the slot towards the "STOP" lines. When the tube is in line with the appropriate acft type "STOP" line, the acft has reached the correct position.



4. STOP ARROWS

This provides stopping guidance only, used in conjunction with AGNIS in the form of one or two painted lines with the word "STOP" above the line and, where appropriate, the acft type below the line. The line is aligned with the pilot's eye position and is normally located to the left of the stand centerline, but may be provided on the right or both sides.

5. MIRROR

The mirror is normally mounted on the port side of the extended centerline. It is angled to give the pilot in the left hand seat view of the aircraft's nose landing gear (NLG). Associated mirror image paint markings will indicate the various stopping positions of the NLG. All mirrors are heated to prevent misting and icing.

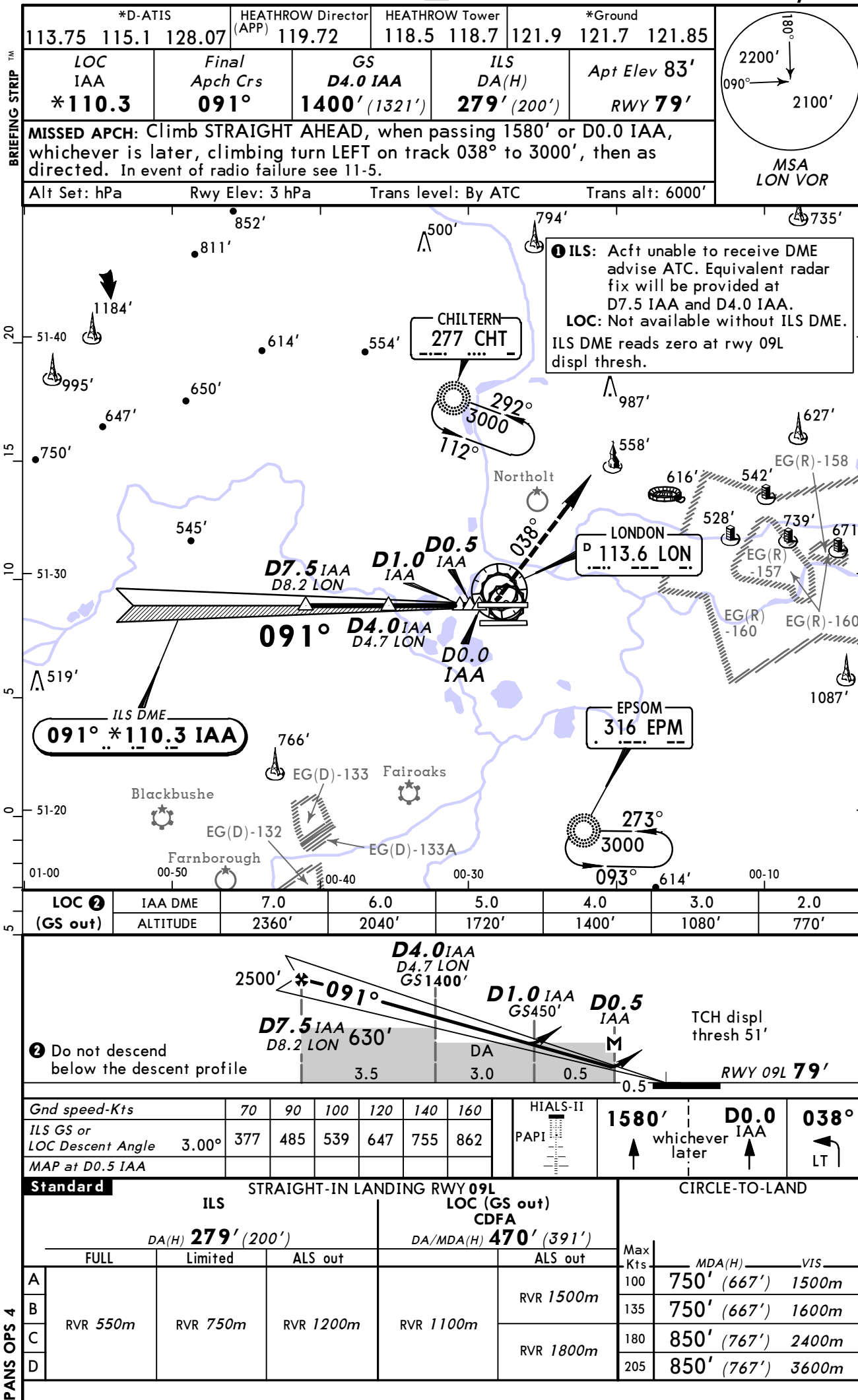
STRAIGHT-IN RWY		DA(H) / MDA(H)	RVR (ALS/ALS out)
09L	CAT 2 ILS DME	179' (100')	RA 100' - 300m
	ILS DME	279' (200')	500m / 1000m
	LOC	470' (391')	800m / 1000m
	RNAV (LNAV/VNAV)	570' (491')	1000m / 1000m
	RNAV (LNAV)	630' (551')	1000m / 1000m
	SRA	720' (641')	1000m / 1000m
09R	CAT 2 ILS DME	175' (100')	RA 100' - 300m
	ILS DME	275' (200')	500m / 1000m
	LOC	480' (405')	800m / 1000m
	RNAV (LNAV/VNAV)	500' (425')	800m / 1000m
	RNAV (LNAV)	630' (555')	1000m / 1000m
	SRA	720' (645')	1000m / 1000m
27L	CAT 2 ILS DME	177' (100')	RA 102' - 300m
	ILS DME	277' (200')	500m / 1000m
	LOC	460' (383')	800m / 1000m
	RNAV (LNAV/VNAV)	510' (433')	800m / 1000m
	RNAV (LNAV)	560' (483')	1000m / 1000m
	SRA	720' (643')	1000m / 1000m
27R	CAT 2 ILS DME	178' (100')	RA 102' - 300m
	ILS DME	278' (200')	500m / 1000m
	LOC	430' (352')	800m / 1000m
	RNAV (LNAV/VNAV)	510' (432')	800m / 1000m
	RNAV (LNAV)	530' (452')	1000m / 1000m
	SRA	720' (642')	1000m / 1000m

CIRCLE-TO-LAND	MDA(H)	VIS
	750' (667')	1000m

TAKE-OFF RWY 09L/R, 27L/R				
LVP must be in Force ❶				
RL, FATO LTS, CL & RVR info	RL, FATO LTS & RCLM	Unlit/unmarked defined RWY/FATO	Nil Facilities DAY	Nil Facilities NIGHT
150m	200m	200m	250m ❷	800m

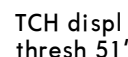
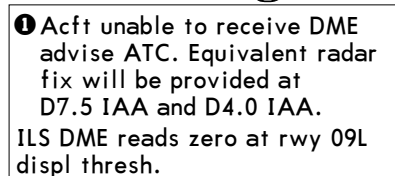
❶ Without LVP 400m are stipulated.

❷ Or rejected take-off distance whichever is the greater.



①CAT II/III ILS DME Rwy 09L

MSA
LON VOR



HIALS-1	
PAPI	

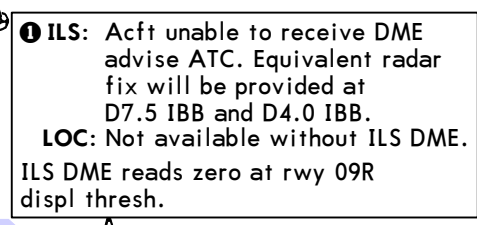
$DA(H)$ **179'** (100')

RVR **300m** **1**

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MSA
LON VOR

Alt Set: hPa	Rwy Elev: 3 hPa	Trans level: By ATC	Trans alt: 6000'
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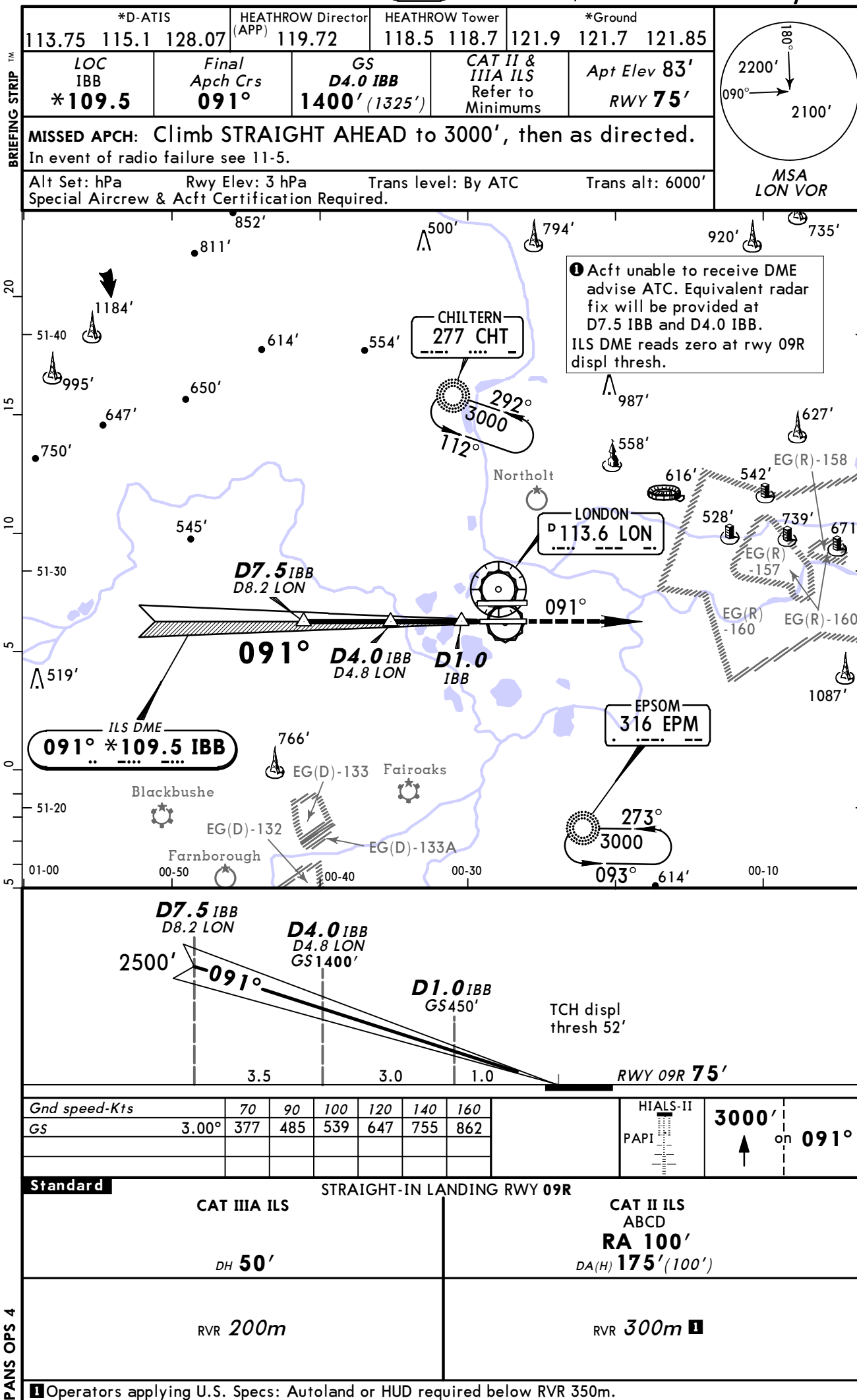


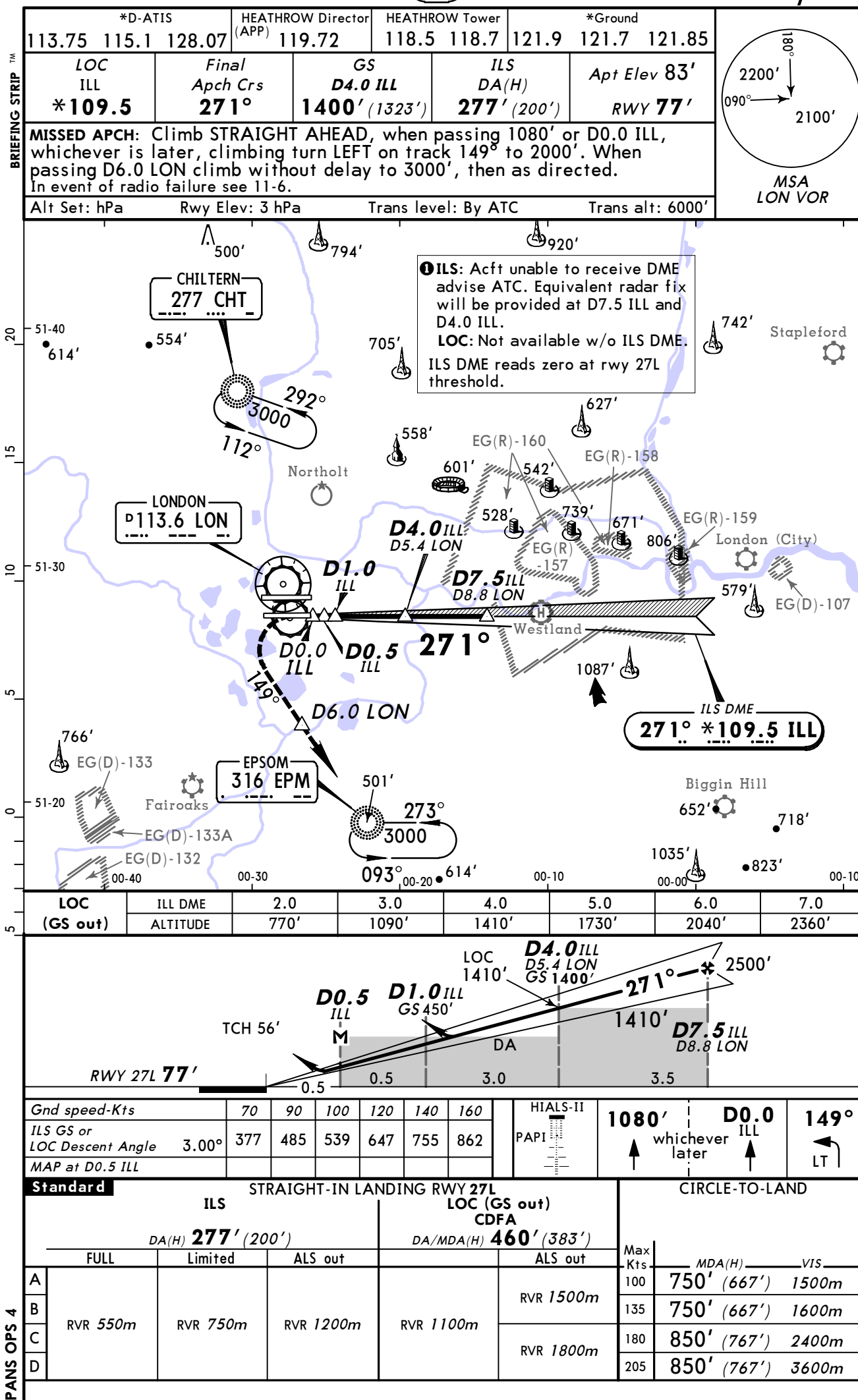
The diagram illustrates the layout of RWY 09R, which is 75' wide. The approach path is defined by a series of points and distances:

- Point 1:** Located 2500' from the start of the approach, with a bearing of $*-091^\circ$. It is associated with **D4.0 IBB**, **D4.8 LON**, and **GS 1400'**.
- Point 2:** Located 630' from the start of the approach, with a bearing of **D7.5 IBB** and **D8.2 LON**. The distance between Point 1 and Point 2 is 3.5 units.
- Point 3:** Located 3.0 units from the start of the approach, with a bearing of **D1.0 IBB** and **GS 450'**. The distance between Point 2 and Point 3 is 3.0 units.
- Point 4:** Located 0.5 units from the start of the approach, with a bearing of **D0.5 IBB**. The distance between Point 3 and Point 4 is 0.5 units.
- Point 5:** Located 0.5 units from the start of the approach, with a bearing of **D0.5 IBB**. The distance between Point 4 and Point 5 is 0.5 units.

The diagram also shows the **DA** (Decision Altitude) and **M** (Minimum) points, and a **TCH displ thresh 52'** (Touchdown Height Displacement Threshold) of 52'.

PANS OPS 4

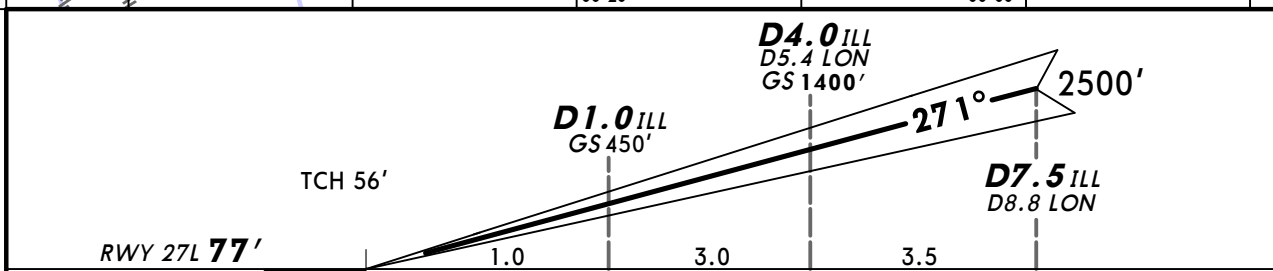
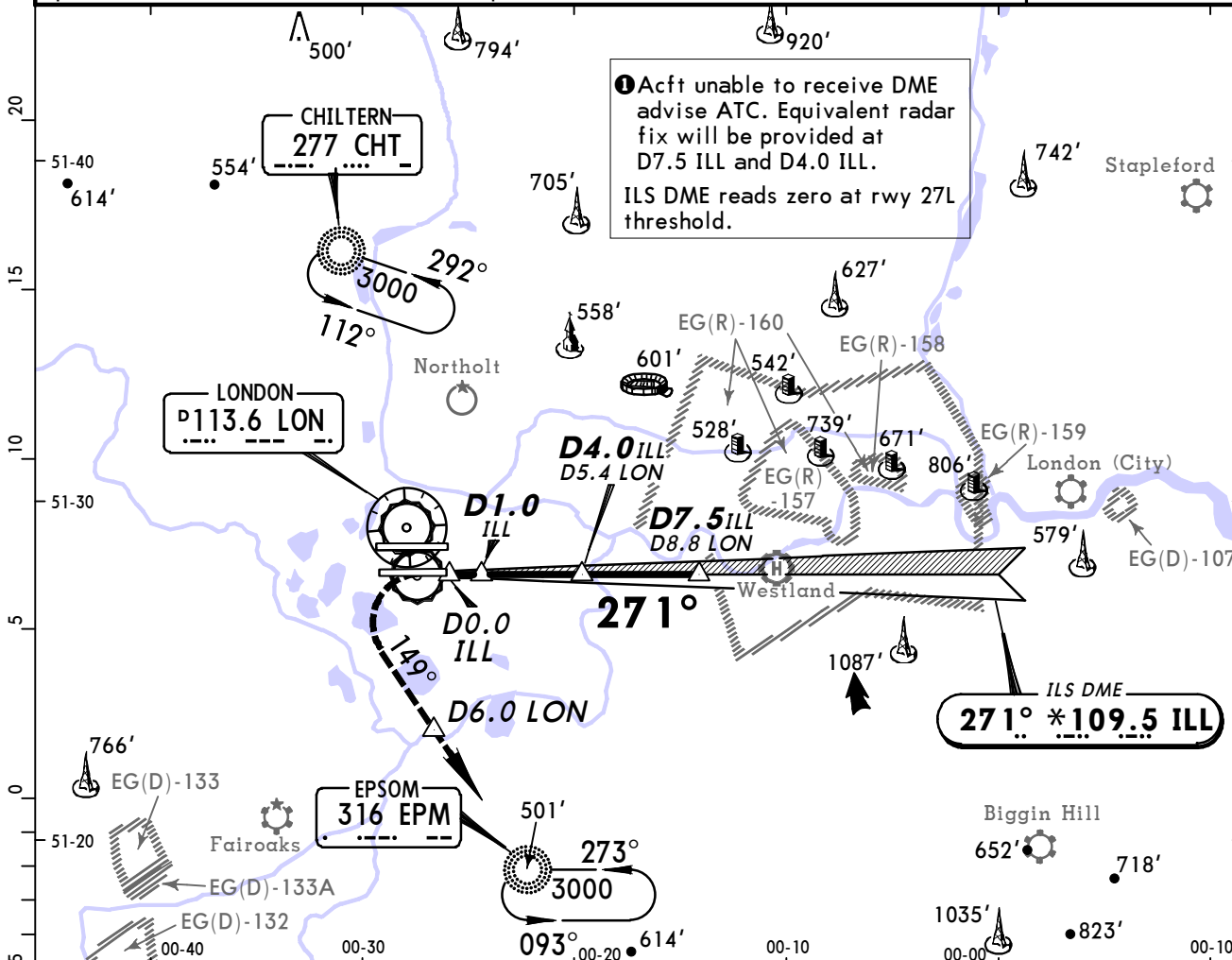




BRIEFING STRIP™

*D-ATIS			HEATHROW Director (APP)	HEATHROW Tower	*Ground		
113.75	115.1	128.07	119.72	118.5 118.7	121.9	121.7	121.85
LOC ILL *109.5	Final Apch Crs 271°	GS D4.0 ILL 1400' (1323')	CAT II & IIIA ILS Refer to Minimums		Apt Elev 83' RWY 77'		
MISSED APCH: Climb STRAIGHT AHEAD, when passing 1080' or D0.0 ILL, whichever is later, climbing turn LEFT on track 149° to 2000'. When passing D6.0 LON climb without delay to 3000', then as directed. In event of radio failure see 11-6.							
Alt Set: hPa		Rwy Elev: 3 hPa	Trans level: By ATC		Trans alt: 6000'		
Special Aircrew & Acft Certification Required.							

MSA LON VOR

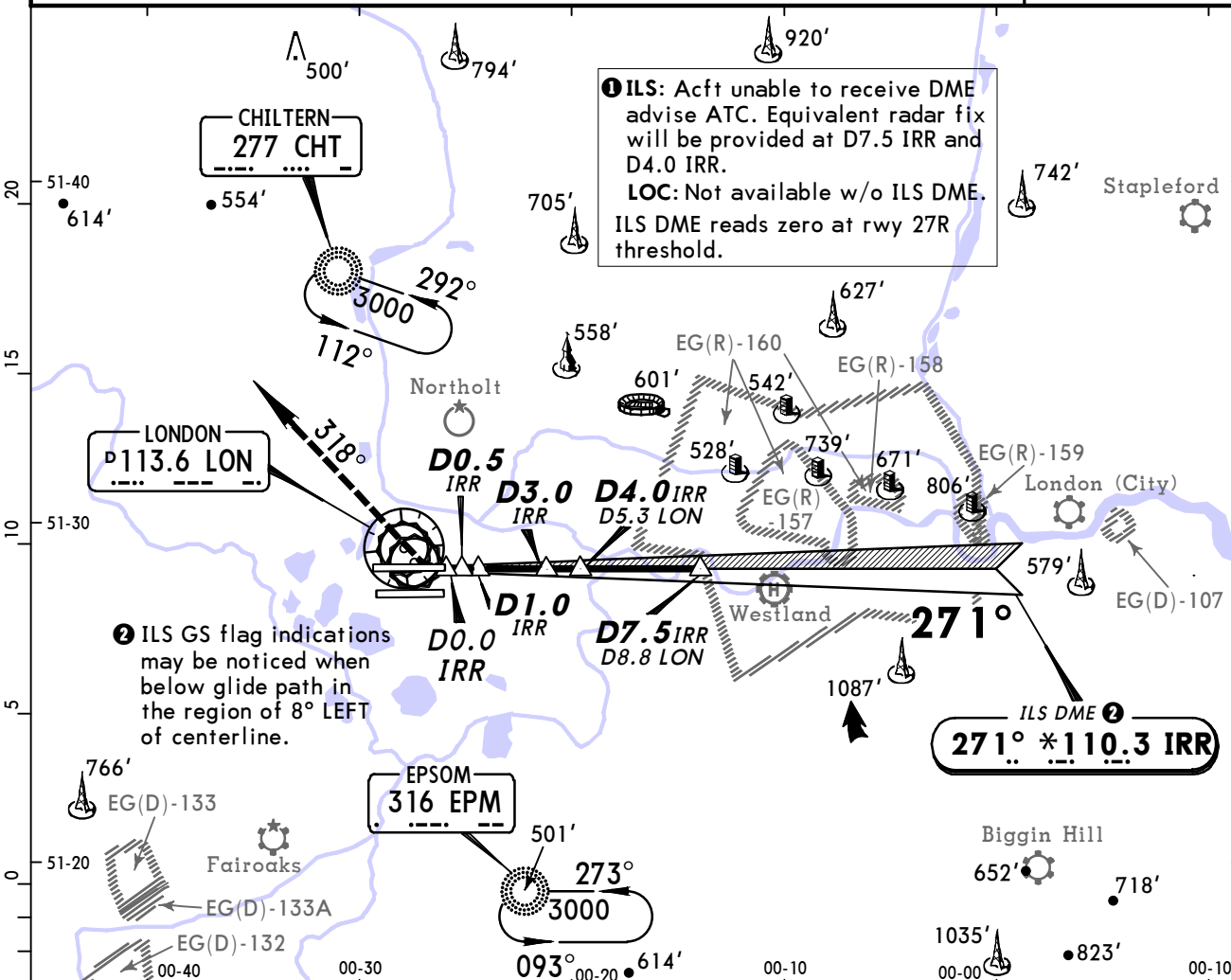
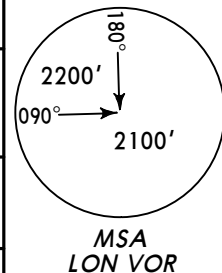


Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI	1080'	D0.0 ILL	149°
GS	3.00°	377	485	539	647	755		↑ whichever later	↑	LT

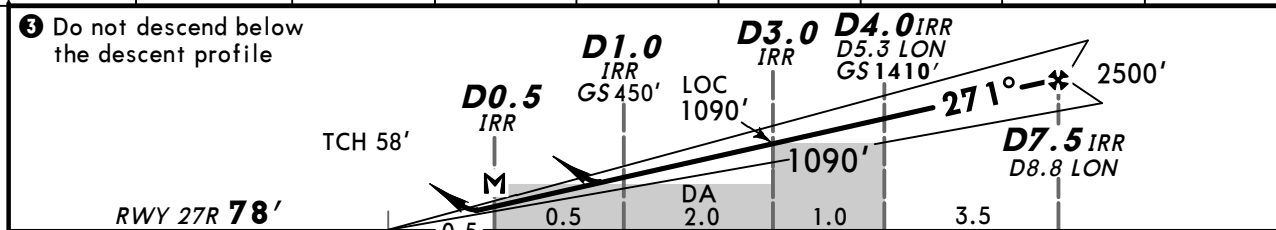
Standard		STRAIGHT-IN LANDING RWY 27L	
CAT IIIA ILS		CAT II ILS ABCD	
DH 50'		RA 102' DA(H) 177' (100')	
RVR 200m		RVR 300m	

Operators applying U.S. Specs: Autoland or HUD required below RVR 350m.

*D-ATIS 113.75 115.1 128.07	HEATHROW Director (APP) 119.72	HEATHROW Tower 118.5 118.7	*Ground 121.9 121.7 121.85
LOC IRR *110.3	Final Apch Crs 271°	GS D4.0 IRR 1410' (1332')	ILS DA(H) 278' (200')
Apt Elev 83' RWY 78'			
MISSED APCH: Climb STRAIGHT AHEAD when passing 1580' or D0.0 IRR, whichever is later, climbing turn RIGHT on track 318° to 3000', then as directed. In event of radio failure see 11-6.			
Alt Set: hPa	Rwy Elev: 3 hPa	Trans level: By ATC	Trans alt: 6000'



LOC ③ (GS out)	IRR DME	1.0	2.0	3.0	4.0	5.0	6.0	7.0
	ALTITUDE	450'	770'	1090'	1410'	1730'	2050'	2370'

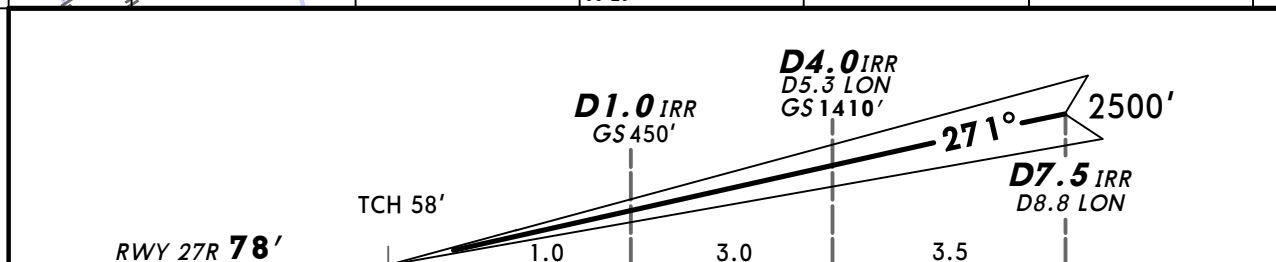
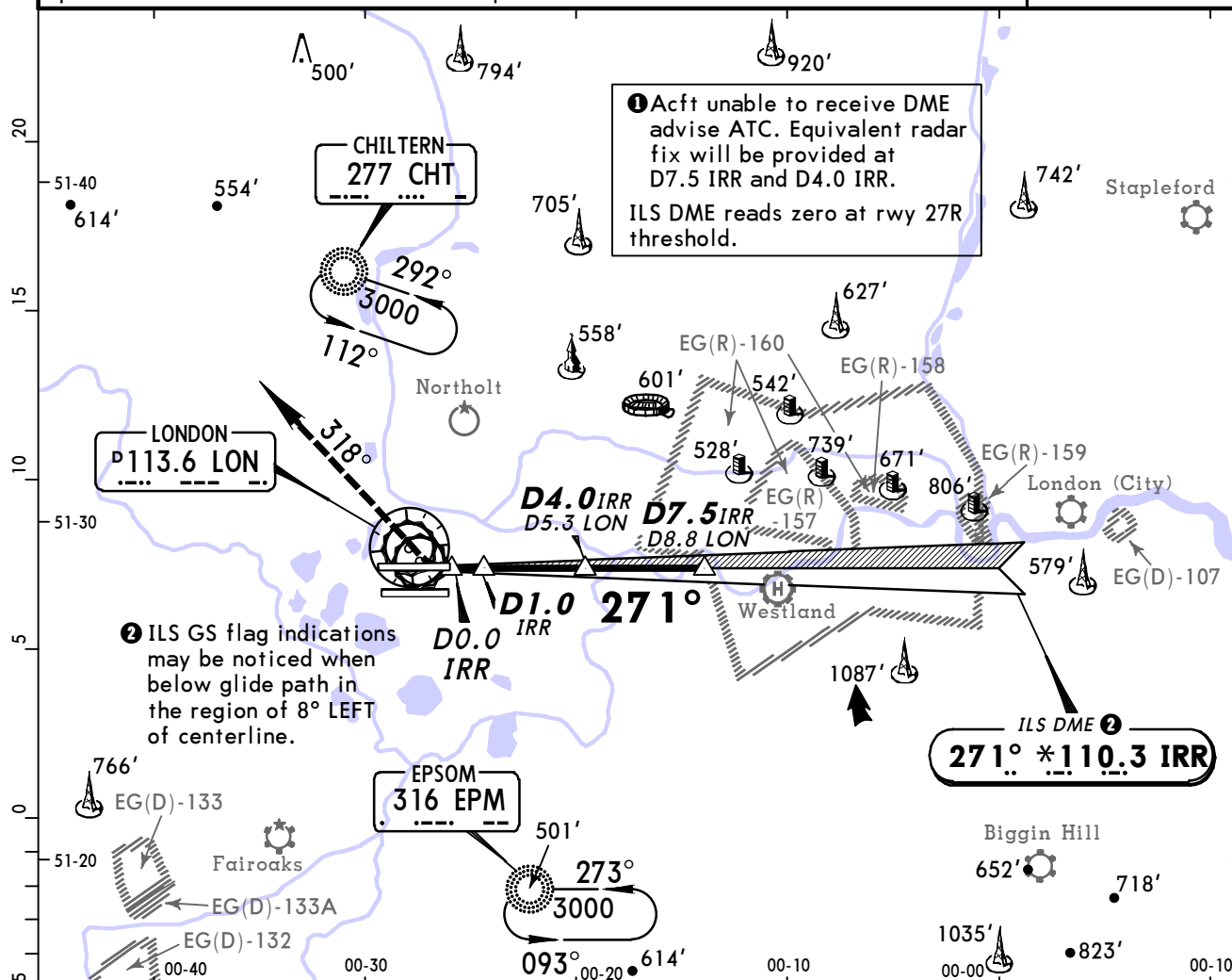


Gnd speed-Kts	70	90	100	120	140	160
ILS GS or LOC Descent Angle 3.00°	377	485	539	647	755	862
MAP at D0.5 IRR						

Standard ILS STRAIGHT-IN LANDING RWY 27R				CIRCLE-TO-LAND			
FULL		Limited	ALS out	LOC (GS out) CDFA DA/MDA(H) 430' (352')		Max Kts	MDA(H) VIS
DA(H) 278' (200')				DA(H) 278' (200')		100	750' (667') 1500m
RVR 550m		RVR 750m	RVR 1200m	RVR 1500m		135	750' (667') 1600m
				RVR 1600m		180	850' (767') 2400m
						205	850' (767') 3600m

MSA
LON VOR

Alt Set: hPa	Rwy Elev: 3 hPa	Trans level: By ATC	Trans alt: 6000'
Special Aircrew & Acft Certification Required.			



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI 1580' whichever later D0.0 IRR 318° RT	
Gs	3.00°	377	485	539	647	755		862

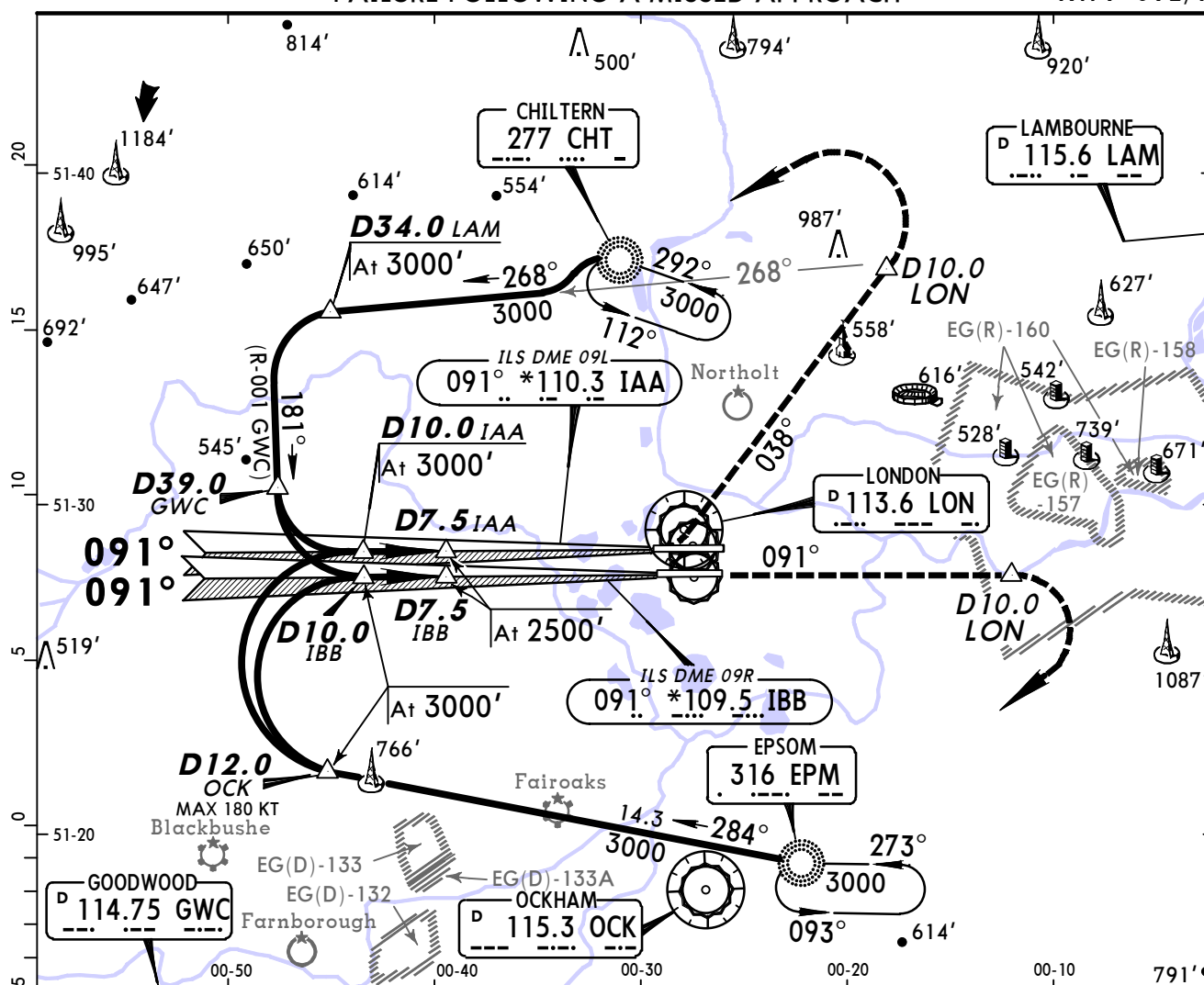
STRAIGHT-IN LANDING RWY **27R**

 $DA(H) \mathbf{178'} (100')$ RVR *200m*RVR **300m** **1**

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PROCEDURES TO BE USED IN THE EVENT OF RADIO
FAILURE FOLLOWING A MISSED APPROACH

RWY 09L/R



Holdings, initial and intermediate approach valid up to 220 KT.

VIA EPSOM NDB

MISSED APCH: In event of radio failure, on passing D10.0 LON turn RIGHT to EPM NDB at 3000', thence:

Rwy 09L: After holding leave EPM NDB on track 284° maintaining 3000'. At D12.0 OCK (MAX 180 KT) turn RIGHT to intercept ILS localizer course to be established at D10.0 IAA. After D10.0 IAA descend to 2500'. Continue approach as charted for rwy 09L.

Rwy 09R: After holding leave EPM NDB on track 284° maintaining 3000'. At D12.0 OCK (MAX 180 KT) turn RIGHT to intercept ILS localizer course to be established at D10.0 IBB. After D10.0 IBB descend to 2500'. Continue approach as charted for rwy 09R.

VIA CHILTERN NDB

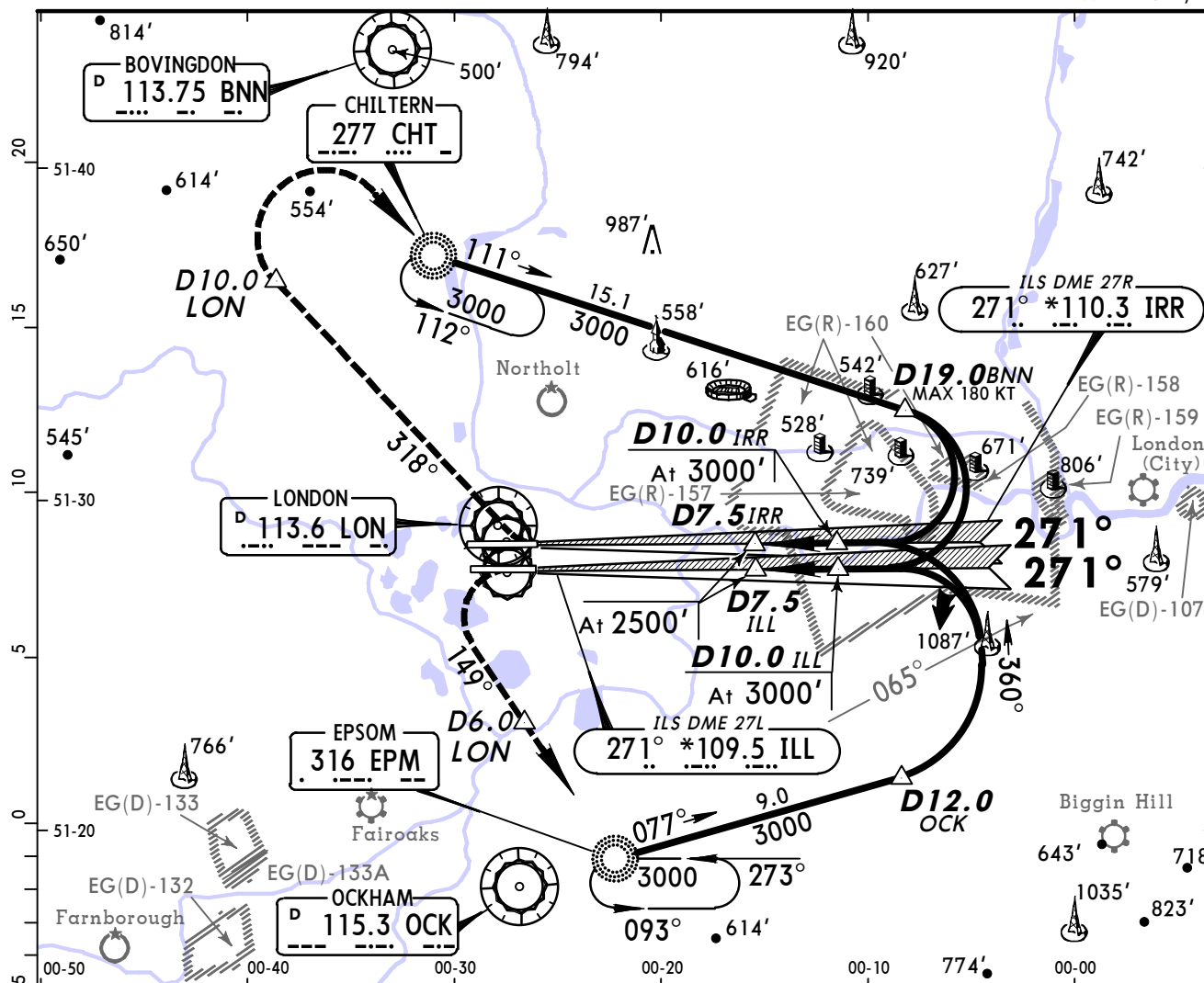
MISSED APCH: In event of radio failure, on passing D10.0 LON proceed to CHT NDB at 3000', thence:

Rwy 09L: After holding leave CHT NDB on R-268 LAM maintaining 3000'. At D34.0 LAM turn LEFT to 181° (R-001 GWC). At D39.0 GWC turn LEFT to intercept ILS localizer course to be established at D10.0 IAA. After D10.0 IAA descend to 2500'. Continue approach as charted for rwy 09L.

Rwy 09R: After holding leave CHT NDB on R-268 LAM maintaining 3000'. At D34.0 LAM turn LEFT to 181° (R-001 GWC). At D39.0 GWC turn LEFT to intercept ILS localizer course to be established at D10.0 IBB. After D10.0 IBB descend to 2500'. Continue approach as charted for rwy 09R.

PROCEDURES TO BE USED IN THE EVENT OF RADIO
FAILURE FOLLOWING A MISSED APPROACH

RWY 27L/R



Holdings, initial and intermediate approach valid up to 220 KT.

VIA EPSOM NDB

MISSED APCH: In event of radio failure, on reaching 3000' proceed to EPM NDB at 3000', thence:

Rwy 27L: After holding leave EPM NDB on R-077 OCK maintaining 3000'. At D12.0 OCK turn LEFT onto track 360°. At R-065 OCK turn LEFT to intercept ILS localizer to be established at D10.0 ILL. After D10.0 ILL descend to 2500'. Continue approach as charted for rwy 27L.

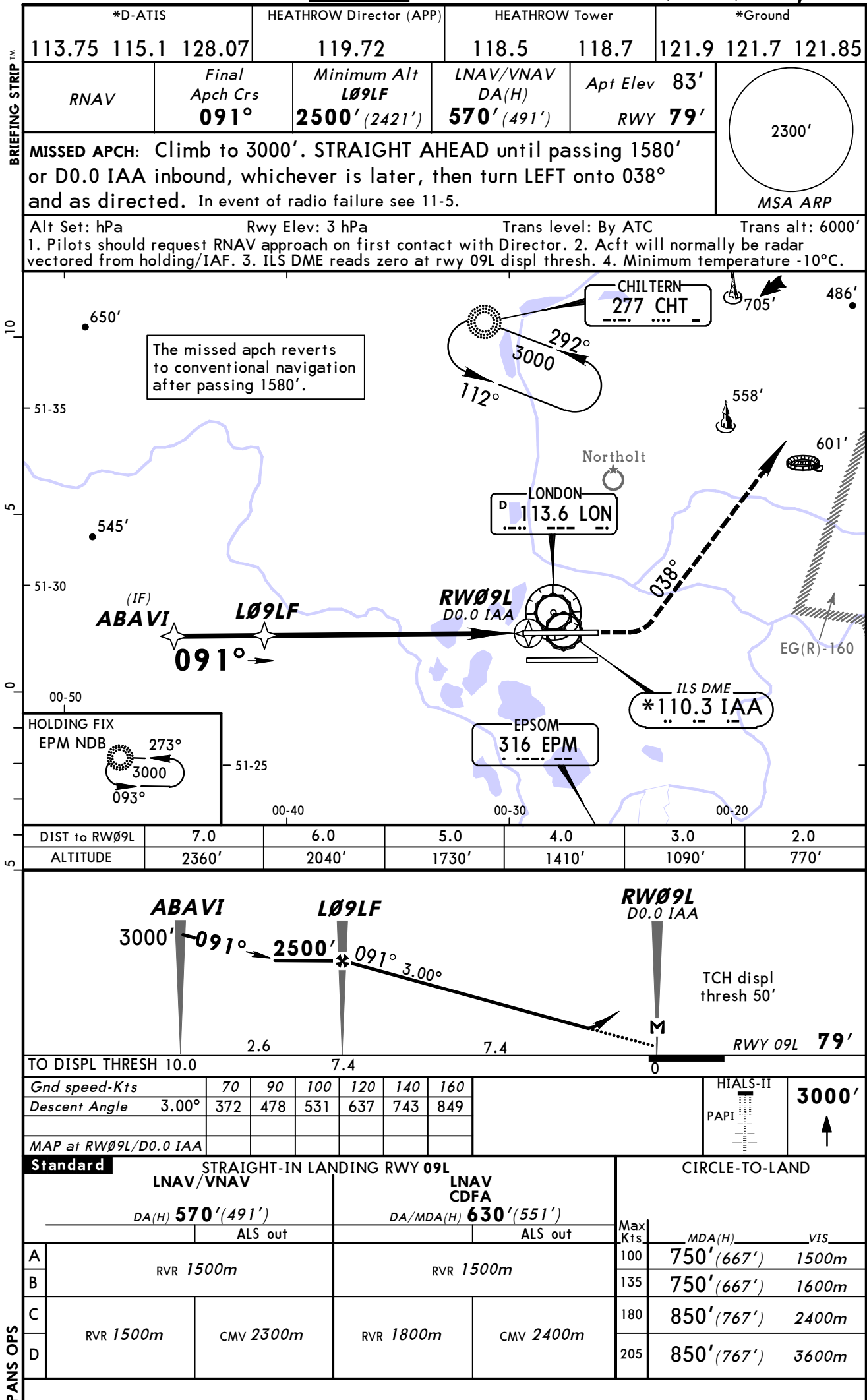
Rwy 27R: After holding leave EPM NDB on R-077 OCK maintaining 3000'. At D12.0 OCK turn LEFT onto track 360°. At R-065 OCK turn LEFT to intercept ILS localizer to be established at D10.0 IRR. After D10.0 IRR descend to 2500'. Continue approach as charted for rwy 27R.

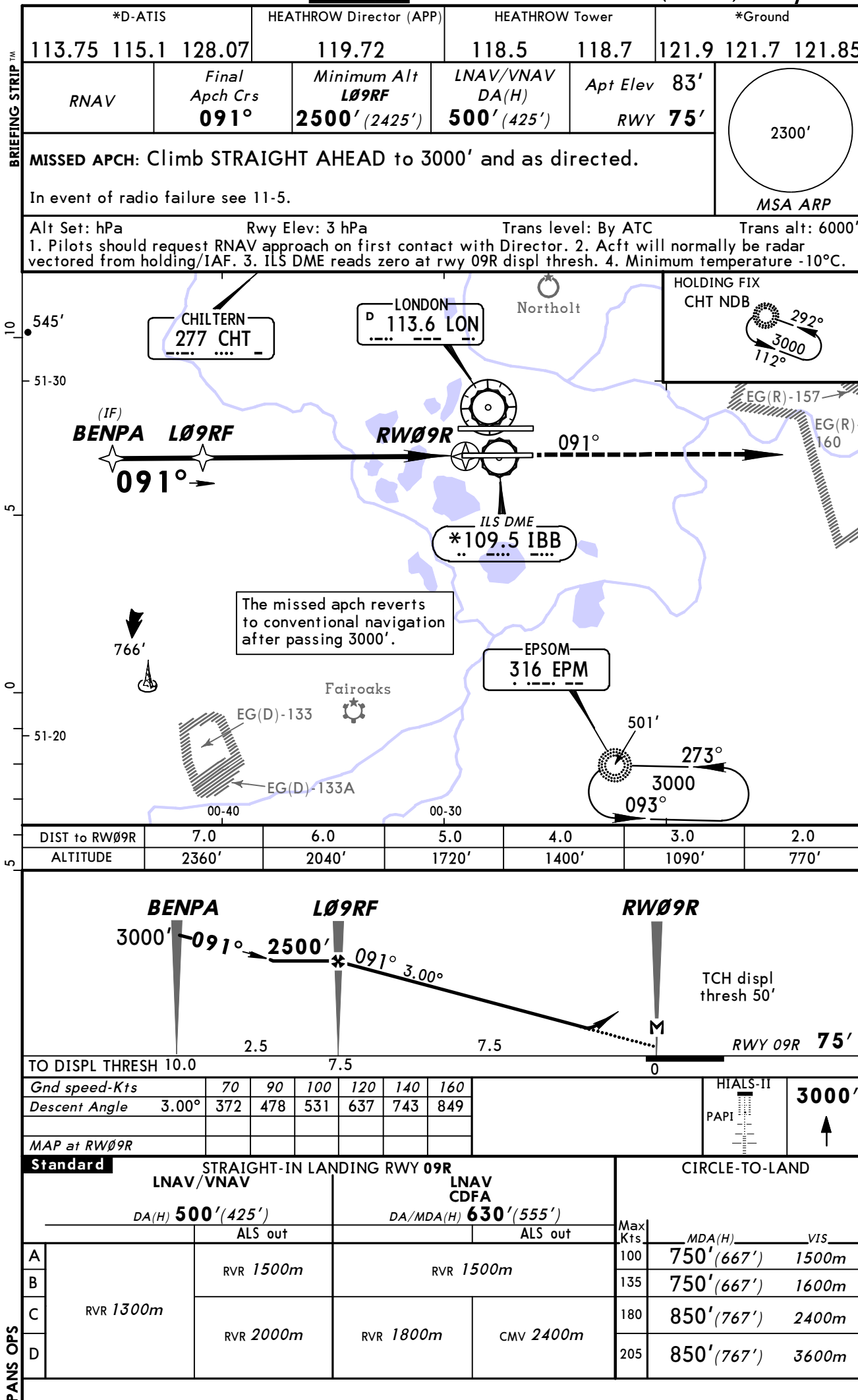
VIA CHILTERN NDB

MISSED APCH: In event of radio failure, on passing D10.0 LON turn RIGHT to CHT NDB at 3000', thence:

Rwy 27L: After holding leave CHT NDB on track 111° maintaining 3000'. At D19.0 BNN (MAX 180 KT) turn RIGHT to intercept ILS localizer to be established at D10.0 ILL. After D10.0 ILL descend to 2500'. Continue approach as charted for rwy 27L.

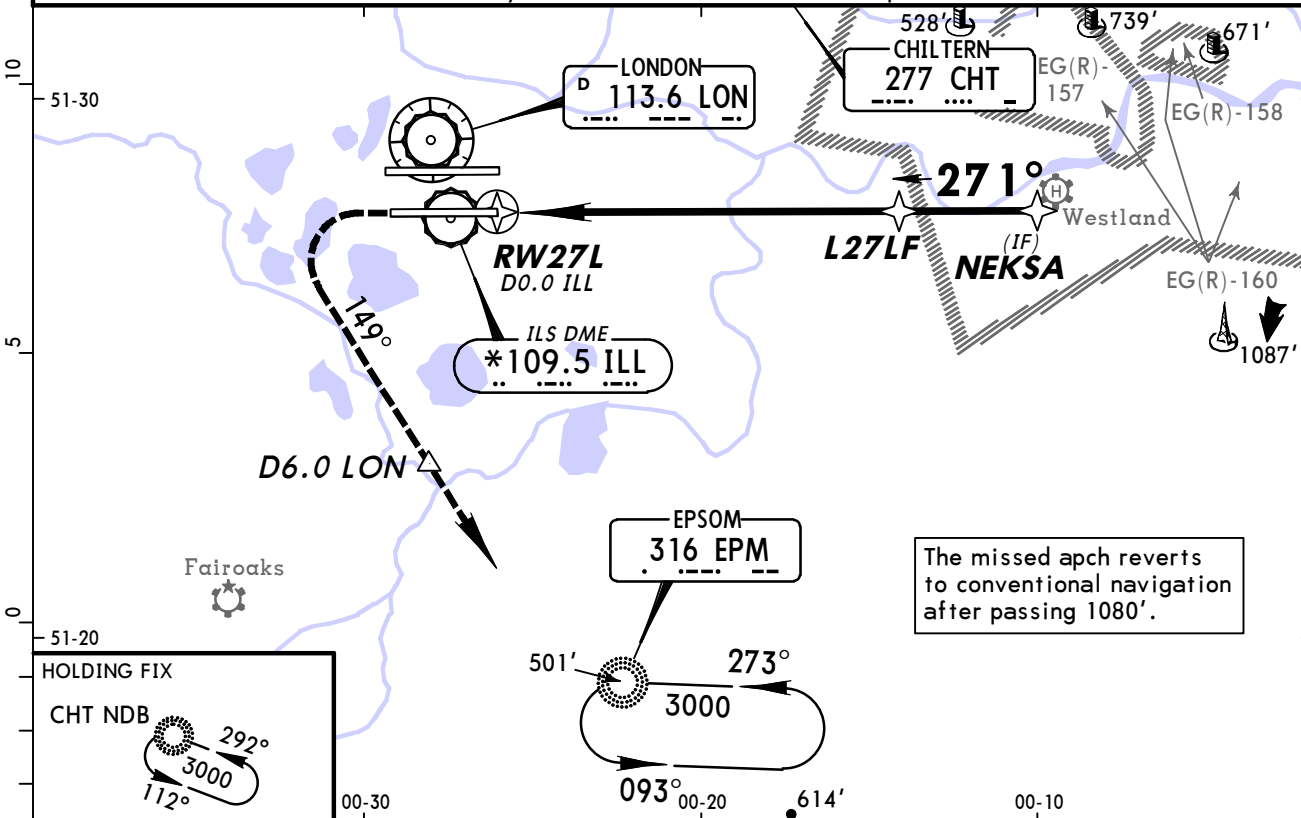
Rwy 27R: After holding leave CHT NDB on track 111° maintaining 3000'. At D19.0 BNN (MAX 180 KT) turn RIGHT to intercept ILS localizer to be established at D10.0 IRR. After D10.0 IRR descend to 2500'. Continue approach as charted for rwy 27R.



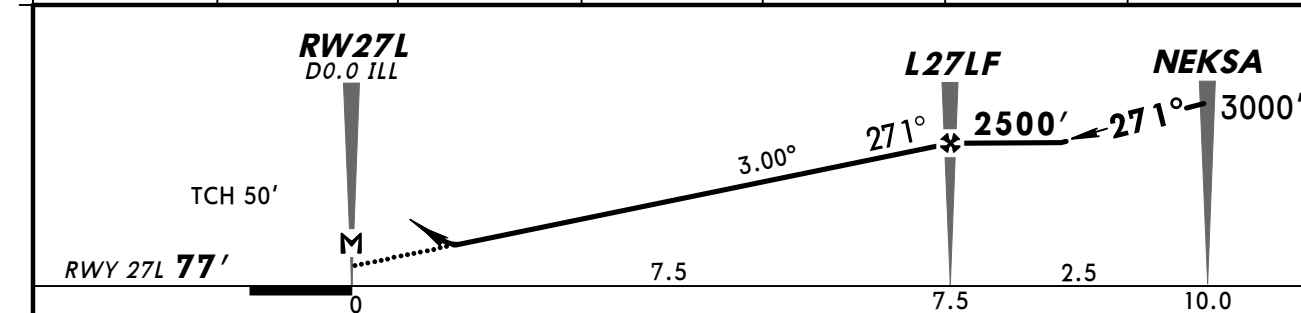


BRIEFING STRIP™

*D-ATIS			HEATHROW Director (APP)		HEATHROW Tower		*Ground			
113.75 115.1 128.07			119.72		118.5 118.7		121.9 121.7 121.85			
RNAV		Final Aptch Crs 271°		Minimum Alt L27LF 2500' (2423')		LNAV/VNAV DA(H) 510' (433')		Apt Elev 83' RWY 77'		2300' MSA ARP
MISSED APCH: Climb to 2000'. STRAIGHT AHEAD until passing 1080' or D0.0 ILL inbound, whichever is later, then turn LEFT onto 149°. When passing D6.0 LON climb to 3000' without delay and as directed. In event of radio failure see 11-6.										
Alt Set: hPa Rwy Elev: 3 hPa Trans level: By ATC Trans alt: 6000'										
1. Pilots should request RNAV approach on first contact with Director. 2. Acft will normally be radar vectored from holding/IAF. 3. Pilots should not expect descent clearance below 4000' until 13 NM from touchdown. 4. ILS DME reads zero at rwy 27L threshold. 5. Minimum temperature -10°C.										

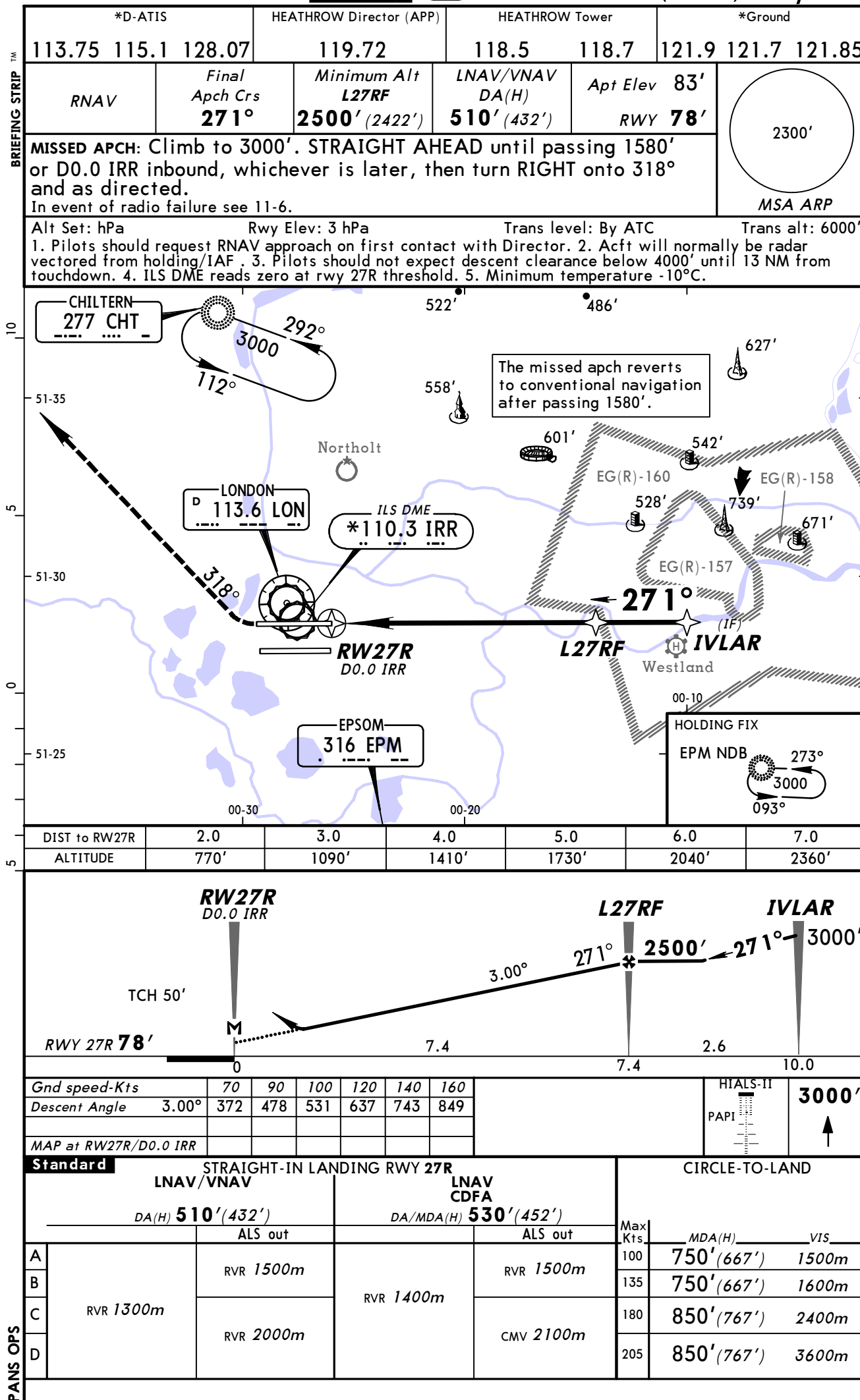


DIST to RW27L	2.0	3.0	4.0	5.0	6.0	7.0
ALTITUDE	770'	1090'	1410'	1720'	2040'	2360'



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI 2000'
Descent Angle	3.00°	372	478	531	637	743	
MAP at RW27L/D0.0 ILL							

STRAIGHT-IN LANDING RWY 27L				CIRCLE-TO-LAND	
LNAV/VNAV		LNAV CDFA		Max Kts	MDA(H) VIS
DA(H) 510' (433')		DA/MDA(H) 560' (483')			
ALS out		ALS out			
A	RVR 1500m	RVR 1500m		100	750' (667') 1500m
B				135	750' (667') 1600m
C	RVR 1300m	RVR 2000m	RVR 1500m	180	850' (767') 2400m
D			CMV 2300m	205	850' (767') 3600m



LONDON, (HEATHROW - EGLL)

TERMINAL CHART CHANGE NOTICES

Chart Change Notices for Airport EGLL

Type: Terminal

Effectivity: Temporary

Begin Date: Immediately

End Date: Until Further Notice

(all SIDs) Eff 8 Mar 12, when ATC removes MAX 250 KT speed restriction below FL100 by the phrase 'No ATC speed restriction', this must not be interpreted as removing the responsibility to adhere to any speed/power limitations due to noise abatement procedures. If a pilot can anticipate to be unable to comply with speed restriction, state minimum speed acceptable when requesting start-up.

Type: Terminal

Effectivity: Temporary

Begin Date: Immediately

End Date: Until Further Notice

(10-2N) BNN holding inbound changed to 118°

Type: Terminal

Effectivity: Temporary

Begin Date: Immediately

End Date: 20130930

Due to resurfacing works in progress on rwy 09R/27L CL u/s. Construction works in progress for 3 rapid ext twys rwy 09R. For additional operational impact refer to latest NOTAMs.