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Airport Information For ENGM

Terminal Charts For ENGM

Revision Letter For Cycle 08-2013

Change Notices

Notebook

General Information

Location: Oslo Nor
IATA Code: OSL
Lat/Long: N60° 12.2' E011° 05.0'
Elevation: 681 ft

Airport Use: Public
Magnetic Variation: 2.4°E

Fuel Types: 100 Octane (LL), Jet A-1, Jet 4
Customs: Yes
Airport Type: IFR
Landing Fee: No
Control Tower: Yes
Jet Start Unit: No
LLWS Alert: No
Beacon: Yes
Pattern Altitude: 1028 ft AGL

Sunrise: 0400 Z
Sunset: 1832 Z,

Runway Information

Runway: 01L
Length x Width: 11811 ft x 148 ft
Surface Type: asphalt
TDZ-Elev: 655 ft
Lighting: Edge, ALS, Centerline

Runway: 01R
Length x Width: 9678 ft x 148 ft
Surface Type: asphalt
TDZ-Elev: 670 ft
Lighting: Edge, ALS, Centerline, TDZ

Runway: 19L
Length x Width: 9678 ft x 148 ft
Surface Type: asphalt
TDZ-Elev: 681 ft
Lighting: Edge, ALS, Centerline

Runway: 19R
Length x Width: 11811 ft x 148 ft
Surface Type: asphalt
TDZ-Elev: 675 ft
Lighting: Edge, ALS, Centerline, TDZ

Communication Information

ATIS 127.15 Departure Service
ATIS 126.125 Arrival Service
Gardermoen Tower 123.325
Gardermoen Tower 120.1
Gardermoen Tower 118.7
Gardermoen Tower 118.3
Gardermoen Tower 25.78 Military
Gardermoen Ground Control 121.925
Gardermoen Ground Control 121.9
Gardermoen Ground Control 121.725
Gardermoen Ground Control 121.6
Gardermoen De-Icing Ramp/Taxi Control 121.85
Gardermoen Clearance Delivery 121.675
Oslo (Sector West) Approach Control 120.45
Oslo (Sector East) Approach Control 118.475
Oslo Final Radar 128.9
Oslo Director (Approach Control Radar) 136.4
Oslo Director (Approach Control Radar) 119.975

1. GENERAL

1.1. ATIS

D-ATIS Arrival 126.12

D-ATIS Departure 127.15

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

Noise abatement procedures at Oslo Gardermoen APT are laid down by the CAA-Norway on 15 FEB 2011 pursuant to the Norwegian Aviation Act Paragraph 9-1 and Paragraph 9-2, cf. Paragraph 15-4 and Paragraph 17-7. This regulation applies at Oslo Gardermoen APT and in the airspace within Gardermoen Control Zone as well as within the outer limits of the Oslo TMA from ground level up to 10000' when departing from or landing at APT.

Exceptions:

- propeller ACFT with MTOW less than or equal to 5700 kg
- helicopters operated according to visual flight rules (VFR)
- calibration flights
- ambulance flights and in-flight emergencies
- flights related to fire fighting or search and rescue
- military flights with fighter jets
- military flights related to test or training activities in the period 0700-2230LT, including touch-and-go circuits.

These noise restrictions do not apply to military flights:

Departures with ACFT not complying with noise regulations of ICAO Annex 16, Vol1.5, edition July 2008 chapter 3 are not permitted in the period 1600-0800LT.

Departures with ACFT having a noise certification exceeding 88 EPNdB at departure are not permitted between 2400-0630LT.

Oslo Gardermoen APT may be used as alternate aerodrome at all times.

1.2.2. PREFERENTIAL RUNWAY SYSTEM

Between 2230-2400LT, the following rules apply;

- For jets and propeller ACFT with MTOW exceeding 5700 kg and four engines or more, RWY 01R and RWY 19R are to be used for landing and RWY 01L and 19L for departure (segregated runway operations).
- For other traffic, RWY 01L and 19R must be used (single runway operation), except in cases of runway closure.

Between 2400-0630LT RWY 01L or 19R are to be used (single runway operation). In special situations segregated runway operation may be used when this is required for efficient traffic regulation. When weather conditions require the use of ILS CAT II/III, RWY 01R may be used for arrivals.

1.2.3. REVERSE THRUST

Between 2230-0630LT jet engine reversal beyond idle reverse is not permitted after landing.

1.2.4. RUN-UP TESTS

Engine testing applying more than idle thrust must only take place in a special noise dampening site, following instructions issued by Avinor.

1.2.5. AUXILIARY POWER UNIT (APU)

Between 2230-0630LT the use of APU after arrival at or before departure from a parking stand supplied with a ground power unit and air conditioning, must not exceed five minutes. This limitation does not apply when ambient air temperature at the parking stands is below 15° Celsius or above +20° Celsius.

In order to reduce the risk of fire when fuelling of ACFT with APU in use, fuelling shall only take place if APU can be switched off immediately if necessary. In case of fuel spill, APU shall not be started during fuelling of ACFT.

1.3. LOW VISIBILITY PROCEDURES

Pilots will be informed when low visibility procedures are in operation via ATIS or RTF. Pilots will be informed when low visibility procedures are cancelled via RTF.

1. GENERAL

Low visibility procedures are prompted by ATC, normally when RVR is less than 1000m or ceiling is less than 300'. Low visibility procedure will normally be in operation when RVR is less than 550m and ceiling less than 200'.

Surface movement radar is normally available to ATC.

Pilots are to delay the call "runway vacated" until the ACFT has completely passed the end of the green/yellow colour coded TWY centerline lights.

During visibility condition when RVR is less than 350m, RWY entries/exits are available as follows:

RWY	01L	01R	19L	19R
RWY entry	A1, A2, A4, A5, C1	B1 only	B6, B7, B8, B9	A7, A9, C3, C1
RWY exit	A9, C1, C3	B6, B7, B8, B9	B1 only	A5, A4, A2, A1, C3, C1
RWY crossing points	A7 to C3 and vice versa (TWY C3 code letter C). C1 to A4 and vice versa (published Hot Spot).	Not applicable	Not applicable	A7 to C3 and vice versa (TWY C3 code letter C). C1 to A4 and vice versa (published Hot Spot).

TWY lights on other entries/exits will be switched-off.

In visibility condition 3 (RVR less than 400m) selected stopbars are operated at intermediate holding positions.

In visibility conditions at or above RVR 400m, intersection entries are available.

1.4. SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM

1.4.1. OPERATION OF MODE S TRANSPONDERS WHEN ACFT IS ON THE GROUND

ACFT operators shall ensure that Mode S transponders are able to operate when the ACFT is on the ground.

Pilots shall select AUTO mode and assigned Mode A code.

If AUTO mode is not available, select ON (e.g. XPDR) and assigned Mode A code:

- from the request for push-back or taxi, whichever is earlier,
- after landing, continuously until the ACFT is parked on stand,
- when parked on stand, select STBY.

Whenever the ACFT is capable of reporting ACFT ident (i.e. callsign used in flight), the ACFT ident should also be entered from the request for push-back or taxi, whichever is earlier (through the FMS or the transponder control panel). ACFT crew must use the ICAO defined format for entry of the ACFT ident (e.g. AFR6380, SAS589, BAW68PG).

To ensure that the performance of systems based on SSR frequencies (including airborne TCAS units and SSR radars) is not comprised; TCAS should not be selected before receiving the clearance to line-up. It should then be deselected after vacating the RWY.

For ACFT taxiing without flight plan, Mode A code 2000 shall be selected.

ACFT not equipped with Mode S transponder shall select STBY during ground operations.

1.5. TAXI PROCEDURES

Stop bars at CAT III holding points may be in operation during all visibility conditions.

TWY C MAX wingspan 118'/36m between entrance to stand 330 and exit from stand 338.

1. GENERAL

1.6. PARKING INFORMATION

On stands 11 and 13 thru 53 SAFEGATE available.

1.7. OTHER INFORMATION

Birds.

2. ARRIVAL

2.1. SPEED RESTRICTIONS

MAX 250KT or as instructed by ATC. Advise if reducing speed below instructed speed.

Regulations for jet and propeller ACFT with MTOW exceeding 5700 kg and four or more engines:

The following rules applies for speed and configuration:

- In the area north of N59 55.0 and south of N60 30.0 the mandatory speed range is 230 KT +/-20 KT until initiating the turn from the downwind leg to the base leg or until entering the corresponding part of the approach.
- The mandatory speed range for ILS intercept is 180 KT +/-20 KT.
- Full landing configuration should be avoided prior to DME 4 from GP for ILS approaches, DME 5 GRM for VOR/DME approaches, or DME 4 THR for RNAV/ GNSS approaches. Full landing configuration is to be understood as gear down, flaps and slats set in landing configuration and final approach speed.

2.1.1. SPEED AND LEVEL RESTRICTIONS

Speed restrictions before entering the TMA can be expected. Plan descent so that level restrictions in the TMA are not exceeded when ATC speed restrictions are imposed.

It is imperative that speed and level restrictions described in the STAR or assigned by ATC are complied with. ATC must be informed of any deviation from assigned speed or level.

2.2. NOISE ABATEMENT PROCEDURES

Regulations for jet and propeller ACFT with MTOW exceeding 5700 kg and four or more engines:

Approach and landings are to be carried out in a manner that minimizes noise as much as possible through the use of continuous descent, low power and low drag.

The following minimum altitudes applies:

- North of N 60 30.0 the minimum altitude is 5000'.
- South of N 59 55.0 the minimum altitude is 5000'.
- In the area north of N59 55.0 and south of N60 30.0 the minimum altitude is 5000' until initiating the turn from the downwind leg to the base leg or until entering the corresponding part of the approach.
- The minimum altitude for being established on the ILS glide path or a non-precision approach is 4000'.

The use of holding patterns is prohibited in Oslo TMA. Holding patterns may still be used at altitudes above 5000' in the event of a situation that requires a halt in arriving traffic. Visual approaches are not permitted. Visual approaches in form of visual step-over to a parallel runway after joining final approach is permitted if considered necessary by ATC.

Regulations for propeller aircraft with MTOW exceeding 5700 kg and with fewer than four engines, and for helicopters operating IFR:

Approach and landing must normally be carried out in a manner that minimizes noise. IFR-flights must be established on the extended centerline at minimum of 2500' before commencing further descent for landing. When on a visual approach, ACFT shall follow a descent path from 2500' which at no point is at a lower altitude than the ILS glide path.

2. ARRIVAL

2.3. CAT II/III OPERATIONS

RWYs 01R and 19R approved for CAT II/III operations, special aircrew and ACFT certification required.

2.4. TAXI PROCEDURES

Allowances shall be made for 10 min taxiing time.

When exiting at A4, A5, A6, B3, B4, B6 or B7, exit speed must be adjusted to allow for a gradually increasing curvature. Excessive speed through the curve may incur a risk of TWY excursion under low friction conditions.

2.5. OTHER INFORMATION

2.5.1. POINT MERGE SYSTEM

STAR is based on Point Merge System (PMS), and accommodates Basic Continuous Descent Operations (B-CDO). Arriving traffic established on the STAR may at any time be cleared direct to the Merge Point (MP), and must be prepared for this. Succeeding arriving ACFT can thus be turned direct to the MP when sufficient spacing to preceding traffic is achieved. By doing this, an accurate sequence can be attained while allowing the ACFT to maintain own navigation (LVAV). ACFT shall, unless another clearance is given by ATC, maintain level and speed assigned for the relevant STAR.

3. DEPARTURE

3.1. DE-ICING

De-icing of ACFT may only be performed on the dedicated platforms.

De-icing stand is assigned by the de-ice coordinator.

Report to ATC if the ACFT needs de-icing, preferably during initial contact with Delivery. Contact the de-icing coordinator on 121.85, after ATC-clearance is obtained, unless de-icing has not already been requested at the gate.

De-icing is completed when a message including the ACFT callsign, details about the de-icing and the phrase "Equipment removed" is received from the de-ice coordinator via RTF. Do not move the ACFT until "all clear signal" (thumbs up) is given from ground crew and taxi instructions are received from ATC.

Listening watch on last assigned ATC frequency is to be maintained during de-icing. Pilots are requested to maintain listening watch on the de-ice coordinator frequency until the ACFT is leaving the de-icing platform. Request for taxi instructions shall be forwarded to ATC. Specify RTF callsign and de-ice stand on which the ACFT is parked.

3.2. START-UP, PUSH-BACK & TAXI PROCEDURES

3.2.1. START-UP & PUSH-BACK

Push-back procedure mandatory for JET ACFT at nose-in stands.

Jet ACFT performing push-back, shall start engines during or after push-back has been performed, unless otherwise instructed.

Request for start-up clearance shall be made to Delivery, unless otherwise instructed.

Request for push-back clearance shall be made on Ground.

Start-up positions 1, 2, 4 thru 6 and 10 available to code A, B and C ACFT only.

Start-up positions 12 and 13 available to code D, E and F ACFT only.

Start-up positions 16 and 17 available to code E ACFT only.

Start-up may be performed from stands

- 9 thru 13 on TWY K1, but clear of TWY K2,
- 41 thru 47 on TWY L1, but clear of TWY L2,
- 173 thru 178 on TWY K2, but clear of TWY K1
- 181 thru 184 on TWY L2, but clear of TWY L1.

ACFT parked at the following stands will be pushed as follows:

Stands 15, 177 and 178, ACFT will be pushed to start-up position 2.

Stand 39, ACFT will be pushed to start-up position 4.

Stand 41, ACFT will be pushed straight back clear of TWYL2 or to start-up position 4.

Stand 49, code A, B and C ACFT will be pushed to start-up position 10, facing East and code D and E ACFT will be pushed to position 9 between TWYs L1 and L2, facing East.

Stand 50, code A, B and C ACFT will be pushed straight back clear of TWYs G and F and code D and E ACFT will be pushed to start-up position 8, facing North on TWY F. Stands 46R and 48, code E ACFT will be pushed to start-up position 16 facing East or start-up position 17 facing West.

Stand 51, ACFT will be pushed to start-up position 7.

Stand 53, code D and E ACFT will be pushed to start-up position 8.

Stands 171, 171L and 172, ACFT will be pushed to start-up position 3.

Stands 173 thru 176, ACFT will be pushed to start-up position 1.

Stands 181 and 182 ACFT will be pushed to start-up position 5 facing East.

Stands 183 and 184 ACFT will be pushed to start-up position 6 facing East.

Stand 185, code D ACFT will be pushed to start-up position 9 between TWYs L1 and L2 facing East.

Stands 185 and 186, code C ACFT will be pushed to start-up position 6 facing East.

Stand 186, code D and E ACFT will be pushed to start-up position 7 facing South.

Stand 187, ACFT will be pushed to start-up position 11.

3. DEPARTURE

Straight push-back are available after coordination with Ground control for stands 173 thru 178 and 181 thru 184.

Stands 201L and 203L, code D, E and F ACFT will be pushed to start-up position 12 facing North and to start-up position 13 facing South.

To avoid blast at stands when turning out from start-up position to TWY, as little power as possible shall be used.

3.2.2. TAXIING

Initial turn directions:

- LEFT from stands 34 and 201,
- RIGHT from stand 32 and 204,
- 170 and 180 stand series and stands on South side of terminal:
- Turn shortest way according to direction on TWY.
- optional from other positions unless specified by ATC.
- from straight push-back positions join TWY at an angle of approximately 45°.

Departure from intersections available on request.

For Taxi Routings refer to 10-9 charts.

3.2.3. ATC CLEARANCE

Departing flights shall contact GARDERMOEN Delivery to obtain ATC clearance.

Specify stand number. Request for ATC clearance may take place at the earliest 30 minutes, and at the latest 10 minutes prior to anticipated engine start-up. Listening watch shall thereafter be maintained on GAERDERMOEN Delivery.

3.3. NOISE ABATEMENT PROCEDURES

Regulations for jet ACFT and propeller ACFT with MTOW exceeding 5700 kg and four or more engines:

Intersection departure is not permitted on RWY 01R. On RWY 19L intersection departure is not permitted from positions at or South of intersection B6.

Climb-out must be confined to the tolerance corridor associated with each departure route (SID). The location of the corridor walls and the coordinates for the end points of the exit windows for departures from RWY 01L, 01R, 19L and 19R are given on charts. Take-off and climb-out must be in accordance with ICAO DOC. 8168-OPS/ 611, Vol. 1, 5th edition 2006, Part I, Section 7, Appendix to Chapter 3 no. 3 (NADP 2), except for at departure from RWY 01R through the tolerance corridor towards the east. For this departure route, take-off and climb-out must be in accordance with ICAO DOC. 8168-OPS/ 611, Vol. 1, 5th edition 2006, Part I, Section 7, Appendix to Chapter 3 no.2 (NADP 1).

Regulations for propeller ACFT with MTOW exceeding 5700 kg and with fewer than four engines, and for helicopters operating IFR:

Climb-out must be confined to the tolerance corridor associated with each departure route (SID), but may be directed and flown outside the appropriate tolerance corridor after reaching 1700' or more.

3.4. OTHER INFORMATION

3.4.1. CALCULATED TAKE-OFF TIME (CTOT)

ACFT shall be ready for take-off at the RWY holding point not later than the CTOT.

A taxi time of 10 min generally has to be taken into account. If ACFT de-icing is required at the respective remote de-icing areas near the RWYs, taxi times including de-icing may exceed 30 min.

Pilots shall be ready to start engines duly in advance of their CTOT and request start-up from Delivery accordingly.

Start-up clearance may be withheld by ATC if the necessary taxi time does not suffice to comply with a CTOT.

Pilots who are aware that they cannot comply with the CTOT, shall dully apply for a new CTOT via the airline operator or handling agent. In exceptional cases, Delivery will handle coordination with CFMU.

RADAR MINIMUM ALTITUDES

1. Minimum safe altitudes are temperature corrected down to 0 Celsius.
2. This chart may only be used for cross checking of assigned altitudes.



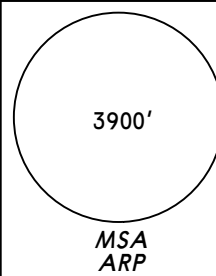
ATIS
126.12

Apt Elev
681'

Alt Set: hPa Trans level: By ATC Trans alt: 7000'

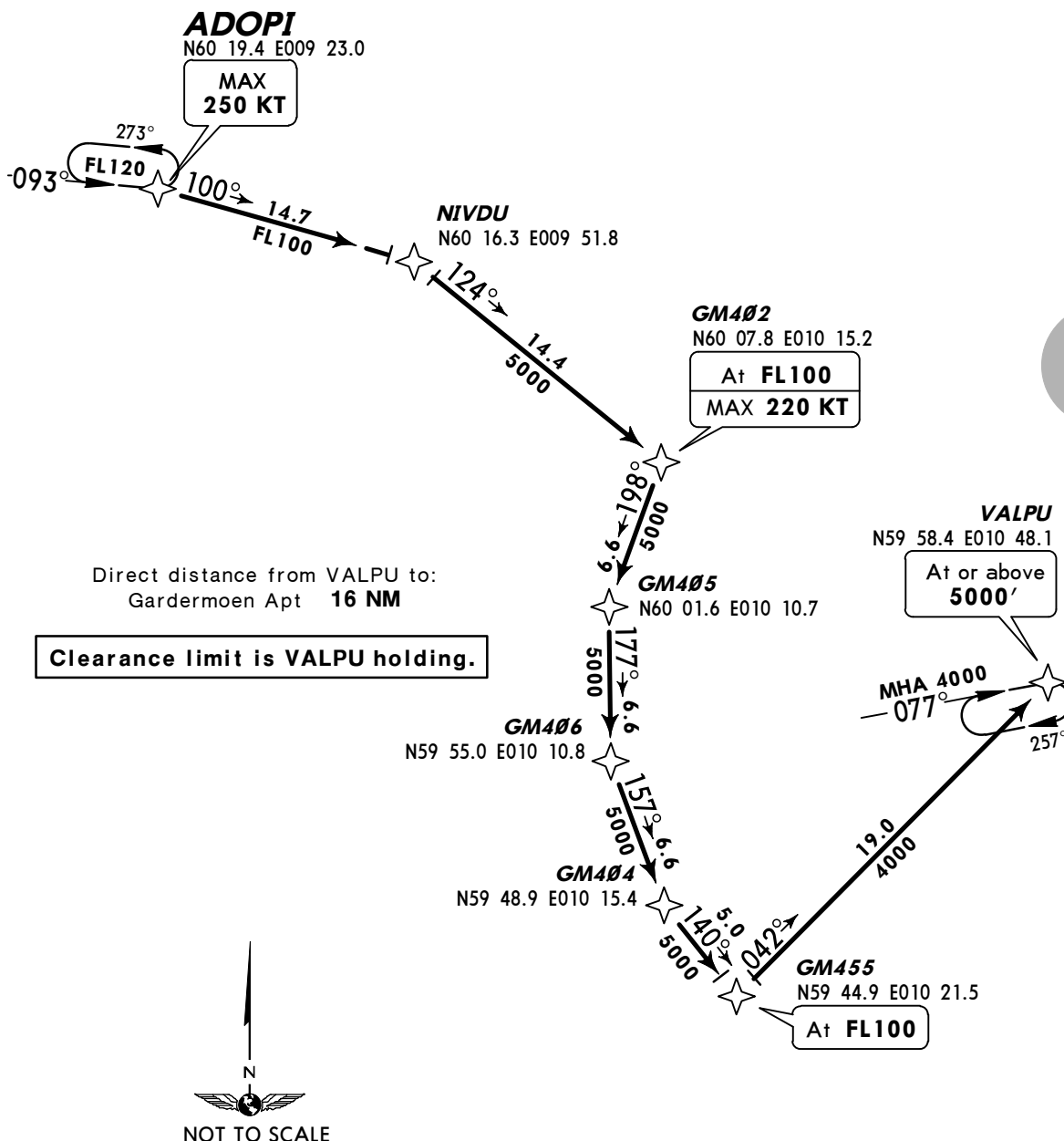
1. RADAR service shall be available.
2. Loss of RNAV capability, request vectoring.
3. Vectoring may be used when necessary.
4. Descend as cleared by ATC.

ADOPI TWO LIMA
(ADOPI 2L) [ADOP2L]
RWYS 01L/R P-RNAV ARRIVAL
P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)
P-RNAV APPROVAL REQUIRED
RNAV 1



~~SPEED~~ MAX 250 KT UNLESS OTHERWISE INSTRUCTED

LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS
Start approach to the assigned runway without delay.
If no specified runway for landing has been assigned,
start approach to runway 01R without delay.
LOST COMMS ▲ SWW00 1S01 ▲ SWW00 1S01 ▲ SWW00 1S01 ▲ SWW00 1S01 ▲ SWW00 1S01



ROUTING

ADOPI (K250-) - NIVDU - GM402 (FL100; K220-) - GM405 - GM406 - GM404 - GM455 (FL100) - VALPU (5000'+)

Alt Set: hPa Trans level: By ATC Trans alt: 7000'

1. RADAR service shall be available.
2. Loss of RNAV capability, request vectoring.
3. Vectoring may be used when necessary.
4. Descend as cleared by ATC.

3900' MSA
ARP



ADOPI (K250-) - EXUDA - GM428 (FL100; K220-) - GM429 - GM430 - GM431 - GM452 (FL100) - BAVAD (5000'+).

ATIS
126.12

Apt Elev
681'

Alt Set: hPa Trans level: By ATC Trans alt: 7000'
1. RADAR service shall be available.
2. Loss of RNAV capability, request vectoring.
3. Vectoring may be used when necessary.
4. Descend as cleared by ATC.

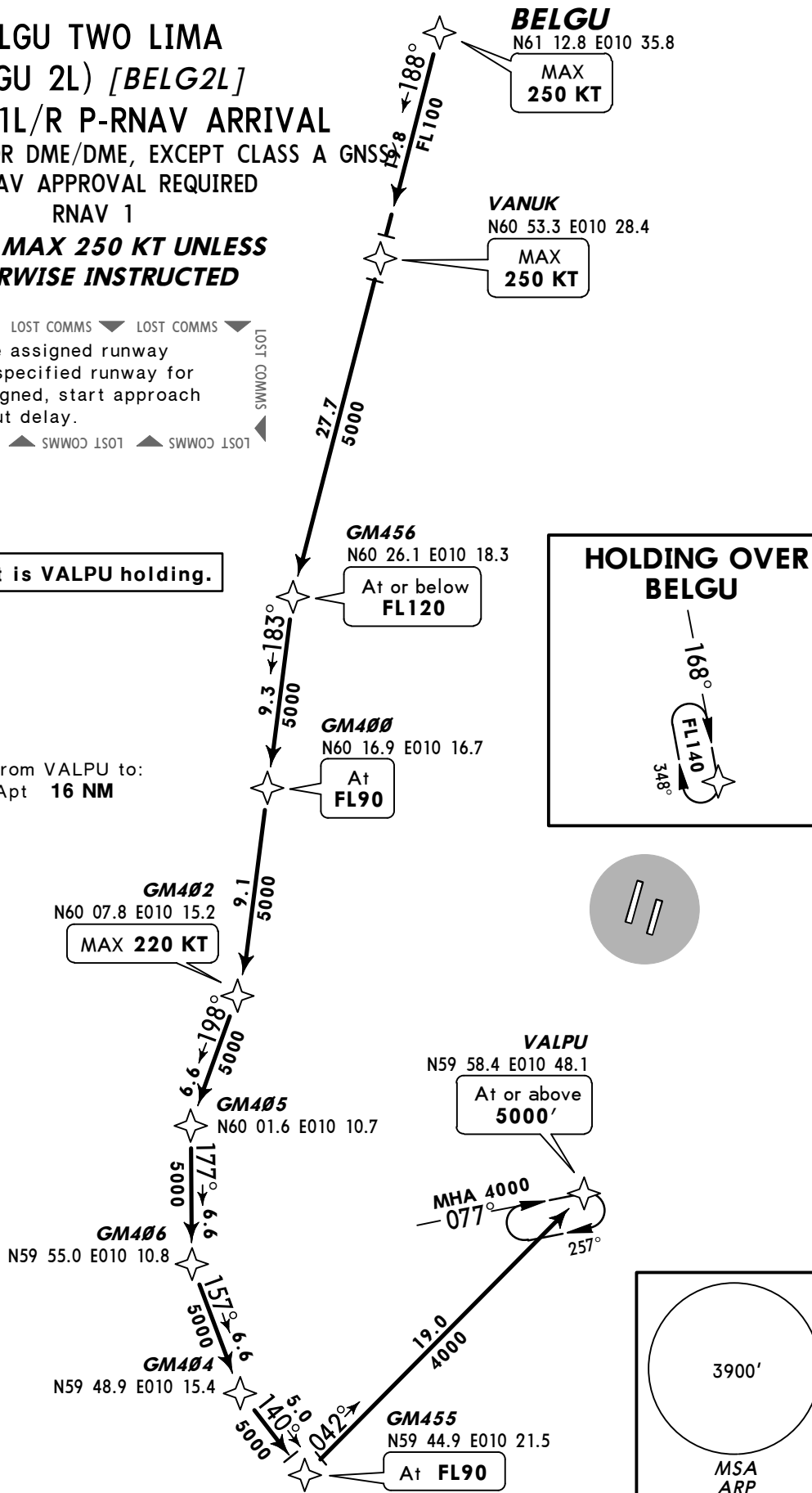
BELGU TWO LIMA
(BELGU 2L) [BELG2L]
RWYS 01L/R P-RNAV ARRIVAL
P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)
P-RNAV APPROVAL REQUIRED
RNAV 1

**~~SPEED~~ MAX 250 KT UNLESS
OTHERWISE INSTRUCTED**

COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS
Start approach to the assigned runway
without delay. If no specified runway for
landing has been assigned, start approach
to runway 01R without delay.
SWW03 LS01 ▲ SWW03 LS01 ▲ SWW03 LS01 ▲ SWW03 LS01

Clearance limit is VALPU holding.

Direct distance from VALPU to:
Gardermoen Apt 16 NM



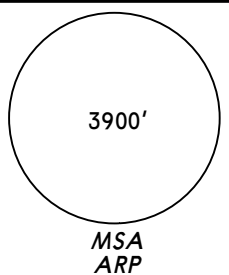
ROUTING

BELGU (K250-) - VANUK (K250-) - GM456 (FL120-) - GM400 (FL90) - GM402 (K220-) -
GM405 - GM406 - GM404 - GM455 (FL90) - VALPU (5000'+).

ATIS
126.12Apt Elev
681'

Alt Set: hPa Trans level: By ATC Trans alt: 7000'

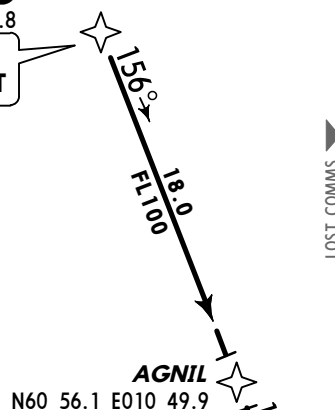
1. RADAR service shall be available.
2. Loss of RNAV capability, request vectoring.
3. Vectoring may be used when necessary.
4. Descend as cleared by ATC.

**BELGU TWO MIKE**
(BELGU 2M) [BELG2M]**RWYS 19L/R P-RNAV ARRIVAL**

P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

RNAV APPROVAL REQUIRED

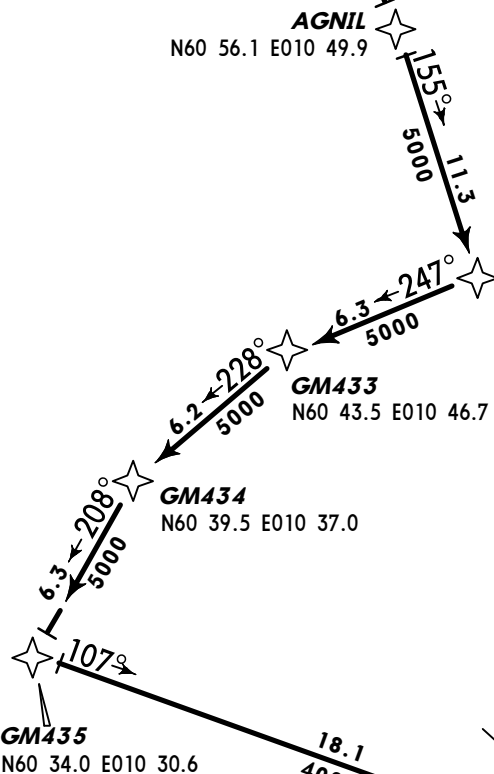
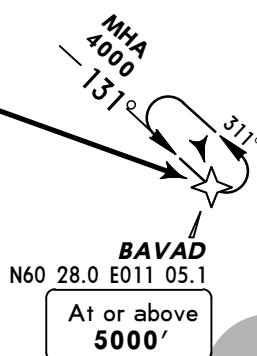
RNAV 1

~~SPEED~~ MAX 250 KT UNLESS OTHERWISE INSTRUCTED**BELGU**
N61 12.8 E010 35.8MAX
250 KT

LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼

Start approach to the assigned runway without delay. If no specified runway for landing has been assigned, start approach to runway 19R without delay.

▲ SWWOC LOST ▲ SWWOC LOST ▲ SWWOC LOST ▲ SWWOC LOST

GM432
N60 45.7 E010 58.7At FL110
MAX 220 KT**Clearance limit is BAVAD holding.**Direct distance from BAVAD to:
Gardermoen Apt **16 NM****GM435**
N60 34.0 E010 30.6At
FL110**HOLDING OVER
BELGU****ROUTING**BELGU (K250-) - AGNIL - GM432 (FL110; K220-) - GM433 - GM434 - GM435 (FL110) -
BAVAD (5000'+).

D-ATIS
126.12

Apt Elev
681'

Alt Set: hPa Trans level: By ATC Trans alt: 7000'
1. RADAR service shall be available.
2. Loss of RNAV capability, request vectoring.
3. Vectoring may be used when necessary.
4. Descend as cleared by ATC.

ESEBA THREE LIMA

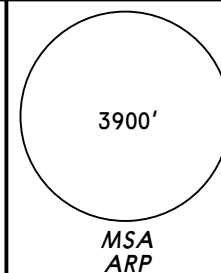
(ESEBA 3L) [ESEB3L]

RWYS 01L/R P-RNAV ARRIVAL

P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

RNAV APPROVAL REQUIRED

RNAV 1

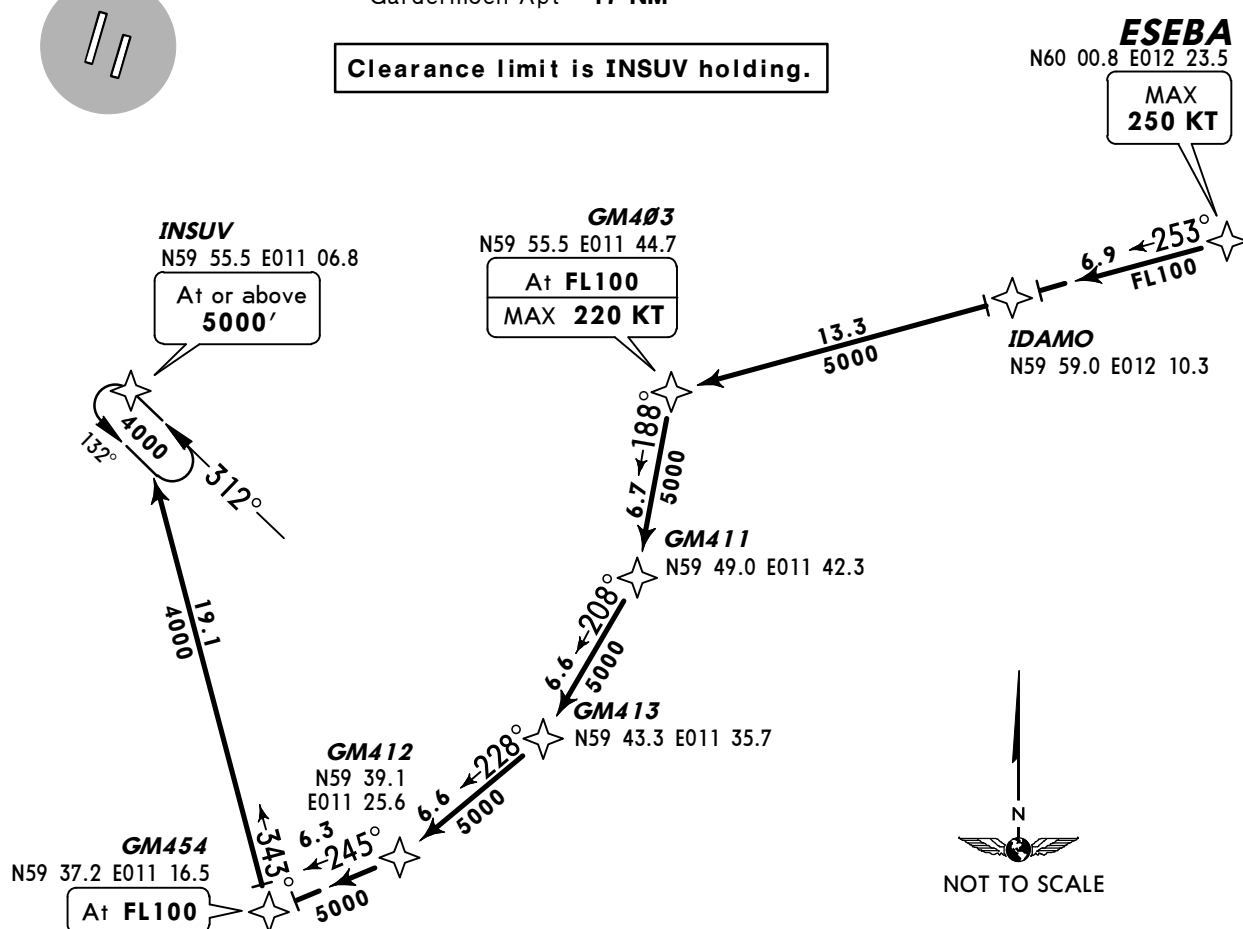


~~SPEED~~ MAX 250 KT UNLESS OTHERWISE INSTRUCTED

LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS
Start approach to the assigned runway without delay.
If no specified runway for landing has been assigned,
start approach to runway 01R without delay.
LOST COMMS ▲ SWWOC LSOT ▲ SWWOC LSOT ▲ SWWOC LSOT ▲ SWWOC LSOT ▲ SWWOC LSOT

Direct distance from INSUV to:
Gardermoen Apt 17 NM

Clearance limit is INSUV holding.



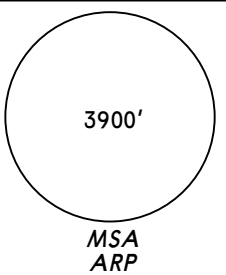
ROUTING

ESEBA (K250-) - IDAMO - GM403 (FL100; K220-) - GM411 - GM413 - GM412 - GM454 (FL100) - INSUV (5000'+).

D-ATIS
126.12

Apt Elev
681'

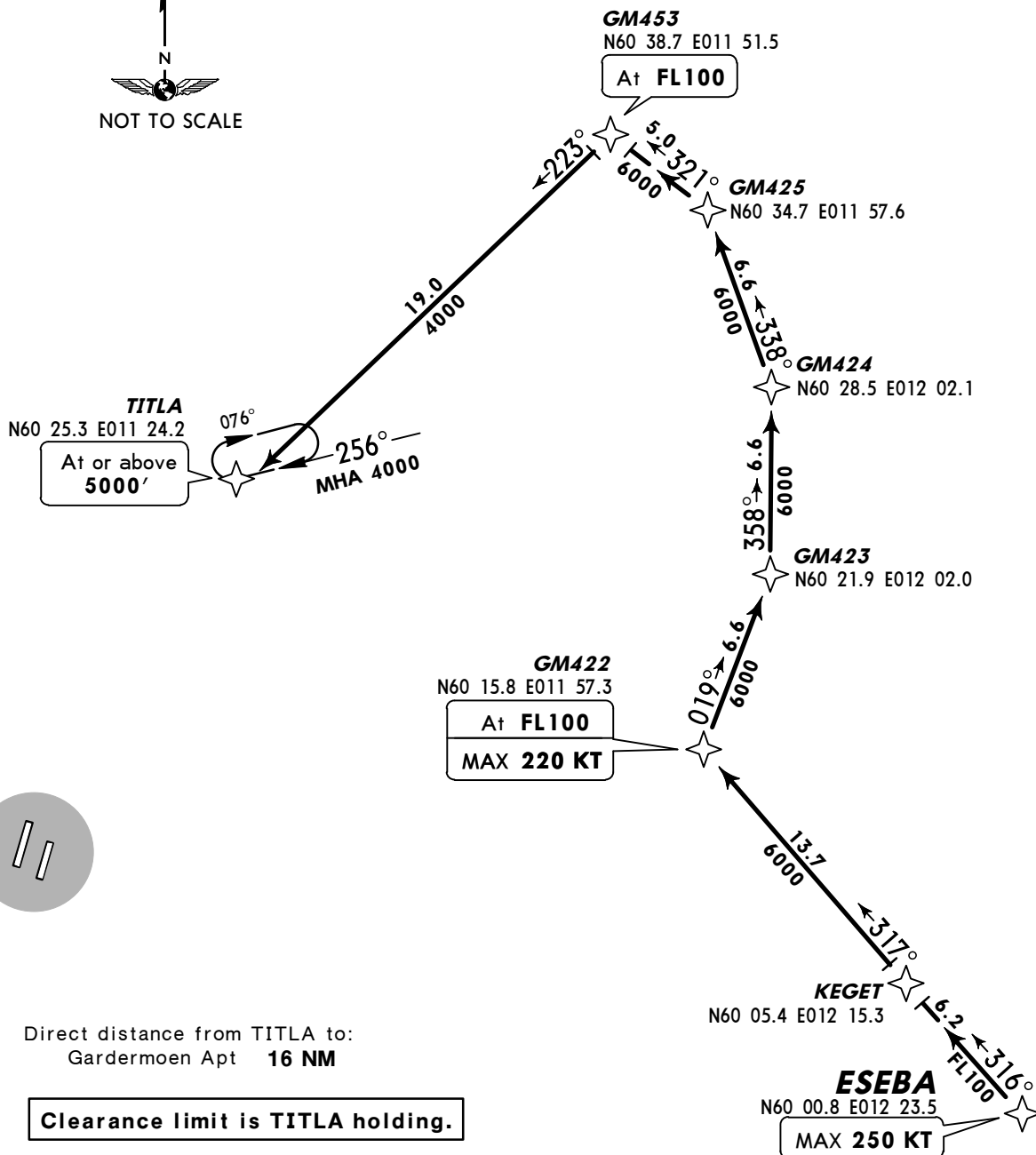
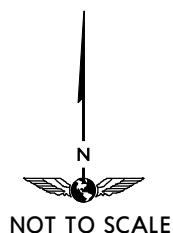
Alt Set: hPa Trans level: By ATC Trans alt: 7000'
1. RADAR service shall be available.
2. Loss of RNAV capability, request vectoring.
3. Vectoring may be used when necessary.
4. Descend as cleared by ATC.



ESEBA THREE MIKE
(ESEBA 3M) [ESEB3M]
RWYS 19L/R P-RNAV ARRIVAL
P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)
RNAV APPROVAL REQUIRED
RNAV 1

~~SPEED~~ MAX 250 KT UNLESS OTHERWISE INSTRUCTED

LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼
Start approach to the assigned runway without delay. If no specified runway for landing has been assigned, start approach to runway 19R without delay.
LOST COMMS ▲ SWWOC LSOT ▲ SWWOC LSOT ▲ SWWOC LSOT ▲ SWWOC LSOT



ROUTING

ESEBA (K250-) - KEGET - GM422 (FL100; K220-) - GM423 - GM424 - GM425 - GM453 (FL100) - TITLA (5000'+).

D-ATIS
126.12Apt Elev
681'

Alt Set: hPa Trans level: By ATC Trans alt: 7000'

1. RADAR service shall be available.
2. Loss of RNAV capability, request vectoring.
3. Vectoring may be used when necessary.
4. Descend as cleared by ATC.

INREX THREE LIMA
(INREX 3L) [INRE3L]**RWYS 01L/R P-RNAV ARRIVAL**

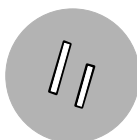
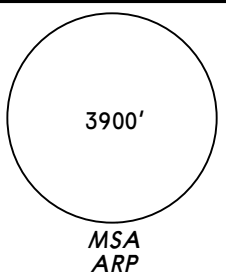
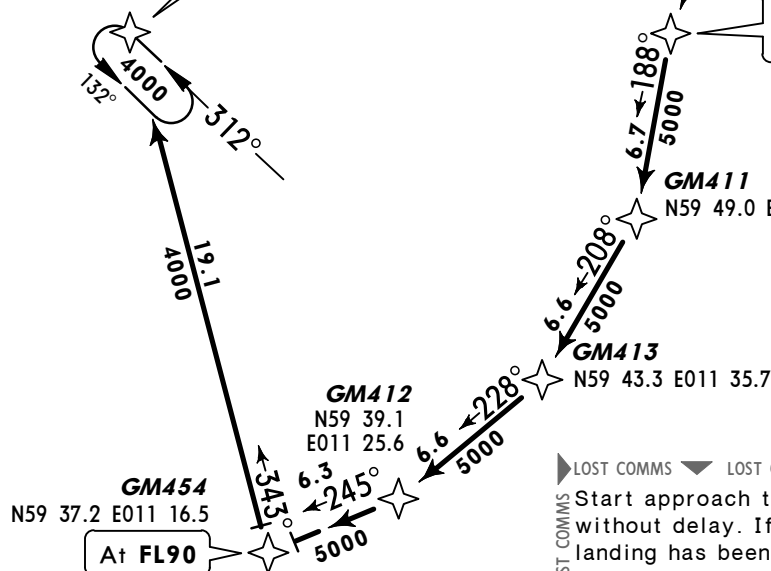
P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

RNAV APPROVAL REQUIRED

RNAV 1

~~SPEED~~ MAX 250 KT UNLESS OTHERWISE INSTRUCTED**HOLDING OVER
INREX**Direct distance from INSUV to:
Gardermoen Apt 17 NM

Clearance limit is INSUV holding.

**INSUV**
N59 55.5 E011 06.8
At or above
5000'

LOST COMMS Start approach to the assigned runway without delay. If no specified runway for landing has been assigned, start approach to runway 01R without delay.

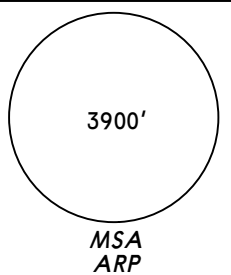
ROUTING

INREX (K250-) - SUSIB (FL250-) - GM457 (FL120-) - GM401 (FL90) - GM403 (K220-) - GM411 - GM413 - GM412 - GM454 (FL90) - INSUV (5000'+).

D-ATIS
126.12Apt Elev
681'

Alt Set: hPa Trans level: By ATC Trans alt: 7000'

1. RADAR service shall be available.
2. Loss of RNAV capability, request vectoring.
3. Vectoring may be used when necessary.
4. Descend as cleared by ATC.



INREX THREE MIKE
(INREX 3M) [INRE3M]
RWYS 19L/R P-RNAV ARRIVAL
P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)
RNAV APPROVAL REQUIRED
RNAV 1

~~SPEED~~ MAX 250 KT UNLESS OTHERWISE INSTRUCTED

LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼
Start approach to the assigned runway without delay. If no specified runway for landing has been assigned, start approach to runway 19R without delay.
LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲

HOLDING OVER INREX

GM418
N60 39.1 E011 47.7
At **FL110**
MAX **220 KT**

Direct distance from TITLA to:
Gardermoen Apt **16 NM**

Clearance limit is TITLA holding.

TITLA
N60 25.3 E011 24.2

At or above
5000'

MHA 4000
256°



NOT TO SCALE

INREX
N61 00.8 E012 13.0

MAX
250 KT

13.5
FL100

11.6
6000

13.9
6.3
6000

GM419
N60 34.2 E011 55.8

15.8
6.3
6000

GM420
N60 28.3 E012 00.1

6.2
178°
6000

GM421
N60 22.1 E012 00.0

At **FL110**

18.1
4000

278°

ROUTING

INREX (K250-) - IXUMA - GM418 (FL110; K220-) - GM419 - GM420 - GM421 (FL110) - TITLA (5000'+).

D-ATIS
126.12

Apt Elev
681'

Alt Set: hPa Trans level: By ATC Trans alt: 7000'
1. RADAR service shall be available.
2. Loss of RNAV capability, request vectoring.
3. Vectoring may be used when necessary.
4. Descend as cleared by ATC.

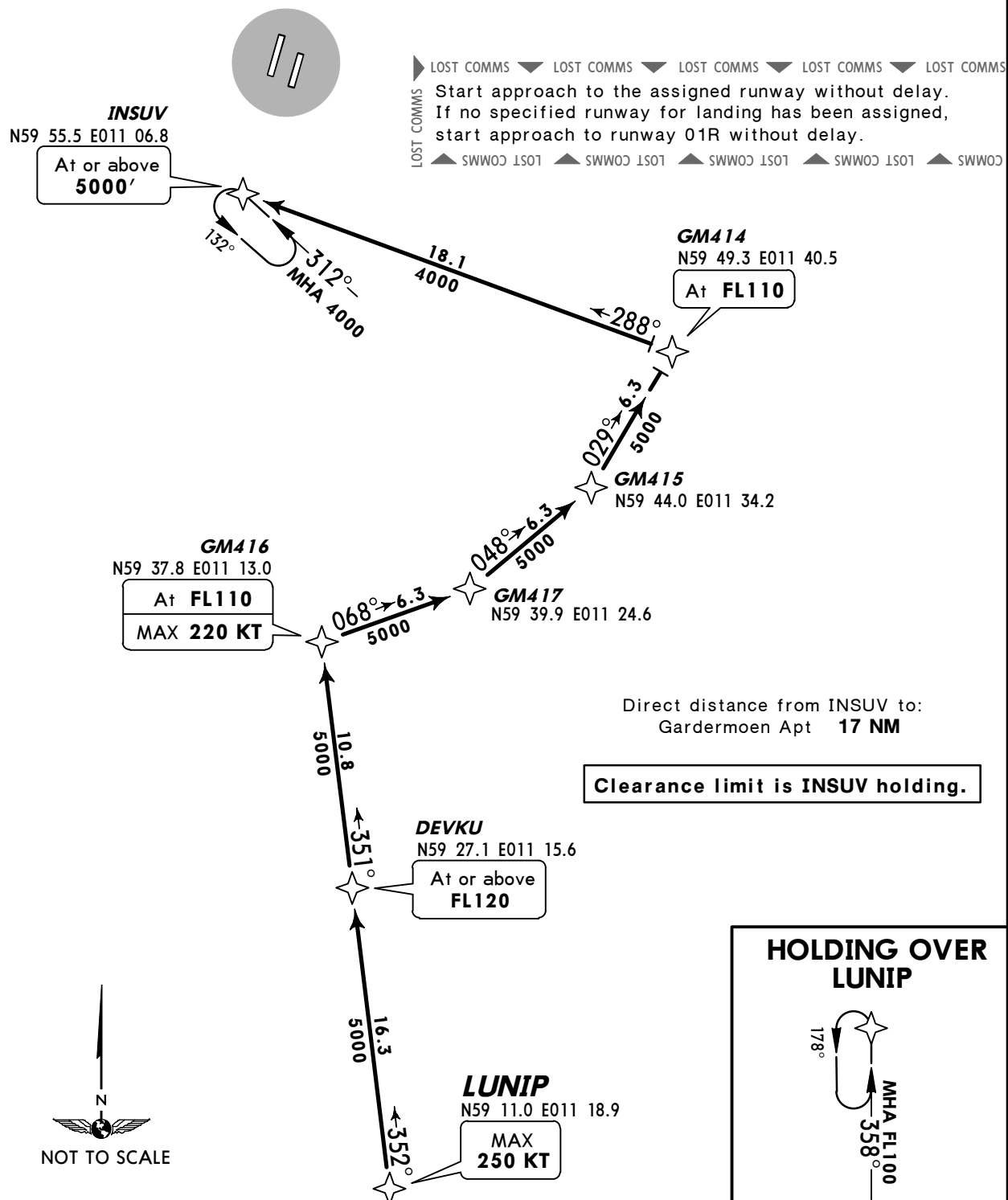
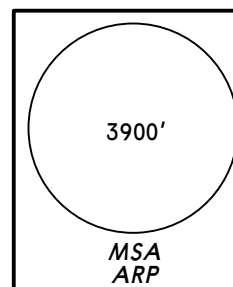
LUNIP THREE LIMA
(LUNIP 3L) [LUNIP3L]
RWYS 01L/R P-RNAV ARRIVAL

P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

RNAV APPROVAL REQUIRED

RNAV 1

~~SPEED~~ MAX 250 KT UNLESS OTHERWISE INSTRUCTED



ROUTING

LUNIP (K250-) - DEVKU (FL120+) - GM416 (FL110; K220-) - GM417 - GM415 - GM414 (FL110) - INSUV (5000+).

D-ATIS
126.12

Apt Elev
681'

Alt Set: hPa Trans level: By ATC Trans alt: 7000'

1. RADAR service shall be available.
2. Loss of RNAV capability, request vectoring.
3. Vectoring may be used when necessary.
4. Descend as cleared by ATC.

LUNIP THREE MIKE (LUNIP 3M) [LUNI3M]

RWYS 19L/R P-RNAV ARRIVAL

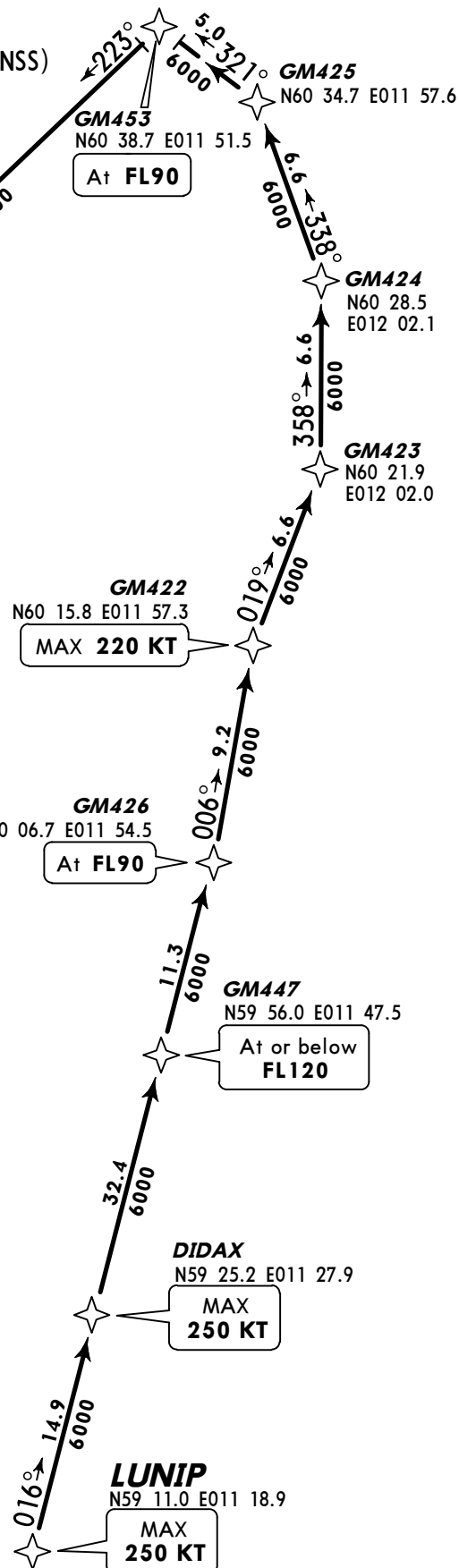
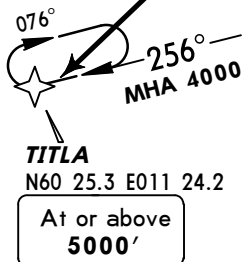
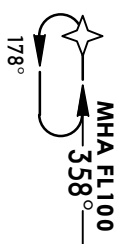
P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

RNAV APPROVAL REQUIRED

RNAV 1

**SPEED: MAX 250 KT UNLESS
OTHERWISE INSTRUCTED**

HOLDING OVER LUNIP

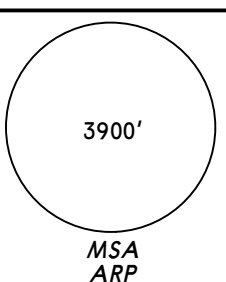


Direct distance from TITLA to:
Gardermoen Apt 16 NM

Clearance limit is TITLA holding.

COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼
Start approach to the assigned runway
without delay. If no specified runway for
landing has been assigned, start approach
to runway 19R without delay.

SWWOC LOST SWWOC LOST SWWOC LOST SWWOC LOST



ROUTING

LUNIP (K250-) - DIDAX (K250-) - GM447 (FL120-) - GM426 (FL90) - GM422 (K220-) - GM423 -
GM424 - GM425 - GM453 (FL90) - TITLA (5000'+).

D-ATIS
126.12

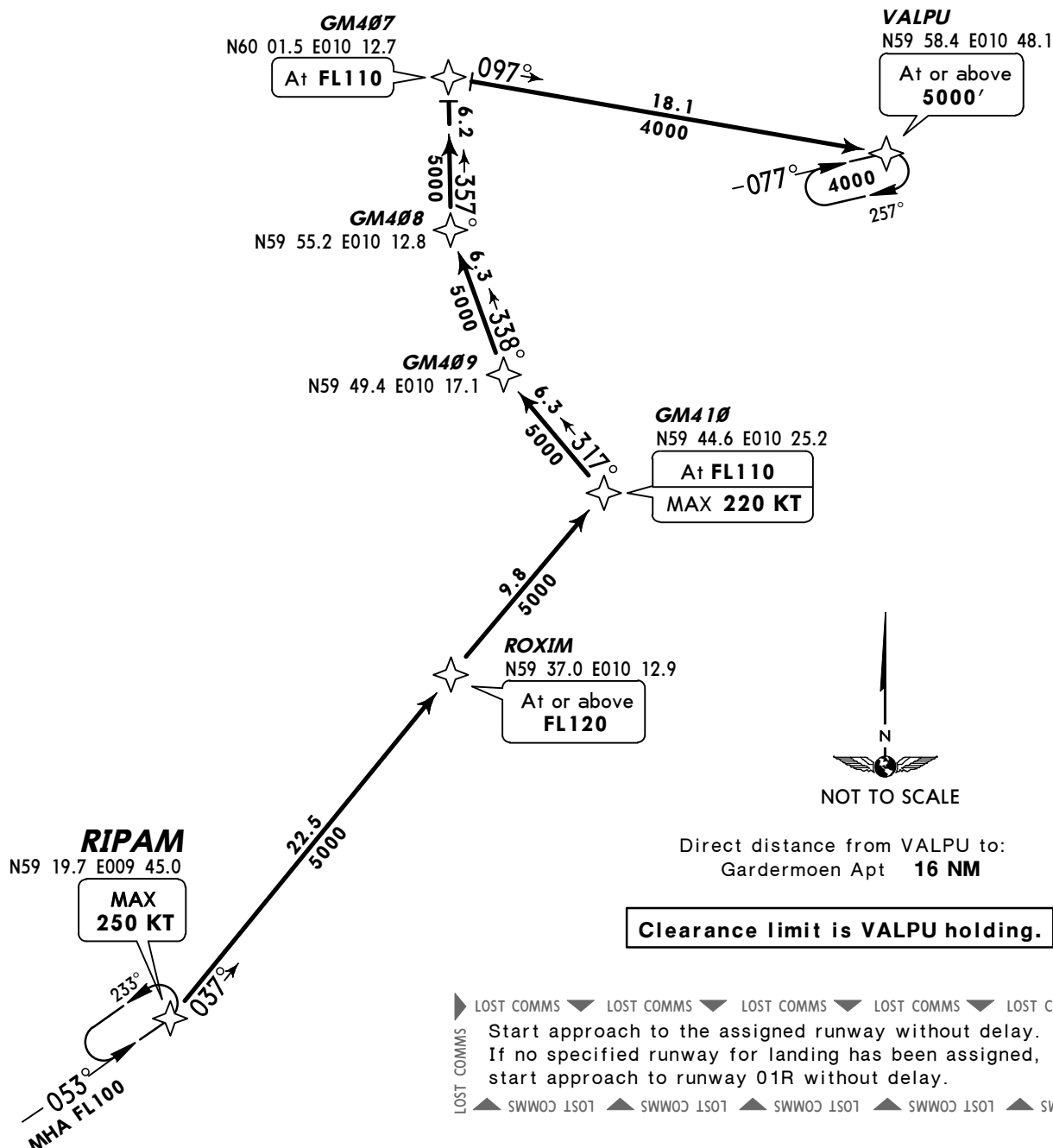
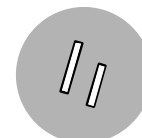
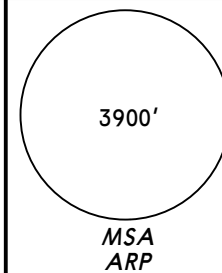
Apt Elev
681'

Alt Set: hPa Trans level: By ATC Trans alt: 7000'
1. RADAR service shall be available.
2. Loss of RNAV capability, request vectoring.
3. Vectoring may be used when necessary.
4. Descend as cleared by ATC.

RIPAM TWO LIMA
(RIPAM 2L) [RIPA2L]
RWYS 01L/R P-RNAV ARRIVAL
P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)
RNAV APPROVAL REQUIRED

RNAV 1

~~SPEED~~ MAX 250 KT UNLESS OTHERWISE INSTRUCTED



LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS
Start approach to the assigned runway without delay.
If no specified runway for landing has been assigned,
start approach to runway 01R without delay.
▲ SWW0C ISOT ▲ SWW0C ISOT ▲ SWW0C ISOT ▲ SWW0C ISOT ▲ SWW0C

ROUTING

RIPAM (K250-) - ROXIM (FL120+) - GM410 (FL110; K220-) - GM409 - GM408 - GM407 (FL110) - VALPU (5000+).

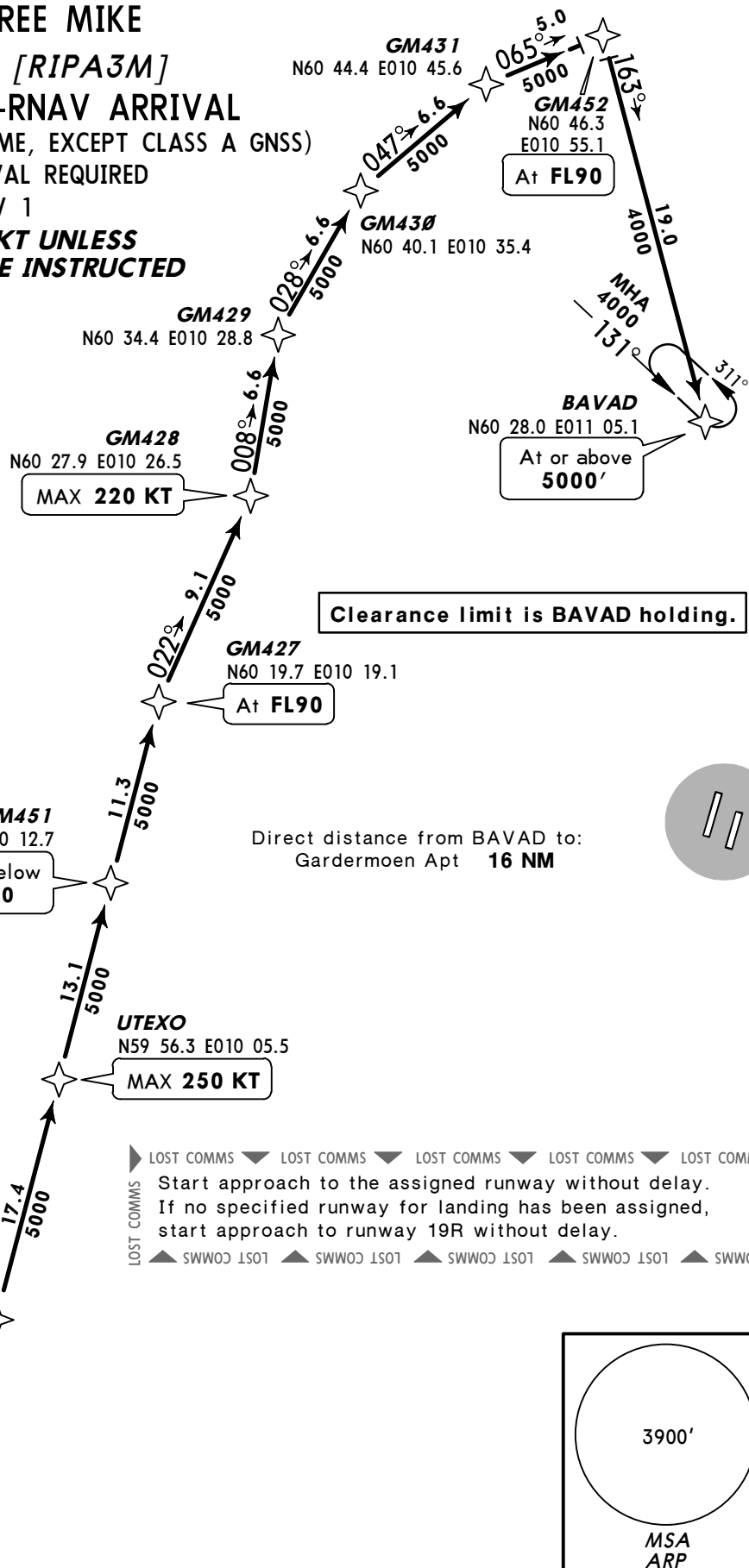
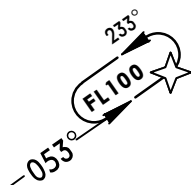
D-ATIS
126.12

Apt Elev
681'

Alt Set: hPa Trans level: By ATC Trans alt: 7000'
1. RADAR service shall be available.
2. Loss of RNAV capability, request vectoring.
3. Vectoring may be used when necessary.
4. Descend as cleared by ATC.

RIPAM THREE MIKE
(RIPAM 3M) [RIPA3M]
RWYS 19L/R P-RNAV ARRIVAL
P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)
RNAV APPROVAL REQUIRED
RNAV 1
~~SPEED~~ MAX 250 KT UNLESS
OTHERWISE INSTRUCTED

**HOLDING OVER
RIPAM**



Clearance limit is BAVAD holding.

Direct distance from BAVAD to:
Gardermoen Apt 16 NM

LOST COMMS
Start approach to the assigned runway without delay.
If no specified runway for landing has been assigned,
start approach to runway 19R without delay.

ROUTING

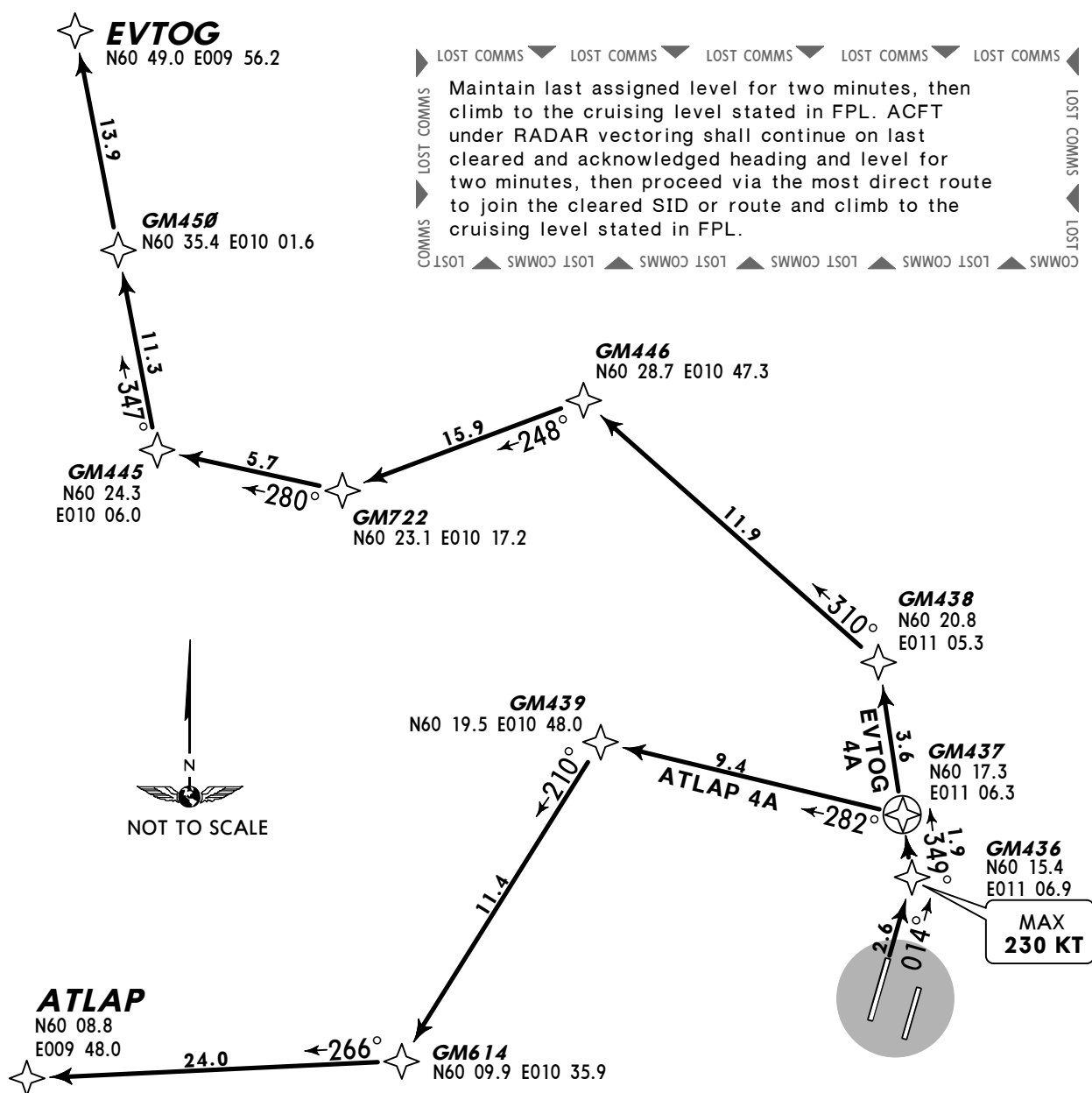
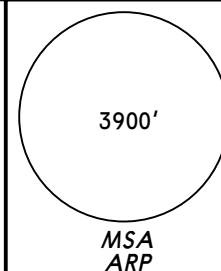
RIPAM (K250-) - INGAR (K250-) - UTEXO (K250-) - GM451 (FL120-) - GM427 (FL90) -
GM428 (K220-) - GM429 - GM430 - GM431 - GM452 (FL90) - BAVAD (5000'+).

*OSLO Approach
120.45

Apt Elev
681'

Trans level: By ATC Trans alt: 7000'
1. RADAR service shall be available.
2. Contact OSLO Approach when instructed by GARDERMOEN Tower.
3. Non P-RNAV equipped ACFT: at first contact with GARDERMOEN Delivery state 'Non P-RNAV'. Omnidirectional departure available.

**ATLAP FOUR ALFA (ATLAP 4A)[ATLA4A]
EVT OG FOUR ALFA (EVT OG 4A)[EVTO4A]
RWY 01L P-RNAV DEPARTURES
P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)
P-RNAV APPROVAL REQUIRED
RNAV 1
~~SPEED~~ MAX 250 KT BELOW FL100
UNLESS OTHERWISE INSTRUCTED**



These SIDs require a minimum climb gradient of 316' per NM (5.2%) up to 5000'.

Gnd speed-KT	75	100	150	200	250	300
316' per NM	395	527	790	1053	1317	1580

If unable to comply inform ATC.

Initial climb clearance **7000'**, EXPECT further climb by OSLO Approach.

SID	ROUTING
ATLAP 4A	On 014° track to GM436 (K230-) - GM437 - GM439 - GM614 - ATLAP.
EVT OG 4A	On 014° track to GM436 (K230-) - GM437 - GM438 - GM446 - GM722 - GM445 - GM450 - EVT OG.

*OSLO Approach
118.47Apt Elev
681'

Trans level: By ATC Trans alt: 7000'

1. RADAR service shall be available.
2. Contact OSLO Approach when instructed by GARDERMOEN Tower.
3. Non P-RNAV equipped ACFT: at first contact with GARDERMOEN Delivery state 'Non P-RNAV'. Omnidirectional departure available.

ATLAP SEVEN BRAVO (ATLAP 7B) [ATLA7B]

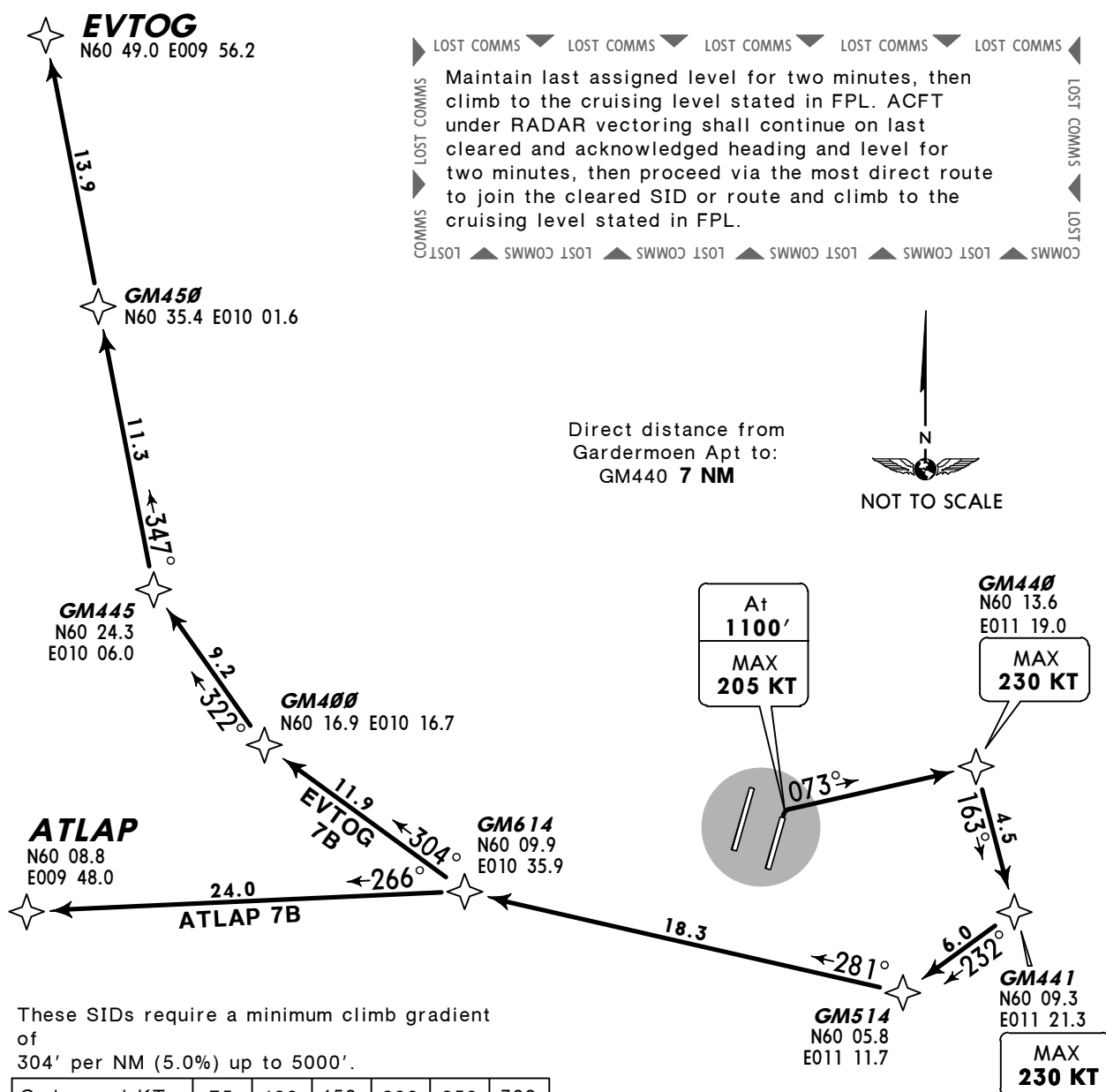
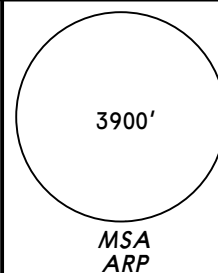
EVT OG SEVEN BRAVO (EVT OG 7B) [EVTO7B]

RWY 01R P-RNAV DEPARTURES

P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

P-RNAV APPROVAL REQUIRED

RNAV 1

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

If unable to comply inform ATC.

Initial climb clearance **7000'**, EXPECT further climb by OSLO Approach.

SID	ROUTING
ATLAP 7B	Climb on 014° track to 1100', turn RIGHT (K205-), 073° track to GM440 (K230-), turn RIGHT to GM441 (K230-) - GM514 - GM 614 - ATLAP.
EVT OG 7B	Climb on 014° track to 1100', turn RIGHT (K205-), 073° track to GM440 (K230-), turn RIGHT to GM441 (K230-) - GM514 - GM614 - GM400 - GM445 - GM450 - EVTOG.

*OSLO Approach
120.45

Apt Elev
681'

Trans level: By ATC Trans alt: 7000'
1. RADAR service shall be available.
2. Contact OSLO Approach when instructed by GARDERMOEN Tower.
3. Non P-RNAV equipped ACFT: at first contact with GARDERMOEN Delivery state 'Non P-RNAV'. Omnidirectional departure available.

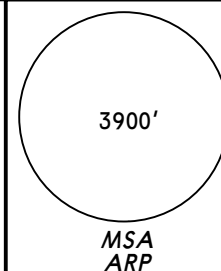
**ATLAP TWO CHARLIE (ATLAP 2C)[ATLA2C]
EVT OG TWO CHARLIE (EVT OG 2C)[EVTO2C]
RWY 19L P-RNAV DEPARTURES**

P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

P-RNAV APPROVAL REQUIRED

RNAV 1

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



EVT OG
N60 49.0 E009 56.2



LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS
Maintain last assigned level for two minutes, then climb to the cruising level stated in FPL. ACFT under RADAR vectoring shall continue on last cleared and acknowledged heading and level for two minutes, then proceed via the most direct route to join the cleared SID or route and climb to the cruising level stated in FPL.
LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS

Direct distance from Gardermoen Apt to:
GM604 4 NM

ATLAP
N60 08.8
E009 48.0

GM451
N60 08.8 E010 12.7

GM619
N60 14.3 E010 31.4

GM604
N60 08.0 E011 05.0
MAX 230 KT

GM602
N60 03.5
E011 04.0

ODAXI
N59 54.5 E010 33.2

These SIDs require a minimum climb gradient of 401' per NM (6.6%) up to 5000'.

Gnd speed-KT	75	100	150	200	250	300
401' per NM	501	668	1003	1337	1671	2005

If unable to comply inform ATC.

Initial climb clearance **7000'**, EXPECT further climb by OSLO Approach.

SID	ROUTING
ATLAP 2C	On 194° track to GM604 (K230-) - GM602 - ODAXI - GM451 - ATLAP.
EVT OG 2C	On 194° track to GM604 (K230-) - GM602 - ODAXI - turn RIGHT to GM619 - GM717 - EVT OG.

*OSLO Approach
120.45

Apt Elev
681'

Trans level: By ATC Trans alt: 7000'
1. RADAR service shall be available.
2. Contact OSLO Approach when instructed by GARDERMOEN Tower.
3. Non P-RNAV equipped ACFT: at first contact with GARDERMOEN Delivery state 'Non P-RNAV'. Omnidirectional departure available.

ATLAP EIGHT DELTA (ATLAP 8D) [ATLA8D]
EVT OG EIGHT DELTA (EVT OG 8D) [EVTO8D]

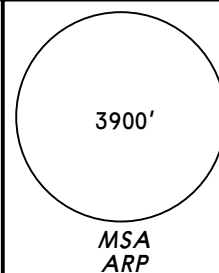
RWY 19R P-RNAV DEPARTURES

P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

P-RNAV APPROVAL REQUIRED

RNAV 1

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



EVT OG
N60 49.0 E009 56.2

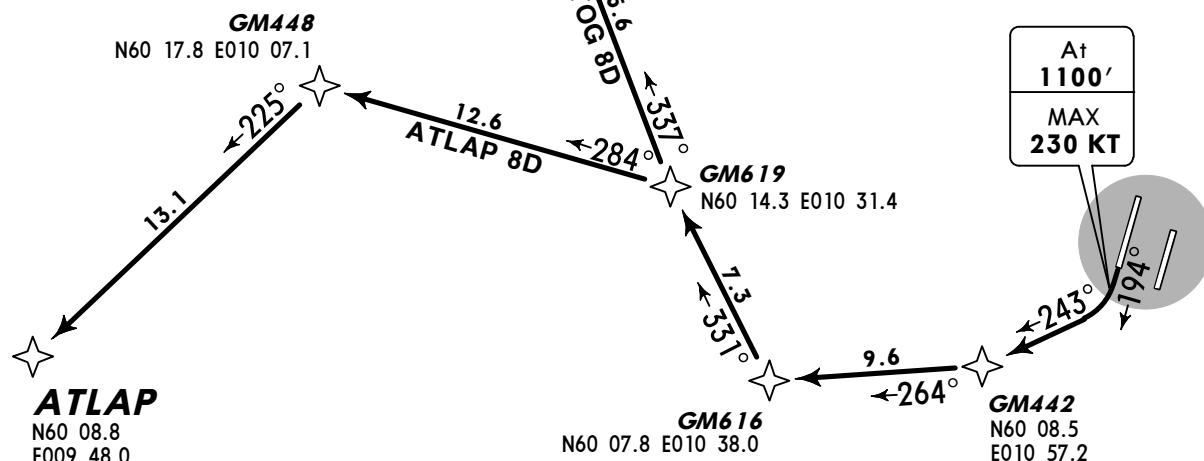
LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼
Maintain last assigned level for two minutes, then climb to the cruising level stated in FPL. ACFT under RADAR vectoring shall continue on last cleared and acknowledged heading and level for two minutes, then proceed via the most direct route to join the cleared SID or route and climb to the cruising level stated in FPL.
LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲ LOST COMMS ▲



WARNING

Segment distance from 1100' to GM442 is less than the average flight path.

Direct distance from Gardermoen Apt to: GM442 5 NM



These SIDs require a minimum climb gradient of 401' per NM (6.6%) up to 5000'.

Gnd speed-KT	75	100	150	200	250	300
401' per NM	501	668	1003	1337	1671	2005

If unable to comply inform ATC.

Initial climb clearance 7000', EXPECT further climb by OSLO Approach.

SID	ROUTING
ATLAP 8D	Climb on runway track to 1100', turn RIGHT (K230-), 243° track to GM442 - GM616 - GM619 - GM448 - ATLAP.
EVT OG 8D	Climb on runway track to 1100', turn RIGHT (K230-), 243° track to GM442 - GM616 - GM619 - GM717 - EVT OG.

*OSLO Approach
118.47

Apt Elev
681'

Trans level: By ATC Trans alt: 7000'
1. RADAR service shall be available.
2. Contact OSLO Approach when instructed by GARDERMOEN Tower.
3. Non P-RNAV equipped ACFT: at first contact with GARDERMOEN Delivery state 'Non P-RNAV'. Omnidirectional departure available.

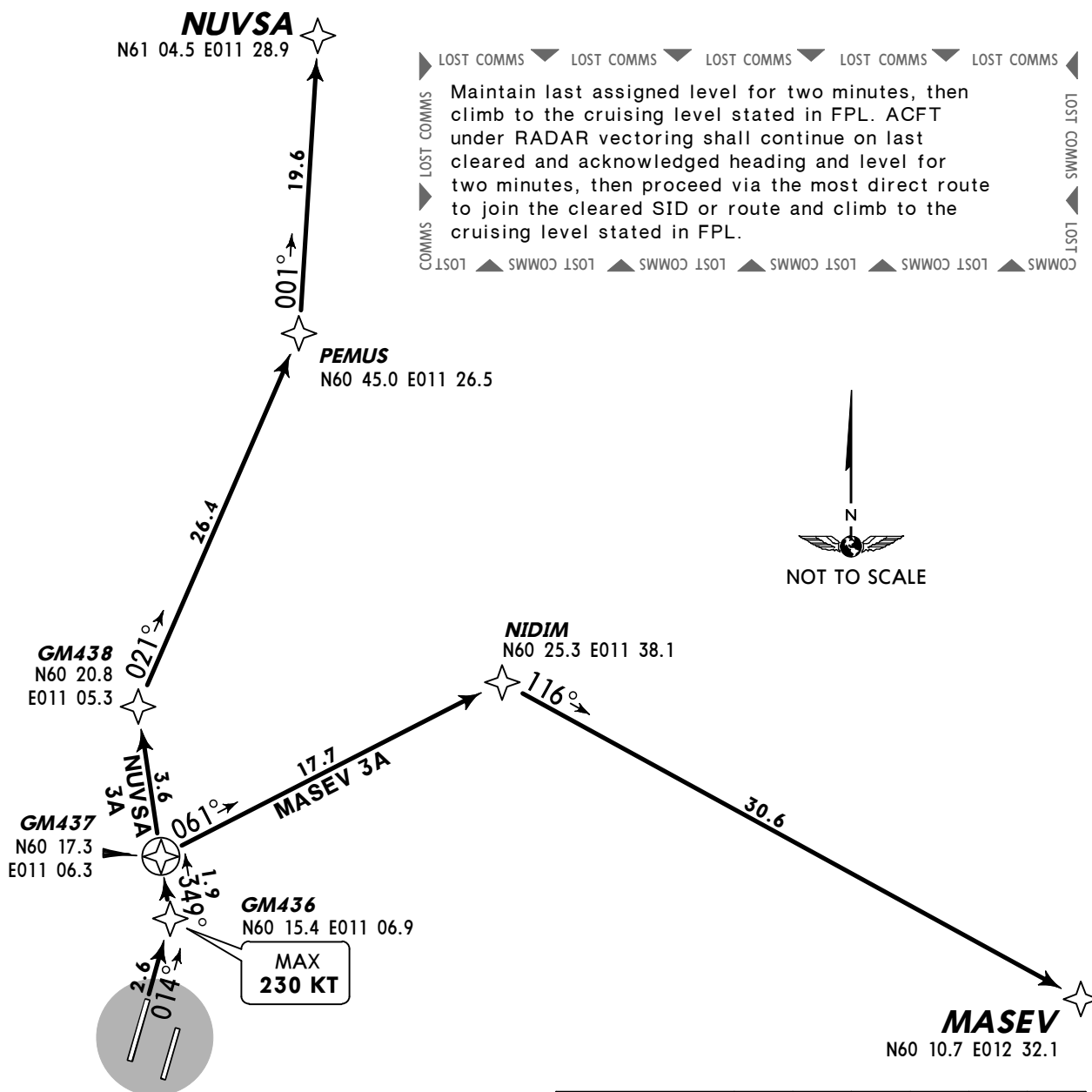
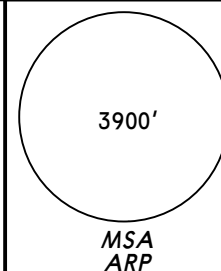
**MASEV THREE ALFA (MASEV 3A) [MASE3A]
NUVSA THREE ALFA (NUVSA 3A) [NUVS3A]
RWY 01L P-RNAV DEPARTURES**

P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

P-RNAV APPROVAL REQUIRED

RNAV 1

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



These SIDs require a minimum climb gradient of 316' per NM (5.2%) up to 5000'.

Gnd speed-KT	75	100	150	200	250	300
316' per NM	395	527	790	1053	1317	1580

If unable to comply inform ATC.

Initial climb clearance **7000'**, EXPECT further climb by OSLO Approach.

SID	ROUTING
MASEV 3A	On 014° track to GM436 (K230-) - GM437 - NIDIM - MASEV.
NUVSA 3A	On 014° track to GM436 (K230-) - GM437 - GM438 - PEMUS - NUVSA.

*OSLO Approach
118.47

Apt Elev
681'

Trans level: By ATC Trans alt: 7000'
1. RADAR service shall be available.
2. Contact OSLO Approach when instructed by GARDERMOEN Tower.
3. Non P-RNAV equipped ACFT: at first contact with GARDERMOEN Delivery state 'Non P-RNAV'. Omnidirectional departure available.

MASEV EIGHT BRAVO (MASEV 8B)[MASE8B]

NUVSA SEVEN BRAVO (NUVSA 7B)[NUVS7B]

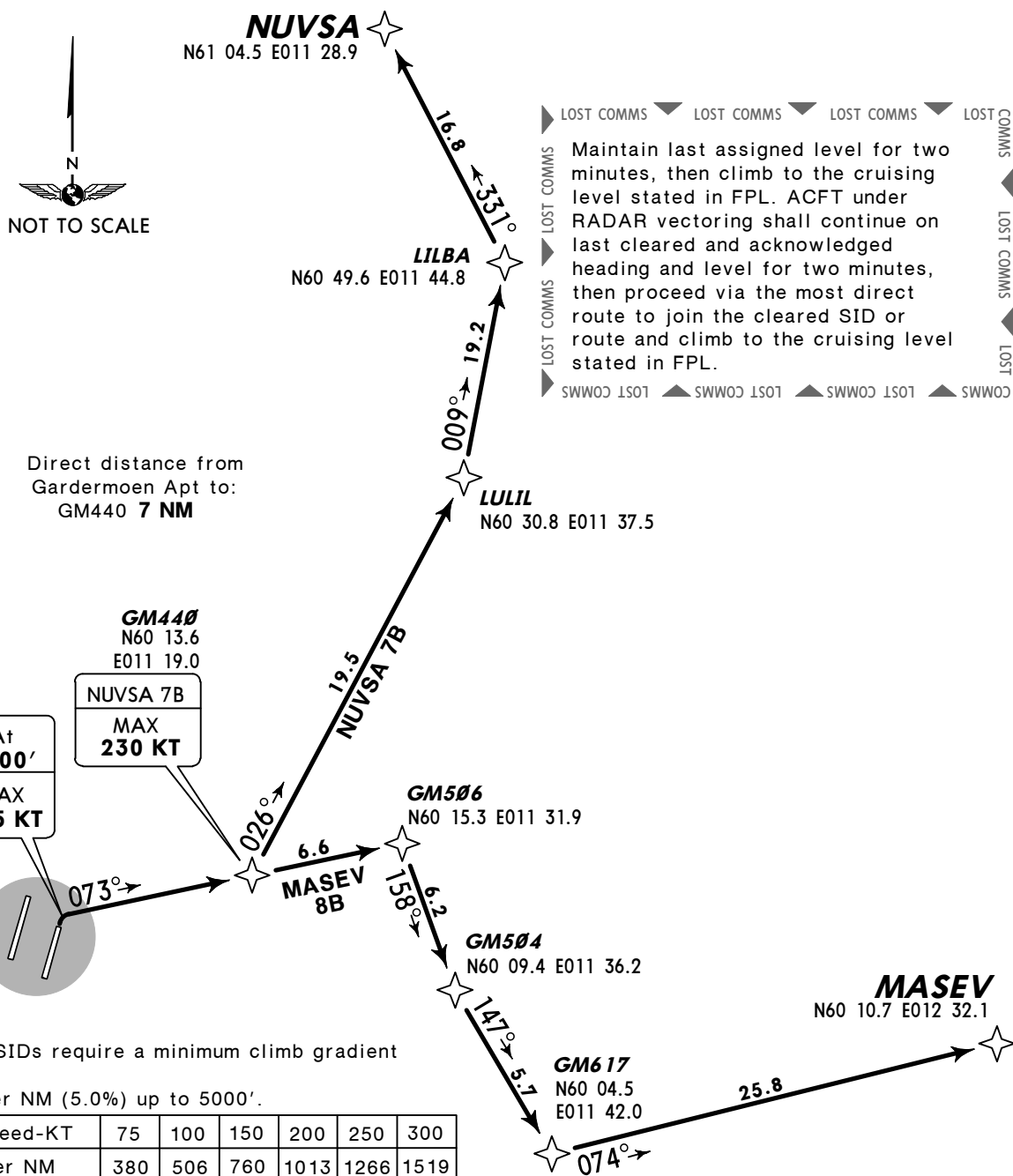
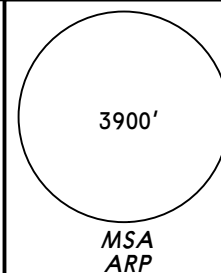
RWY 01R P-RNAV DEPARTURES

P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

P-RNAV APPROVAL REQUIRED

RNAV 1

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



These SIDs require a minimum climb gradient of 304' per NM (5.0%) up to 5000'.

Gnd speed-KT	75	100	150	200	250	300
304' per NM	380	506	760	1013	1266	1519

If unable to comply inform ATC.

Initial climb clearance **7000'**, EXPECT further climb by OSLO Approach.

SID

ROUTING

MASEV 8B

Climb on 014° track to 1100', turn RIGHT (K205-), 073° track to GM506 - GM504 - GM617 - MASEV.

NUVSA 7B

Climb on 014° track to 1100', turn RIGHT (K205-), 073° track to GM440 (K230-) - LULIL - LILBA - NUVSA.

*OSLO Approach
118.47

Apt Elev
681'

Trans level: By ATC Trans alt: 7000'
1. RADAR service shall be available.
2. Contact OSLO Approach when instructed by GARDERMOEN Tower.
3. Non P-RNAV equipped ACFT: at first contact with GARDERMOEN Delivery state 'Non P-RNAV'. Omnidirectional departure available.

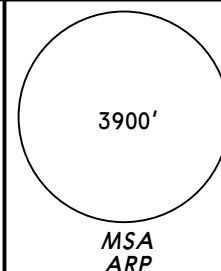
**MASEV FOUR CHARLIE (MASEV 4C)[MASE4C]
NUVSA THREE CHARLIE (NUVSA 3C)[NUVS3C]
RWY 19L P-RNAV DEPARTURES**

P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

P-RNAV APPROVAL REQUIRED

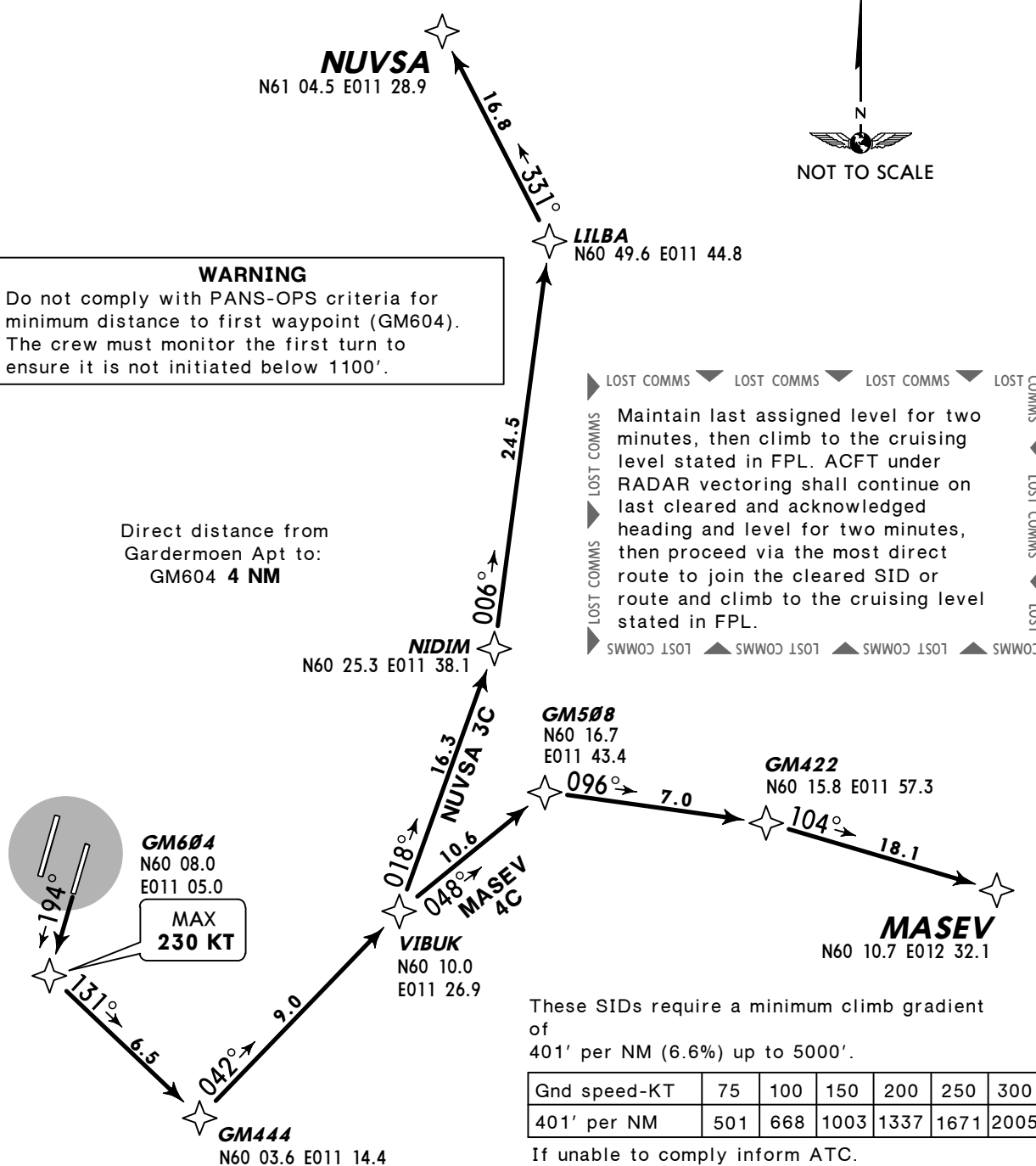
RNAV 1

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



WARNING
Do not comply with PANS-OPS criteria for minimum distance to first waypoint (GM604). The crew must monitor the first turn to ensure it is not initiated below 1100'.

Direct distance from
Gardermoen Apt to:
GM604 4 NM



Initial climb clearance **7000'**, EXPECT further climb by OSLO Approach.

SID	ROUTING
MASEV 4C	On 194° track to GM604 (K230-) - GM444 - turn LEFT to VIBUK - GM508 - GM422 - MASEV.
NUVSA 3C	On 194° track to GM604 (K230-) - GM444 - turn LEFT to VIBUK - NIDIM - LILBA - NUVSA.

*OSLO Approach
120.45

Apt Elev
681'

Trans level: By ATC Trans alt: 7000'
1. RADAR service shall be available.
2. Contact OSLO Approach when instructed by GARDERMOEN Tower.
3. Non P-RNAV equipped ACFT: at first contact with GARDERMOEN Delivery state 'Non P-RNAV'. Omnidirectional departure available.

MASEV SEVEN DELTA (MASEV 7D) [MASE7D]
NUVSA EIGHT DELTA (NUVSA 8D) [NUVS8D]

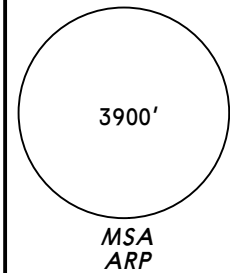
RWY 19R P-RNAV DEPARTURES

P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

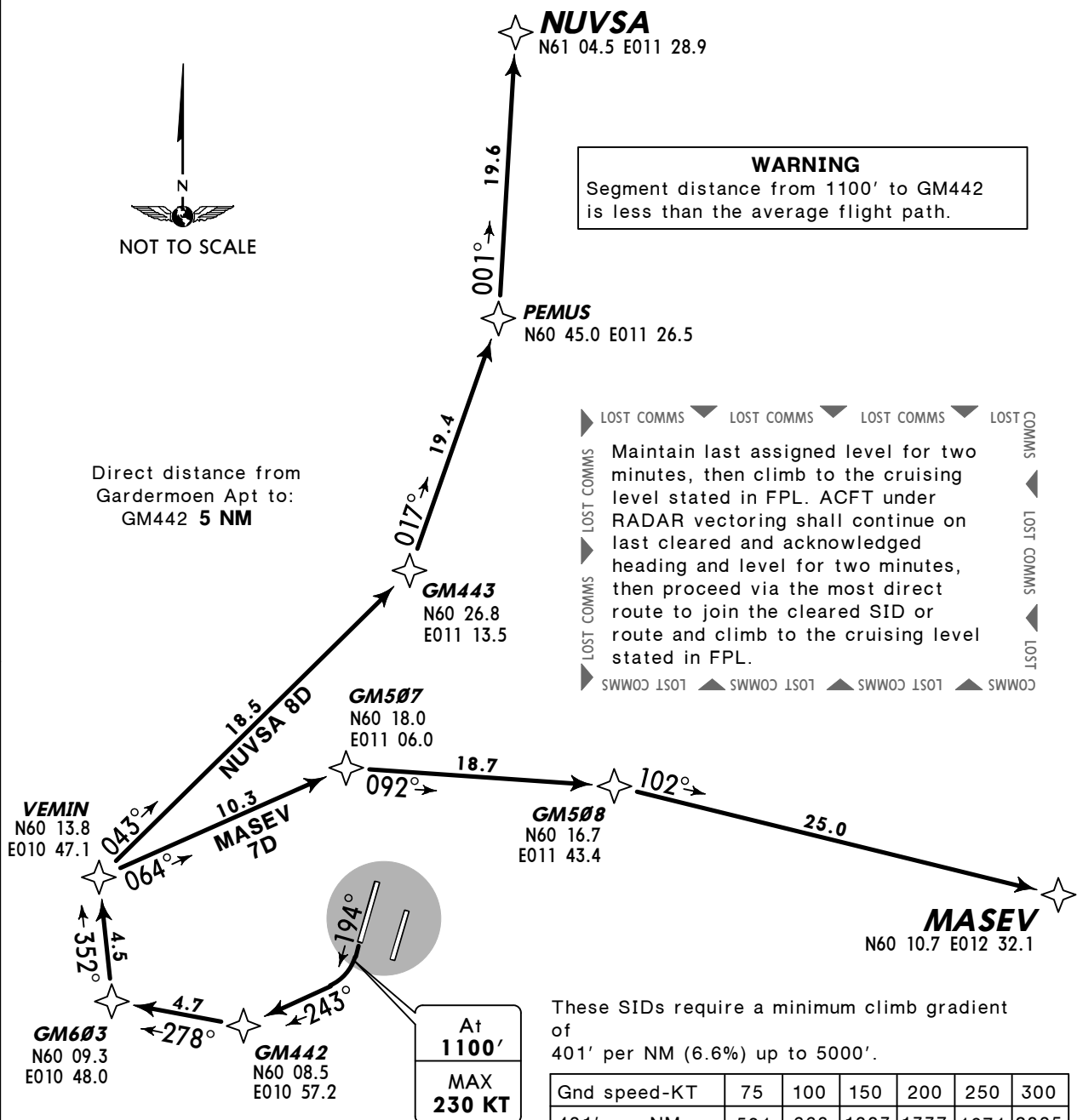
P-RNAV APPROVAL REQUIRED

RNAV 1

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



Direct distance from
Gardermoen Apt to:
GM442 5 NM



These SIDs require a minimum climb gradient of 401' per NM (6.6%) up to 5000'.

Gnd speed-KT	75	100	150	200	250	300
401' per NM	501	668	1003	1337	1671	2005

If unable to comply inform ATC.

Initial climb clearance 7000', EXPECT further climb by OSLO Approach.

SID	ROUTING
MASEV 7D	Climb on runway track to 1100', turn RIGHT (K230-), 243° track to GM442 - GM603 - VEMIN - GM507 - GM508 - MASEV.
NUVSA 8D	Climb on runway track to 1100', turn RIGHT (K230-), 243° track to GM442 - GM603 - VEMIN - GM443 - PEMUS - NUVSA.

*OSLO Approach		Trans level: By ATC Trans alt: 7000'
(OKSAT 3A) 118.47	(TOR 3A) 120.45	1. RADAR service shall be available.
	Apt Elev 681'	2. Contact OSLO Approach when instructed by GARDERMOEN Tower.
		3. Non P-RNAV equipped ACFT: at first contact with GARDERMOEN Delivery state 'Non P-RNAV'. Omnidirectional departure available.

OKSAT THREE ALFA (OKSAT 3A) [OKSA3A]

TORP THREE ALFA (TOR 3A)

RWY 01L P-RNAV DEPARTURES

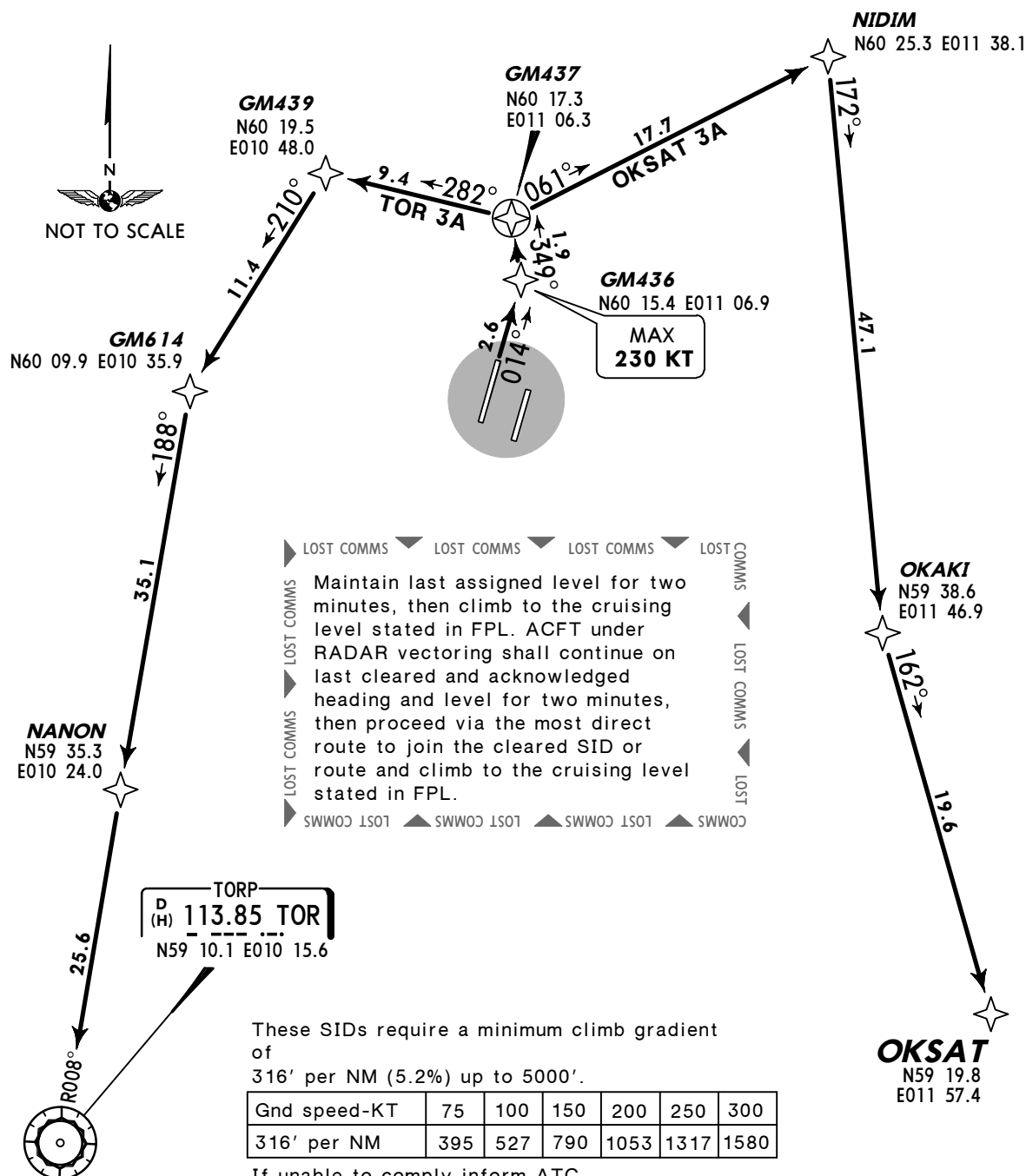
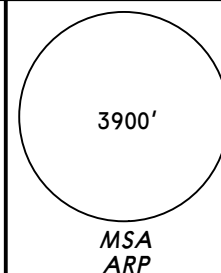
P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

P-RNAV APPROVAL REQUIRED

RNAV 1

SPEED MAX 250 KT BELOW FL100

UNLESS OTHERWISE INSTRUCTED



Initial climb clearance **7000'**, EXPECT further climb by OSLO Approach.

SID	ROUTING
OKSAT 3A	On 014° track to GM436 (K230-) - GM437 - NIDIM - turn RIGHT to OKAKI - OKSAT.
TOR 3A	On 014° track to GM436 (K230-) - GM437 - GM439 - GM614 - NANON - TOR.

*OSLO Approach
118.47

Apt Elev
681'

Trans level: By ATC Trans alt: 7000'
1. RADAR service shall be available.
2. Contact OSLO Approach when instructed by GARDERMOEN Tower.
3. Non P-RNAV equipped ACFT: at first contact with GARDERMOEN Delivery state 'Non P-RNAV'. Omnidirectional departure available.

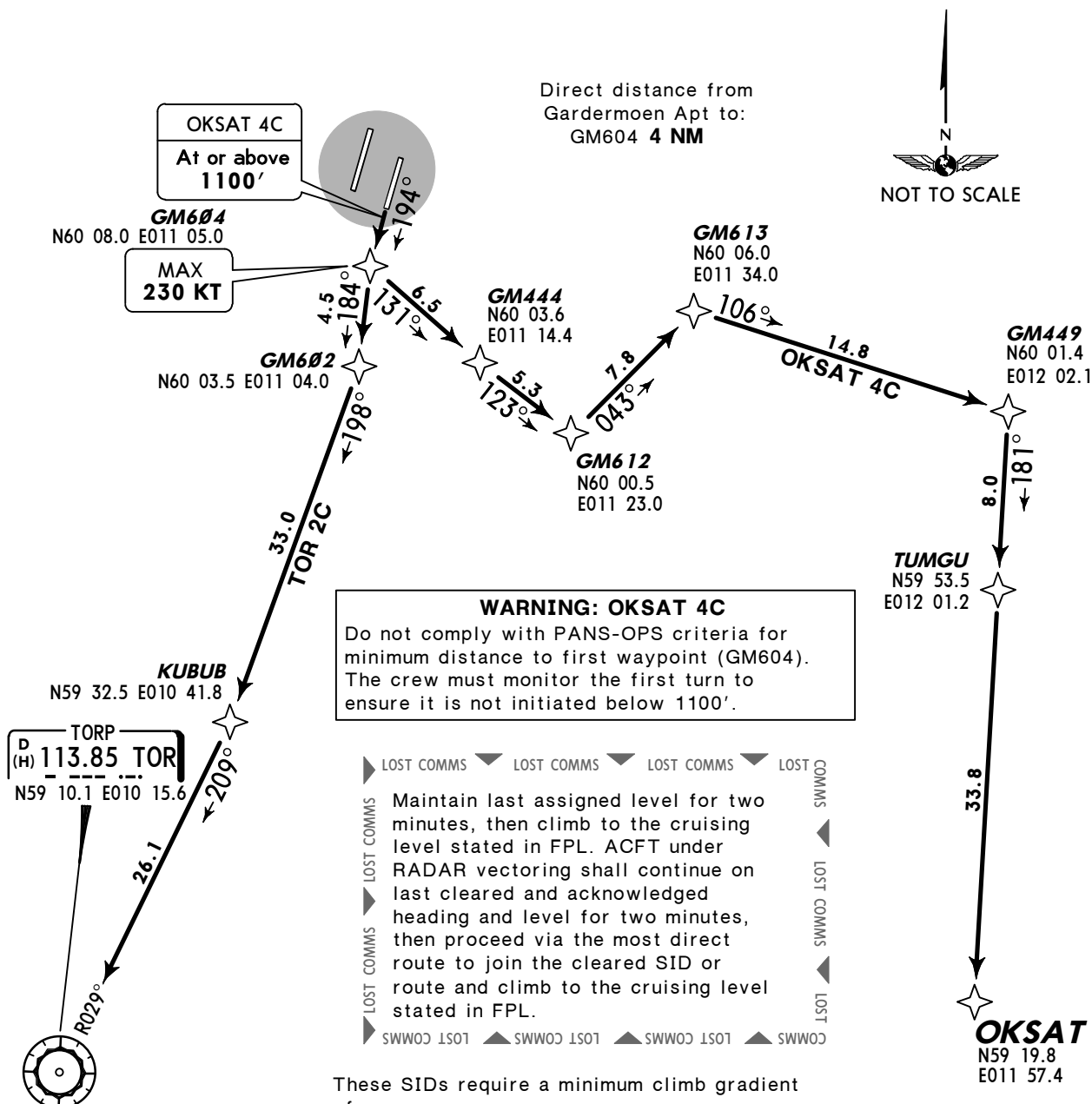
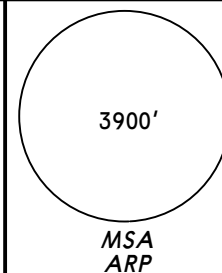
**OXSAT FOUR CHARLIE (OKSAT 4C)[OKSA4C]
TORP TWO CHARLIE (TOR 2C)
RWY 19L P-RNAV DEPARTURES**

P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

P-RNAV APPROVAL REQUIRED

RNAV 1

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



Initial climb clearance 7000', EXPECT further climb by OSLO Approach.

SID	ROUTING
OKSAT 4C	On 194° track to GM604 (K230-) - GM444 - GM612 - GM613 - GM449 - TUMGU - OXSAT.
TORP 2C	On 194° track to GM604 (K230-) - GM602 - KUBUB - TOR.

*OSLO Approach
120.45

Apt Elev
681'

Trans level: By ATC Trans alt: 7000'
1. RADAR service shall be available.
2. Contact OSLO Approach when instructed by GARDERMOEN Tower.
3. Non P-RNAV equipped ACFT: at first contact with GARDERMOEN Delivery state 'Non P-RNAV'. Omnidirectional departure available.

OXSAT SEVEN DELTA (OXSAT 7D)[OKSA7D]

TORP SEVEN DELTA (TOR 7D)

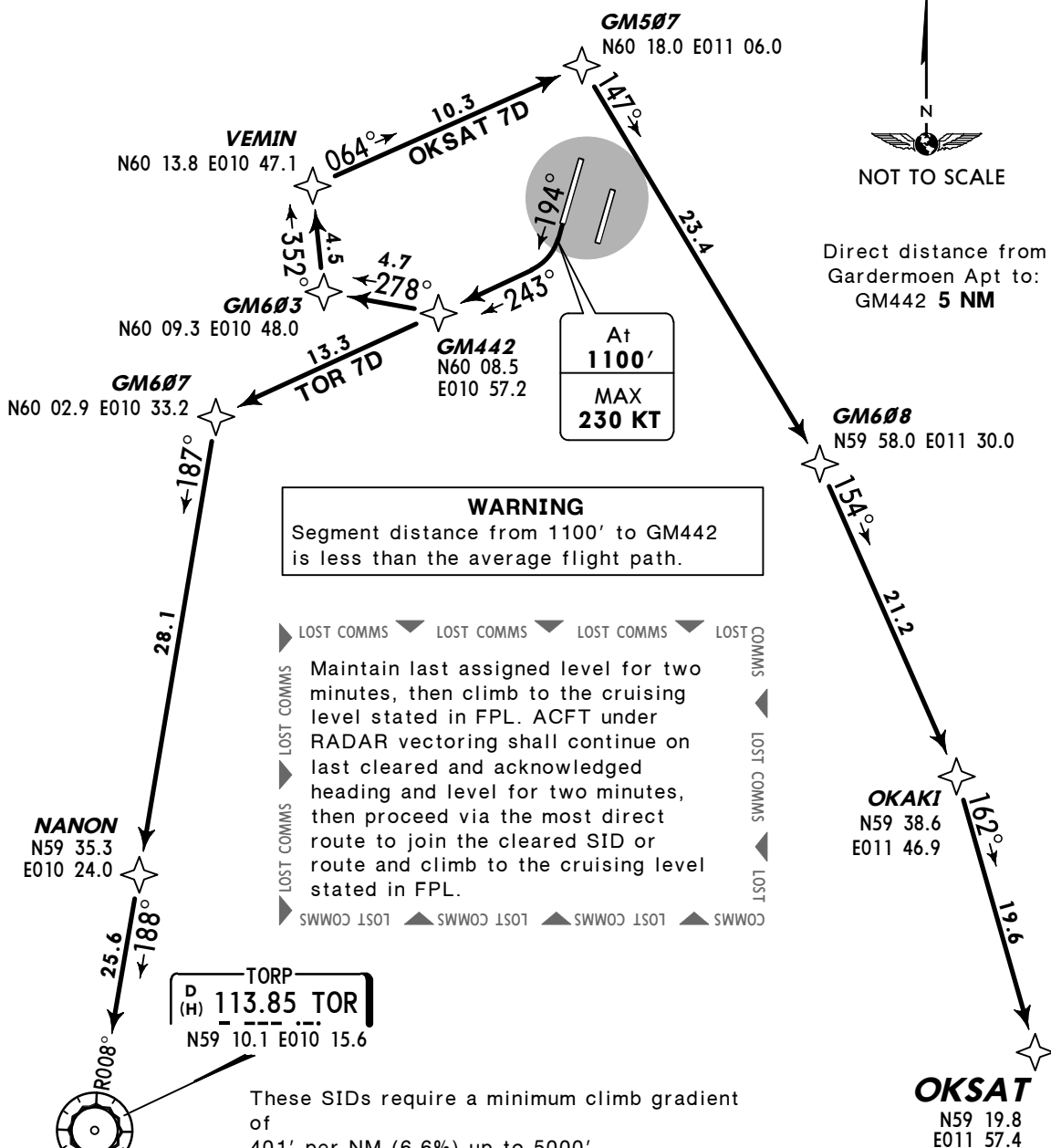
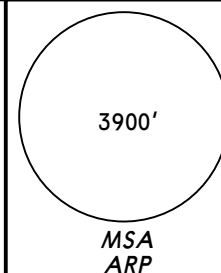
RWY 19R P-RNAV DEPARTURES

P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

P-RNAV APPROVAL REQUIRED

RNAV 1

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



Gnd speed-KT	75	100	150	200	250	300
401' per NM	501	668	1003	1337	1671	2005

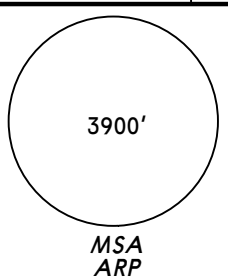
If unable to comply inform ATC.

Initial climb clearance **7000'**, EXPECT further climb by OSLO Approach.

SID	ROUTING
OXSAT 7D	Climb on runway track to 1100', turn RIGHT (K230-), 243° track to GM442 - GM603 - VEMIN - GM507 - GM608 - OKAKI - OXSAT.
TOR 7D	Climb on runway track to 1100', turn RIGHT (K230-), 243° track to GM442 - GM607 - NANON - TOR.

*OSLO Approach
120.45Apt Elev
681'

Trans level: By ATC Trans alt: 7000'
1. RADAR service shall be available.
2. Contact OSLO Approach when instructed by GARDERMOEN Tower.
3. Non P-RNAV equipped ACFT: at first contact with GARDERMOEN
Delivery state 'Non P-RNAV'. Omnidirectional departure available.



VEMIN THREE ALFA (VEMIN 3A) [VEMI3A]

RWY 01L P-RNAV PROP DEPARTURE

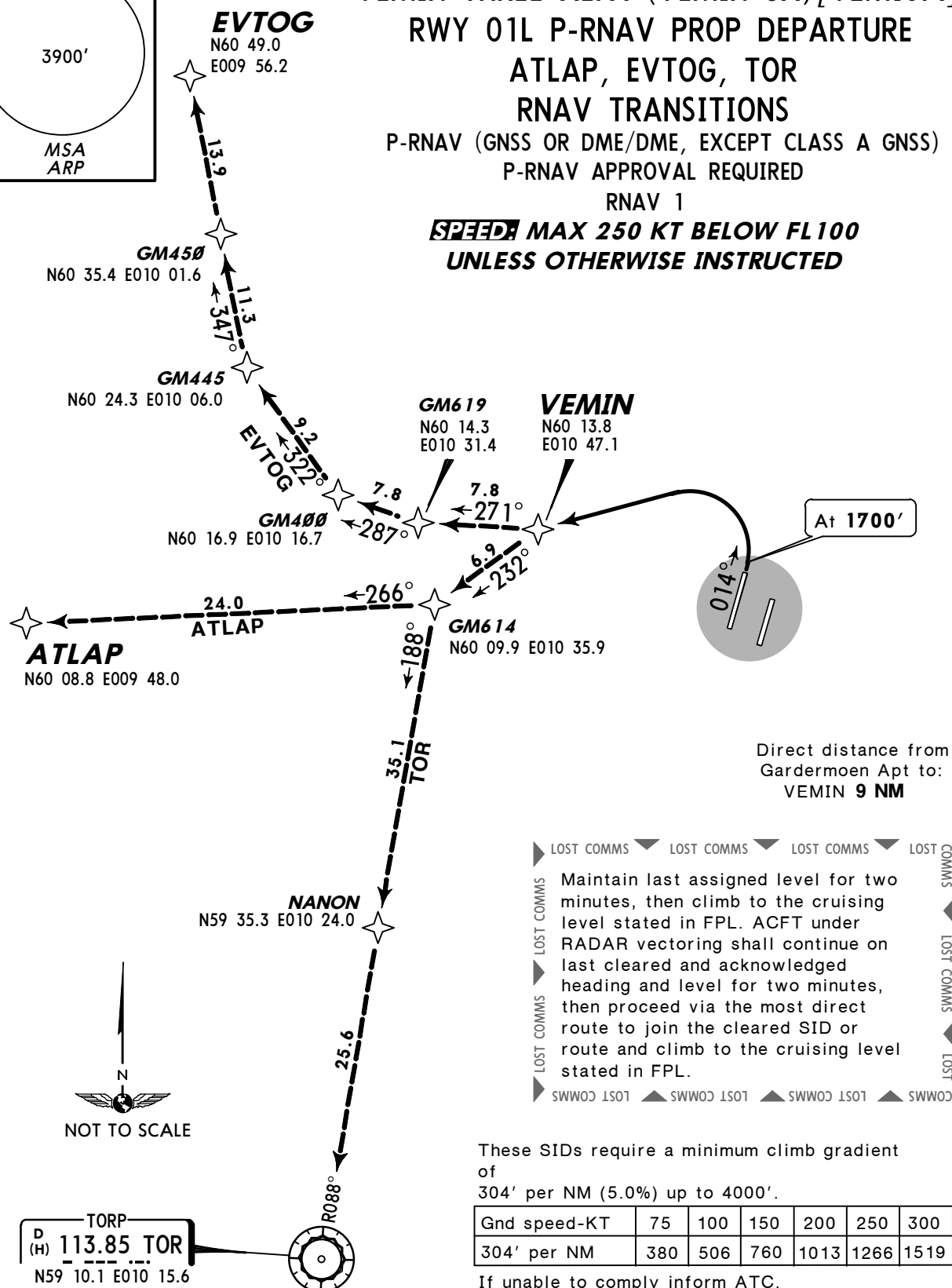
ATLAP, EVTOG, TOR

RNAV TRANSITIONS

P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

P-RNAV APPROVAL REQUIRED

RNAV 1

**SPEED MAX 250 KT BELOW FL100
UNLESS OTHERWISE INSTRUCTED**Initial climb clearance **4000'**, EXPECT further climb by OSLO Approach.

ROUTING

Climb on 014° track to 1700', turn LEFT to VEMIN.

TRANSITION

ROUTING

ATLAP

VEMIN - GM614 - ATLAP.

EVTOG

VEMIN - GM619 - GM400 - GM445 - GM450 - EVTOG.

TOR

VEMIN - GM614 - NANON - TOR.

*OSLO Approach
120.45Apt Elev
681'

Trans level: By ATC Trans alt: 7000'

1. RADAR service shall be available.
2. Contact OSLO Approach when instructed by GARDERMOEN Tower.
3. Non P-RNAV equipped ACFT: at first contact with GARDERMOEN Delivery state 'Non P-RNAV'. Omnidirectional departure available.

VEMIN EIGHT DELTA

(VEMIN 8D) [VEMI8D]

RWY 19R P-RNAV PROP DEPARTURE

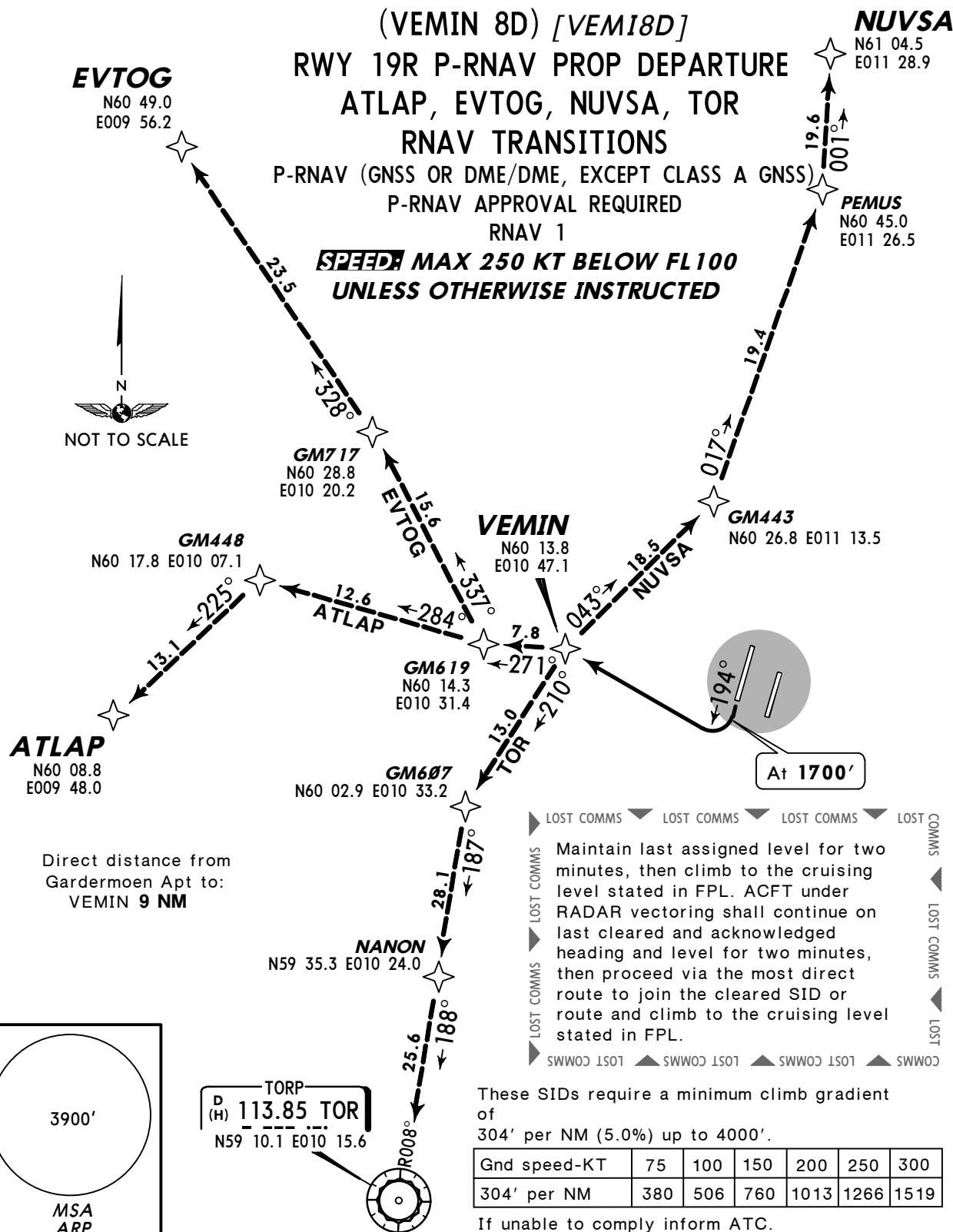
ATLAP, EVTOG, NUVSA, TOR

RNAV TRANSITIONS

P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

P-RNAV APPROVAL REQUIRED

RNAV 1

**SPEED MAX 250 KT BELOW FL100
UNLESS OTHERWISE INSTRUCTED**Initial climb clearance **4000'**, EXPECT further climb by OSLO Approach.

ROUTING

Climb on 194° track to 1700', turn RIGHT to VEMIN.

TRANSITION

ROUTING

ATLAP

VEMIN - GM619 - GM448 - ATLAP.

EVTOG

VEMIN - GM619 - GM717 - EVTOG.

NUVSA

VEMIN - GM443 - PEMUS - NUVSA.

TOR

VEMIN - GM607 - NANON - TOR.

*OSLO Approach
118.47Apt Elev
681'

Trans level: By ATC Trans alt: 7000'

1. RADAR service shall be available.
2. Contact OSLO Approach when instructed by GARDERMOEN Tower.
3. Non P-RNAV equipped ACFT: at first contact with GARDERMOEN Delivery state 'Non P-RNAV'. Omnidirectional departure available.

VIBUK THREE CHARLIE (VIBUK 3C)[VIBU3C]

RWY 19L P-RNAV PROP DEPARTURE

MASEV, NUVSA, OKSAT

RNAV TRANSITIONS

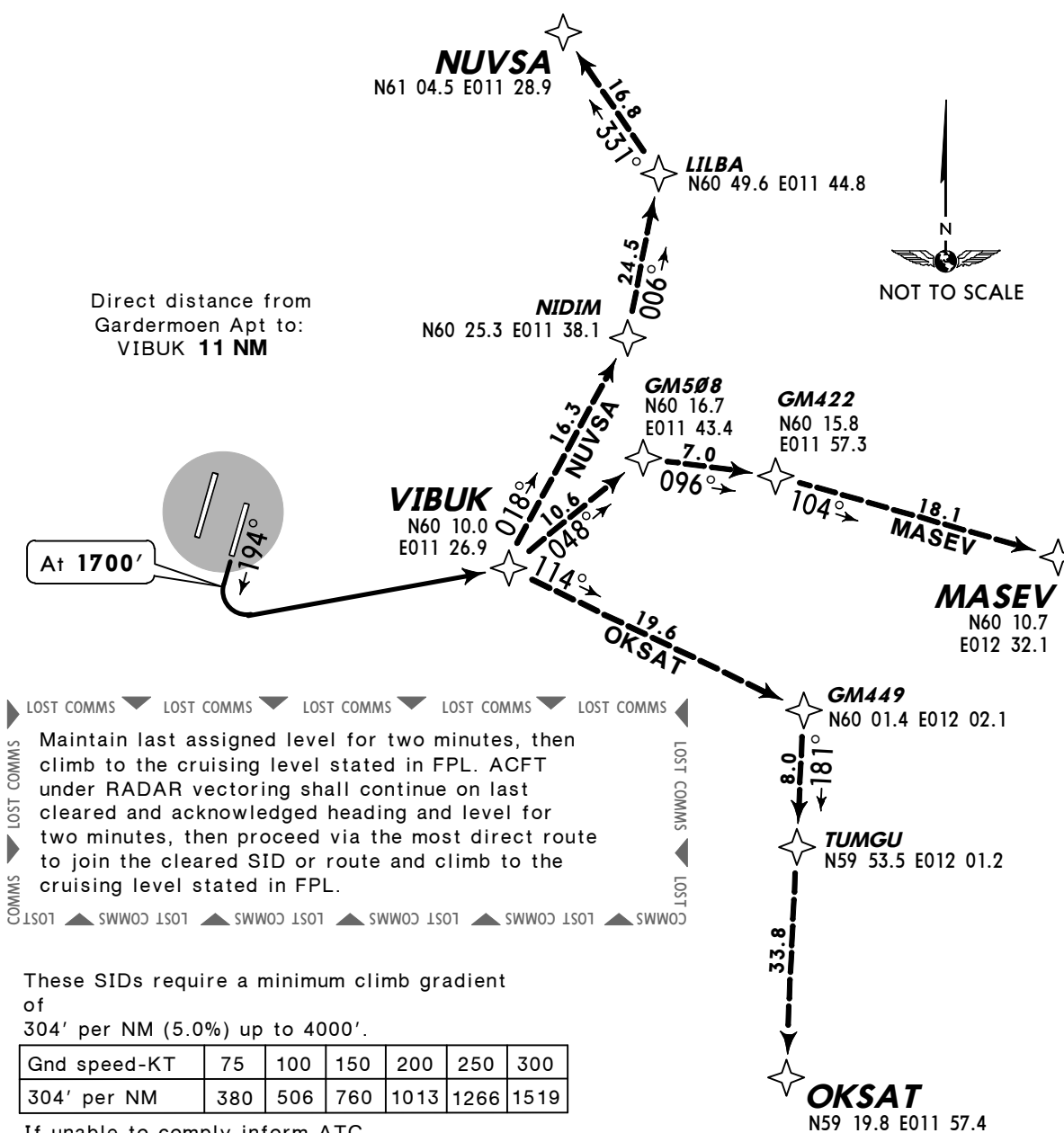
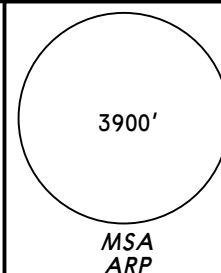
P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

P-RNAV APPROVAL REQUIRED

RNAV 1

~~SPEED~~ MAX 250 KT BELOW FL100

UNLESS OTHERWISE INSTRUCTED



Initial climb clearance 4000', EXPECT further climb by OSLO Approach.

ROUTING

Climb on 194° track to 1700', turn LEFT to VIBUK.

TRANSITION

ROUTING

MASEV

VIBUK - GM508 - GM422 - MASEV.

NUVSA

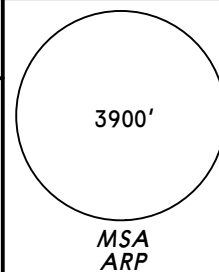
VIBUK - NIDIM - LILBA - NUVSA.

OKSAT

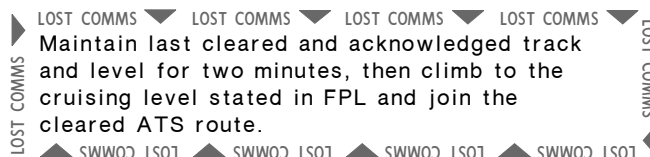
VIBUK - GM449 - TUMGU - OKSAT.

Apt Elev
681'

Trans level: By ATC Trans alt: 7000'



RWYS 01L/R, 19L/R OMNIDIRECTIONAL DEPARTURES
WHEN INSTRUCTED BY GARDERMOEN TWR CONTACT OSLO APPROACH
EXPECT RADAR VECTERING BY OSLO APPROACH TO JOIN THE CLEARED ATS ROUTE



These departures require minimum climb gradients of

Rwys 01L/R

304' per NM (5.0%) up to 4000'.

Rwys 19L/R

Sector 208°-338°: 425' per NM (7.0%) in order to stay within controlled airspace.

Sector 338°-208°: 304' per NM (5.0%) up to 4000'.

Gnd speed-KT	75	100	150	200	250	300
425' per NM	532	709	1063	1418	1772	2127
304' per NM	380	506	760	1013	1266	1519

If unable to comply inform ATC.

Initial climb clearance **4000'**, EXPECT further climb by OSLO Approach.

ROUTING

Climb on runway track to 2000', then start turn according to ATC clearance.

RWYS 01L, 19L/R OMNIDIRECTIONAL PROP DEPARTURES
WHEN INSTRUCTED BY GARDERMOEN TWR CONTACT OSLO APPROACH
EXPECT RADAR VECTERING BY OSLO APPROACH TO JOIN THE CLEARED ATS ROUTE

These departures require minimum climb gradients of

Sector 208°-338°: 425' per NM (7.0%) in order to stay within controlled airspace.

Sector 338°-208°: 304' per NM (5.0%) up to 4000'.

Gnd speed-KT	75	100	150	200	250	300
425' per NM	532	709	1063	1418	1772	2127
304' per NM	380	506	760	1013	1266	1519

If unable to comply inform ATC.

Initial climb clearance **4000'**, EXPECT further climb by OSLO Approach.

ROUTING

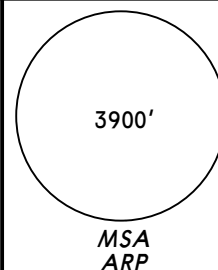
Climb on runway track to 1700', then start turn according to ATC clearance.

*OSLO Approach
118.47Apt Elev
681'

- Trans level: By ATC Trans alt: 7000'
1. P-RNAV approval is required.
 2. RADAR service shall be available.
 3. Contact OSLO Approach when instructed by GARDERMOEN Tower.
 4. Non P-RNAV equipped ACFT: at first contact with GARDERMOEN Delivery state 'Non P-RNAV'. Omnidirectional departure available.
 5. Enroute cruising level will be issued after take-off by OSLO Approach or OSLO Control.
 6. Noise abatement requires immediate RIGHT turn to GM528 after passing 1100'.

**ATLAP SIX X-RAY (ATLAP 6X) [ATLA6X]
EVT OG SIX X-RAY (EVT OG 6X) [EVTO6X]****RWY 01R P-RNAV DEPARTURES**

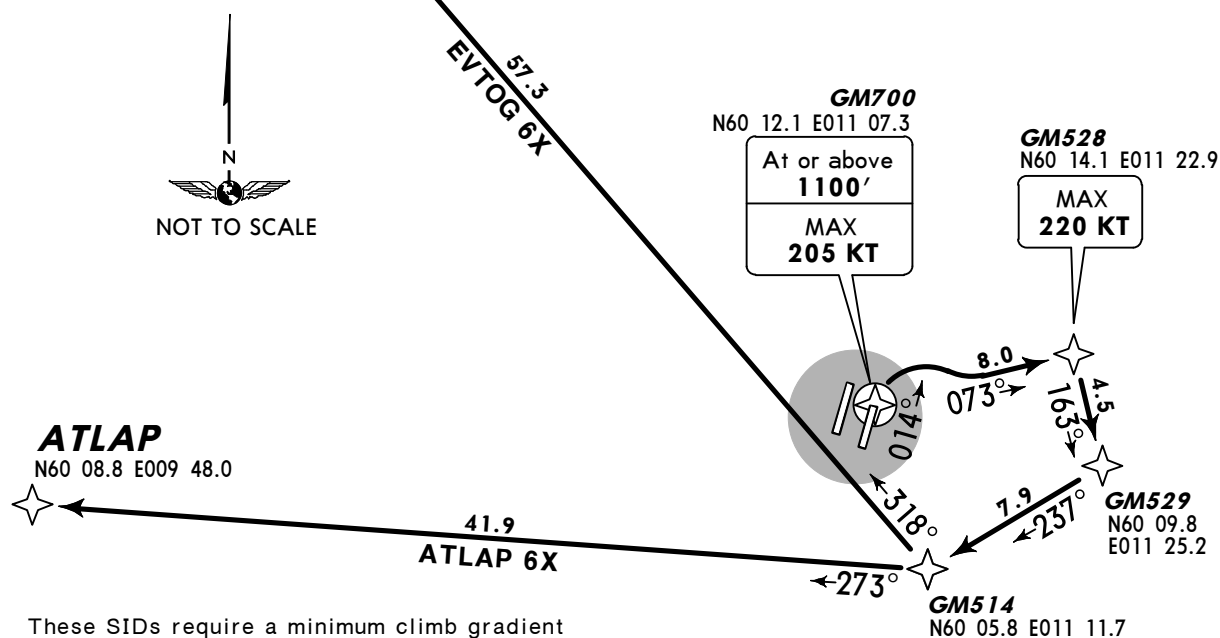
P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

~~SPEED~~ MAX 250 KT BELOW FL100**UNLESS OTHERWISE INSTRUCTED****EVT OG**

N60 49.0 E009 56.2



LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST CO
▶ Maintain last assigned level for two minutes, then climb to the cruising level stated in FPL. ACFT under RADAR vectoring shall continue on last cleared and acknowledged heading and level for two minutes, then proceed via the most direct route to join the cleared SID or route and climb to the cruising level stated in FPL.
LOST COMMS ▼ LOST CO
▲ SWWOC LSOT ▲ SWWOC LSOT ▲ SWWOC LSOT ▲ SWWOC LSOT ▲ SWWOC LSOT

PROCEDURES ON TRIAL BASIS

These SIDs require a minimum climb gradient of 304' per NM (5.0%) up to 5000'.

Gnd speed-KT	75	100	150	200	250	300
304' per NM	380	506	760	1013	1266	1519

If unable to comply inform ATC.

Initial climb clearance 7000' , EXPECT further climb by OSLO Approach.

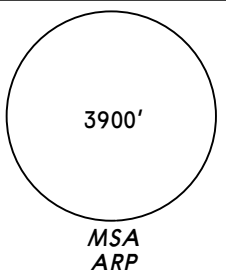
Initial turn shall NOT be initiated below 1100'.

SID	ROUTING
ATLAP 6X	Climb on runway track to GM700 (1100'+; K205-), turn RIGHT to GM528 (K220-), turn RIGHT to GM529 - GM514 - ATLAP.
EVT OG 6X	Climb on runway track to GM700 (1100'+; K205-), turn RIGHT to GM528 (K220-), turn RIGHT to GM529 - GM514 - EVTOG.

*OSLO Approach
118.47

Apt Elev
681'

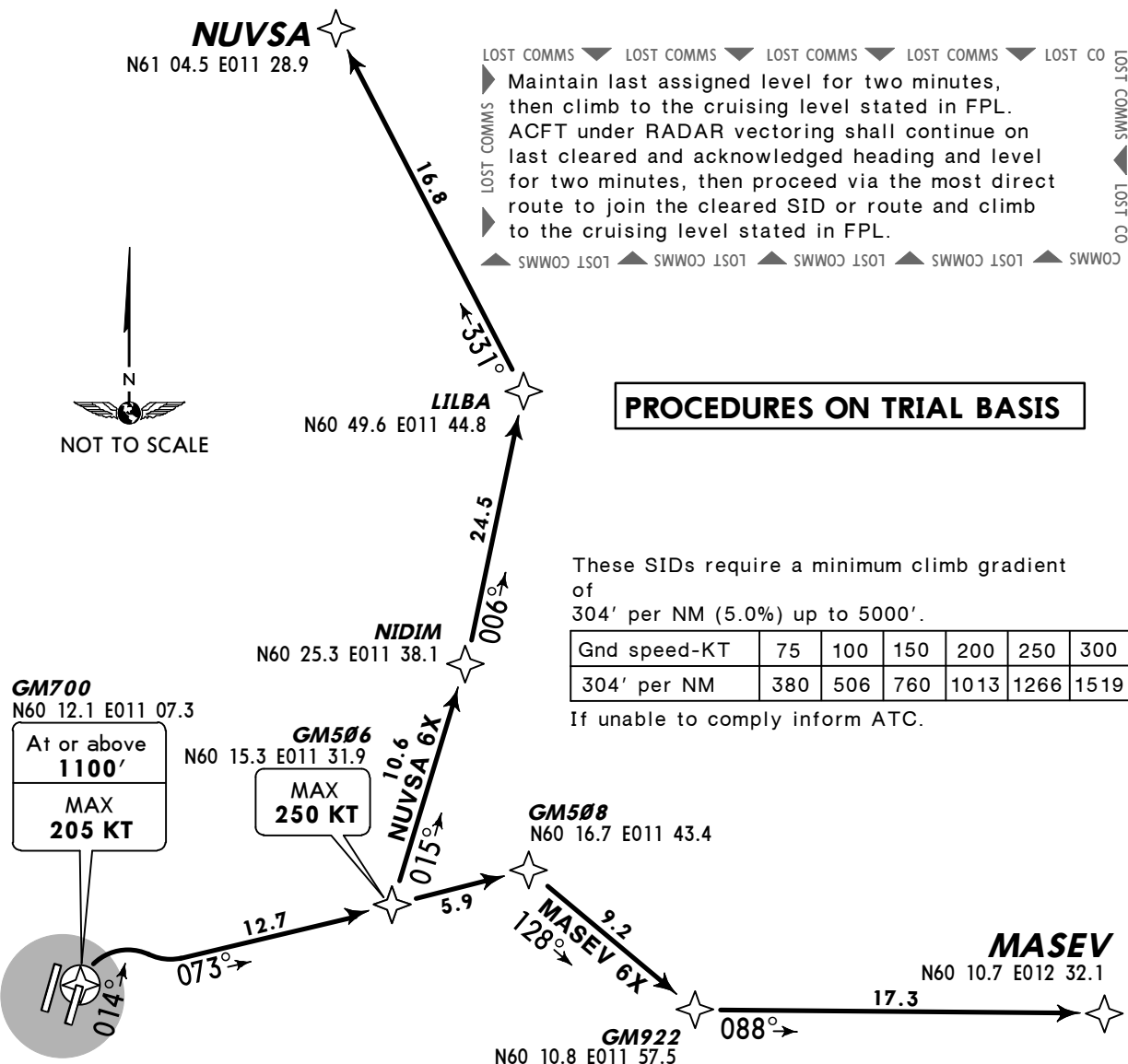
- Trans level: By ATC Trans alt: 7000'
1. P-RNAV approval is required.
 2. RADAR service shall be available.
 3. Contact OSLO Approach when instructed by GARDERMOEN Tower.
 4. Non P-RNAV equipped ACFT: at first contact with GARDERMOEN Delivery state 'Non P-RNAV'. Omnidirectional departure available.
 5. Enroute cruising level will be issued after take-off by OSLO Approach or OSLO Control.
 6. Noise abatement requires immediate RIGHT turn to GM528 after passing 1100'.



MASEV SIX X-RAY (MASEV 6X) [MASE6X] NUVSA SIX X-RAY (NUVSA 6X) [NUVS6X] RWY 01R P-RNAV DEPARTURES

P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

~~SPEED~~ MASEV 6X: MAX 250 KT
BELOW FL130 UNLESS OTHERWISE INSTRUCTED
NUVSA 6X: MAX 250 KT
BELOW FL100 UNLESS OTHERWISE INSTRUCTED



Initial climb clearance **7000'**, EXPECT further climb by OSLO Approach.

Initial turn shall NOT be initiated below 1100'.

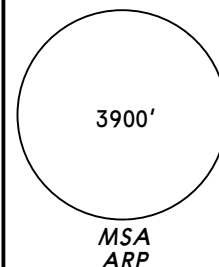
SID	ROUTING
MASEV 6X	Climb on runway track to GM700 (1100'+; K205-), turn RIGHT to GM506 (K250-) - GM508 - GM922 - MASEV.
NUVSA 6X	Climb on runway track to GM700 (1100'+; K205-), turn RIGHT to GM506 (K250-) - NIDIM - LILBA - NUVSA.

*OSLO Approach
118.47Apt Elev
681'

- Trans level: By ATC Trans alt: 7000'
1. P-RNAV approval is required.
 2. RADAR service shall be available.
 3. Contact OSLO Approach when instructed by GARDERMOEN Tower.
 4. Non P-RNAV equipped ACFT: at first contact with GARDERMOEN Delivery state 'Non P-RNAV'. Omnidirectional departure available.
 5. Enroute cruising level will be issued after take-off by OSLO Approach or OSLO Control.
 6. Noise abatement requires immediate RIGHT turn to GM528 after passing 1100'.

**OKSAT SIX X-RAY (OKSAT 6X) [OKSA6X]
TOR SIX X-RAY (TOR 6X)
RWY 01R P-RNAV DEPARTURES**

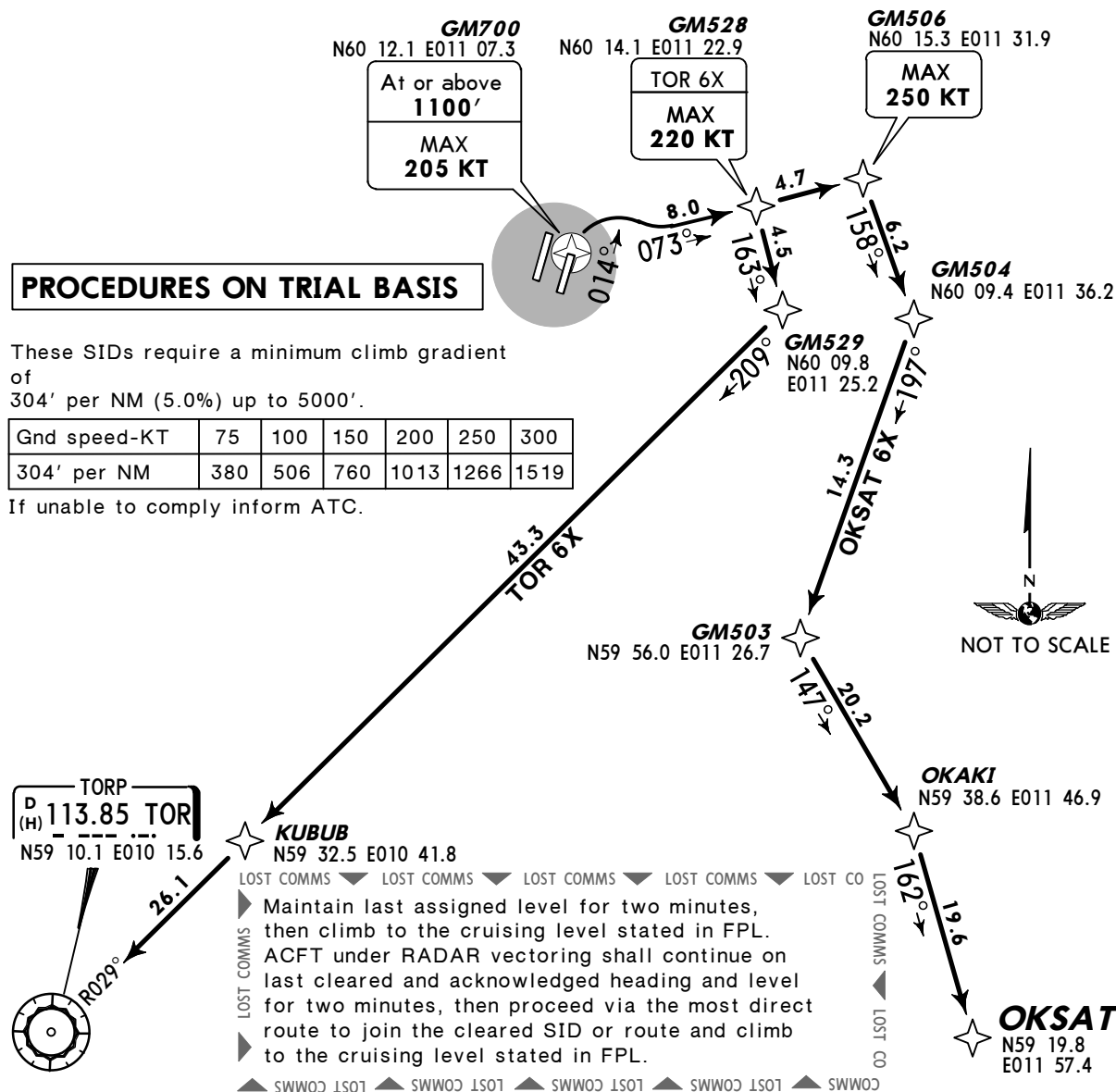
P-RNAV (GNSS OR DME/DME, EXCEPT CLASS A GNSS)

~~SPEED~~ OKSAT 6X: MAX 250 KT**BELOW FL130 UNLESS OTHERWISE INSTRUCTED****TOR 6X: MAX 250 KT****BELOW FL100 UNLESS OTHERWISE INSTRUCTED****PROCEDURES ON TRIAL BASIS**

These SIDs require a minimum climb gradient of 304' per NM (5.0%) up to 5000'.

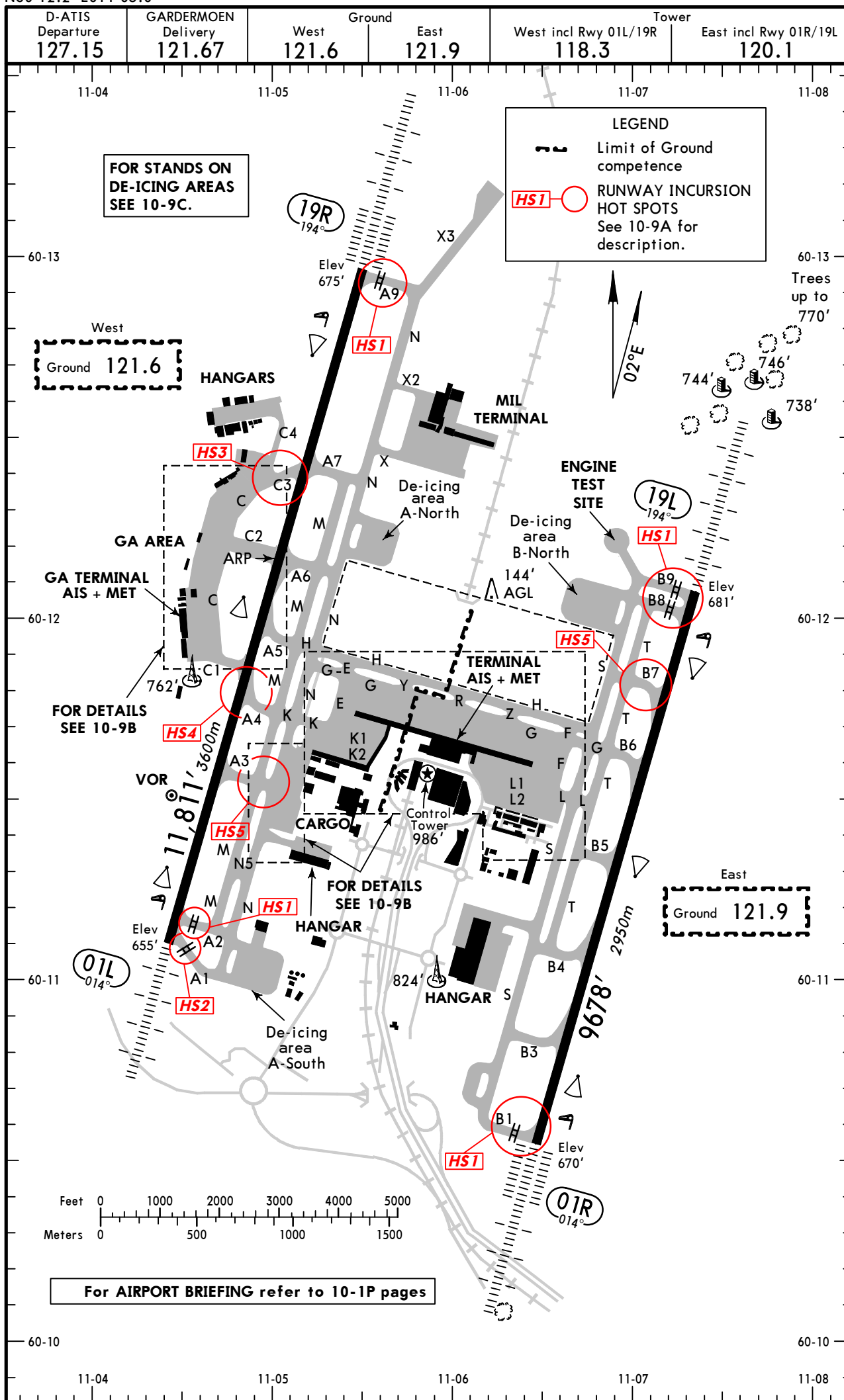
Gnd speed-KT	75	100	150	200	250	300
304' per NM	380	506	760	1013	1266	1519

If unable to comply inform ATC.

Initial climb clearance **7000'**, EXPECT further climb by OSLO Approach.

Initial turn shall NOT be initiated below 1100'.

SID	ROUTING
OKSAT 6X	Climb on runway track to GM700 (1100'-; K205-), turn RIGHT to GM506 (K250-), turn RIGHT to GM504 - GM503 - OKAKI - OKSAT.
TOR 6X	Climb on runway track to GM700 (1100'+; K205-), turn RIGHT to GM528 (K220-), turn RIGHT to GM529 - KUBUB - TOR.



ADDITIONAL RUNWAY INFORMATION

ADDITIONAL RUNWAY INFORMATION								
RWY				USABLE LENGTHS		TAKE-OFF	WIDTH	
				LANDING BEYOND				
				Threshold	Glide Slope			
01L	HIRL (60m) HIALS CL (15m) SFL PAPI-L(3.0°)			RVR		10,819' 3298m	②	148' 45m
19R	HIRL (60m) HIALS-II CL (15m) SFL TDZ ①			RVR		10,737' 3273m		
① PAPI-L(3.0°)								
② TAKE-OFF RUN AVAILABLE								
RWY 01L: From rwy head				11,811' (3600m)	RWY 19R: From rwy head		11,811' (3600m)	
twy A2 int				11,381' (3469m)	twy A7 int		8294' (2528m)	
twy A3 int				8845' (2696m)	twy C3 int		8294' (2528m)	
twy A4 int				7536' (2297m)	twy A6 int		6808' (2075m)	
twy C1 int				7034' (2144m)	twy C2 int		6808' (2075m)	
twy A5 int				6325' (1928m)				
twy A6 int				5079' (1548m)				
twy C2 int				5079' (1548m)				
01R	HIRL (60m) HIALS-II CL (15m) SFL TDZ ③			RVR		8734' 2662m	④	148' 45m
19L	HIRL (60m) HIALS CL (15m) SFL PAPI-L(3.0°)			RVR		8625' 2629m		

① PAPI-L(3.0°)

② TAKE-OFF RUN AVAILABLE

<u>RWY 01L:</u> From rwy head	11,811' (3600m)	<u>RWY 19R:</u> From rwy head	11,811' (3600m)
twy A2 int	11,381' (3469m)	twy A7 int	8294' (2528m)
twy A3 int	8845' (2696m)	twy C3 int	8294' (2528m)
twy A4 int	7536' (2297m)	twy A6 int	6808' (2075m)
twy C1 int	7034' (2144m)	twy C2 int	6808' (2075m)
twy A5 int	6325' (1928m)		
twy A6 int	5079' (1548m)		
twy C2 int	5079' (1548m)		

01R	HIRL (60m) HIALS-II CL (15m) SFL TDZ ③	RVR		8734' 2662m	④	148' 45m
19L	HIRL (60m) HIALS CL (15m) SFL PAPI-L(3.0°)	RVR		8625' 2629m		

③ PAPI-L(3.0°)

④ TAKE-OFF RUN AVAILABLE

<u>RWY 01R:</u> From rwy head	9678' (2950m)	<u>RWY 19L:</u> From rwy head	9678' (2950m)
twy B3 int	7982' (2433m)	twy B8 int	9265' (2824m)
twy B4 int	6463' (1970m)	twy B7 int	7907' (2410m)
twy B5 int	4797' (1462m)	twy B6 int	6644' (2025m)

RUNWAY INCURSION HOT SPOTS

(For information only, not to be construed as ATC instructions.)

HS1 Same naming on CAT II/III and CAT I holding points.
Stopbars on CAT II/III holding point only.

HS2 Same naming on CAT II/III and CAT I holding points.
Angled Twy. Difficult to see traffic on final. Stopbars
on CAT II/III holding point only.

HS3 Angled Twy. Difficult to see traffic on Rwy 01L.

HS4 Installed Twy CL lights on C1 will indicate direction to
the Rwy CL. Caution must be exercised when instructed to
cross Rwy from Twy C1 to Twy A4 due lack of visual aids.

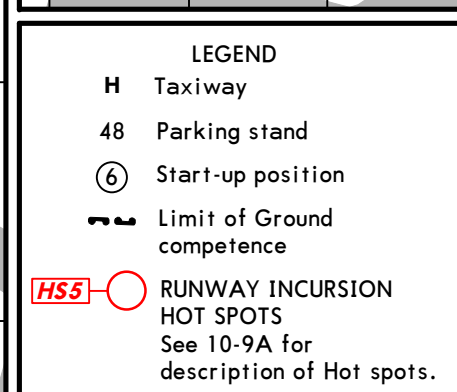
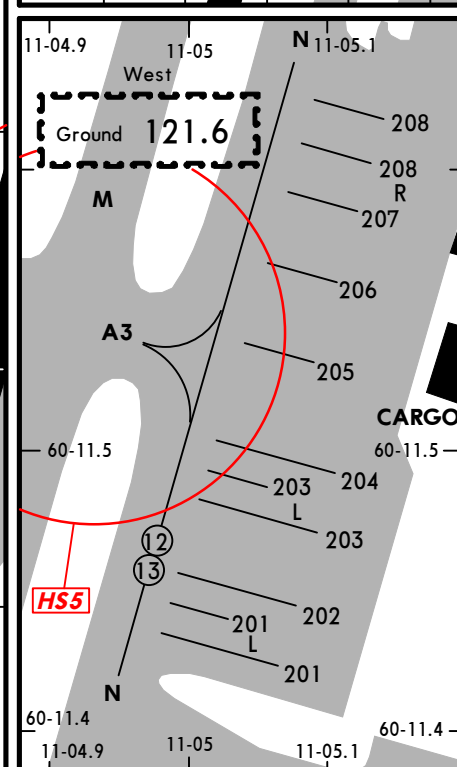
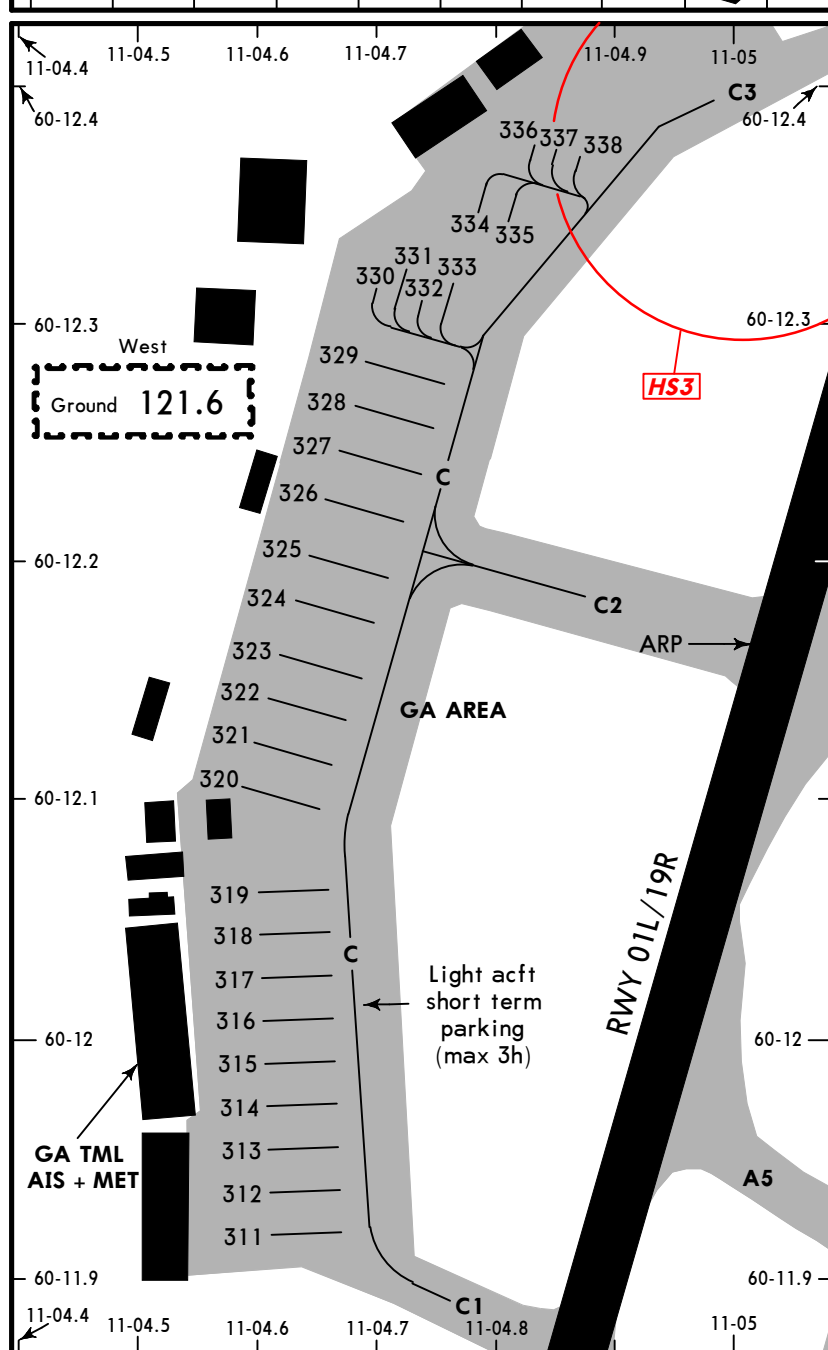
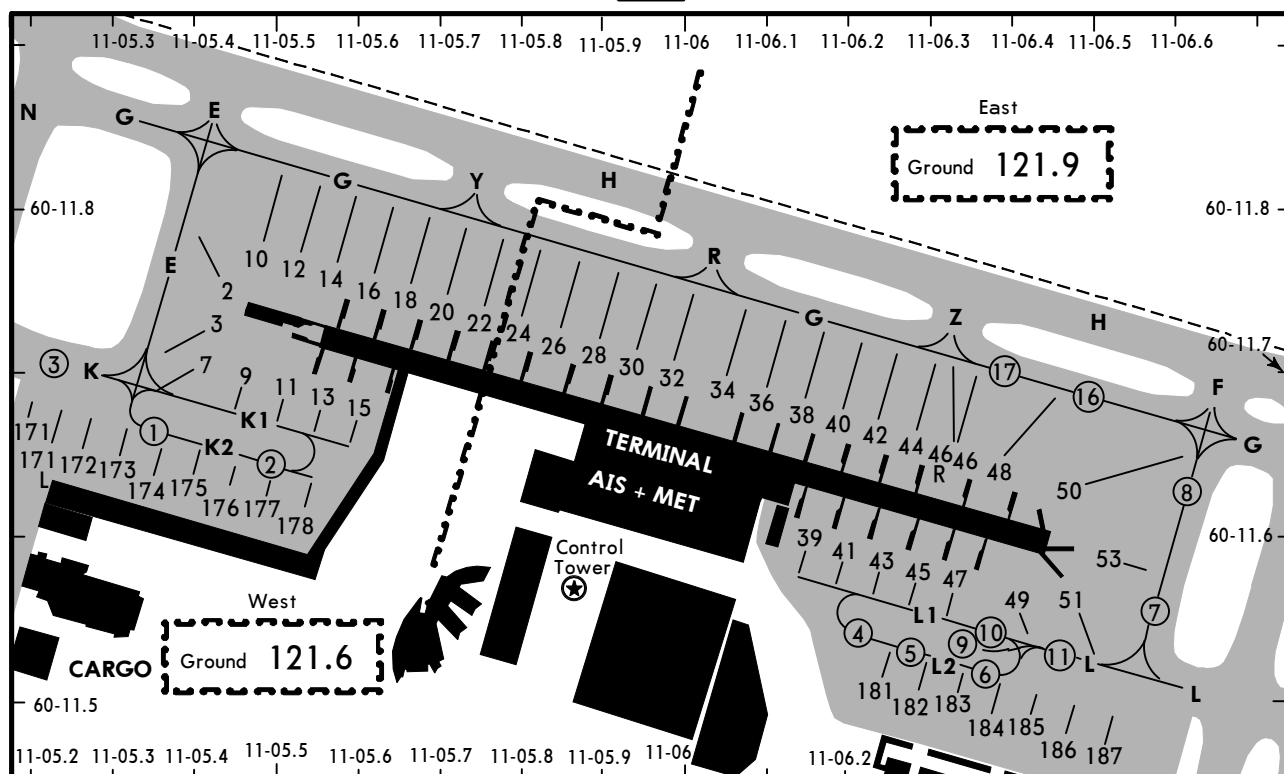
HS5 When departure from intersection A3 Rwy 01L and B7 Rwy 19L
is planned, confirm lining up on the Rwy. Rwy confusion
experienced between Twy M and Rwy 01L, and Twy T and
Rwy 19L.

Standard

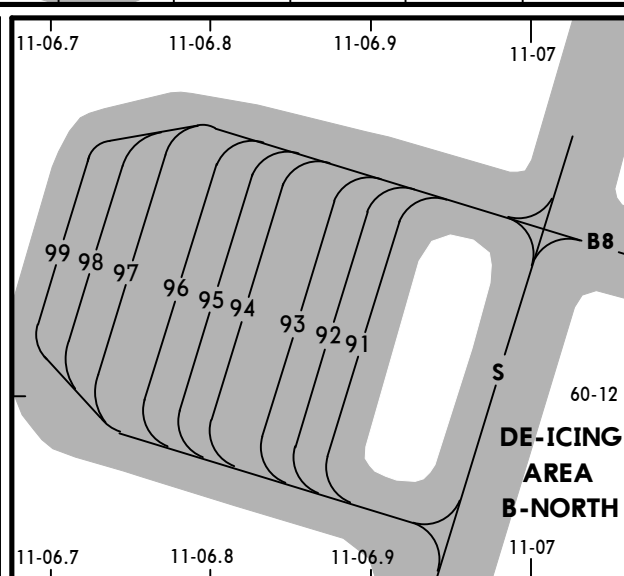
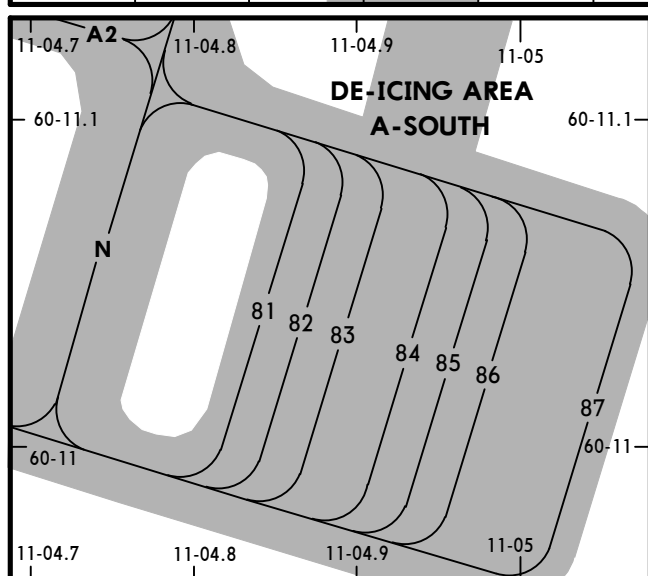
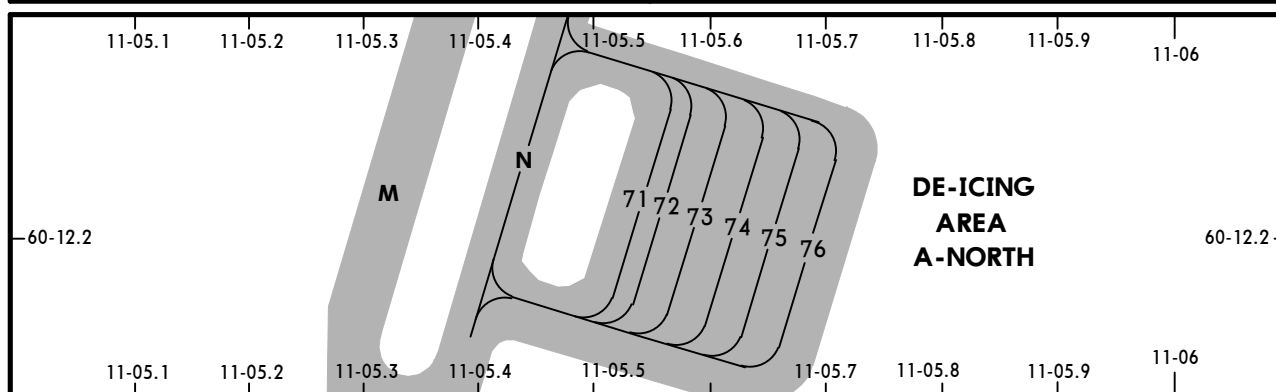
TAKE-OFF ①

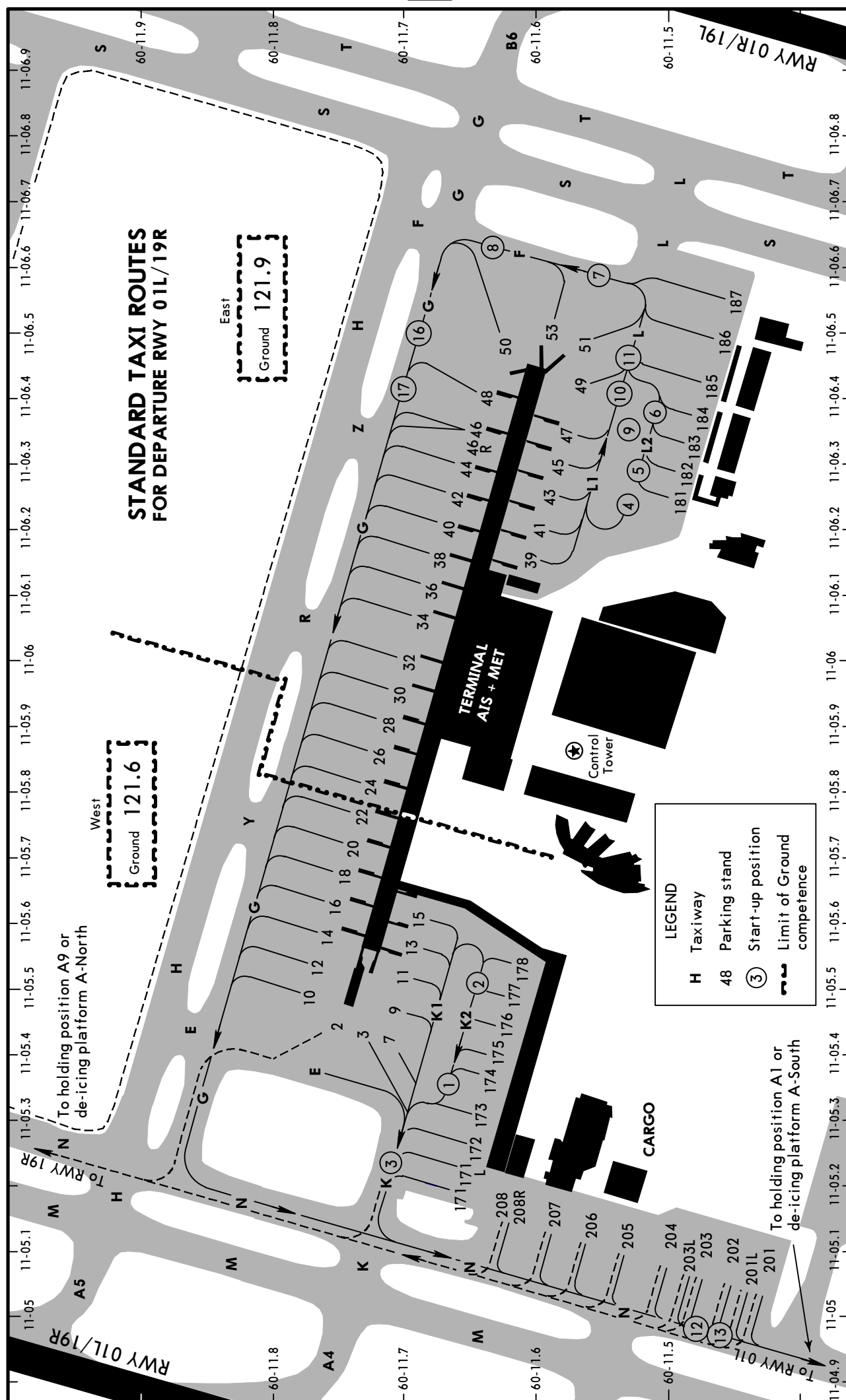
	LVP must be in Force				RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
	Approved Operators HIRL, CL & mult. RVR req	RL, CL & mult. RVR req	RL & CL	RCLM (DAY only) or RL			
A							
B	125m	150m	200m	250m	400m	500m	
C							
D	150m	200m	250m	300m			

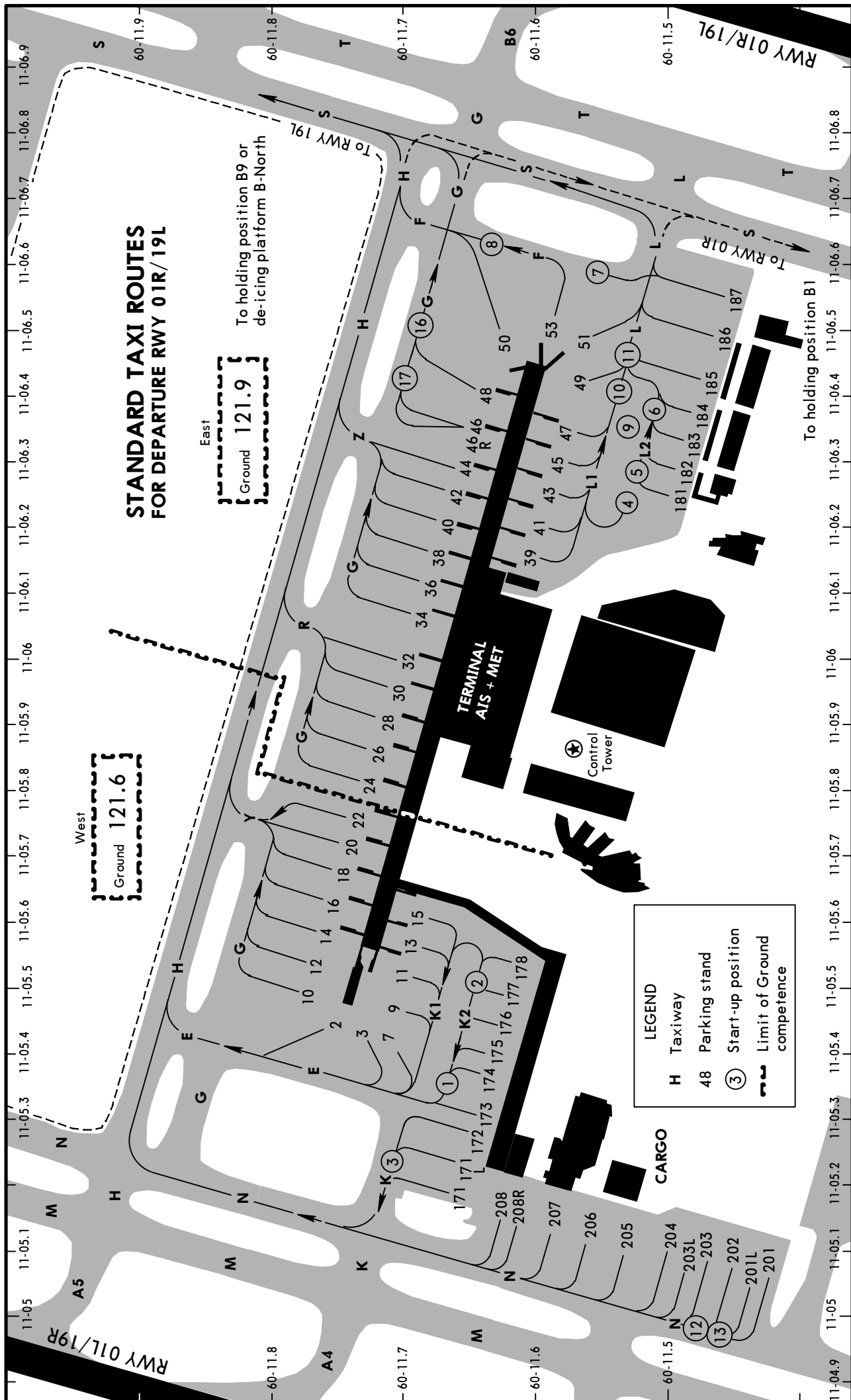
① Operators applying U.S. Ops Specs: CL required below 300m; approved HUD required below 150m.



INS COORDINATES							
STAND No.	COORDINATES		ELEV	STAND No.	COORDINATES		ELEV
2 thru 7	N60 11.7	E011 05.4	672	184, 185	N60 11.5	E011 06.4	670
9	N60 11.7	E011 05.5	674	186	N60 11.5	E011 06.5	669
10	N60 11.8	E011 05.4	673	187	N60 11.4	E011 06.6	669
11	N60 11.7	E011 05.5	673	201 thru 202	N60 11.4	E011 05.1	664
12	N60 11.8	E011 05.5	673	203 thru 204	N60 11.5	E011 05.1	664
13 thru 16	N60 11.7	E011 05.6	673	205	N60 11.5	E011 05.1	666
18 thru 22	N60 11.7	E011 05.7	673	206, 207	N60 11.6	E011 05.2	666
24, 26	N60 11.7	E011 05.8	673	208	N60 11.6	E011 05.2	668
28, 30	N60 11.7	E011 05.9	673	208R	N60 11.6	E011 05.2	667
32, 34	N60 11.7	E011 06.0	673	311	N60 11.9	E011 04.6	662
36, 38	N60 11.7	E011 06.1	673	312 thru 314	N60 11.9	E011 04.6	663
39	N60 11.6	E011 06.2	673	315	N60 12.0	E011 04.6	663
40	N60 11.7	E011 06.2	673	316	N60 12.0	E011 04.6	664
41, 42	N60 11.6	E011 06.2	673	317 thru 319	N60 12.0	E011 04.6	663
43 thru 47	N60 11.6	E011 06.3	673	320	N60 12.1	E011 04.6	664
48, 49	N60 11.6	E011 06.4	673	321, 322	N60 12.1	E011 04.5	665
50	N60 11.6	E011 06.4	672	323, 324	N60 12.2	E011 04.6	664
51	N60 11.6	E011 06.5	672	325	N60 12.2	E011 04.6	665
53	N60 11.6	E011 06.5	673	326	N60 12.2	E011 04.7	665
171 thru 172	N60 11.6	E011 06.2	668	327	N60 12.3	E011 04.7	665
173	N60 11.6	E011 05.3	668	328 thru 330	N60 12.3	E011 04.7	666
174	N60 11.6	E011 05.3	670	331, 332	N60 12.3	E011 04.7	665
175	N60 11.6	E011 05.4	670	333	N60 12.3	E011 04.8	666
176	N60 11.6	E011 05.4	671	334	N60 12.4	E011 04.8	666
177, 178	N60 11.6	E011 05.5	670	335	N60 12.3	E011 04.8	666
181	N60 11.5	E011 06.2	670	336, 337	N60 12.4	E011 04.8	-
182, 183	N60 11.5	E011 06.3	670	338	N60 12.4	E011 04.9	-







STRAIGHT-IN RWY		DA(H) / MDA(H)	RVR (ALS/ALS out)
01L	ILS ❶	855' (200')	500m / 1000m
	ILS ❷	884' (229')	550m / 1000m
	LOC	960' (305')	800m / 1000m
	RNAV	1240' (585')	1000m / 1000m
	VOR	1000' (345')	800m / 1000m
01R	CAT 2 ILS	770' (100')	RA 102' - 300m
	ILS	870' (200')	500m / 1000m
	LOC	970' (300')	800m / 1000m
	RNAV	1030' (360')	800m / 1000m
19L	ILS	881' (200')	500m / 1000m
	LOC	1030' (349')	800m / 1000m
	RNAV	1020' (339')	800m / 1000m
19R	CAT 2 ILS	775' (100')	RA 100' - 300m
	ILS	875' (200')	500m / 1000m
	LOC	1020' (345')	800m / 1000m
	RNAV	1070' (395')	800m / 1000m
	VOR	1060' (385')	800m / 1000m

❶ Missed apch climb gradient mim 3.0%.

❷ Missed apch climb gradient mim 2.5%.

CIRCLE-TO-LAND ❸	MDA(H)	VIS
	1280' (599')	1000m

❸ Rwy 01L/19R: Not authorized East of rwy 01L/19R.
 Rwy 01R/19L: Not authorized West of rwy 01R/19L.

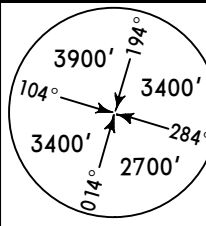
TAKE-OFF RWY 01L, 01R, 19L, 19R

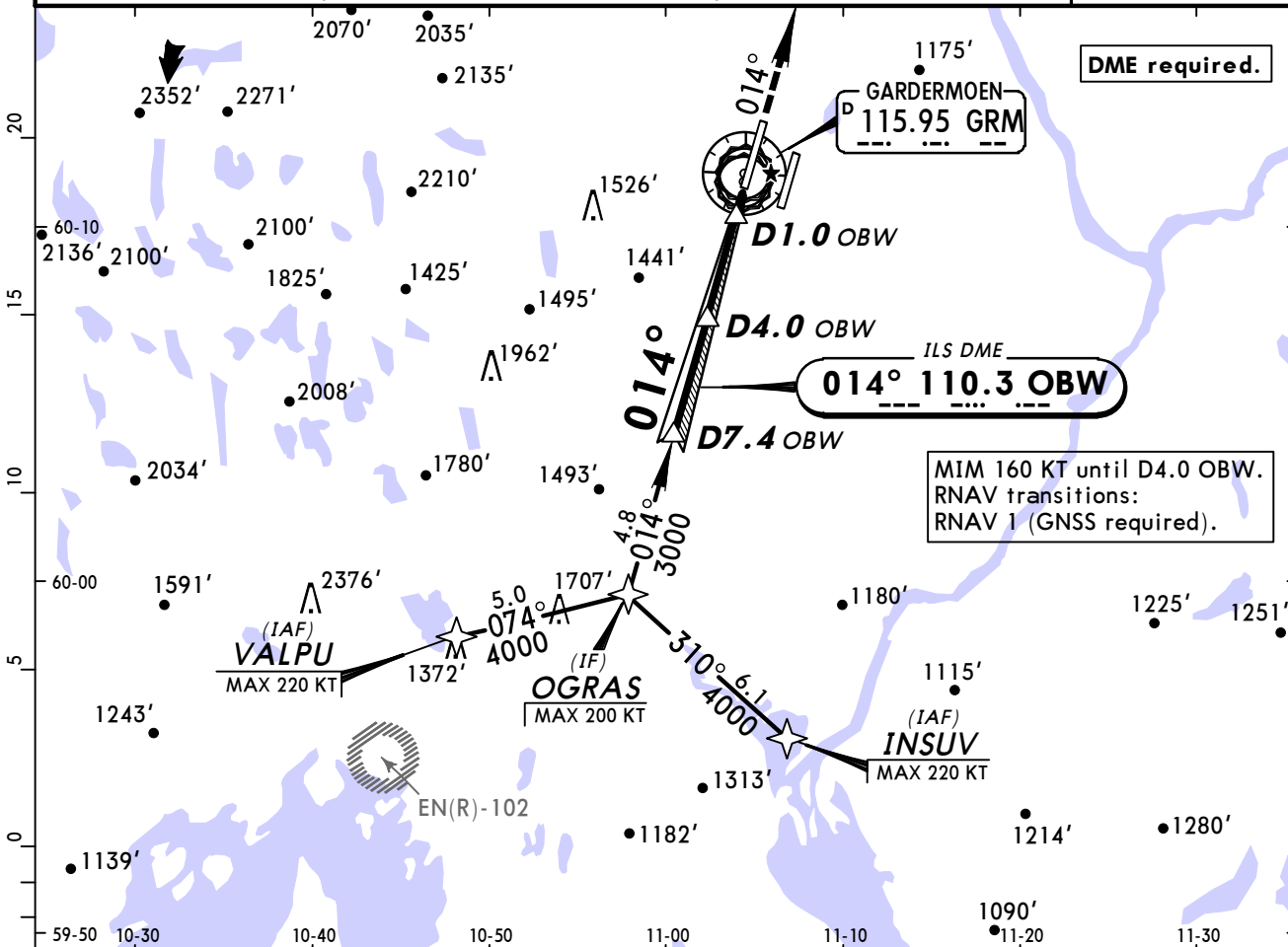
LVP must be in Force ❹				
RL, FATO LTS, CL & RVR info	RL, FATO LTS & RCLM	Unlit/unmarked defined RWY/FATO	Nil Facilities DAY	Nil Facilities NIGHT
150m	200m	200m	250m ❺	800m

❹ Without LVP 400m are stipulated.

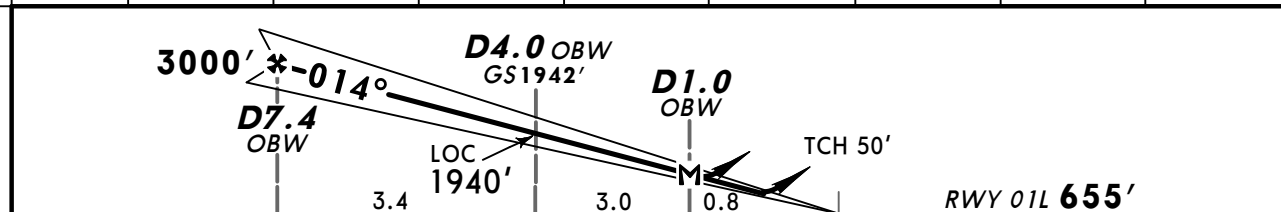
❺ Or rejected take-off distance whichever is the greater.

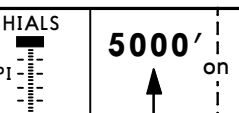
BRIEFING STRIP™

D-ATIS Arrival 126.12				*OSLO Approach East 118.47 West 120.45			
GARDERMOEN Tower West incl Rwy 01L/19R 118.3		East incl Rwy 01R/19L 120.1		Ground West 121.6		East 121.9	
LOC OBW 110.3	Final Apch Crs 014°	GS D4.0 OBW 1942' (1287')	ILS DA(H) Refer to Minimums	Apt Elev 681' RWY 655'			
MISSED APCH: Climb on 014° to 5000'. Expect vectoring by OSLO APP. MISSED APCH WITH LOST COMM: Continue climb on 014° to 5000'. At D20.0 OBW turn LEFT direct to VOR for a new apch.							
Alt Set: hPa		Rwy Elev: 24 hPa		Trans level: By ATC			
MSA GRM VOR							

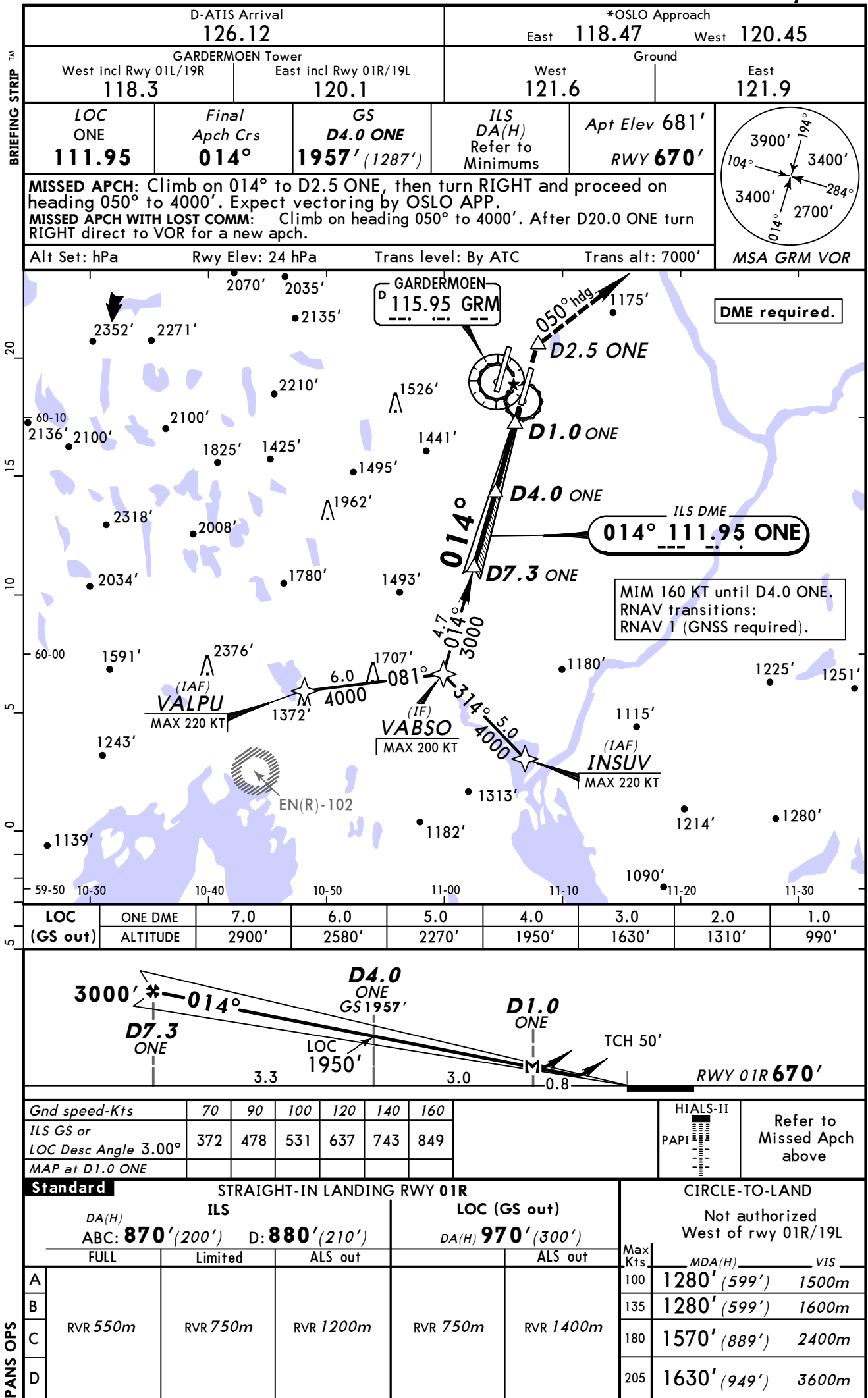


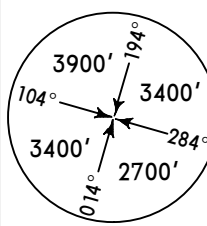
LOC (GS out)	OBW DME	7.0	6.0	5.0	4.0	3.0	2.0	1.0
ALTITUDE		2890'	2570'	2250'	1940'	1620'	1300'	980'

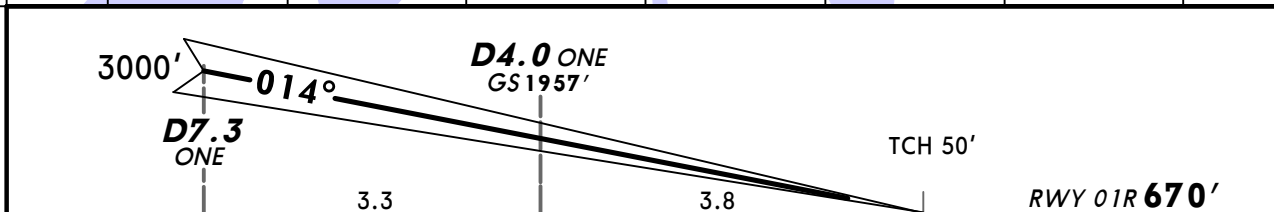
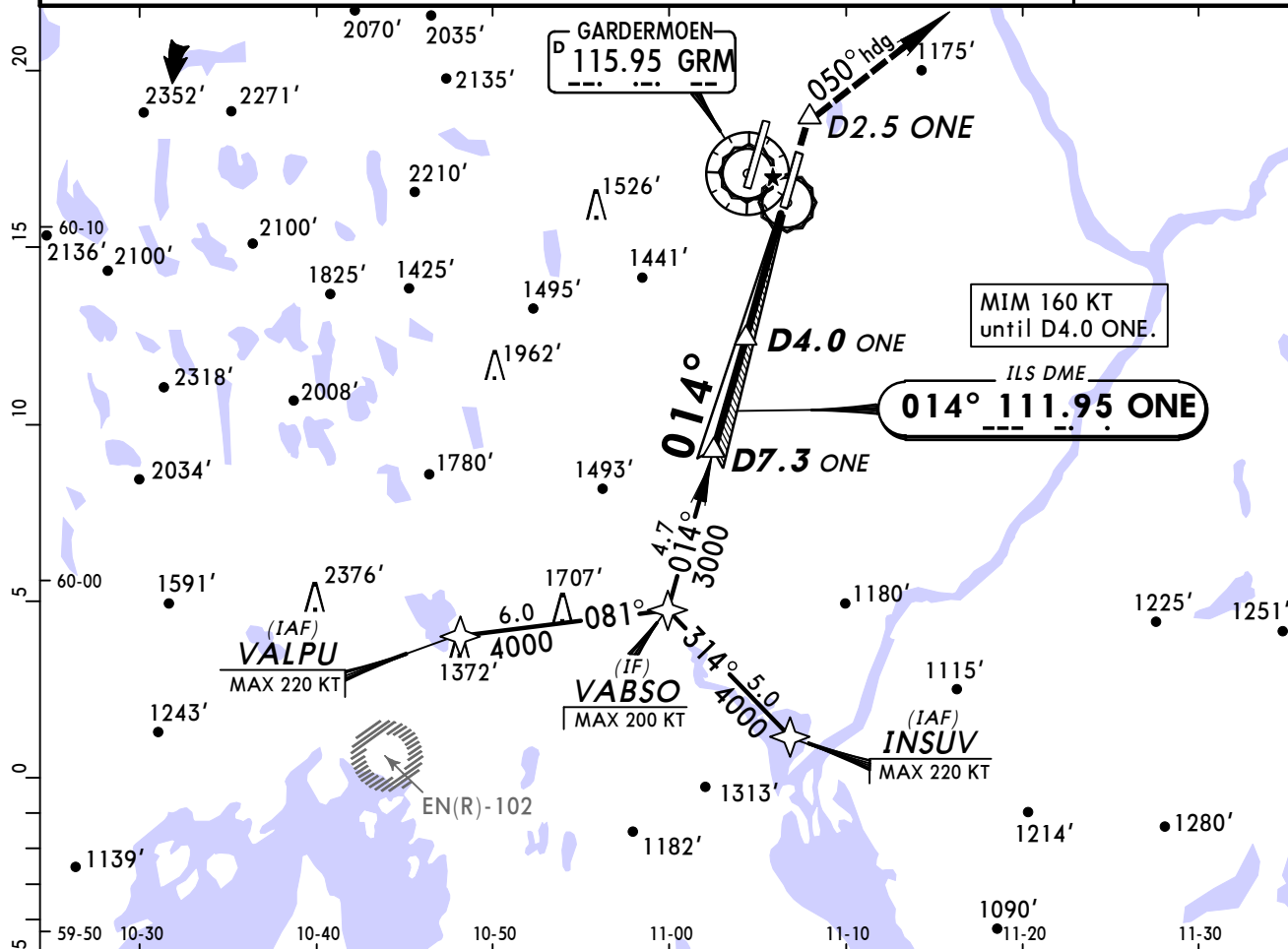


Gnd speed-Kts	70	90	100	120	140	160		
ILS GS or LOC Desc Angle 3.00°	372	478	531	637	743	849		
MAP at D1.0 OBW								

Standard						STRAIGHT-IN LANDING RWY 01L				CIRCLE-TO-LAND									
Missed apch climb grad mim 3.0%						Missed apch climb grad mim 2.5%						LOC (GS out)		Not authorized East of rwy 01L/19R					
DA(H)						DA(H)						DA(H)							
C: 863'(208')						A: 884'(229') C: 904'(249')						960'(305')							
AB: 855'(200') D: 873'(218')						B: 894'(239') D: 914'(259')													
FULL		Limited		ALS out		FULL		Limited		ALS out		ALS out		Max Kts		MDA(H)		VIS	
A	RVR 550m		RVR 750m		RVR 1200m		RVR 550m		RVR 750m		RVR 1200m		RVR 750m		RVR 1400m		100	1280'(599') 1500m	
B																	135	1280'(599') 1600m	
C																	180	2040'(1359') 2400m	
D																	205	2250'(1569') 3600m	



D-ATIS Arrival 126.12		*OSLO Approach East 118.47 West 120.45	
West incl Rwy 01L/19R 118.3	GARDERMOEN Tower East incl Rwy 01R/19L 120.1	West 121.6	Ground East 121.9
LOC ONE 111.95	Final Aptch Crs 014°	GS D4.0 ONE 1957' (1287')	CAT II & IIIA ILS Refer to Minimums Apt Elev 681' RWY 670'
MISSED APCH: Climb on 014° to D2.5 ONE, then turn RIGHT and proceed on heading 050° to 4000'. Expect vectoring by OSLO APP. MISSED APCH WITH LOST COMM: Climb on heading 050° to 4000'. After D20.0 ONE turn RIGHT direct to VOR for a new apch. Alt Set: hPa Rwy Elev: 24 hPa Trans level: By ATC Trans alt: 7000' 1. DME required. 2. Special Aircrew & Aircraft Certification Required. 3. RNAV transitions: RNAV 1 (GNSS required).			
 MSA GRM VOR			



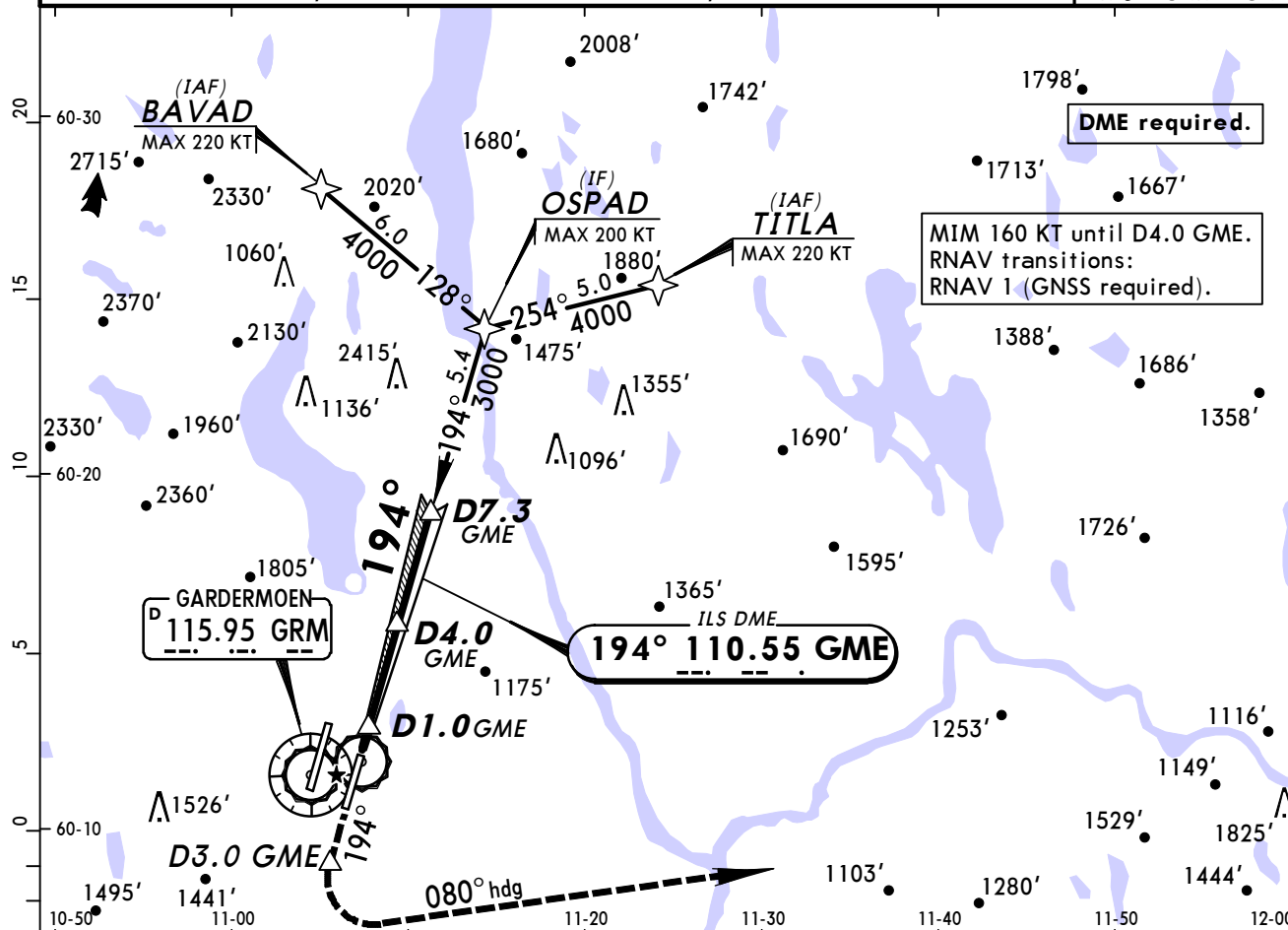
Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI	Refer to Missed Apch above
GS	3.00°	372	478	531	637	743		

Standard		STRAIGHT-IN LANDING RWY 01R	
CAT IIIA ILS		CAT II ILS	
DH 50'		RA 102' DA(H) 770' (100')	
RVR 200m		RVR 300m I	

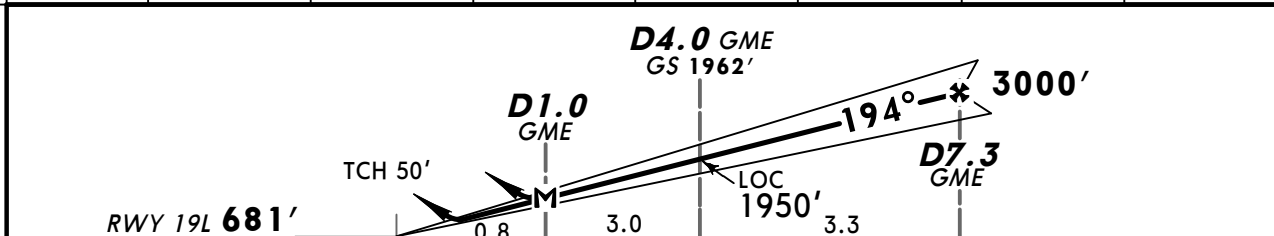
I Operators applying U.S. Specs: Autoland or HUD required below RVR 350m.

BRIEFING STRIP™

D-ATIS Arrival 126.12				*OSLO Approach East 118.47 West 120.45	
GARDERMOEN Tower West incl Rwy 01L/19R 118.3		East incl Rwy 01R/19L 120.1		Ground West 121.6 East 121.9	
LOC GME 110.55	Final Apch Crs 194°	GS D4.0 GME 1962' (1281')	ILS DA(H) 881' (200')	Apt Elev 681' RWY 681'	
MISSED APCH: Climb on 194° to D3.0 GME. Turn LEFT onto heading 080°. Climb to 3000'. After passing D13.0 GME climb to 5000'. Expect vectoring by OSLO APP. MISSED APCH WITH LOST COMM: Continue on heading 080° to 5000'. After D20.0 GME turn LEFT direct to VOR for a new apch.					
Alt Set: hPa		Rwy Elev: 25 hPa		Trans level: By ATC	
				Trans alt: 7000'	
MSA GRM VOR					



LOC (GS out)	GME DME	2.0	3.0	4.0	5.0	6.0	7.0
	ALTITUDE	1320'	1640'	1950'	2270'	2590'	2910'

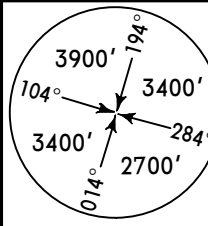


Gnd speed-Kts	70	90	100	120	140	160	HIALS PAPI Refer to Missed Apch above
ILS GS or	372	478	531	637	743	849	
LOC Desc Angle 3.00°							
MAP at D1.0 GME							

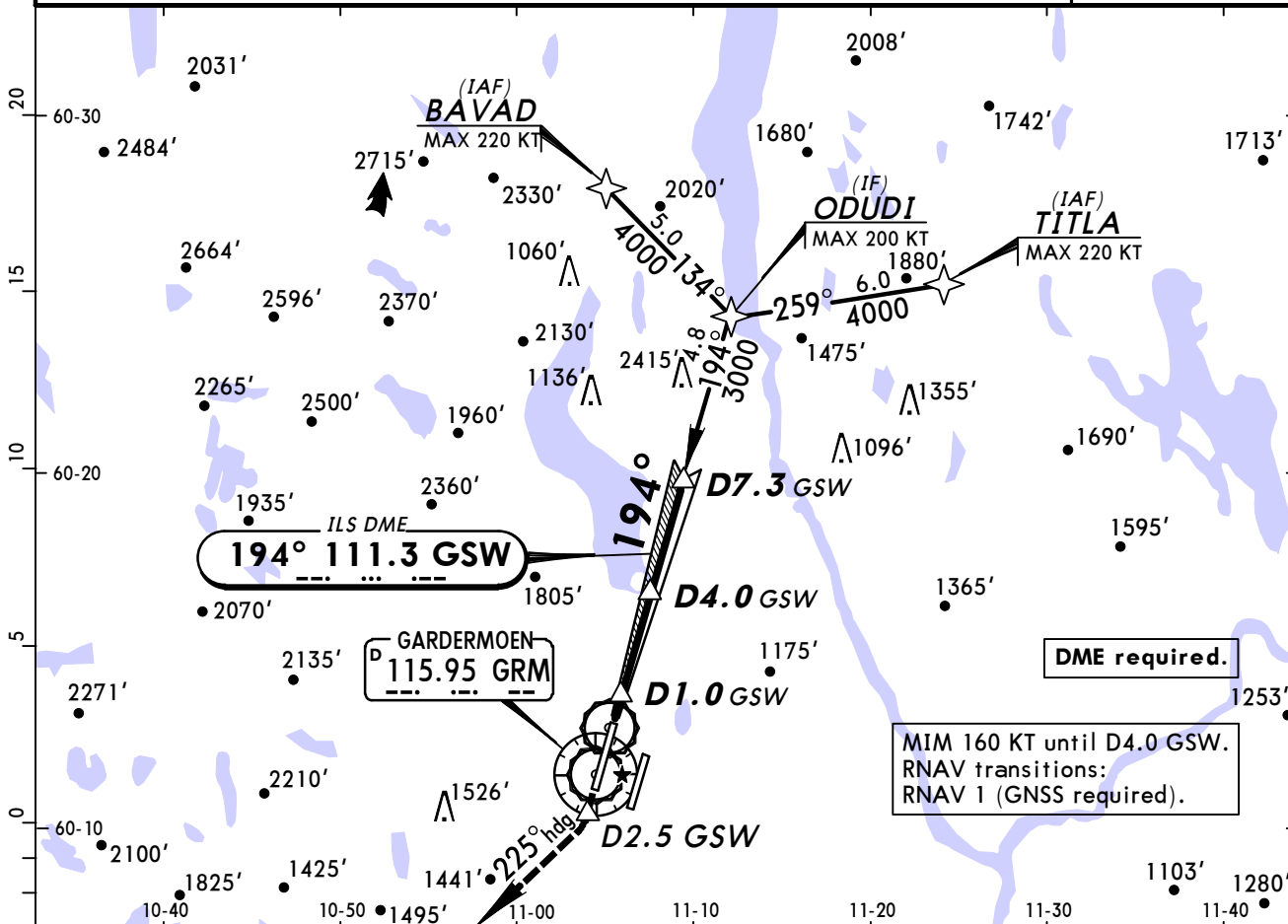
STRAIGHT-IN LANDING RWY 19L				CIRCLE-TO-LAND	
ILS			LOC (GS out)		Not authorized West of rwy 01R/19L
DA(H) 881' (200')			DA(H) 1030' (349')		
FULL	Limited	ALS out	ALS out		Max Kts
A	RVR 550m	RVR 750m	RVR 1200m	RVR 900m	100
					135
					180
					205
B				RVR 1500m	1280' (599')
C					1500m
D				RVR 1600m	1280' (599')
					1600m
					1570' (889')
					2400m
					1630' (949')
					3600m

BRIEFING STRIP™

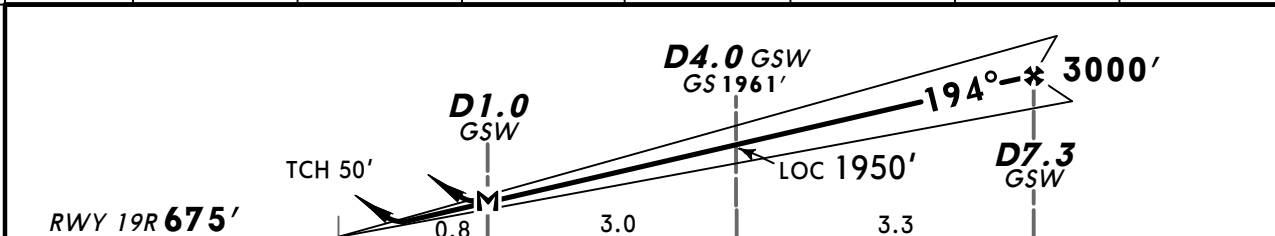
D-ATIS Arrival 126.12				*OSLO Approach East 118.47 West 120.45	
GARDERMOEN Tower West incl Rwy 01L/19R 118.3		East incl Rwy 01R/19L 120.1		Ground West 121.6 East 121.9	
LOC GSW 111.3	Final Apch Crs 194°	GS D4.0 GSW 1961' (1286')	ILS DA(H) 875' (200')	Apt Elev 681' RWY 675'	
MISSED APCH: Climb on 194° to D2.5 GSW, then turn RIGHT onto heading 225°. Climb to 5000'. Expect vectoring by OSLO APP. MISSED APCH WITH LOST COMM: Continue on heading 225°. Climb to 5000'. At D20.0 GSW turn RIGHT direct to VOR for a new apch.					
Alt Set: hPa		Rwy Elev: 25 hPa		Trans level: By ATC	
				Trans alt: 7000'	

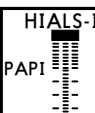


MSA GRM VOR

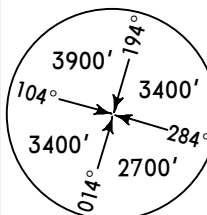


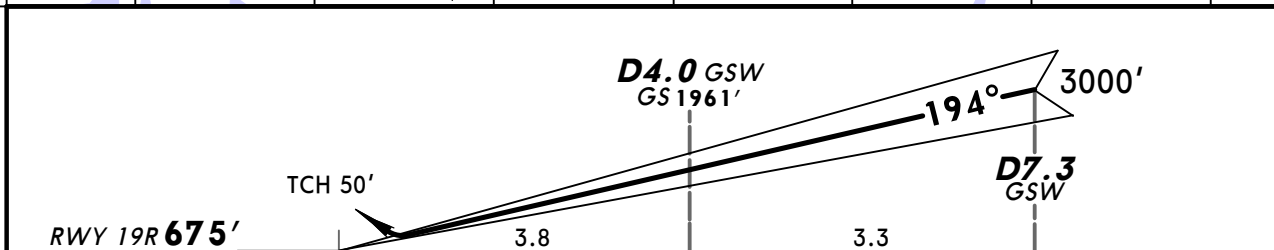
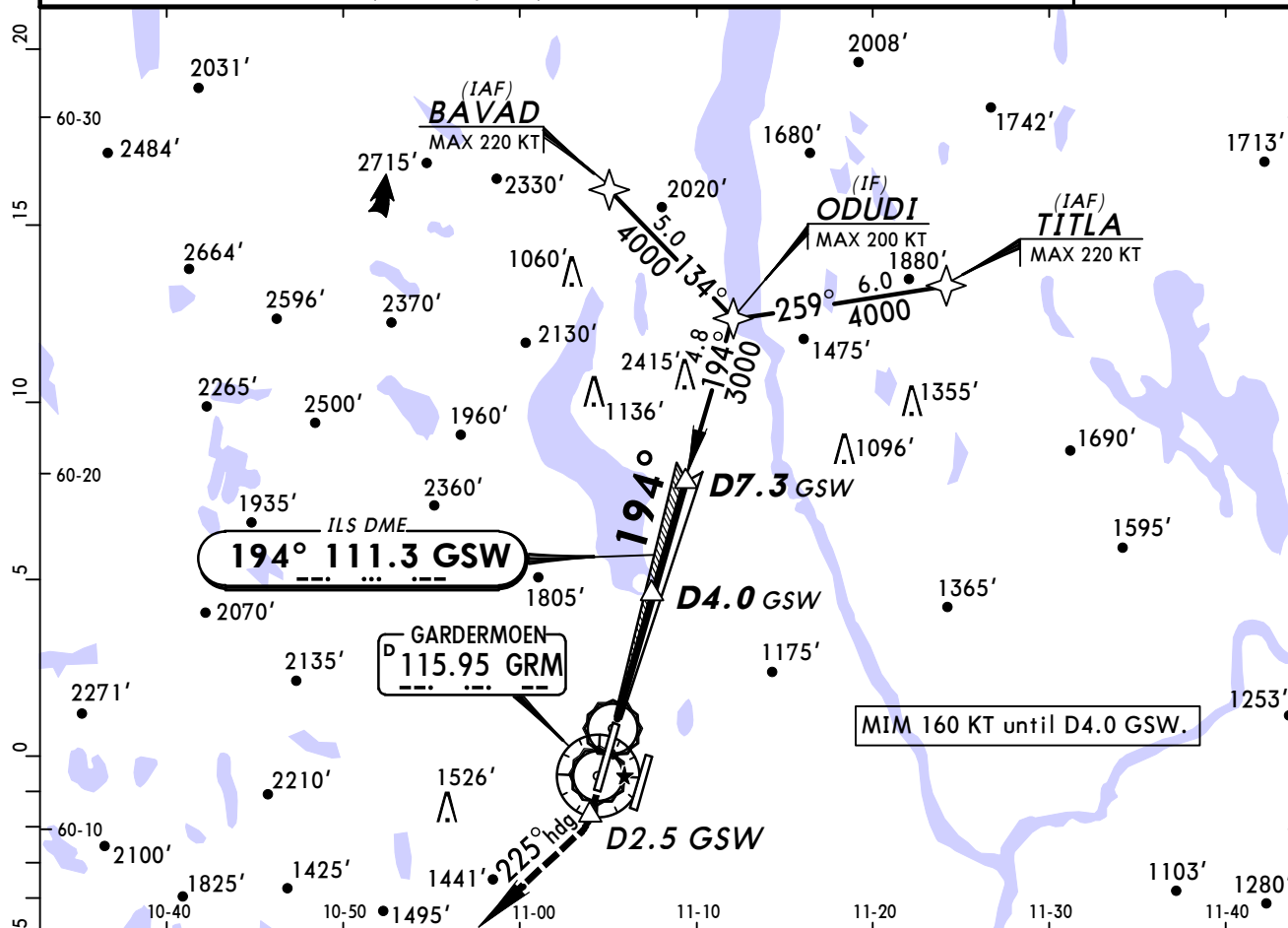
LOC (GS out)	GSW DME	2.0	3.0	4.0	5.0	6.0	7.0
	ALTITUDE	1320'	1630'	1950'	2270'	2590'	2910'



Gnd speed-Kts	70	90	100	120	140	160		Refer to Missed Apch above
ILS GS or LOC Desc Angle 3.00°	372	478	531	637	743	849		
MAP at D1.0 GSW								

STRAIGHT-IN LANDING RWY 19R				CIRCLE-TO-LAND			
ILS			LOC (GS out)		Not authorized East of rwy 01L/19R		
DA(H) 875' (200')			DA(H) 1020' (345')		Max Kts		
FULL	Limited	ALS out		ALS out		MDA(H)	VIS
A					100	1280' (599')	1500m
B				RVR 1500m	135	1280' (599')	1600m
C	RVR 550m	RVR 750m	RVR 1200m		180	1980' (1299')	2400m
D				RVR 1600m	205	2230' (1549')	3600m

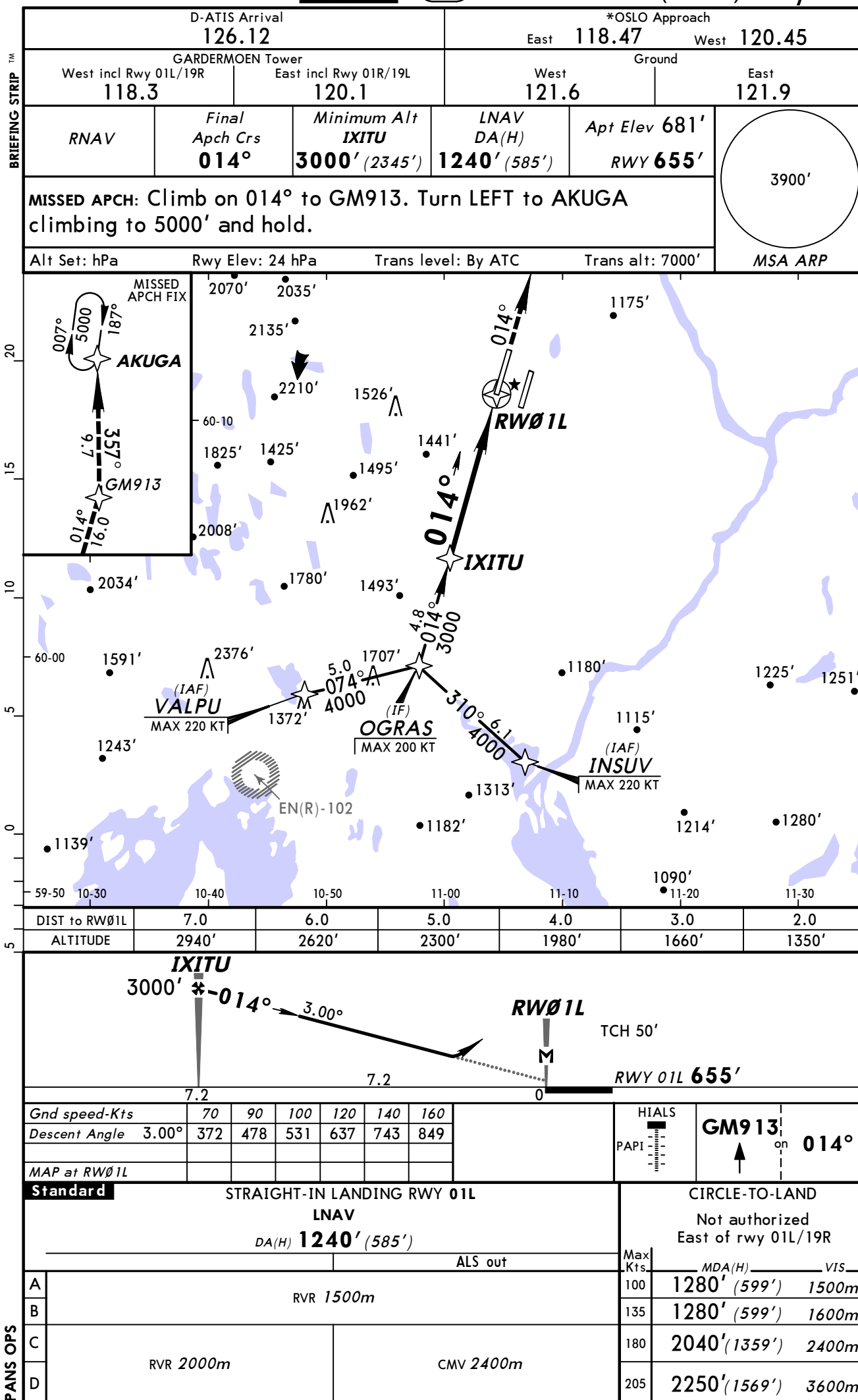
D-ATIS Arrival 126.12		*OSLO Approach East 118.47 West 120.45	
GARDERMOEN Tower West incl Rwy 01L/19R 118.3		Ground West 121.6 East 121.9	
LOC GSW 111.3	Final Apch Crs 194°	GS D4.0 GSW 1961' (1286')	CAT II & IIIA ILS Refer to Minimums Apt Elev 681' RWY 675'
MISSED APCH: Climb on 194° to D2.5 GSW, then turn RIGHT onto heading 225°. Climb to 5000'. Expect vectoring by OSLO APP. MISSED APCH WITH LOST COMM: Continue on heading 225°. Climb to 5000'. At D20.0 GSW turn RIGHT direct to VOR for a new apch.			 MSA GRM VOR
Alt Set: hPa Rwy Elev: 25 hPa Trans level: By ATC Trans alt: 7000' 1. DME required. 2. Special Aircrew & Aircraft Certification Required. 3. RNAV transitions: RNAV 1 (GNSS required).			



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI	Refer to Missed Apch above
GS 3.00°	372	478	531	637	743	849		

Standard		STRAIGHT-IN LANDING RWY 19R	
CAT IIIA ILS		CAT II ILS	
DH 50'		RA 100' DA(H) 775' (100')	
RVR 200m		RVR 300m 	

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



RNAV OSLO, NORWAY
(GNSS) Rwy 01R

Standard		STRAIGHT-IN LANDING RWY 01R		CIRCLE-TO-LAND	
		LNAV		Not authorized	
		DA(H) 1030' (360')		West of rwy 01R/19L	
		ALS out		Max Kts	MDA(H) VIS
A	RVR 900m	RVR 1500m		100	1280' (599') 1500m
B				135	1280' (599') 1600m
C		RVR 1600m		180	1570' (889') 2400m
D				205	1630' (949') 3600m

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OSLO, NORWAY
RNAV (GNSS) Rwy 19L

BRIEFING STRIP TM



5	ALTITUDE	1050'	1370'	1690'	2010'	2330'	2650'	2970'
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Gnd speed-Kts	70	90	100	120	140	160		HIALS	
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Standard	STRAIGHT-IN LANDING RWY 19L	CIRCLE-TO-LAND
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	ALS out	Max Kts	MDA (H)	VIS
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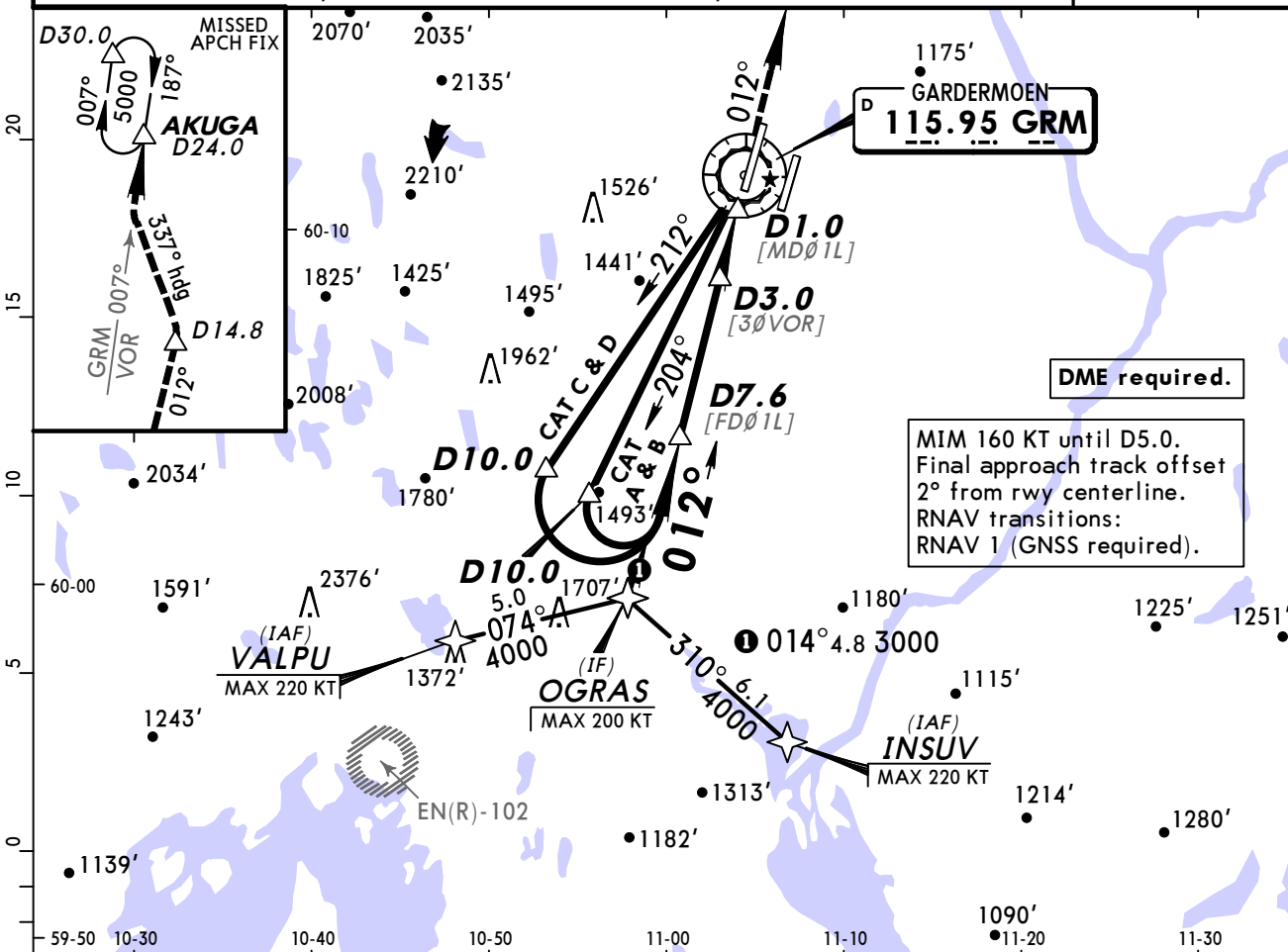
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OSLO, NORWAY
RNAV (GNSS) Rwy 19R

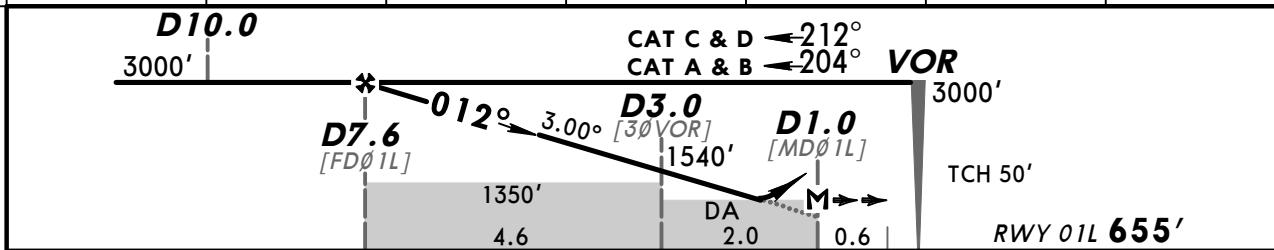
PANS OPS	Standard		STRAIGHT-IN LANDING RWY 19R		CIRCLE-TO-LAND	
			LNAV		Not authorized	
			DA(H) ABC: 1070' (395') D: 1230' (555')		East of rwy 01L/19R	
			ALS out		Max Kts	MDA(H) _____ VIS _____
	A	RVR 1100m			100	1280' (599') 1500m
	B				135	1280' (599') 1600m
	C				180	1980' (1299') 2400m
D	RVR 1800m	CMV 2400m		205	2230' (1549') 3600m	

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D-ATIS Arrival 126.12		*OSLO Approach East 118.47 West 120.45	
West incl Rwy 01L/19R 118.3	East incl Rwy 01R/19L 120.1	West 121.6	Ground East 121.9
VOR GRM 115.95	Final Apch Crs 012°	Procedure Alt D7.6 3000' (2345')	DA(H) Refer to Minimums Apt Elev 681' RWY 655'
MISSED APCH: Climb to VOR, then continue on R-012 to D14.8, turn LEFT to heading 337° to intercept R-007 to AKUGA climbing to 5000' and hold.			
Alt Set: hPa	Rwy Elev: 24 hPa	Trans level: By ATC	Trans alt: 7000'



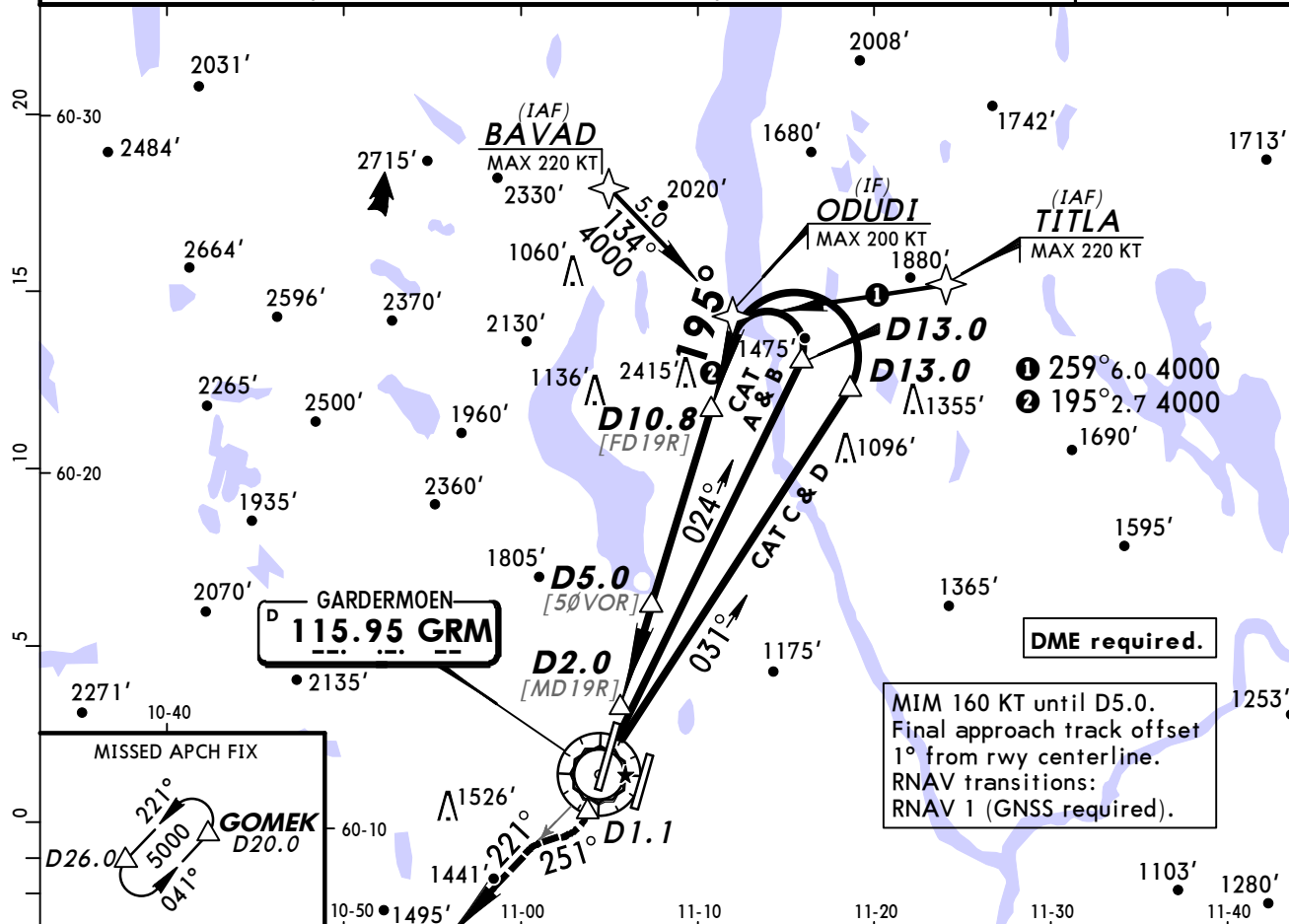
GRM DME	7.0	6.0	5.0	4.0	3.0	2.0
ALTITUDE	2810'	2500'	2180'	1860'	1540'	1220'



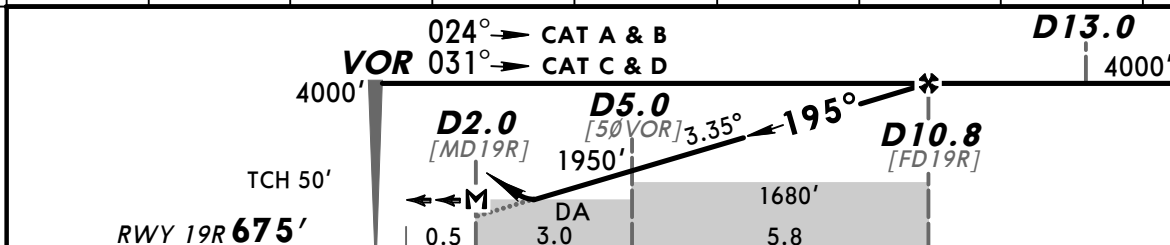
Gnd speed-Kts	70	90	100	120	140	160
Descent Angle 3.00°	372	478	531	637	743	849
MAP at D1.0						

Standard STRAIGHT-IN LANDING RWY 01L DA(H) A: 1000' (345') C: 1040' (385') B: 1020' (365') D: 1060' (405')			CIRCLE-TO-LAND Not authorized East of rwy 01L/19R		
ALS out			Max Kts	MDA(H)	VIS
A	RVR 900m	RVR 1500m	100	1280' (599')	1500m
B	RVR 1000m		135	1280' (599')	1600m
C	RVR 1100m	RVR 1800m	180	2040' (1359')	2400m
D	RVR 1200m	RVR 1900m	205	2250' (1569')	3600m

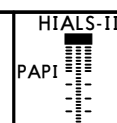
D-ATIS Arrival 126.12			*OSLO Approach East 118.47 West 120.45		
GARDERMOEN Tower West incl Rwy 01L/19R 118.3		East incl Rwy 01R/19L 120.1		Ground West 121.6	East 121.9
VOR GRM 115.95	Final Apch Crs 195°	Procedure Alt D10.8 4000' (3325')	DA(H) 1060' (385')	Apt Elev 681' RWY 675'	
MISSED APCH: Climb on R-015 inbound to VOR. Continue climb on R-195 to D1.1, then turn RIGHT to 251° to intercept R-221 to GOMEK at 5000' and hold.					
Alt Set: hPa	Rwy Elev: 25 hPa	Trans level: By ATC	Trans alt: 7000'	MSA GRM VOR	



GRM DME	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
ALTITUDE	1240'	1600'	1950'	2310'	2660'	3010'	3370'	3720'



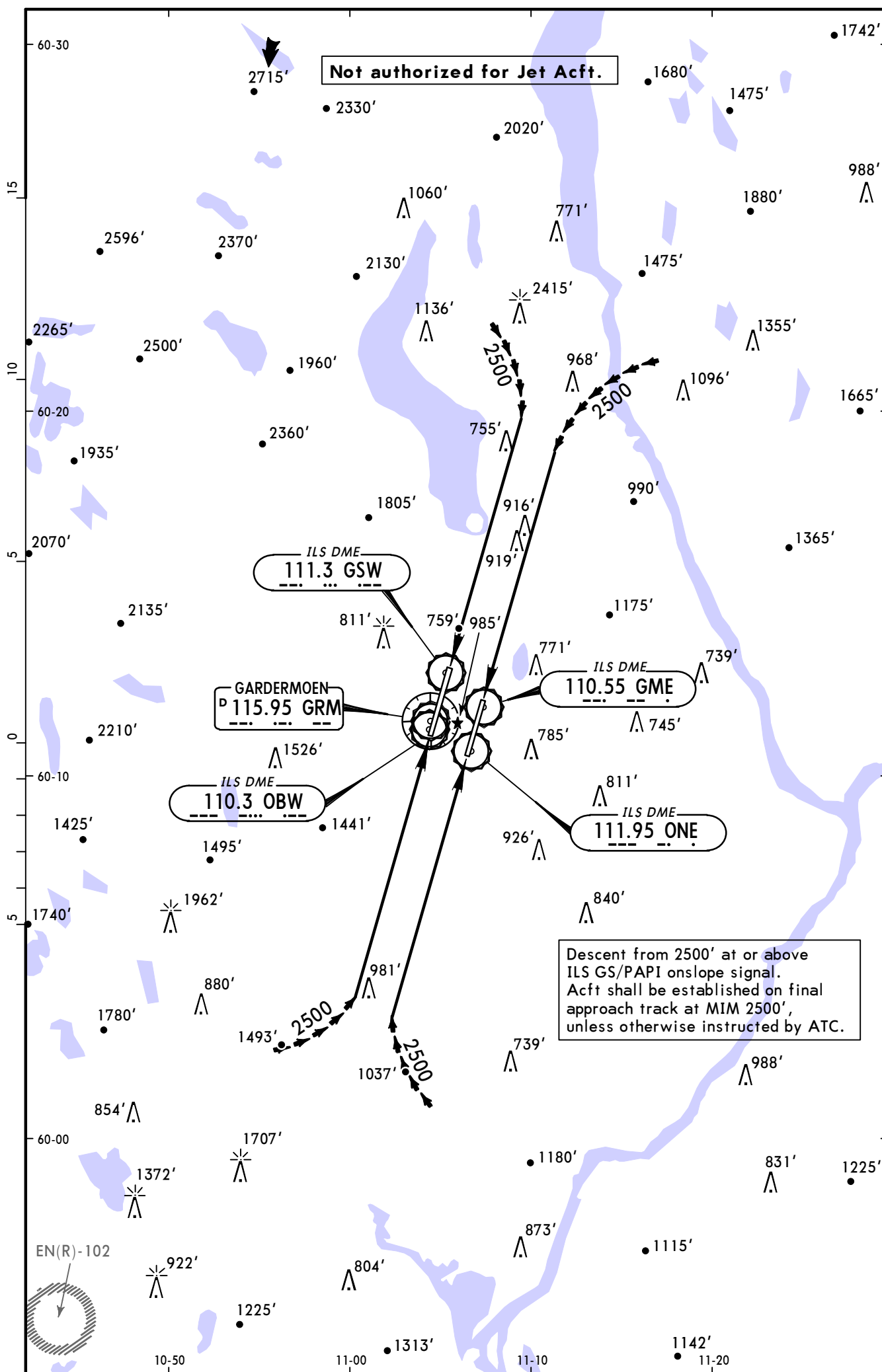
Gnd speed-Kts	70	90	100	120	140	160
Descent Angle 3.35°	415	534	593	711	830	948
MAP at D2.0						



D1.1	on	GRM 115.95
		R-195

Standard			STRAIGHT-IN LANDING RWY 19R			CIRCLE-TO-LAND		
			DA(H) 1060' (385')			Not authorized East of rwy 01L/19R		
			ALS out			Max Kts	MDA(H)	VIS
A	RVR 1100m		RVR 1500m			100	1280' (599')	1500m
B						135	1280' (599')	1600m
C			RVR 1800m			180	2040' (1359')	2400m
D						205	2250' (1569')	3600m

VISUAL APPROACH PROCEDURES



OSLO, (GARDERMOEN - ENGM)

TERMINAL CHART CHANGE NOTICES

Chart Change Notices for Airport ENGM

Type: Terminal

Effectivity: Permanent

Begin Date: Immediately

End Date: No end date

Starting 4 APR 13 until aprx 30 MAY 13, twy N btn N5 and deicing platform Alpha South, twy G btn twys R and Z and stand 36 may temporarily be closed due to construction work. Additional wing span restrictions may be enforced by signs, refer to ATIS and latest NOTAMs.