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Airport Information For ENGM

Terminal Charts For ENGM

Revision Letter For Cycle 01-2016

Change Notices

Notebook

General Information

Location: OSLO NOR
ICAO/IATA: ENGM / OSL
Lat/Long: N60° 12.17', E011° 05.03'
Elevation: 681 ft

Airport Use: Public
Daylight Savings: Observed
UTC Conversion: -1:00 = UTC
Magnetic Variation: 3.0° 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
Traffic Pattern Altitude: 1709 ft (1028 ft AGL)

Sunrise: 0813 Z
Sunset: 1434 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: 126.125 Arrival Service

ATIS: 127.150 Departure Service

Gardermoen Tower: 25.780 Military

Gardermoen Tower: 118.300

Gardermoen Tower: 118.700

Gardermoen Tower: 123.325

Gardermoen Tower: 120.100

Gardermoen Ground: 121.900

Gardermoen Ground: 121.725

Gardermoen Ground: 121.600

Gardermoen De-Icing Ramp/Taxi: 121.850

Gardermoen Clearance Delivery: 121.925

Gardermoen Clearance Delivery: 121.675

Oslo (Sector East) Approach: 118.475

Oslo (Sector West) Approach: 120.450

Oslo Final Radar: 128.900

Oslo Direct (Approach Control Radar): 119.975

Oslo Direct (Approach Control Radar): 136.400

ENGM/OSL
GARDERMOEN**JEPPESEN**

4 SEP 15

10-1P

Eff 17 Sep

OSLO, NORWAY**AIRPORT BRIEFING**

1. GENERAL

1.1. ATIS

D-ATIS Arrival 126.125

D-ATIS Departure 127.150

1.2. NOISE ABATEMENT PROCEDURES

1.2.1. GENERAL

This regulation applies at Oslo Gardermoen APT and in the airspace within Gardermoen CTR 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 5700kg;
- 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, Vol 1.5, 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.

Approach and landing with JET ACFT shall be carried out in a way that reduces noise as much as possible by using procedures for continuous descent, low power and low drag.

1.2.2. PREFERENTIAL RWY SYSTEM

Between 2230-2400LT, the following rules apply:

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

Between 2400-0630LT RWY 01L or 19R are to be used (single RWY operation). In special situations segregated RWY 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

All engine testing beyond idle power shall be done at the APT engine testing site. Time booking for use of the test site should be addressed to OSL Gate Allocation Office, Tel.: +47 6481 30 50.

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.

ENGM/OSL
GARDERMOEN

4 SEP 15

JEPPesen**10-1P1****Eff 17 Sep****OSLO, NORWAY****AIRPORT BRIEFING**

1. GENERAL

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.

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 "RWY 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, B2	B6, B7, B8, B9	A9, C3, C1
RWY exit	A9, C1, C3	B6, B7, B8, B9	B1, B2	A5, A4, A2, A1, C3, C1
RWY cross-ing points	C3 to A7 and vice versa. C2 to A6 and vice versa. C1 to A4 and vice versa (published Hot Spot).	Not applica-ble	Not applica-ble	C3 to A7 and vice versa. C2 to A6 and vice versa. 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 350m) selected stopbars are operated at intermediate holding positions.

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, until the ACFT is parked;
- When parked, set Mode A code 2000 before selecting OFF or STBY.

Pilots of ACFT equipped with a Mode S transponder with an ACFT ident function, shall set the ACFT ident from the request for push-back or taxi, whichever is earlier.

The ACFT ident to be used shall be the ICAO-defined format as specified in item 7 of the ICAO flight plan.

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 be turned off after vacating the RWY.

ACFT not equipped with Mode S transponder shall select Mode A/C and the assigned Mode A code. If no code has been assigned, select Mode A/C and a non-discrete code according to Norway AIP ENR 1.6, section 2.1.2. letter C.

1.5. TAXI PROCEDURES

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

ENGM/OSL
GARDERMOEN

JEPPESEN

4 SEP 15

10-1P2

Eff 17 Sep

OSLO, NORWAY

AIRPORT BRIEFING

1. GENERAL

1.6. PARKING INFORMATION

On stands 11 and 13 thru 53 SAFEGATE available.

1.7. OTHER INFORMATION

Birds.

2. ARRIVAL

2.1. CAT II/III OPERATIONS

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

2.2. 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.

2.3. OTHER INFORMATION

2.3.1. POINT MERGE SYSTEM (PMS)

STARs are based on PMS and accommodate Basic Continuous Descent Operations. ACFT on STARs can expect clearance to the Merge Point (MP) when traffic permits, allowing for a precise sequencing whilst the ACFT maintains own lateral navigation.

When cleared direct to MP and also having received an instrument approach clearance, follow the transition from MP to final as stated in the relevant IAP.

Between 0030-0600LT the shortest distance from STAR starting point to MP may be seen as the expected track to the start of the IAP. Deviation from the track may be regarded as a delaying action.

3. DEPARTURE

3.1. NOISE ABATEMENT PROCEDURES

3.1.1. GENERAL

SIDs RWY 01L, 19R/L: NADP2 to be used during climb-out with jet ACFT.

SIDs RWY 01R: NADP1 to be used during climb-out with jet ACFT.

3.2. DE-ICING

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

On first contact report to Delivery, if the ACFT needs de-icing. ATC will forward the request to the de-icing coordinator. No call shall be made to the de-icing coordinator unless instructed by GARDERMOEN Ground when ACFT is approaching the de-icing platform.

ACFT equipped for Datalink Departure Clearance (DCL) and requiring de-icing, must enter REQ DEICE into the REMARKS/free text field, when requesting DEP clearance via DCL.

De-icing stand is assigned by the de-ice coordinator. Use full call sign when in contact with the de-icing coordinator.

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.

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4 SEP 15

JEPPESEN**10-1P3****Eff 17 Sep****OSLO, NORWAY****AIRPORT BRIEFING**

3. DEPARTURE

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.

3.3. START-UP & PUSH-BACK

3.3.1. START-UP & PUSH-BACK

Request for start-up shall be made to GARDERMOEN Delivery when ACFT is ready for start-up/push-back (doors closed and tug connected) within TOBT +/- 5 MIN. Listening watch shall thereafter be maintained on GARDERMOEN Delivery.

GARDERMOEN Delivery sequences departing ACFT and will advise TSAT in case of delay.

GARDERMOEN Delivery will transfer ACFT is ready for start-up/push-back to GARDERMOEN Ground according to TSAT.

GARDERMOEN Ground will issue push-back clearance.

If ACFT is not ready for push-back/start-up within TOBT +/- 5 MIN, TOBT must be updated by the ground handling agent and ATC will set a new TSAT.

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

- Stand 15, ACFT will be pushed to start-up position 2.
- Stand 39, ACFT will be pushed 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 start-up position 9 between TWYs L1 and L2, facing East.
- Stand 50, 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 West or start-up position 17 or 18 facing East, instructed by Ground control.
- Stand 51, ACFT will be pushed to start-up position 7, facing South.
- Stand 53, code D and E ACFT will be pushed to start-up position 8, except B757-200/300.
- Stand 171L, ACFT will be pushed to start-up position 3.
- Stands 186 and 188, ACFT will be pushed to start-up position 7 facing South.
- 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.
- Stands 205 and 206, ACFT will be pushed to start-up position 14 facing South or North, instructed by Ground control.
- Stands 207 thru 208R, ACFT will be pushed to start-up position 15 facing South or North, instructed by Ground control.

Optional push-back available after coordination with GARDERMOEN Ground:

- Stand 41, ACFT will be pushed to start-up position 4.
- Stands 171 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 177 and 178, ACFT will be pushed to start-up position 2, facing East.
- Stands 181 and 182, ACFT will be pushed to start-up position 5, facing East.
- Stands 183 thru 185 and 187, ACFT will be pushed to start-up position 6, facing East.
- Stands 38, 76, 77, 89, 181 and 201, initial turn left after push-back.
- Stands 26, 81, 85, 178 and 204, initial turn right after push-back.

Note: Push-back from stand 2, 3, 7, 93, 95 and 96 only available after incorrect positioning of ACFT during towing/parking in coordination with ATC.

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

ENGM/OSL
GARDERMOEN**JEPPESEN**

23 MAY 14

10-1P4

Eff 29 May

OSLO, NORWAY**AIRPORT BRIEFING**

3. DEPARTURE

3.3.2. DATALINK DEPARTURE CLEARANCE (DCL)

Datalink Departure Clearance is available by SITA or ARINC.

DCL is not available for NON-P-RNAV equipped ACFT.

Departing IFR flights are urged to use DCL when asking for clearances.

DCL is available 30 MIN before TOBT until TOBT. For flights not assigned TOBT, DCL is available 30 MIN before EOBT.

Jet ACFT receiving a PROP-SID shall verify this at first call to GARDERMOEN Ground.

Pilots shall ensure that SID and RWY for departure are in accordance with received clearance.

"Revert to voice" should be expected:

- a. if clearance via DCL is not accepted within 5 MIN;
- b. in case of major delay;
- c. in case of technical failure;
- d. in case ATC, for some reason, decide to use VHF communication for clearance delivery.

When receiving "Revert to voice", clearance shall be obtained by GARDERMOEN Delivery.

A clearance received by VHF communication always overrides a clearance received by DCL.

3.3.3. ATC CLEARANCE

Departing IFR flights unable to utilize DCL shall contact GARDERMOEN Delivery to obtain ATC clearance. Calls shall be addressed to CLR East or CLR West according to stand. CLR East is operating on the responsibility area of GND East, and CLR West is operating on the responsibility area of GND West. Specify stand number at first call. ATC clearance may be requested at the earliest 30 MIN prior anticipated engine startup (TOBT). Listening watch shall be maintained on current delivery frequency, if no instruction of frequency change has been given by GARDERMOEN Delivery.

3.4. APT COLLABORATIVE DECISION MAKING

3.4.1. TARGET OFF BLOCK TIME (TOBT)

Verified by Ground handling company at the latest 30 MIN before planned TOBT, and indicates the time when the completion of all ground handling activities (except de-icing) is expected and ACFT will be ready for start-up/push-back.

TOBT updates are necessary to ensure foreseeable departure times, and as means for ATC to issue the correct TSAT.

3.4.2. TARGET START-UP APPROVAL TIME (TSAT)

Set by ATC and indicates the time when clearance for start-up/push-back may be expected, to ensure correct departure sequence according to AD departure capacity. TSAT takes into account variable taxi time, de-icing (if necessary) and CTOT. TSAT is normally close to TOBT, but delays may occur when AD departure capacity is exceeded. The departure capacity is determined by MET conditions, de-icing capacity, RWY capacity and airspace capacity.

ENGM/OSL
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JEPPESEN

23 MAY 14

10-1P5

Eff 29 May

OSLO, NORWAY

AIRPORT BRIEFING

3. DEPARTURE

3.5. OTHER INFORMATION

3.5.1. CALCULATED TAKE-OFF TIME (CTOT)

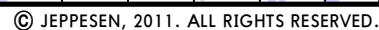
ACFT shall be ready for take-off at the RWY holding point not later than the CTOT.

ACFT must be ready for engine start on TSAT.

TSAT accounts for time for taxiing and de-icing as necessary, so the CTOT can be met.

Pilots must inform GARDERMOEN Delivery if start-up according to TSAT is not possible. Request for a new CTOT shall be made via the airline operator or the handling agent.

ACFT waiting for CTOT, with a wish to leave the parking stand, may request "Push and hold" to GARDERMOEN Delivery. "Push and hold" implies waiting at a different location at the AD, and is subject to approval from ATC based on availability.



ENGM/OSL
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OSLO, NORWAY

5 DEC 14

10-2

Eff 11 Dec

RNAV STAR

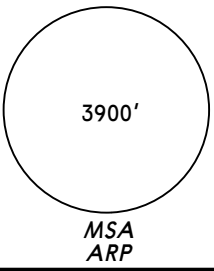
D-ATIS
126.125

Apt Elev
681'

- Alt Set: hPa Trans level: By ATC Trans alt: 7000'
1. Class A GNSS shall not be used.
 2. RADAR service shall be available.
 3. Loss of RNAV capability, request vectoring.
 4. Vectoring may be used when necessary.
 5. Descend as cleared by ATC.

ADOPI THREE LIMA
(ADOPI 3L) [ADOP3L]
RWYS 01L/R RNAV ARRIVAL
RNAV 1 (GNSS OR DME/DME)

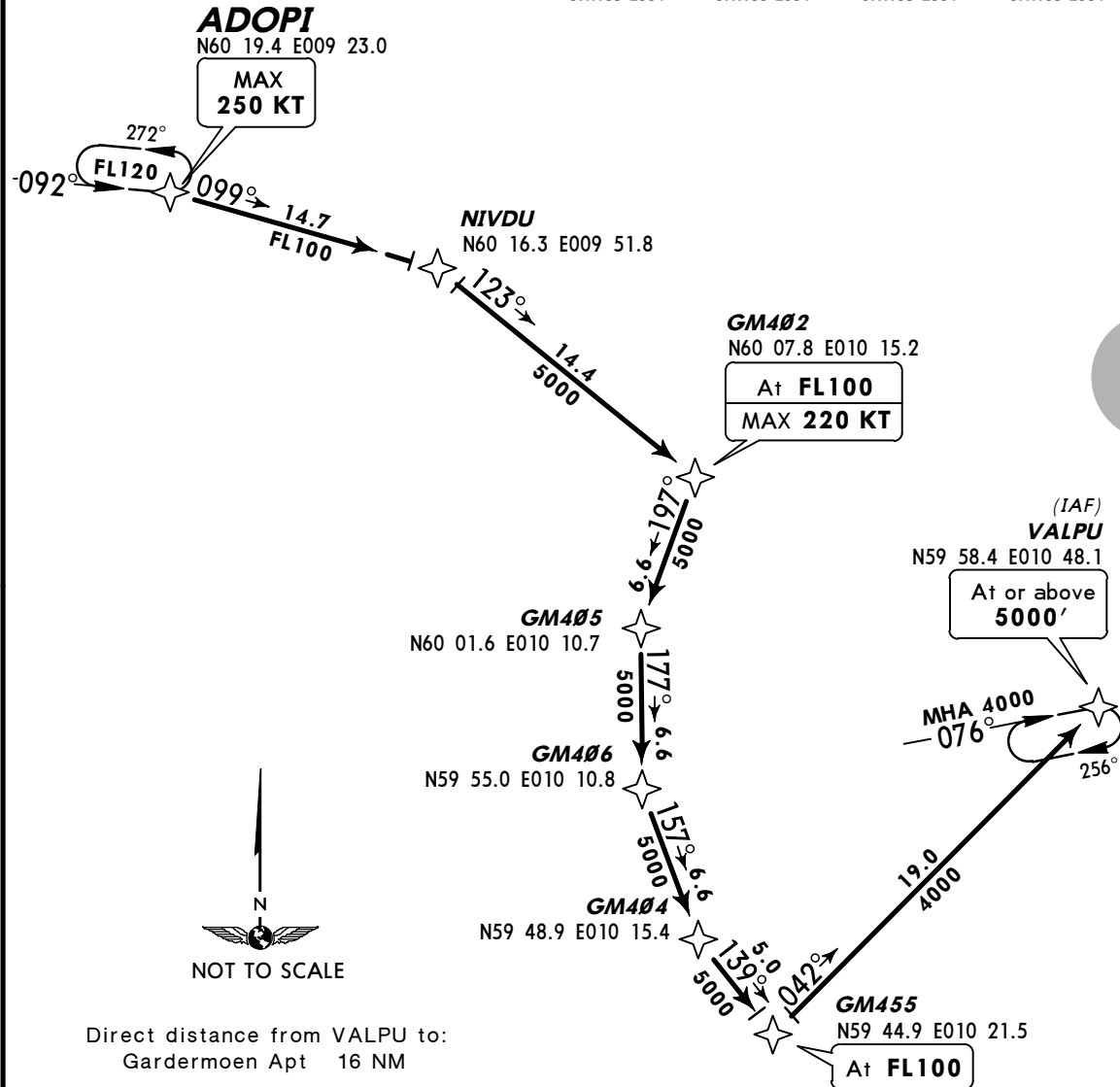
~~SPEED~~ MAX 250 KT UNLESS OTHERWISE INSTRUCTED



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

Follow cleared or EXPECTED STAR until IAF, then 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 ▲ SSW00 1501 ▲ SSW00 1501 ▲ SSW00 1501 ▲ SSW00 1501 ▲ SSW00



Clearance limit is VALPU holding.

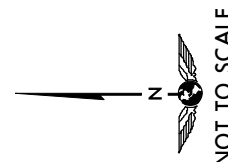
Merging point is VALPU.

ROUTING

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

1. Class A GNSS shall not be used.
2. RADAR service shall be available.
3. Loss of RNAV capability, request vectoring.
4. Vectoring may be used when necessary.
5. Descend as cleared by ATC.

SPEED: MAX 250 KT UNLESS OTHERWISE INSTRUCTED



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

ENGM/OSL
GARDERMOEN

JEPPESSEN

OSLO, NORWAY

5 DEC 14

10-2B

Eff 11 Dec

RNAV STAR

D-ATIS
126.125

Apt Elev
681'

- Alt Set: hPa Trans level: By ATC Trans alt: 7000'
1. Class A GNSS shall not be used.
 2. RADAR service shall be available.
 3. Loss of RNAV capability, request vectoring.
 4. Vectoring may be used when necessary.
 5. Descend as cleared by ATC.

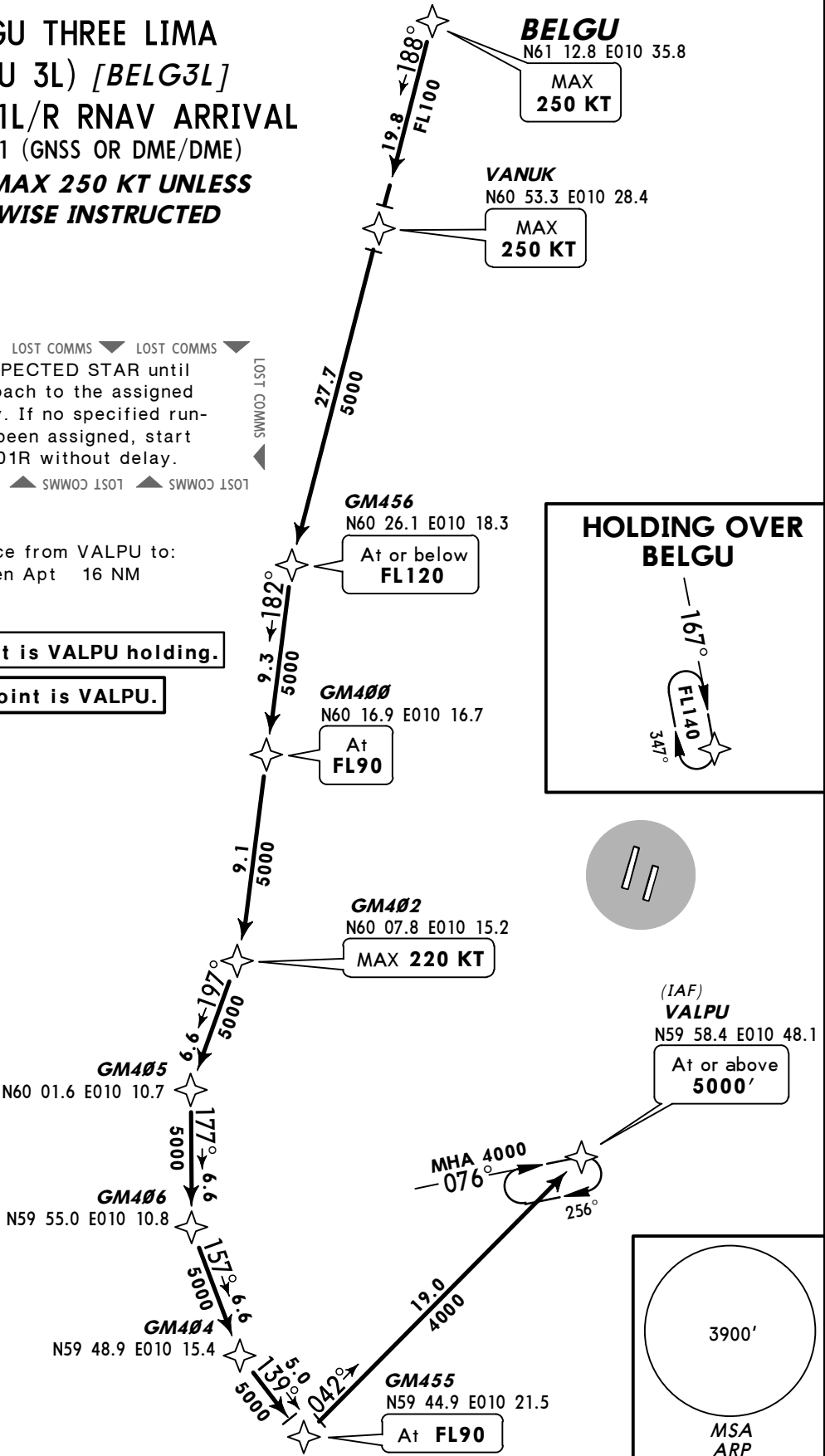
BELGU THREE LIMA
(BELGU 3L) [BELG3L]
RWYS 01L/R RNAV ARRIVAL
RNAV 1 (GNSS OR DME/DME)
~~SPEED~~ MAX 250 KT UNLESS
OTHERWISE INSTRUCTED

COMMS ▼ LOST COMMS ▼ LOST COMMS ▼ LOST COMMS ▼
Follow cleared or EXPECTED STAR until
IAF, then start approach to the assigned
runway without delay. If no specified run-
way for landing has been assigned, start
approach to runway 01R without delay.
SWWOC LOST ▲ SWWOC LOST ▲ SWWOC LOST ▲ SWWOC LOST ▲

Direct distance from VALPU to:
Gardermoen Apt 16 NM

Clearance limit is VALPU holding.

Merging point is VALPU.



ROUTING

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

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

1. Class A GNSS shall not be used.
2. RADAR service shall be available.
3. Loss of RNAV capability, request vectoring.
4. Vectoring may be used when necessary.
5. Descend as cleared by ATC.

**ESEBA FOUR LIMA
(ESEBA 4L) [ESEB4L]
VYS 01L/R RNAV ARRIVAL
RNAV 1 (GNSS OR DME/DME)**

SPEED: MAX 250 KT UNLESS OTHERWISE INSTRUCTED

Follow cleared or EXPECTED STAR until IAF, then start approach to the assigned runway without delay. If no specified runway for landing has been assigned, start approach to runway 01R without delay.

Direct distance from INSUV to:
Gardermoen Apt 17 NM

NOT TO SCALE

Clearance limit is INSUV holding.

Merging point is INSUV.

ESEBA
N60 00.8 E012 23.5
MAX
250 KT

(IAF) **INSUV**
N59 55.5 E011 06.8
At or above **5000'**

GM403
N59 55.5 E011 44.7
At **FL100**
MAX **220 KT**

IDAMO
N59 59.0 E012 10.3
13.3
5000
←252°

TEKVA
N59 59.1 E012 43.2
6.9
←253°
FL100

GM411
N59 49.0 E011 42.3
6.7
←188°
5000

GM413
N59 43.3 E011 35.7
6.6
←207°
5000

GM412
N59 39.1 E011 25.6
6.6
←228°
5000

GM454
N59 37.2 E011 16.5
5.0
←245°
5000

At **FL100**

3.42
←342°
5000

HOLDING OVER TEKVA

096°

1 1/2

276°

MHA FL100
MAX FL460
FL100-200 MAX 240KT
FL210-340 MAX 265KT
FL350-460 MAX MACH 0.83

ROUTING

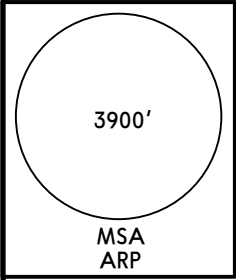
ESEBA (K250-) - IDAMO - GM403 (FL100; K220-) - GM411 - GM413 - GM412 - GM454 (FL100) - INSUV (5000'+).

ENGM/OSL
GARDERMOEN

20 MAR 15 **10-2E**

OSLO, NORWAY
RNAV STAR

D-ATIS 126.125	Apt Elev 681'	Alt Set: hPa Trans level: By ATC Trans alt: 7000' 1. Class A GNSS shall not be used. 2. RADAR service shall be available. 3. Loss of RNAV capability, request vectoring. 4. Vectoring may be used when necessary. 5. Descend as cleared by ATC.
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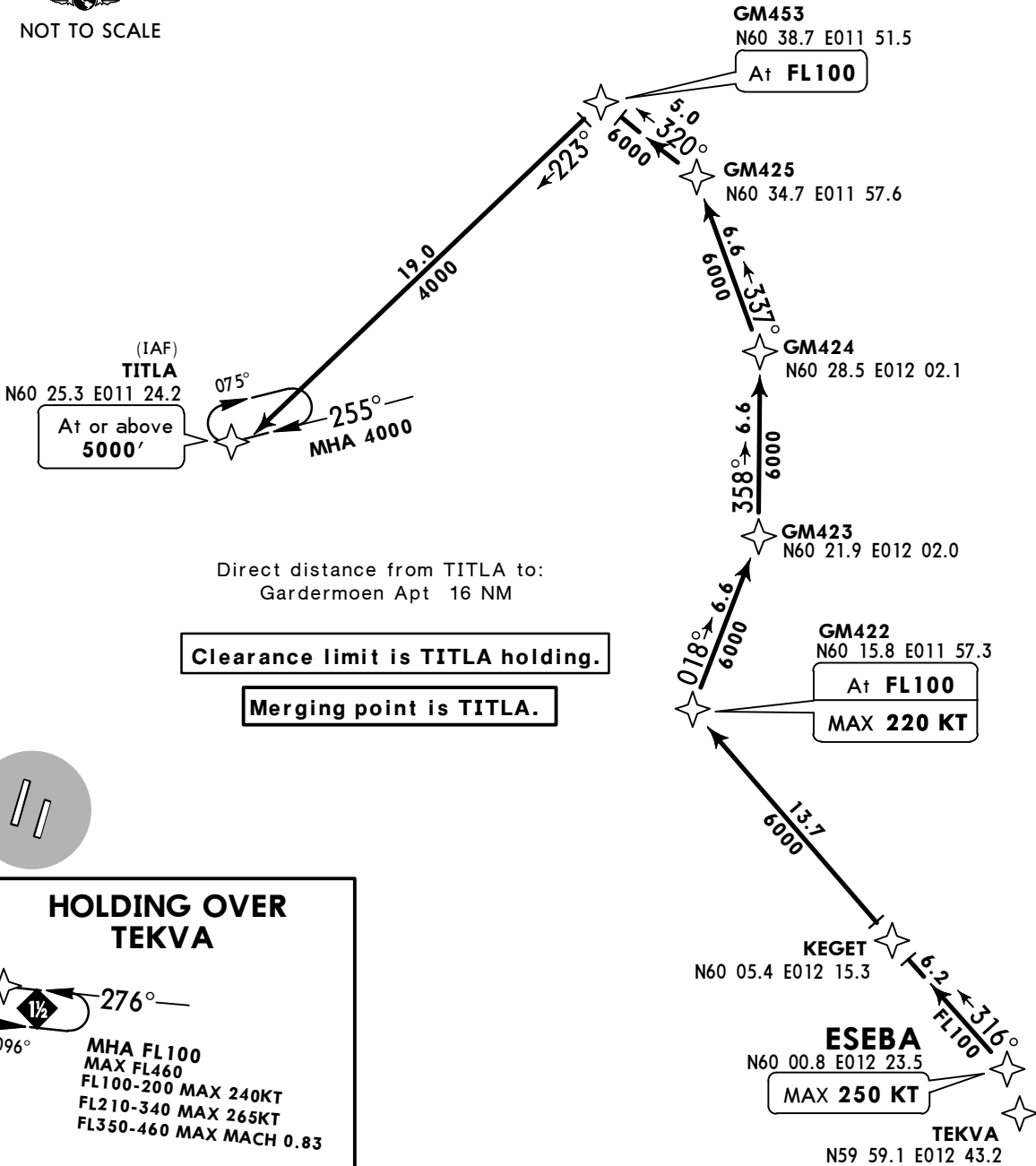


ESEBA FOUR MIKE
(ESEBA 4M) [ESEB4M]
RWYS 19L/R RNAV ARRIVAL
RNAV 1 (GNSS OR DME/DME)

SPEED MAX 250 KT UNLESS OTHERWISE INSTRUCTED



Follow cleared or EXPECTED STAR until IAF, then start approach to the assigned runway without delay.
If no specified runway for landing has been assigned, start approach to runway 19R without delay.

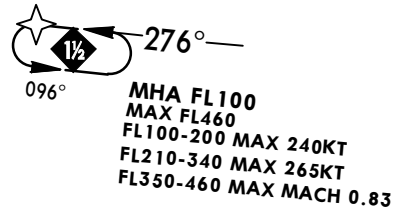


Direct distance from TITLA to:
Gardermoen Apt 16 NM

Clearance limit is TITLA holding.

Merging point is TITLA.

HOLDING OVER TEKVA



ROUTING

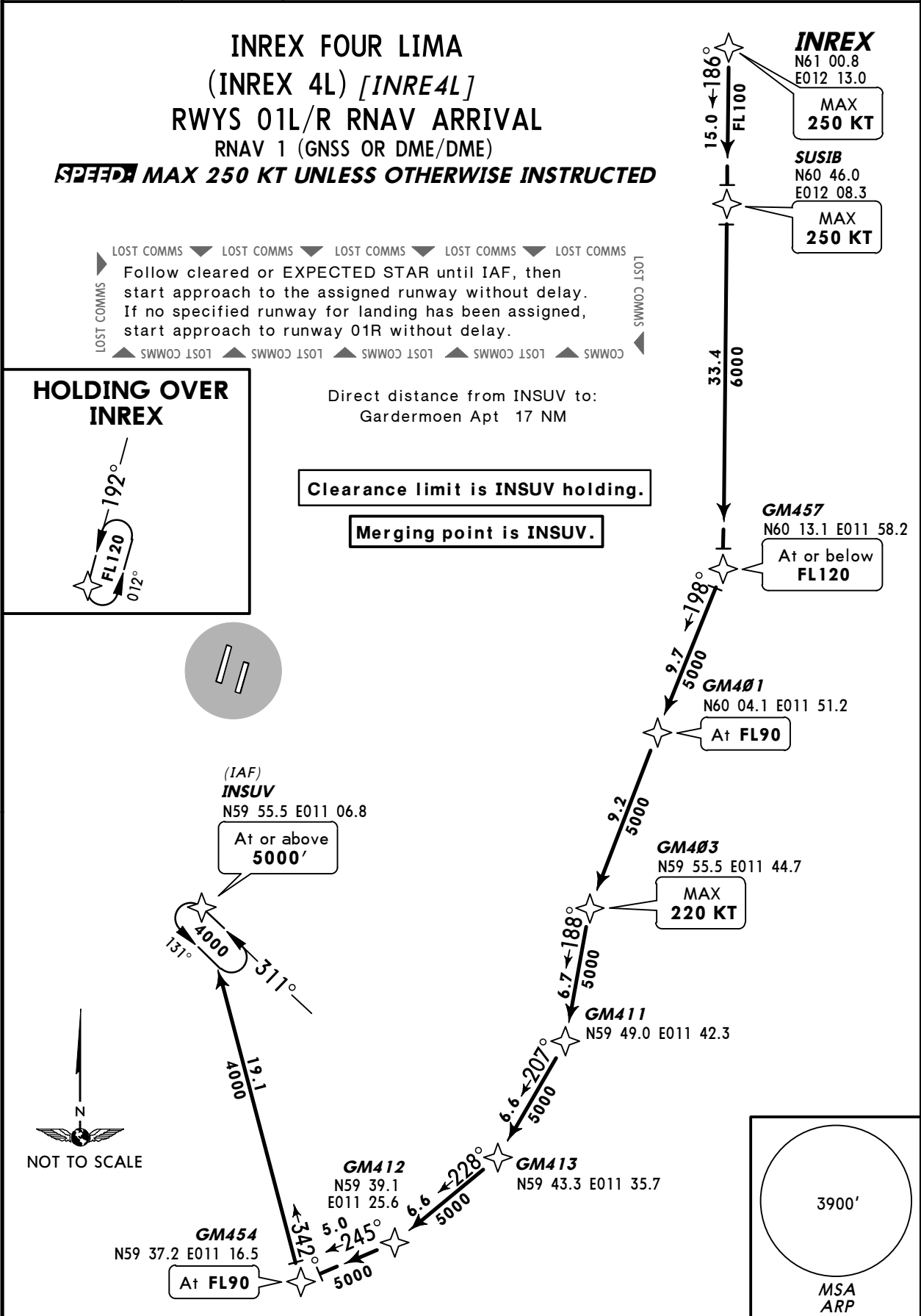
ESEBA (K250-) - KEGET - GM422 (FL100; K220-) - GM423 - GM424 - GM425 - GM453 (FL100) - TITLA (5000'+).

ENGM/OSL
GARDERMOEN

JEPPESSEN
6 FEB 15 10-2F

OSLO, NORWAY
RNAV STAR

D-ATIS 126.125	Apt Elev 681'	Alt Set: hPa Trans level: By ATC Trans alt: 7000' 1. Class A GNSS shall not be used. 2. RADAR service shall be available. 3. Loss of RNAV capability, request vectoring. 4. Vectoring may be used when necessary. 5. Descend as cleared by ATC.
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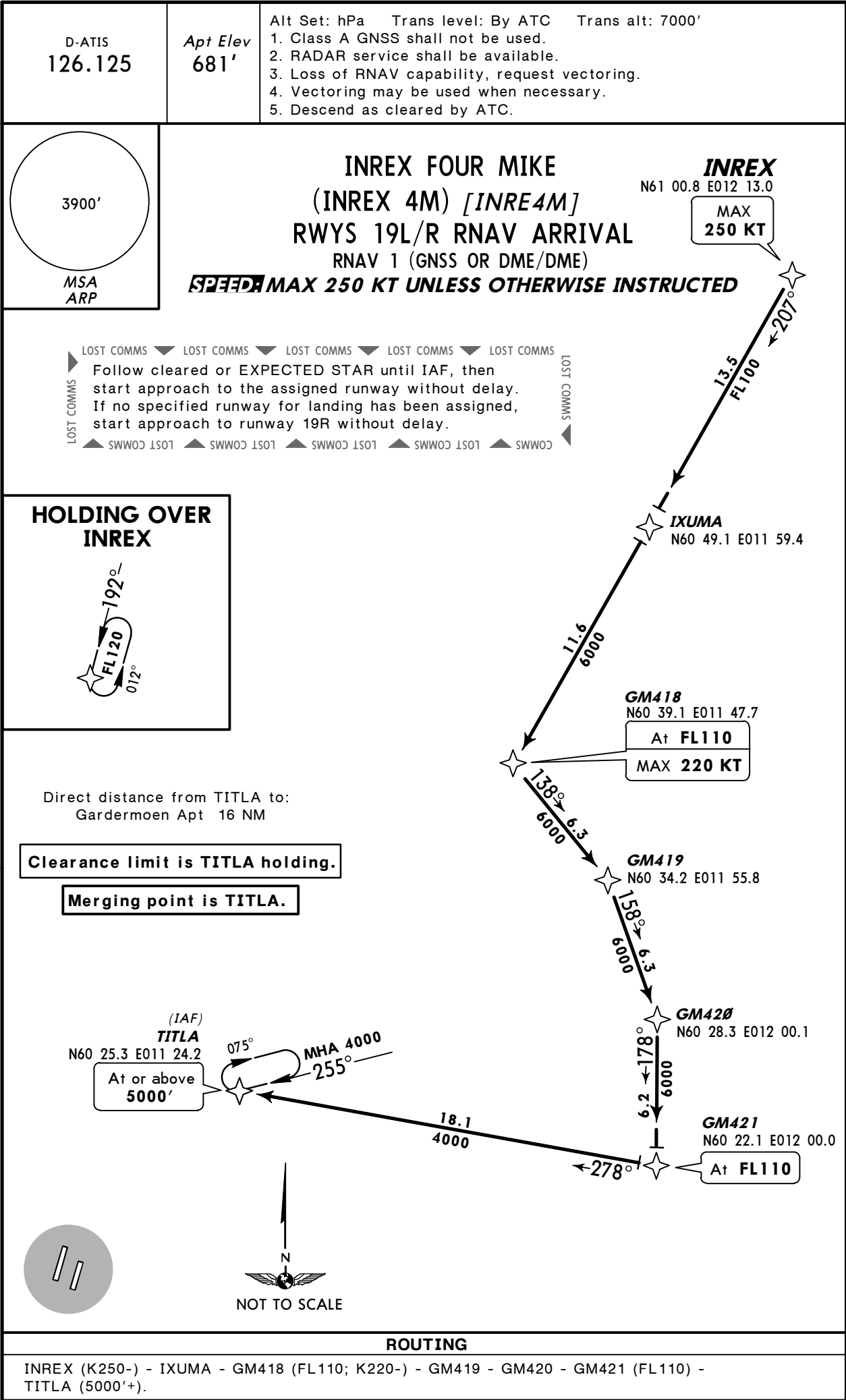


ROUTING	
INREX (K250-) - SUSIB (K250-) - GM457 (FL120-) - GM401 (FL90) - GM403 (K220-) - GM411 - GM413 - GM412 - GM454 (FL90) - INSUV (5000'+).	

ENGM/OSL
GARDERMOEN

JEPPESSEN
6 FEB 15 10-2G

OSLO, NORWAY
RNAV STAR



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

1. Class A GNSS shall not be used.
2. RADAR service shall be available.
3. Loss of RNAV capability, request vectoring.
4. Vectoring may be used when necessary.
5. Descend as cleared by ATC.

SPEED: MAX 250 KT UNLESS OTHERWISE INSTRUCTED

MSA
ARP

Follow cleared or EXPECTED STAR until IAF, then start approach to the assigned runway without delay. If no specified runway for landing has been assigned, start approach to runway 01R without delay.

Merging point is INSUV.

LUNIP
N59 11.0 E011 18.9
MAX
250 KT



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

ENGM/OSL
GARDERMOEN

JEPPESSEN

OSLO, NORWAY

5 DEC 14

10-2J

Eff 11 Dec

RNAV STAR

D-ATIS
126.125

Apt Elev
681'

- Alt Set: hPa Trans level: By ATC Trans alt: 7000'
1. Class A GNSS shall not be used.
 2. RADAR service shall be available.
 3. Loss of RNAV capability, request vectoring.
 4. Vectoring may be used when necessary.
 5. Descend as cleared by ATC.

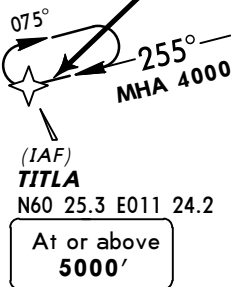
LUNIP FOUR MIKE (LUNIP 4M) [LUNI4M]

RWYS 19L/R RNAV ARRIVAL

RNAV 1 (GNSS OR DME/DME)

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

HOLDING OVER
LUNIP



Direct distance from TITLA to:
Gardermoen Apt 16 NM

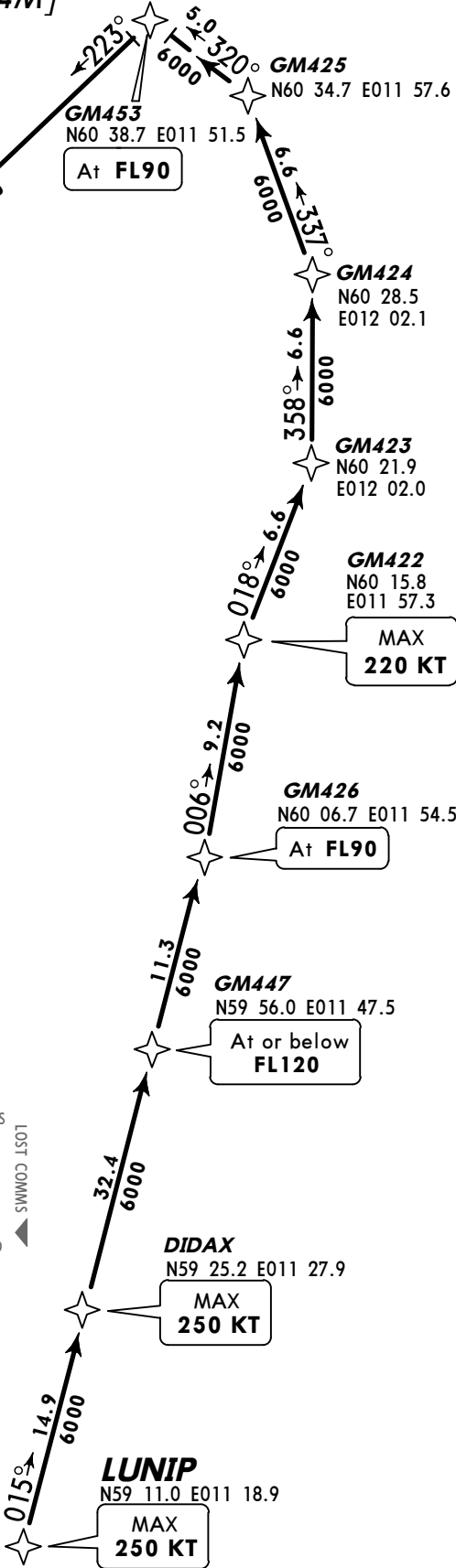
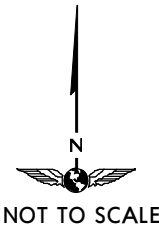
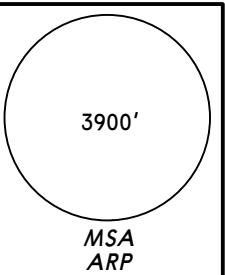
Clearance limit is TITLA holding.

Merging point is TITLA.

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

Follow cleared or EXPECTED STAR until IAF, then 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 ▲ SWW03 1501 ▲ SWW03 1501 ▲ SWW03 1501 ▲ SWW03 1501 ▲ SWW03 1501



ROUTING

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

1. Class A GNSS shall not be used.
2. RADAR service shall be available.
3. Loss of RNAV capability, request vectoring.
4. Vectoring may be used when necessary.
5. Descend as cleared by ATC.

MSA
ARP

Follow cleared or EXPECTED STAR until IAF, then start approach to the assigned runway without delay. If no specified runway for landing has been assigned, start approach to runway 01R without delay.

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ENGM/OSL
GARDERMOEN

JEPPESSEN

OSLO, NORWAY

5 DEC 14

10-2L

Eff 11 Dec

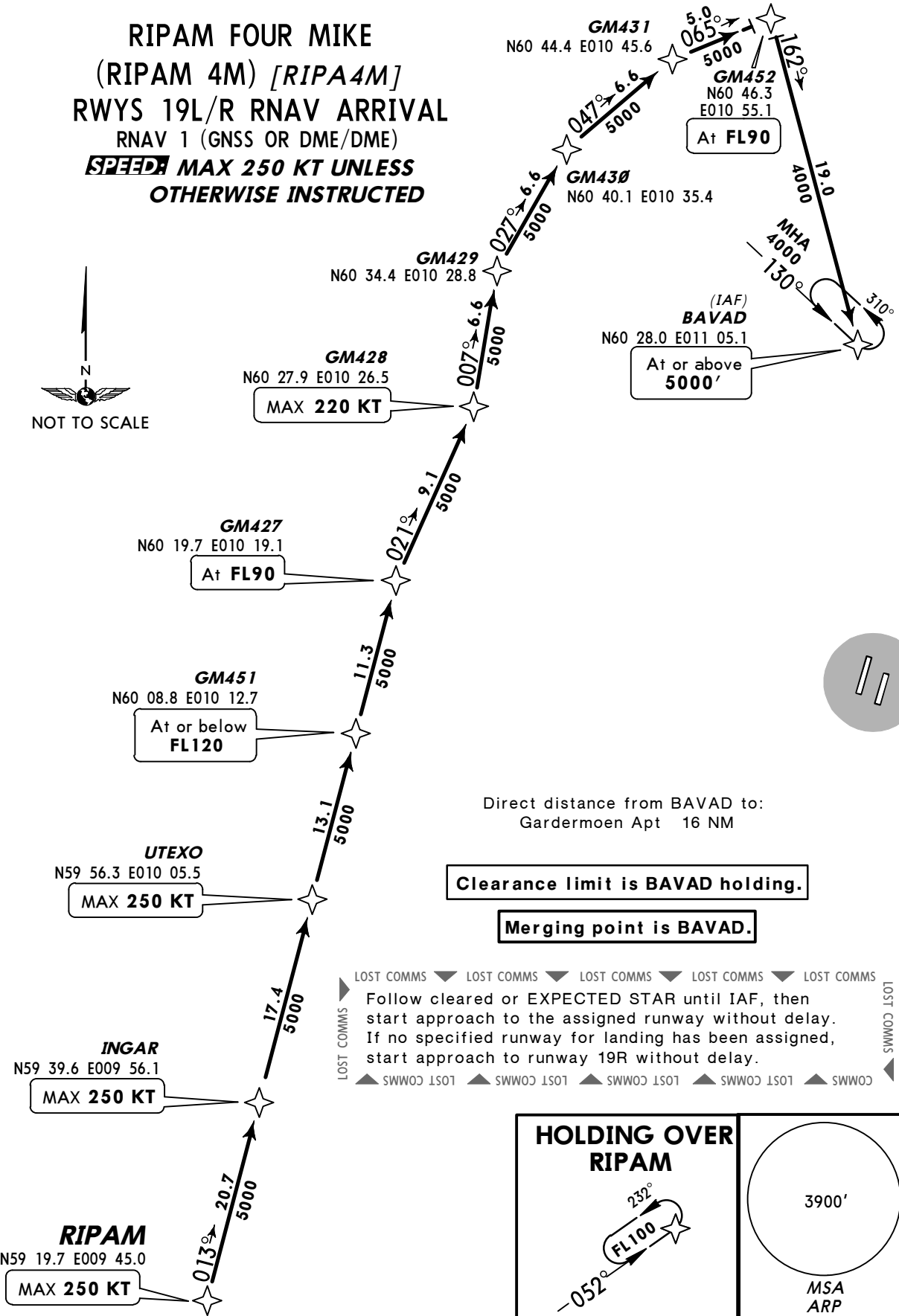
RNAV STAR

D-ATIS
126.125

Apt Elev
681'

- Alt Set: hPa Trans level: By ATC Trans alt: 7000'
1. Class A GNSS shall not be used.
 2. RADAR service shall be available.
 3. Loss of RNAV capability, request vectoring.
 4. Vectoring may be used when necessary.
 5. Descend as cleared by ATC.

RIPAM FOUR MIKE
(RIPAM 4M) [RIPA4M]
RWYS 19L/R RNAV ARRIVAL
RNAV 1 (GNSS OR DME/DME)
~~SPEEDS~~ MAX 250 KT UNLESS
OTHERWISE INSTRUCTED



ROUTING

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

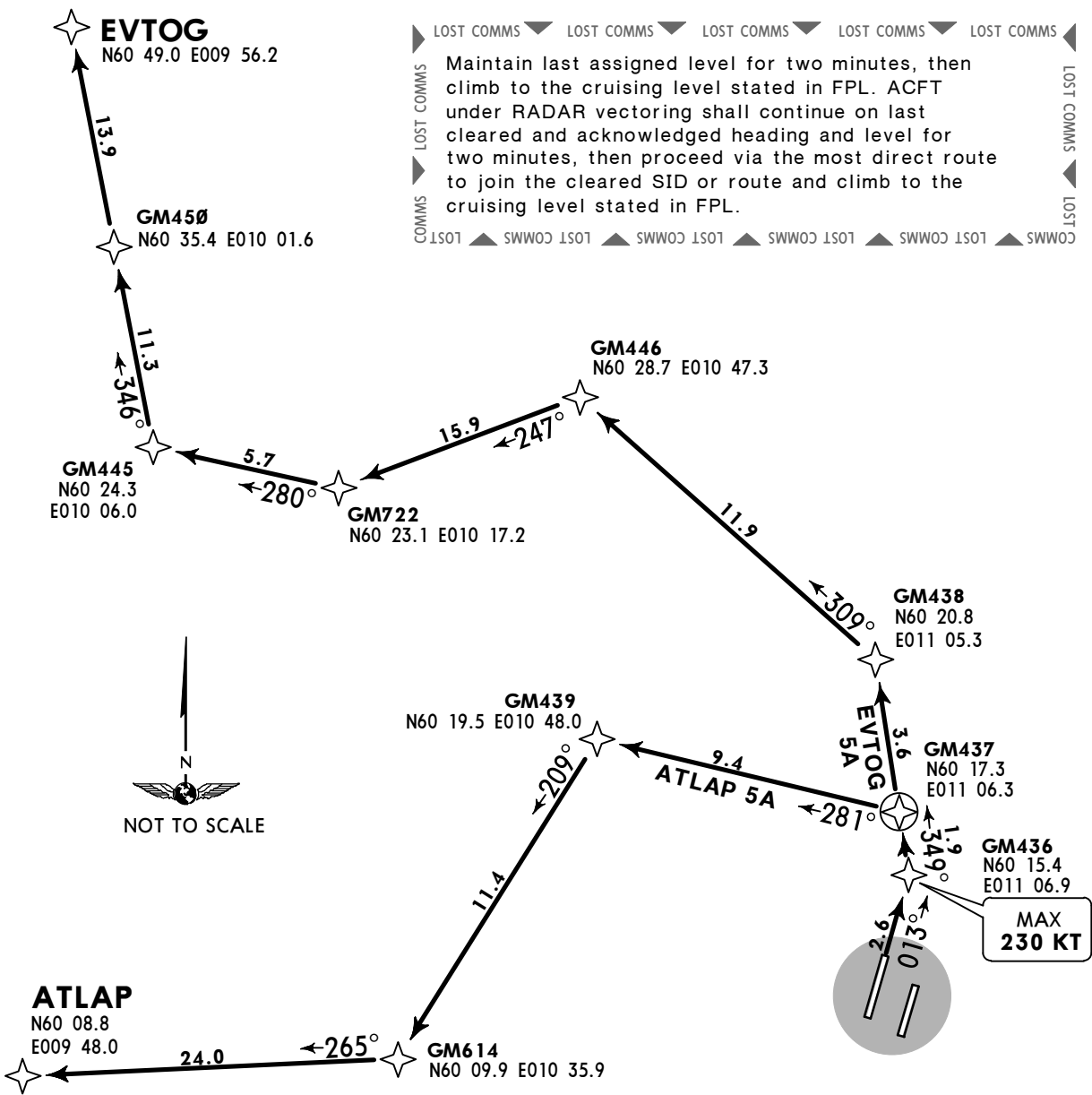
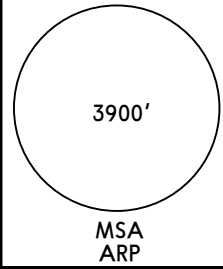
ENGM/OSL
GARDERMOEN

27 MAR 15 10-3 Eff 2 Apr

OSLO, NORWAY
RNAV SID

OSLO Approach 120.450	Apt Elev 681'	Trans level: By ATC Trans alt: 7000' 1. Class A GNSS shall not be used. 2. RADAR service shall be available. 3. Due to simultaneous parallel departures, change to OSLO Approach frequency shall always be initiated by GARDERMOEN Tower. 4. Non RNAV 1 equipped ACFT: at first contact with GARDERMOEN Delivery state 'Unable RNAV 1'. Omnidirectional departure available. 5. Enroute cruising level will be issued after take-off by OSLO Approach or OSLO Control.
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ATLAP FIVE ALFA (ATLAP 5A) [ATLA5A]
EVT OG FIVE ALFA (EVT OG 5A) [EVTO5A]
RWY 01L RNAV DEPARTURES
RNAV 1 (GNSS OR DME/DME)
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 5A	On 013° track to GM436, to GM437, to GM439, to GM614, to ATLAP
EVT OG 5A	On 013° track to GM436, to GM437, to GM438, to GM446, to GM722, to GM445, to GM450, to EVTOG.

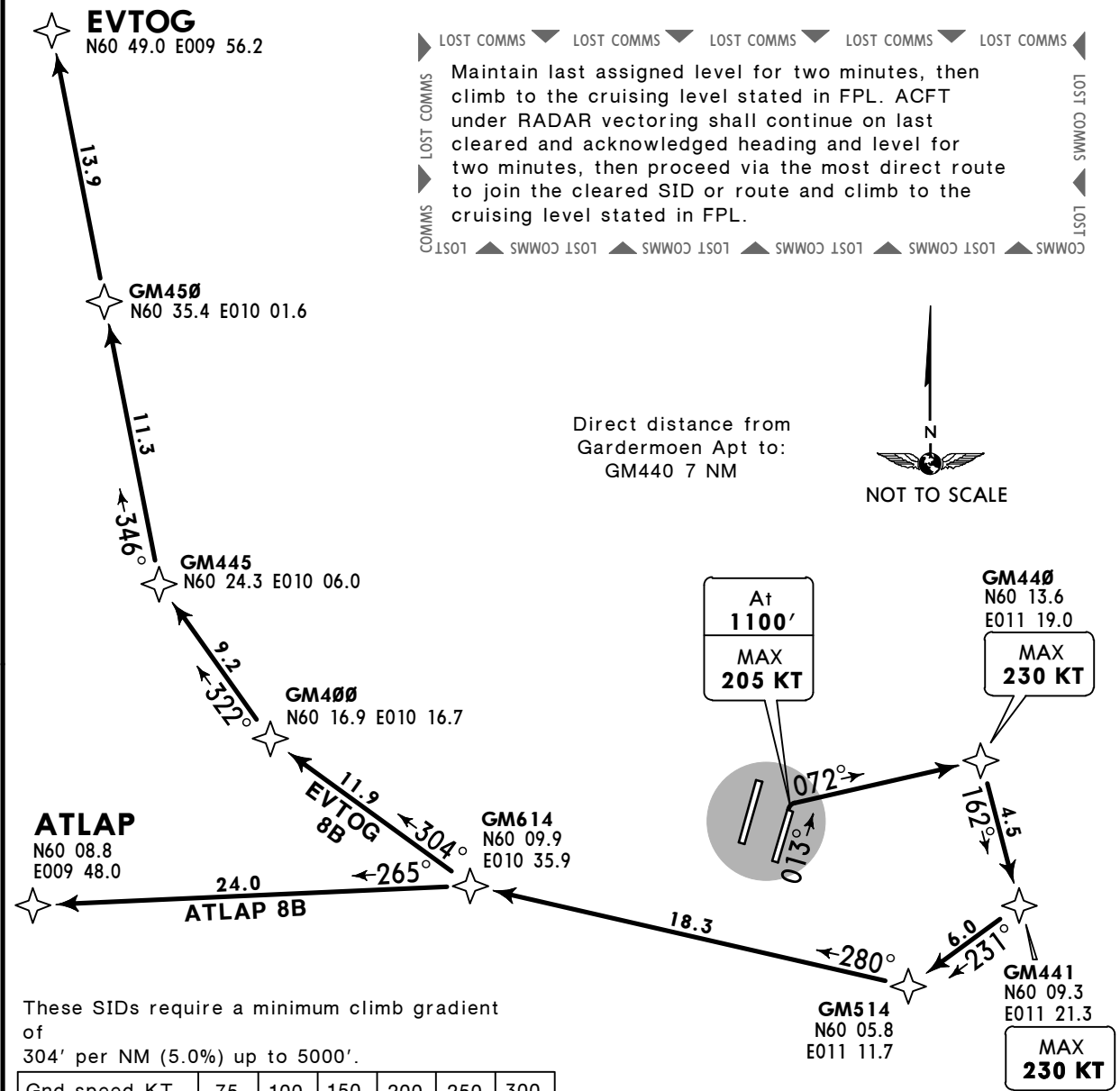
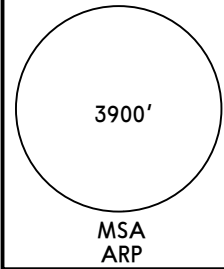
ENGM/OSL
GARDERMOEN

JEPPESSEN
27 MAR 15 (10-3A) Eff 2 Apr

OSLO, NORWAY
RNAV SID

OSLO Approach 118.475	Apt Elev 681'	Trans level: By ATC Trans alt: 7000' 1. Class A GNSS shall not be used. 2. RADAR service shall be available. 3. Due to simultaneous parallel departures, change to OSLO Approach frequency shall always be initiated by GARDERMOEN Tower. 4. Non RNAV 1 equipped ACFT: at first contact with GARDERMOEN Delivery state 'Unable RNAV 1'. Omnidirectional departure available. 5. Enroute cruising level will be issued after take-off by OSLO Approach or OSLO Control.
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ATLAP EIGHT BRAVO (ATLAP 8B) [ATLA8B]
EVT OG EIGHT BRAVO (EVT OG 8B) [EVTO8B]
RWY 01R RNAV DEPARTURES
RNAV 1 (GNSS OR DME/DME)
SPEED: MAX 250 KT BELOW FL100
UNLESS OTHERWISE INSTRUCTED



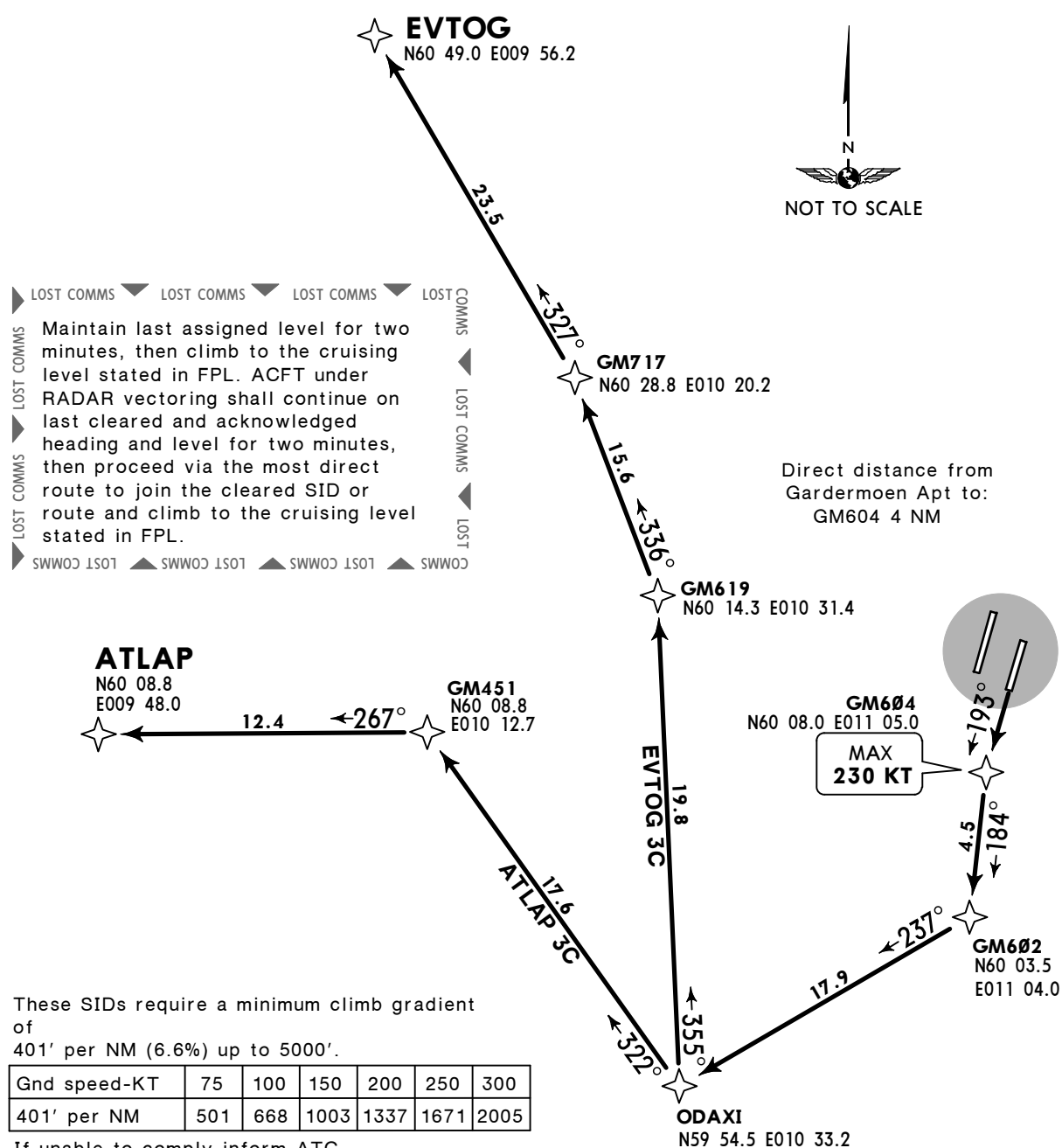
Initial climb clearance 7000' , EXPECT further climb by OSLO Approach.	
SID	ROUTING
ATLAP 8B	Climb on 013° track to 1100', turn RIGHT on 072° track to GM440, turn RIGHT to GM441, to GM514, to GM614, to ATLAP.
EVT OG 8B	Climb on 013° track to 1100', turn RIGHT on 072° track to GM440, turn RIGHT to GM441, to GM514, to GM614, to GM400, to GM445, to EVT OG.

Trans level: By ATC Trans alt: 7000'

1. Class A GNSS shall not be used. 2. RADAR service shall be available. 3. Due to simultaneous parallel departures, change to OSLO Approach frequency shall always be initiated by GARDERMOEN Tower. 4. Non RNAV 1 equipped ACFT: at first contact with GARDERMOEN Delivery state 'Unable RNAV 1'. Omnidirectional departure available. 5. Enroute cruising level will be issued after take-off by OSLO Approach or OSLO Control.

3900'

MSA
ARP



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 3C	On 193° track to GM604, to GM602, to ODAXI, to GM451, to ATLAP.
EVTOG 3C	On 193° track to GM604, to GM602, to ODAXI, turn RIGHT to GM619, to GM717, to EVTOG.

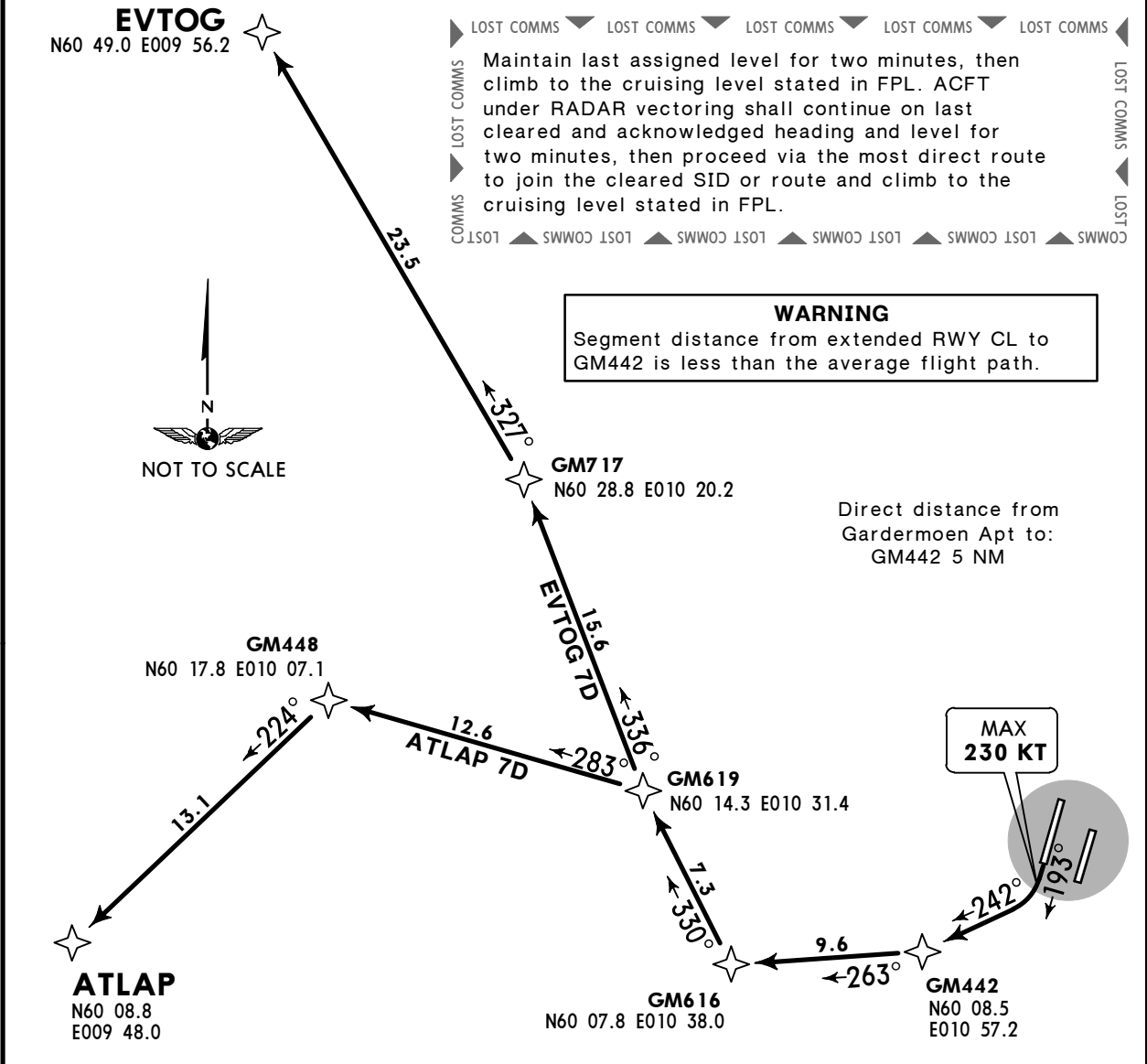
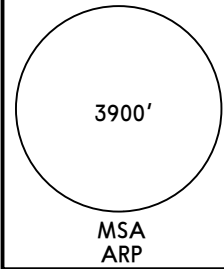
ENGM/OSL
GARDERMOEN

JEPPESSEN
27 MAR 15 10-3C Eff 2 Apr

OSLO, NORWAY
RNAV SID

OSLO Approach 120.450	Apt Elev 681'	Trans level: By ATC Trans alt: 7000' 1. Class A GNSS shall not be used. 2. RADAR service shall be available. 3. Due to simultaneous parallel departures, change to OSLO Approach frequency shall always be initiated by GARDERMOEN Tower. 4. Non RNAV 1 equipped ACFT: at first contact with GARDERMOEN Delivery state 'Unable RNAV 1'. Omnidirectional departure available. 5. Enroute cruising level will be issued after take-off by OSLO Approach or OSLO Control.
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ATLAP SEVEN DELTA (ATLAP 7D)[ATLA7D]
EVT OG SEVEN DELTA (EVT OG 7D)[EVTO7D]
RWY 19R RNAV DEPARTURES
RNAV 1 (GNSS OR DME/DME)
SPEED: MAX 250 KT BELOW FL100
UNLESS OTHERWISE INSTRUCTED



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 7D	Climb on 193° track, intercept 242° track to GM442, to GM616, to GM619, to GM448, to ATLAP.						
EVTOG 7D	Climb on 193° track, intercept 242° track to GM442, to GM616, to GM619, to GM717, to EVTOG.						

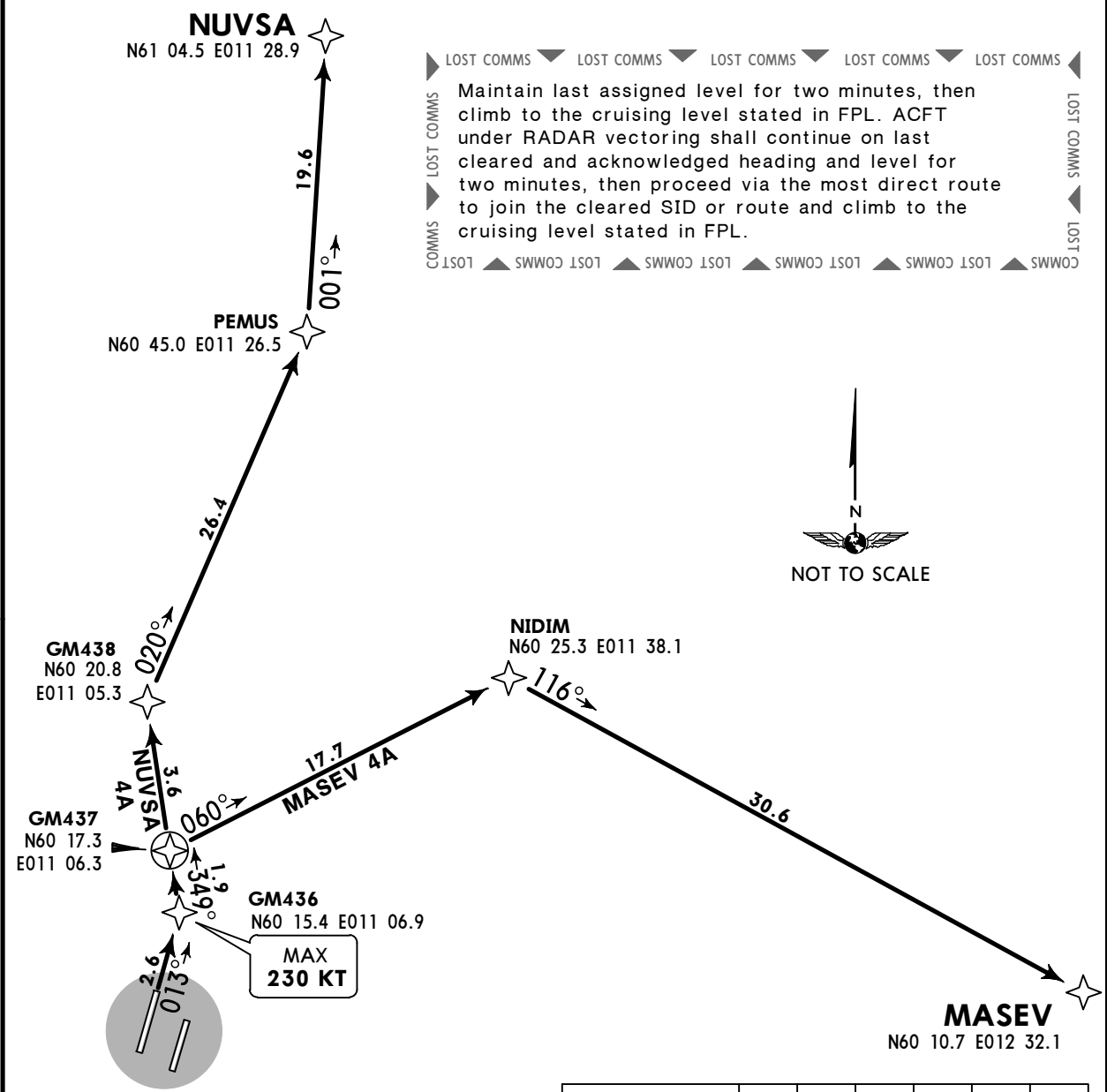
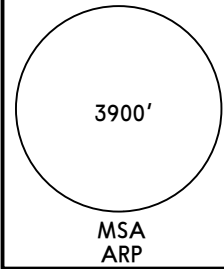
ENGM/OSL
GARDERMOEN

27 MAR 15 **10-3D** Eff 2 Apr

OSLO, NORWAY
RNAV SID

OSLO Approach 118.475	Apt Elev 681'	Trans level: By ATC Trans alt: 7000' 1. Class A GNSS shall not be used. 2. RADAR service shall be available. 3. Due to simultaneous parallel departures, change to OSLO Approach frequency shall always be initiated by GARDERMOEN Tower. 4. Non RNAV 1 equipped ACFT: at first contact with GARDERMOEN Delivery state 'Unable RNAV 1'. Omnidirectional departure available. 5. Enroute cruising level will be issued after take-off by OSLO Approach or OSLO Control.
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MASEV FOUR ALFA (MASEV 4A) [MASE4A]
NUVSA FOUR ALFA (NUVSA 4A) [NUVS4A]
RWY 01L RNAV DEPARTURES
RNAV 1 (GNSS OR DME/DME)
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.

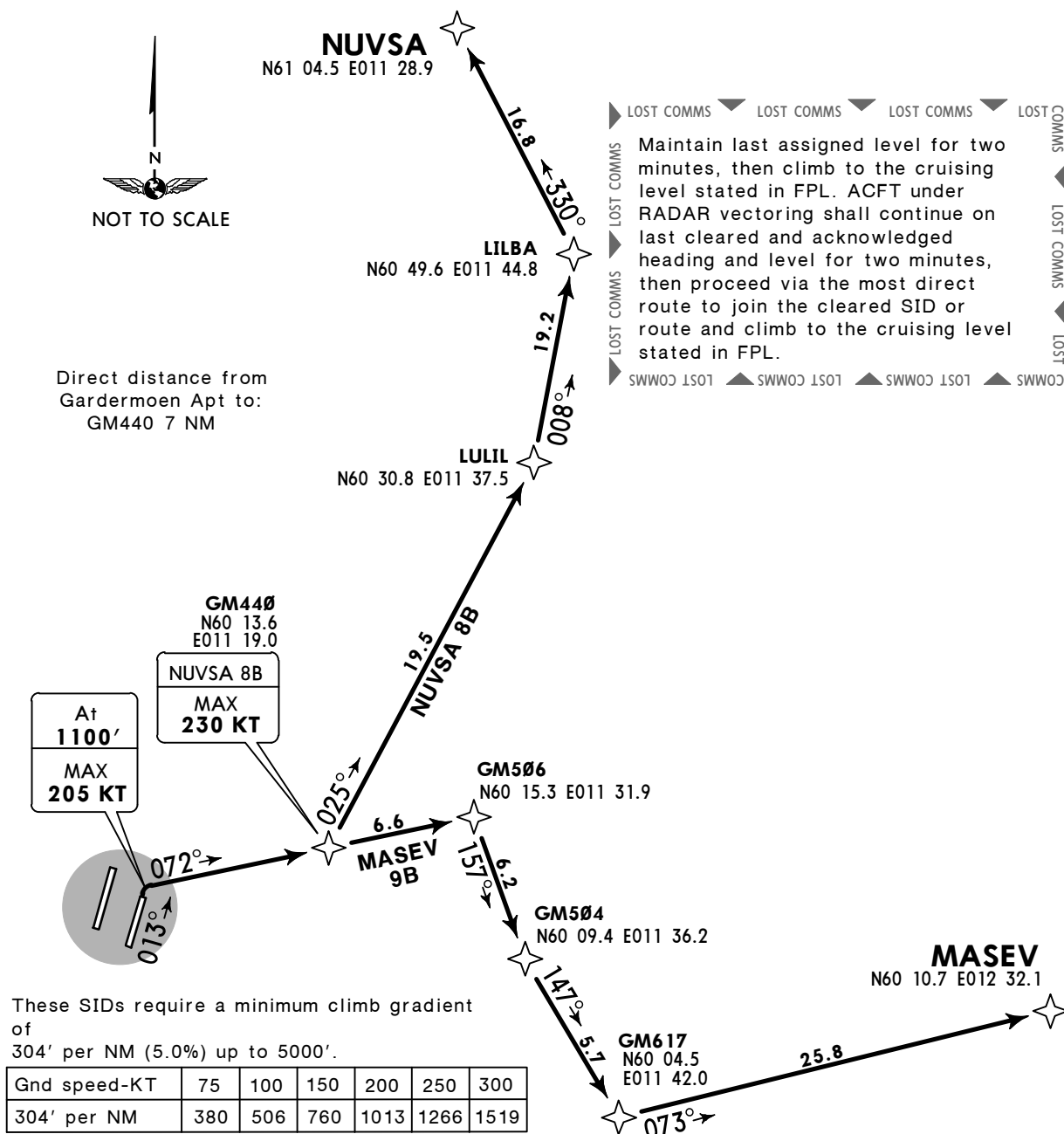
Initial climb clearance 7000' , EXPECT further climb by OSLO Approach.	
SID	ROUTING
MASEV 4A	On 013° track to GM436, to GM437, to NIDIM, to MASEV.
NUVSA 4A	On 013° track to GM436, to GM437, to GM438, to PEMUS, to NUVSA.

Trans level: By ATC Trans alt: 7000'

1. Class A GNSS shall not be used. 2. RADAR service shall be available. 3. Due to simultaneous parallel departures, change to OSLO Approach frequency shall always be initiated by GARDERMOEN Tower. 4. Non RNAV 1 equipped ACFT: at first contact with GARDERMOEN Delivery state 'Unable RNAV 1'. Omnidirectional departure available. 5. Enroute cruising level will be issued after take-off by OSLO Approach or OSLO Control.

3900'

MSA
ARP



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 9B	Climb on 013° track to 1100', turn RIGHT on 072° track to GM506, to GM504, to GM617, to MASEV.
NUVSA 8B	Climb on 013° track to 1100', turn RIGHT on 072° track to GM440, to LULIL, to LILBA, to NUVSA.

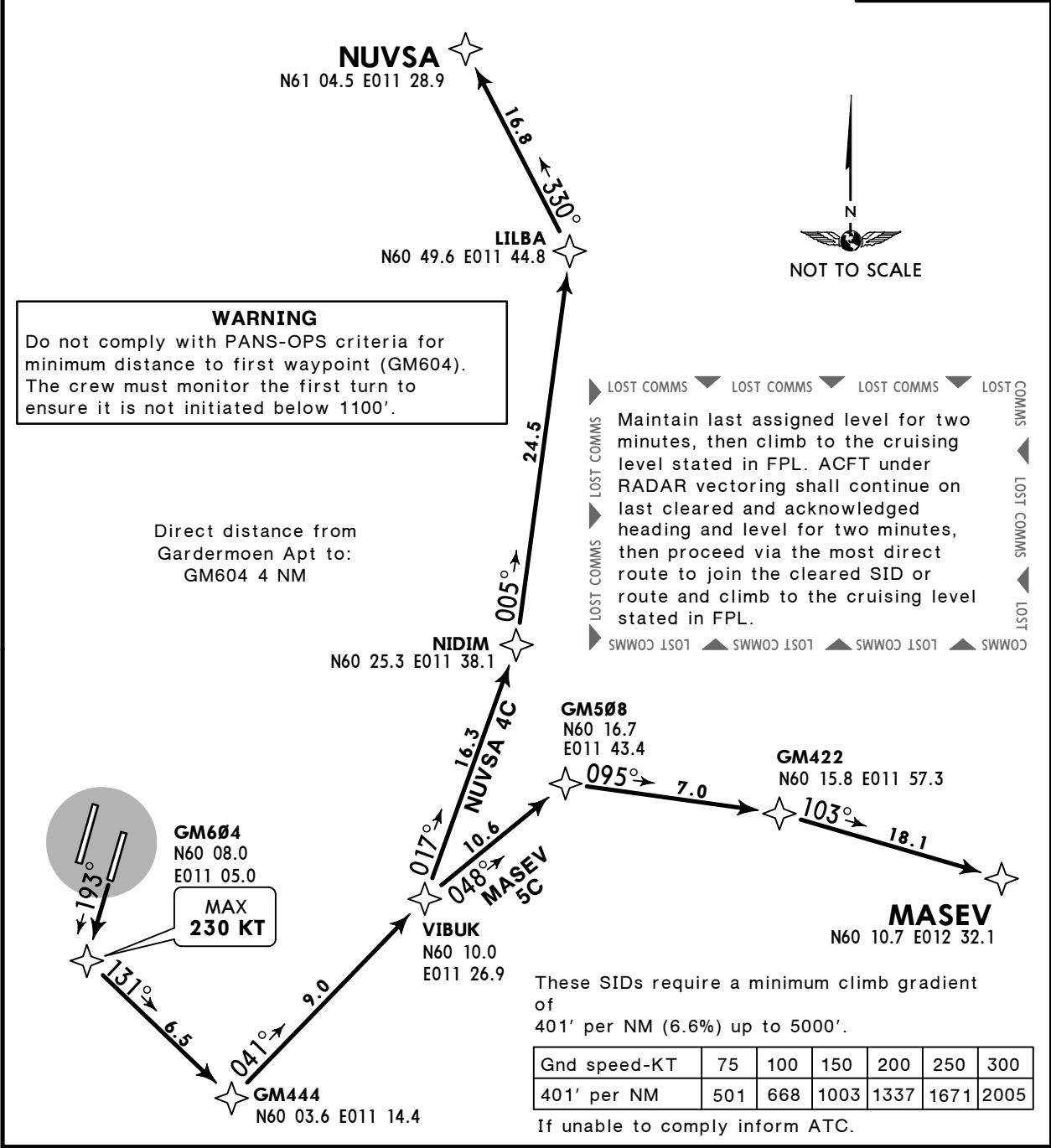
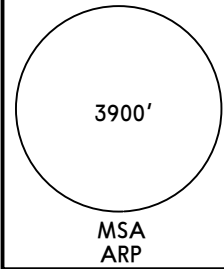
ENGM/OSL
GARDERMOEN

JEPPESSEN
27 MAR 15 10-3F Eff 2 Apr

OSLO, NORWAY
RNAV SID

OSLO Approach 118.475	Apt Elev 681'	Trans level: By ATC Trans alt: 7000' 1. Class A GNSS shall not be used. 2. RADAR service shall be available. 3. Due to simultaneous parallel departures, change to OSLO Approach frequency shall always be initiated by GARDERMOEN Tower. 4. Non RNAV 1 equipped ACFT: at first contact with GARDERMOEN Delivery state 'Unable RNAV 1'. Omnidirectional departure available. 5. Enroute cruising level will be issued after take-off by OSLO Approach or OSLO Control.
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MASEV FIVE CHARLIE (MASEV 5C) [MASE5C]
NUVSA FOUR CHARLIE (NUVSA 4C) [NUVS4C]
RWY 19L RNAV DEPARTURES
RNAV 1 (GNSS OR (DME/DME))
SPEED: MAX 250 KT BELOW FL100
UNLESS OTHERWISE INSTRUCTED



Initial climb clearance 7000' , EXPECT further climb by OSLO Approach.	
SID	ROUTING
MASEV 5C	On 193° track to GM604, to GM444, turn LEFT to VIBUK, to GM508, to GM422, to MASEV.
NUVSA 4C	On 193° track to GM604, to GM444, turn LEFT to VIBUK, to NIDIM, to LILBA, to NUVSA.

Trans level: By ATC Trans alt: 7000'

1. Class A GNSS shall not be used. 2. RADAR service shall be available. 3. Due to simultaneous parallel departures, change to OSLO Approach frequency shall always be initiated by GARDERMOEN Tower. 4. Non RNAV 1 equipped ACFT: at first contact with GARDERMOEN Delivery state 'Unable RNAV 1'. Omnidirectional departure available. 5. Enroute cruising level will be issued after take-off by OSLO Approach or OSLO Control.

3900'

MSA
ARP

WARNING Segment distance from extended RWY CL to GM442 is less than the average flight path.

Direct distance from
Gardermoen Apt to:
GM442 5 NM

PEMUS
N60 45.0 E011 26.5

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.

VEMIN
N60 13.8
E010 47.1

GM507
N60 18.0
E011 06.0

443
26.8
13.5

GM508
N60 16.7
E011 43.4

MASEV
N60 10.7 E012 32.1

GM603
N60 09.3
E010 48.0

GM442
N60 08.5
E010 57.2

MAX
230 KT

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 6D	Climb on 193° track, intercept 242° track to GM442, to GM603, to VEMIN, to GM507, to GM508, to MASEV.
NUVSA 7D	Climb on 193° track, intercept 242° track to GM442, to GM603, to VEMIN, to GM443, to PEMUS, to NUVSA.

Initial climb clearance 7000' , EXPECT further climb by OSLO Approach.	
SID	ROUTING
OKSAT 4A	On 013° track to GM436, to GM437, to NIDIM, turn RIGHT to OKAKI, to OKSAT.
TOR 4A	On 013° track to GM436, to GM437, to GM439, to GM614, to NANON, to TOR.

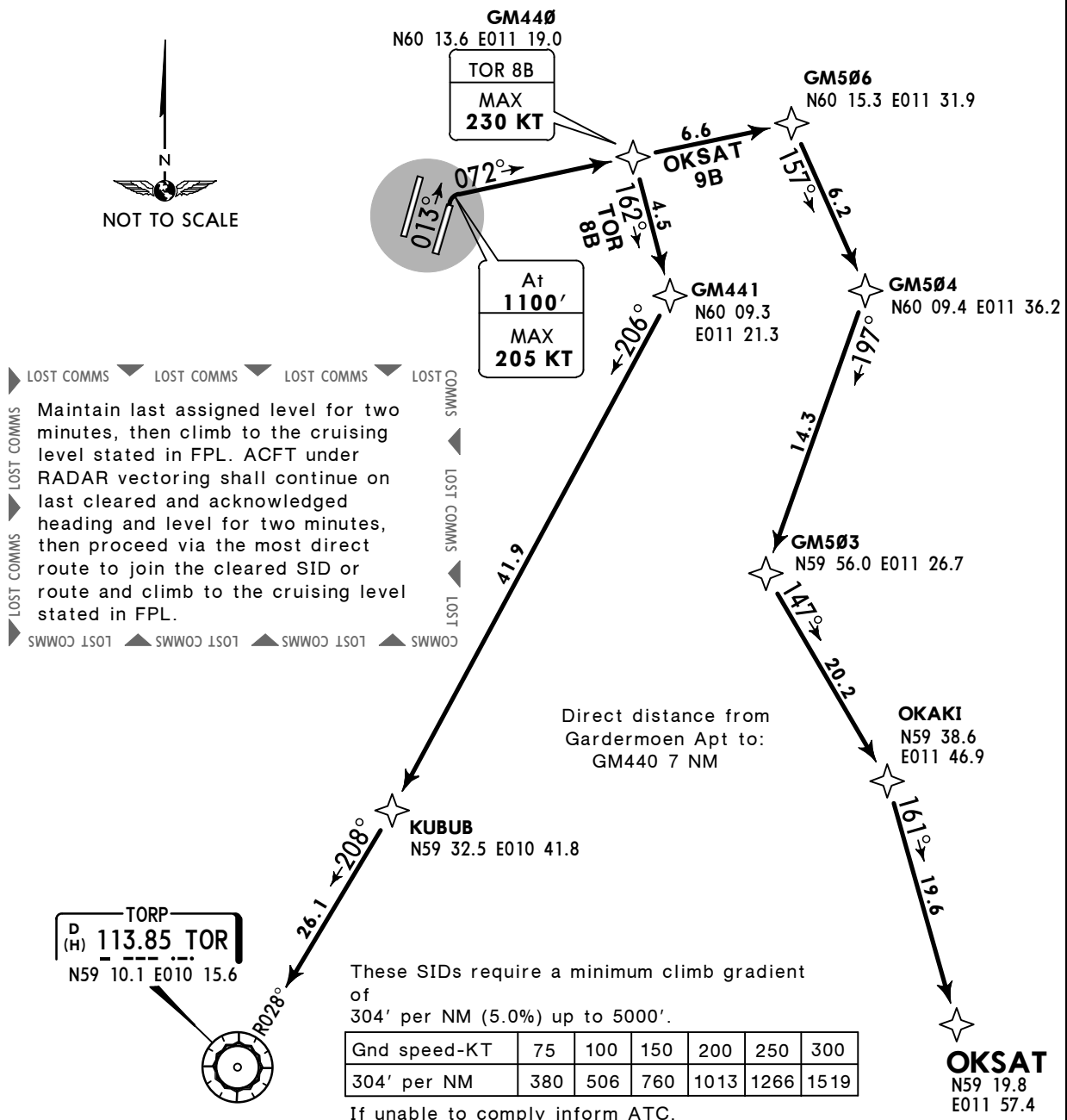
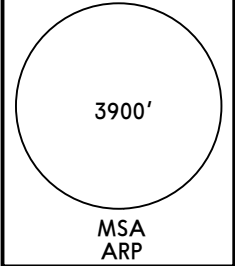
ENGM/OSL
GARDERMOEN

JEPPESSEN
27 MAR 15 10-3J Eff 02 Apr

OSLO, NORWAY
RNAV SID

OSLO Approach 118.475	Apt Elev 681'	Trans level: By ATC Trans alt: 7000' 1. Class A GNSS shall not be used. 2. RADAR service shall be available. 3. Due to simultaneous parallel departures, change to OSLO Approach frequency shall always be initiated by GARDERMOEN Tower. 4. Non RNAV 1 equipped ACFT: at first contact with GARDERMOEN Delivery state 'Unable RNAV 1'. Omnidirectional departure available. 5. Enroute cruising level will be issued after take-off by OSLO Approach or OSLO Control.
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OKSAT NINE BRAVO (OKSAT 9B) [OKSA9B]
TORP EIGHT BRAVO (TOR 8B)
RWY 01R RNAV DEPARTURES
RNAV 1 (GNSS OR DME/DME)
SPEED: MAX 250 KT BELOW FL100
UNLESS OTHERWISE INSTRUCTED



Initial climb clearance 7000' , EXPECT further climb by OSLO Approach.	
SID	ROUTING
OKSAT 9B	Climb on 013° track to 1100', turn RIGHT, 072° track to GM506, to GM504, to GM503, to OKAKI, to OKSAT.
TOR 8B	Climb on 013° track to 1100', turn RIGHT, 072° track to GM440, turn RIGHT to GM441, to KUBUB, to TOR.

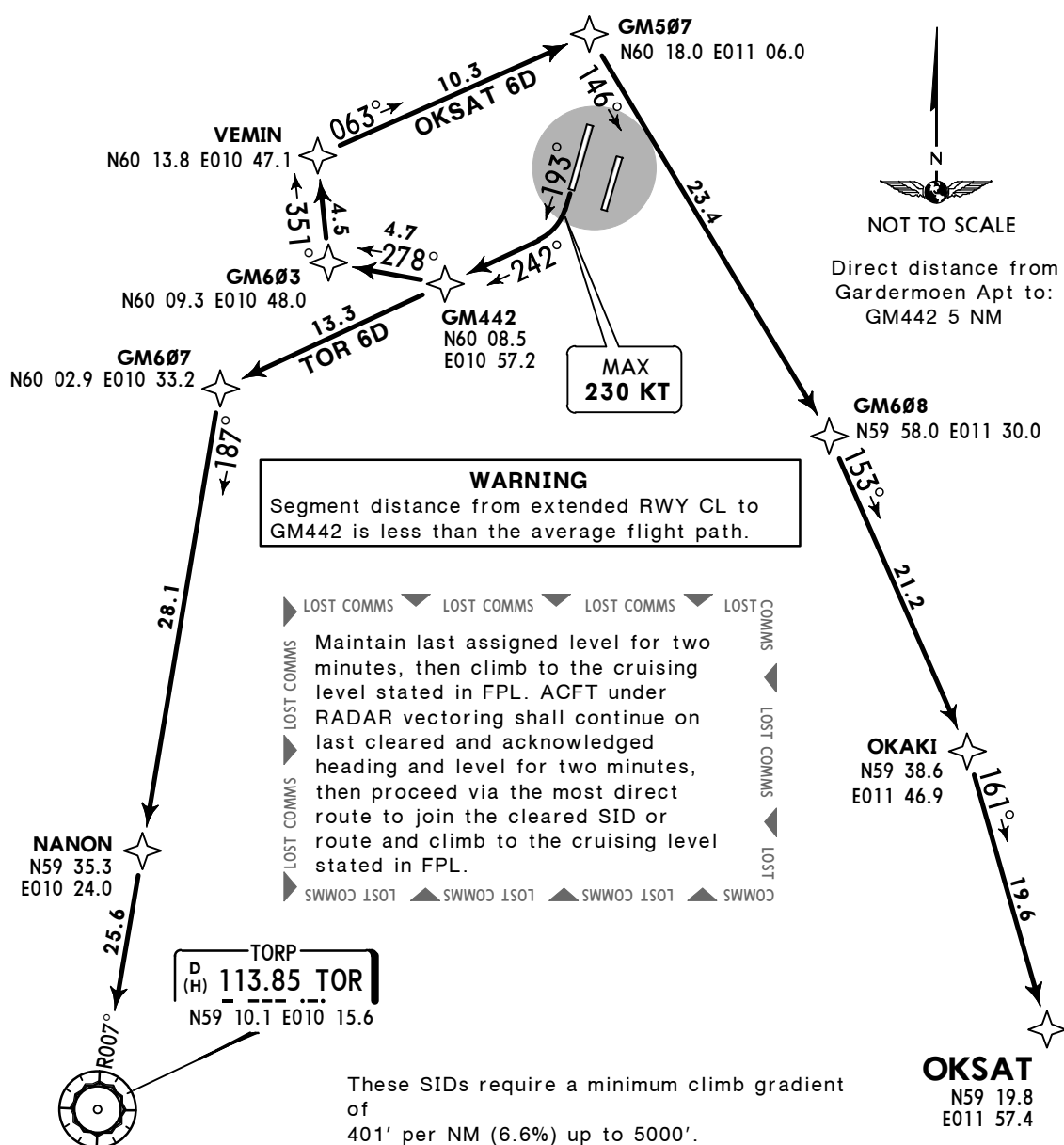
OSLO, NORWAY
RNAV SID

Trans level: By ATC Trans alt: 7000'

1. Class A GNSS shall not be used. 2. RADAR service shall be available. 3. Due to simultaneous parallel departures, change to OSLO Approach frequency shall always be initiated by GARDERMOEN Tower. 4. Non RNAV 1 equipped ACFT: at first contact with GARDERMOEN Delivery state 'Unable RNAV 1'. Omnidirectional departure available. 5. Enroute cruising level will be issued after take-off by OSLO Approach or OSLO Control.

3900'

MSA
ARP



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.

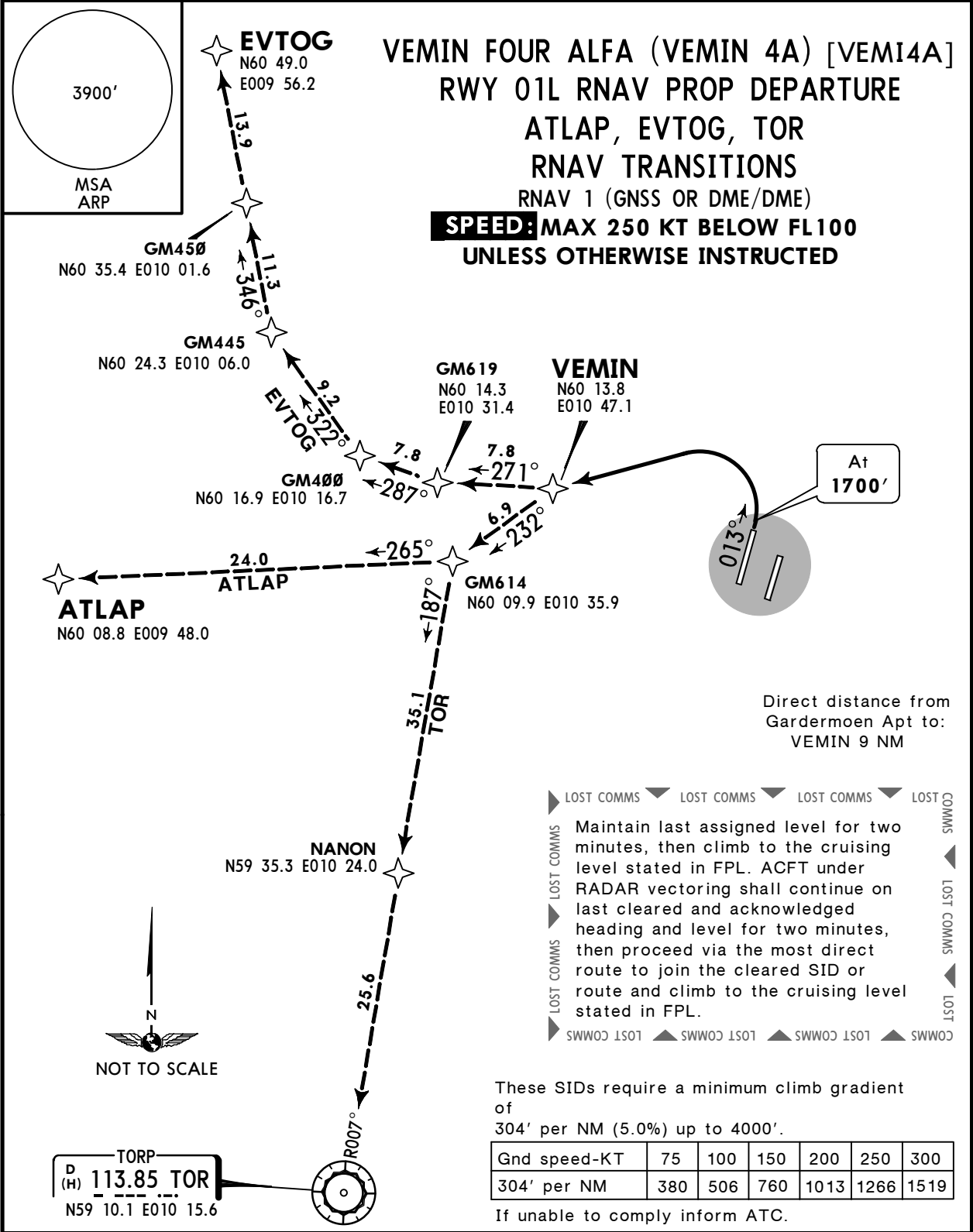
SID	ROUTING
OKSAT 6D	Climb on 193° track, 242° track to GM442, to GM603, to VEMIN, to GM507, to GM608, to OKAKI, to OKSAT.
TOR 6D	Climb on 193° track, 242° track to GM442, to GM607, to NANON, to TOR.

ENGM/OSL
GARDERMOEN

JEPPESSEN
27 MAR 15 10-3M Eff 2 Apr

OSLO, NORWAY
RNAV SID

OSLO Approach 120.450	Apt Elev 681'	Trans level: By ATC Trans alt: 7000' 1. Class A GNSS shall not be used. 2. RADAR service shall be available. 3. Due to simultaneous parallel departures, change to OSLO Approach frequency shall always be initiated by GARDERMOEN Tower. 4. Non RNAV 1 equipped ACFT: at first contact with GARDERMOEN Delivery state 'Unable RNAV 1'. Omnidirectional departure available. 5. Enroute cruising level will be issued after take-off by OSLO Approach or OSLO Control.
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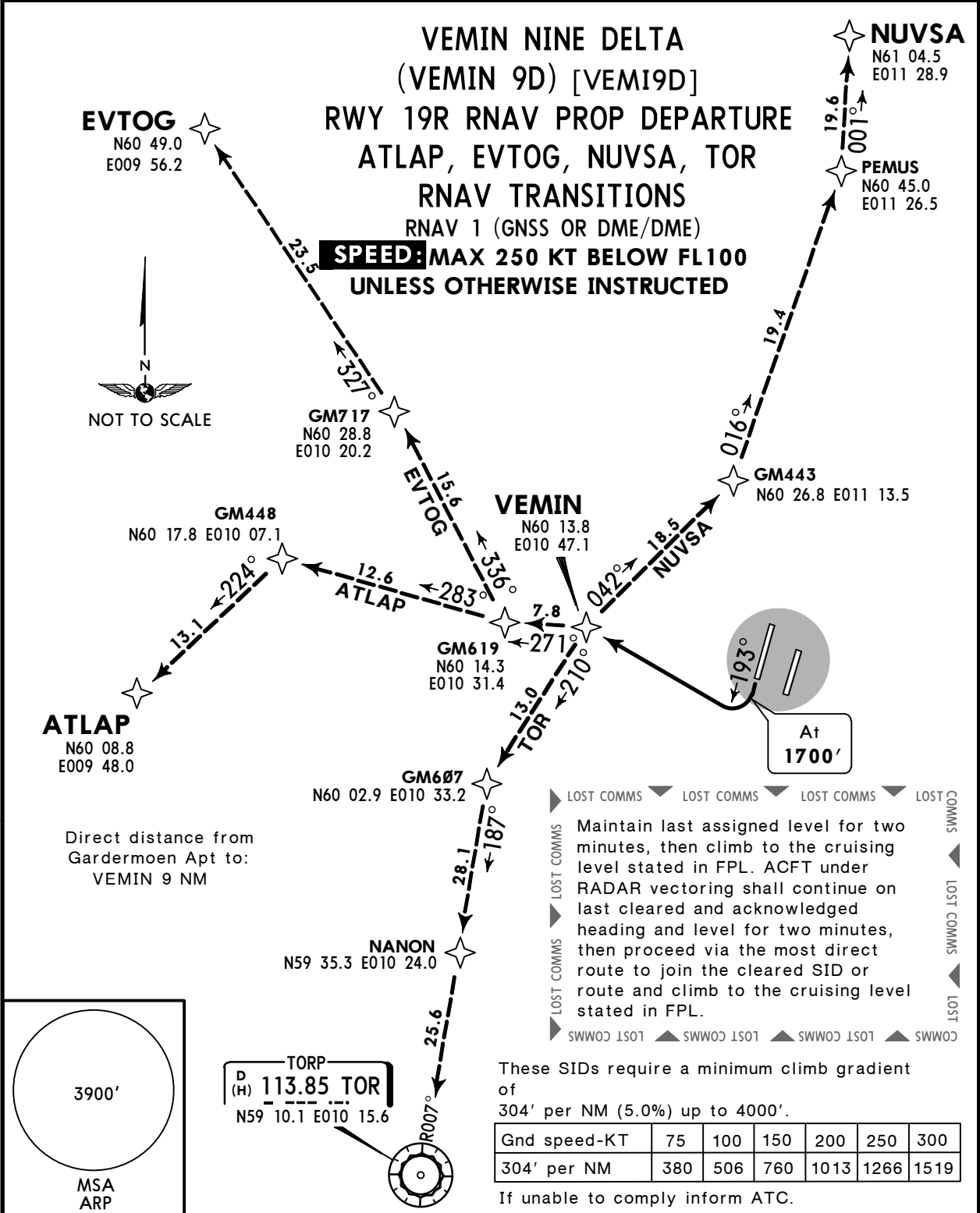
Initial climb clearance 4000' , EXPECT further climb by OSLO Approach.	
ROUTING	
Climb on 013° track to 1700', turn LEFT direct to VEMIN.	
TRANSITION	ROUTING
ATLAP	From VEMIN to GM614, to ATLAP.
EVTOG	From VEMIN to GM619, to GM400, to GM445, to GM450, to EVTOG.
TOR	From VEMIN to GM614, to NANON, to TOR.

ENGM/OSL
GARDERMOEN

JEPPESSEN
27 MAR 15 10-3N Eff 2 Apr

OSLO, NORWAY
RNAV SID

OSLO Approach 120.450	Apt Elev 681'	Trans level: By ATC Trans alt: 7000' 1. Class A GNSS shall not be used. 2. RADAR service shall be available. 3. Due to simultaneous parallel departures, change to OSLO Approach frequency shall always be initiated by GARDERMOEN Tower. 4. Non RNAV 1 equipped ACFT: at first contact with GARDERMOEN Delivery state 'Unable RNAV 1'. Omnidirectional departure available. 5. Enroute cruising level will be issued after take-off by OSLO Approach or OSLO Control.
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Initial climb clearance 4000' , EXPECT further climb by OSLO Approach.	
ROUTING	
Climb on 193° track to 1700', turn RIGHT direct to VEMIN.	
TRANSITION	ROUTING
ATLAP	From VEMIN to GM619, to GM448, to ATLAP.
EVTOG	From VEMIN to GM619, to GM717, to EVTOG.
NUVSA	From VEMIN to GM443, to PEMUS, to NUVSA.
TOR	From VEMIN to GM607, to NANON, to TOR.

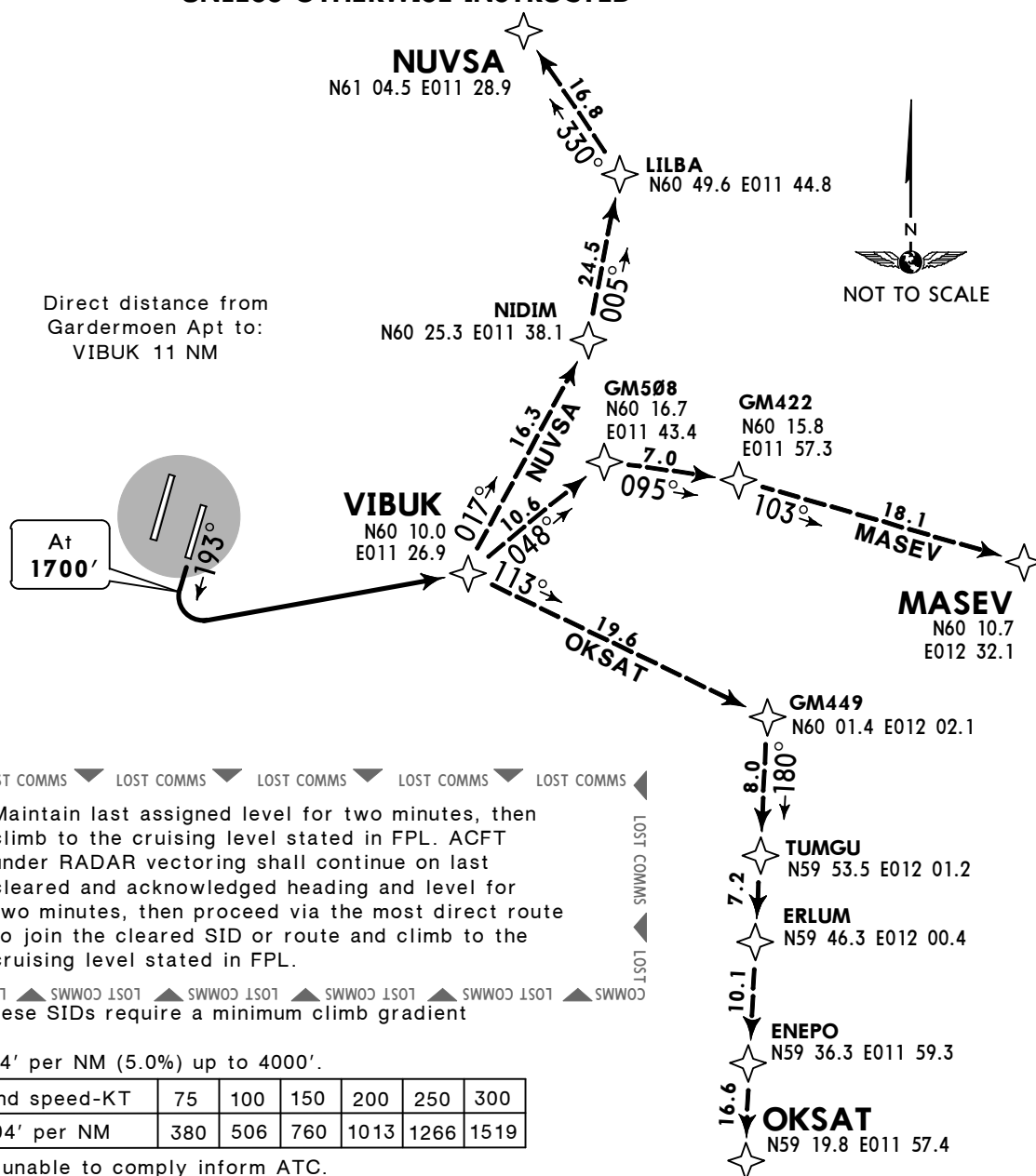
Trans level: By ATC Trans alt: 7000'

1. Class A GNSS shall not be used. 2. RADAR service shall be available. 3. Due to simultaneous parallel departures, change to OSLO Approach frequency shall always be initiated by GARDERMOEN Tower. 4. Non RNAV 1 equipped ACFT: at first contact with GARDERMOEN Delivery state 'Unable RNAV 1'. Omnidirectional departure available. 5. Enroute cruising level will be issued after take-off by OSLO Approach or OSLO Control.



3900'

MSA
ARP



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

ROUTING

Climb on 193° track to 1700', turn LEFT direct to VIBUK.

TRANSITION	ROUTING
MASEV	From VIBUK to GM508, to GM422, to MASEV.
NUVSA	From VIBUK to NIDIM, to LILBA, to NUVSA.
OKSAT	From VIBUK to GM449, to TUMGU, to ERLUM, to ENEPO, to OKSAT.

ENGM/OSL
GARDERMOEN

JEPPESSEN
27 MAR 15 10-3Q Eff 2 Apr

OSLO, NORWAY
DEPARTURE

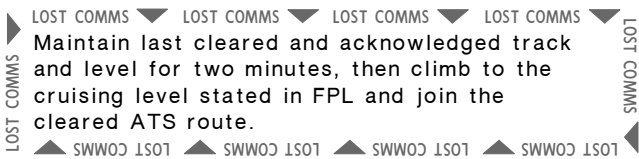
Apt Elev
681'

Trans level: By ATC Trans alt: 7000'
1. When instructed by GARDERMOEN Tower contact OSLO Approach.
2. EXPECT RADAR vectoring by OSLO Approach to join the cleared ATS route.
3. Enroute cruising levels will be issued after take-off by OSLO Approach or OSLO Control.

3900'

MSA
ARP

RWYS 01L/R, 19L/R OMNIDIRECTIONAL DEPARTURES



These departures require minimum climb gradients of

Rwys 01L/R
304' per NM (5.0%) up to 4000'.
Rwys 19L/R
Sector 207°-337°: 425' per NM (7.0%) in order to stay within controlled airspace.
Sector 337°-207°: 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

These departures require minimum climb gradients of
Sector 207°-337°: 425' per NM (7.0%) in order to stay within controlled airspace.
Sector 337°-207°: 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.

ENGM/OSL

Apt Elev **681'**

N60 12.2 E011 05.0

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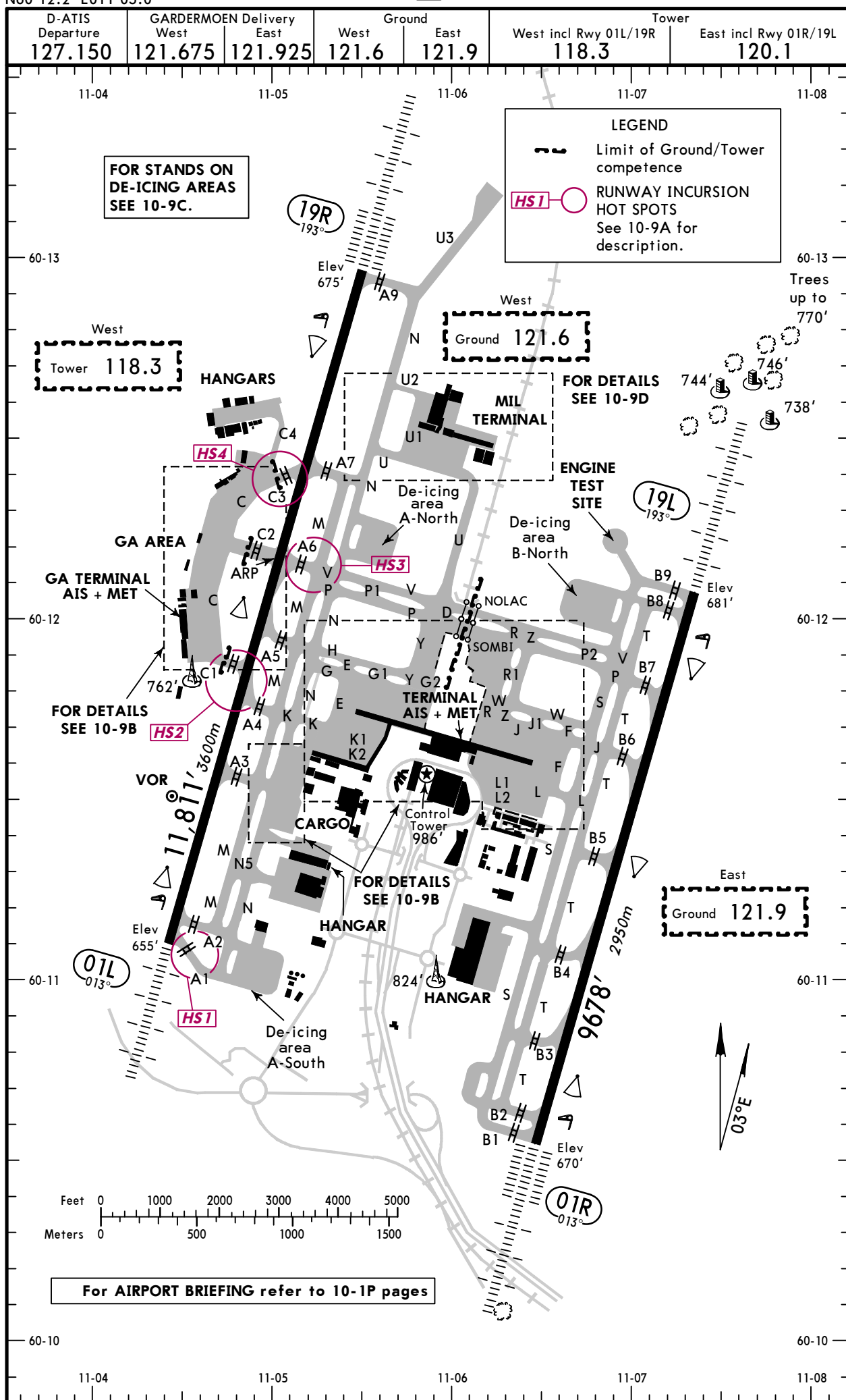
5 DEC 14

10-9

Eff 11 Dec

OSLO, NORWAY

GARDERMOEN



ENGM/OSL



OSLO, NORWAY

5 DEC 14

10-9A

Eff 11 Dec

GARDERMOEN

ADDITIONAL RUNWAY INFORMATION						USABLE LENGTHS		TAKE-OFF	WIDTH
RWY				LANDING BEYOND		Threshold	Glide Slope		
01L	HIRL (60m)	HIALS CL (15m)	SFL PAPI-L(3.0°)	RVR		10,819'	3298m	③	148' 45m
① 19R	HIRL (60m)	HIALS-II CL (15m)	SFL TDZ ②	RVR		10,737'	3273m		
① Rwy grooved.									
② PAPI-L(3.0°)									
③ TAKE-OFF RUN AVAILABLE (Advise ATC once transferred to Tower, if intersection dep is acceptable/requested.)									
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 ④	RVR		8706'	2654m	⑤ ⑥	148' 45m
19L	HIRL (60m)	HIALS CL (15m)	SFL PAPI-L(3.0°)	RVR		8625'	2629m		
④ PAPI-L(3.0°)									
⑤ TAKE-OFF RUN AVAILABLE (Advise ATC once transferred to Tower, if intersection dep is acceptable/requested.)									
RWY 01R: From rwy head		9678' (2950m)		RWY 19L: From rwy head		9678' (2950m)			
twy B2 int		9350' (2850m)		twy B8 int		9265' (2824m)			
twy B3 int		7982' (2433m)		twy B7 int		7907' (2410m)			
twy B4 int		6463' (1970m)		twy B6 int		6644' (2025m)			
twy B5 int		4797' (1462m)							
⑥ Jet ACFT only: Intersection dep RWY 01R not permitted from twy B3 and North of twy B3. Intersection dep RWY 19L not permitted from twy B6 and South of twy B6.									

RUNWAY INCURSION HOT SPOTS

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

HS1 Angled Twy. Difficult to see traffic on final.

HS2 Installed Twy CL lights on C1 and A4 will indicate direction to the Rwy CL. Caution must be exercised when instructed to cross Rwy from Twy C1 to Twy A4 and vice versa due lack of visual aids.

HS3 Twy V leading directly to a Rwy intersection. Caution must be exercised when approaching the holding point A6.

HS4 Angled Twy. Difficult to see traffic on Rwy 01L.

Standard		TAKE-OFF ①				
		LVP must be in Force				
Approved Operators						
HIRL, CL & mult. RVR req		RL, CL & mult. RVR req	RL & CL	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
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.						

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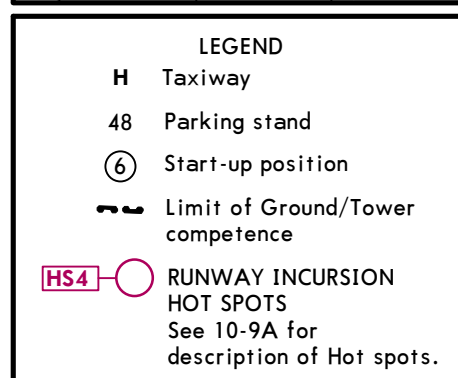
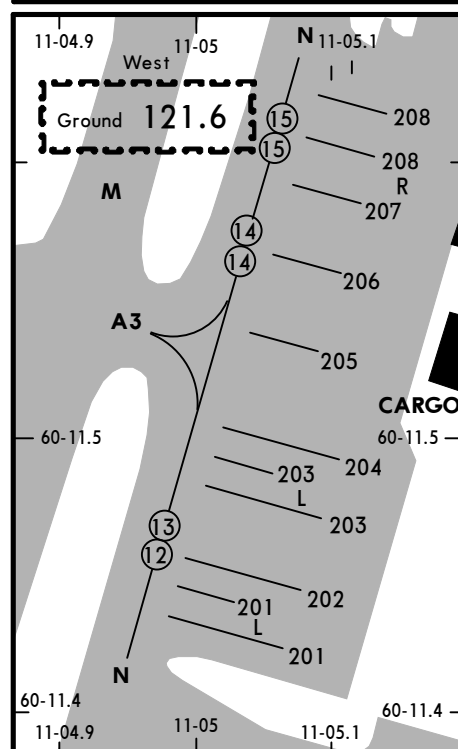
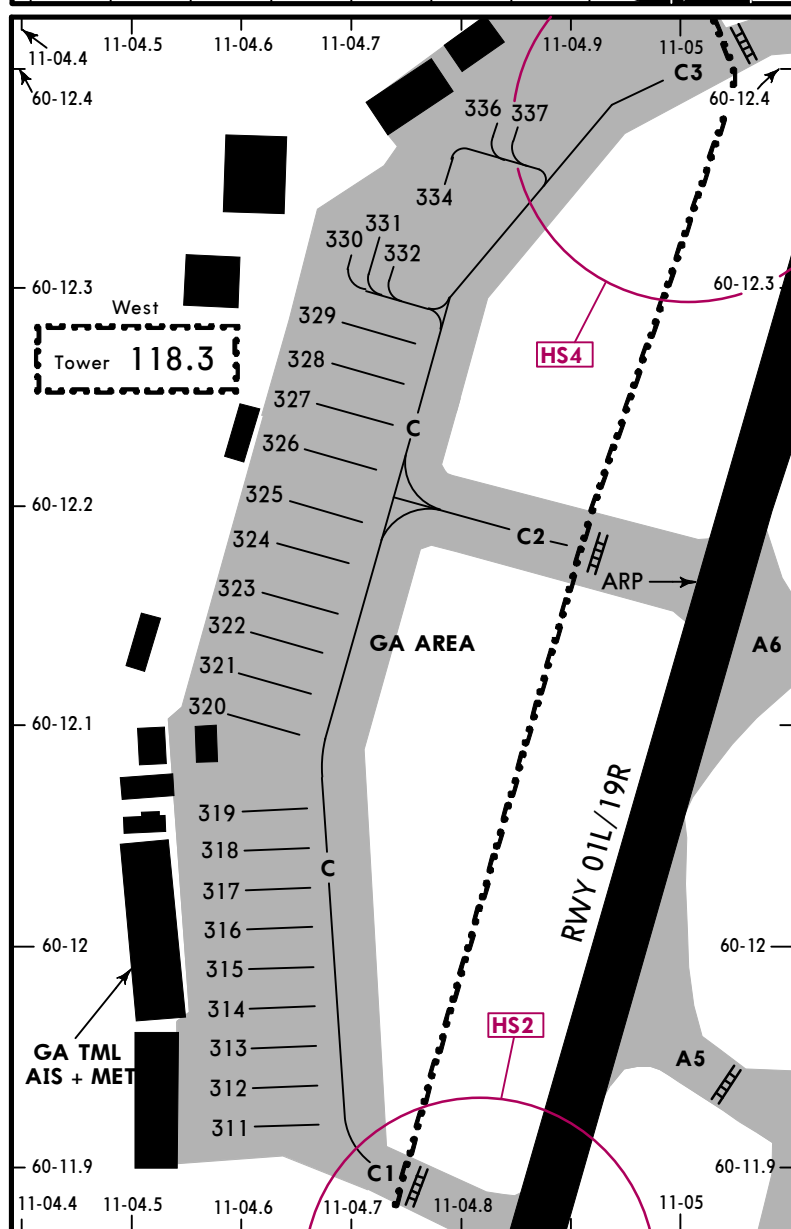
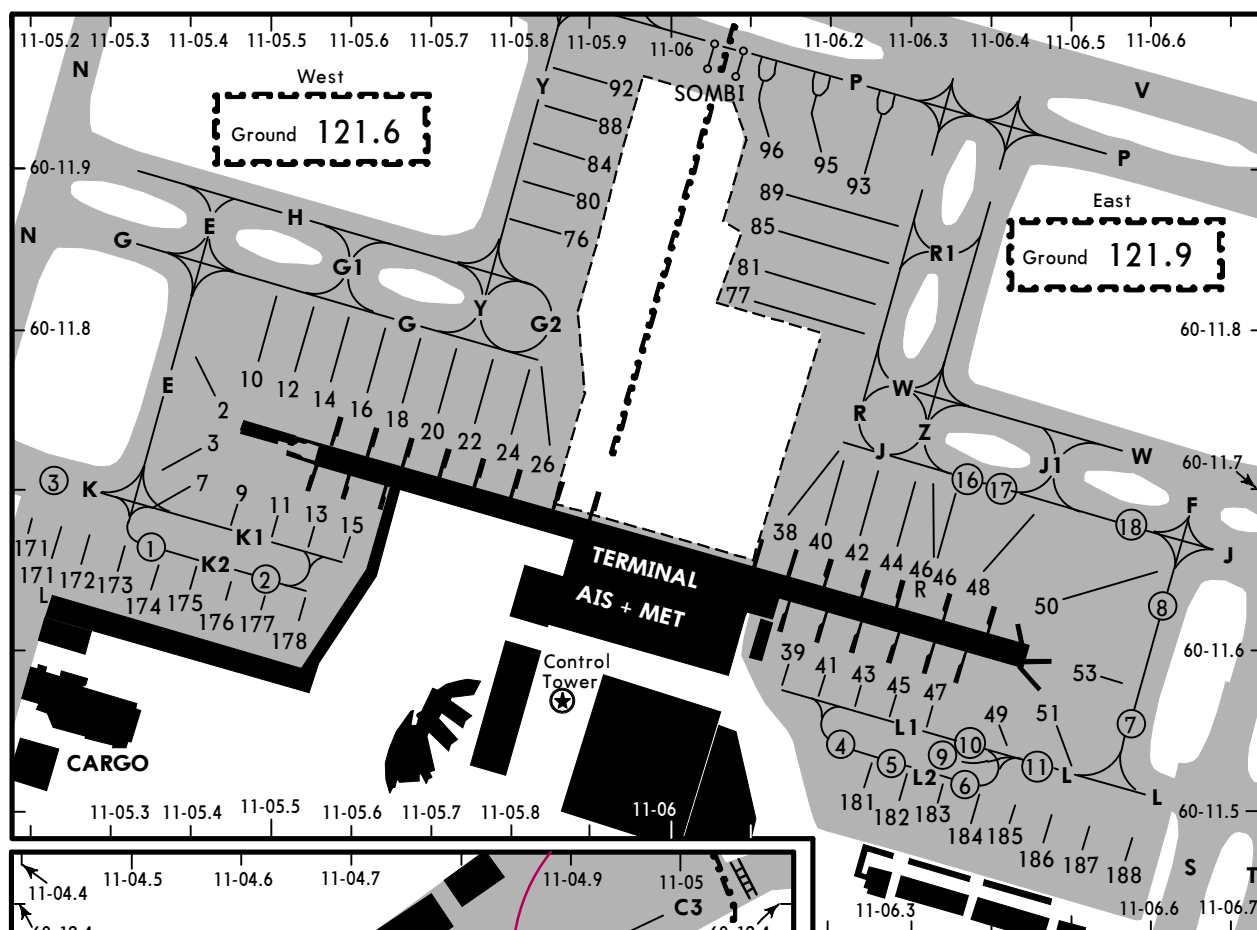
OSLO, NORWAY

4 SEP 15

10-9B

Eff 17 Sep

GARDERMOEN



CHANGES: Stand 77.

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OSLO, NORWAY

4 SEP 15

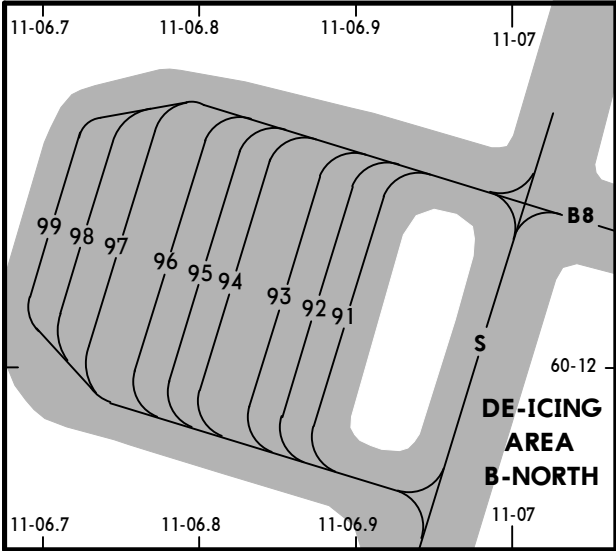
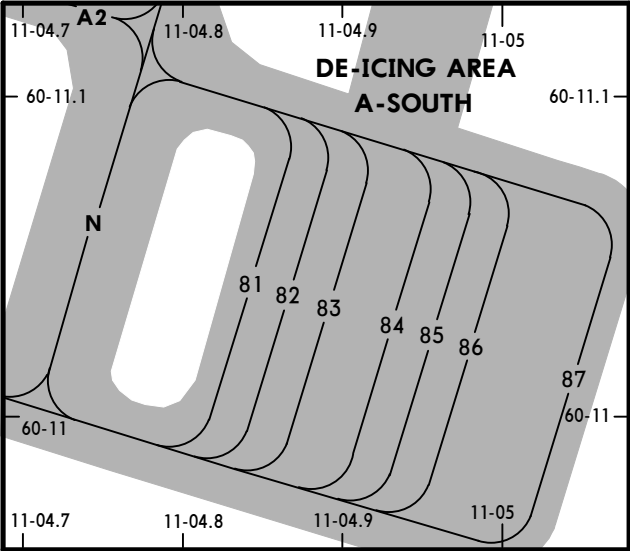
10-9C

Eff 17 Sep

GARDERMOEN

INS COORDINATES							
STAND No.	COORDINATES		ELEV	STAND No.	COORDINATES		ELEV
2 thru 7	N60 11.7	E011 05.4	672	201 thru 202	N60 11.4	E011 05.1	664
9	N60 11.7	E011 05.5	674	203 thru 204	N60 11.5	E011 05.1	664
10	N60 11.8	E011 05.5	673	205	N60 11.5	E011 05.1	667
11	N60 11.7	E011 05.5	673	206	N60 11.6	E011 05.1	667
12	N60 11.8	E011 05.5	673	207 thru 208R	N60 11.6	E011 05.2	668
13 thru 16	N60 11.7	E011 05.6	673	311	N60 11.9	E011 04.6	662
18 thru 22	N60 11.7	E011 05.7	673	312 thru 314	N60 11.9	E011 04.6	663
24, 26	N60 11.7	E011 05.8	673	315	N60 12.0	E011 04.6	663
38	N60 11.7	E011 06.1	673	316	N60 12.0	E011 04.6	664
39	N60 11.6	E011 06.2	673	317 thru 319	N60 12.0	E011 04.6	663
40	N60 11.7	E011 06.2	673	320	N60 12.1	E011 04.6	664
41, 42	N60 11.6	E011 06.2	673	321, 322	N60 12.1	E011 04.6	665
43 thru 47	N60 11.6	E011 06.3	673	323, 324	N60 12.2	E011 04.6	664
48,49	N60 11.6	E011 06.4	673	325	N60 12.2	E011 04.6	665
50	N60 11.6	E011 06.4	672	326	N60 12.2	E011 04.7	665
51	N60 11.6	E011 06.5	672	327	N60 12.3	E011 04.7	665
53	N60 11.6	E011 06.5	673	328 thru 330	N60 12.3	E011 04.7	666
76	N60 11.9	E011 05.9	671	331, 332	N60 12.3	E011 04.7	665
77	N60 11.8	E011 06.1	673	334	N60 12.4	E011 04.8	666
80	N60 11.9	E011 05.9	671	336, 337	N60 12.4	E011 04.9	-
81	N60 11.8	E011 06.1	673				
84	N60 11.9	E011 05.9	671				
85	N60 11.9	E011 06.2	673				
88	N60 11.9	E011 06.0	671				
89	N60 11.9	E011 06.2	673				
92	N60 11.9	E011 06.0	672				
93	N60 11.9	E011 06.2	672				
95	N60 11.9	E011 06.2	674				
96	N60 11.9	E011 06.1	675				
171 thru 172	N60 11.6	E011 05.2	668				
173	N60 11.6	E011 05.3	668				
174	N60 11.6	E011 05.3	670				
175	N60 11.6	E011 05.4	670				
176	N60 11.6	E011 05.4	671				
177, 178	N60 11.6	E011 06.5	670				
181	N60 11.5	E011 06.2	670				
182, 183	N60 11.5	E011 06.3	670				
184, 185	N60 11.5	E011 06.4	670				
186	N60 11.5	E011 06.5	670				
187, 188	N60 11.5	E011 06.5	669				

The diagram shows a plan view of a de-icing area, labeled "DE-ICING AREA A-NORTH". It features a series of parallel, slightly curved lines numbered 71 through 76, representing different de-icing lanes. The area is bounded by coordinate labels: "11-05.3" and "11-05.4" on the left, "11-05.6" and "11-05.7" on the top, and "11-05.5" and "11-05.8" on the bottom. A label "60-12.2" appears on both the left and right sides. A large letter "N" is positioned in the upper left, and a large letter "M" is in the lower left.



CHANGES: Stand 77 coords.

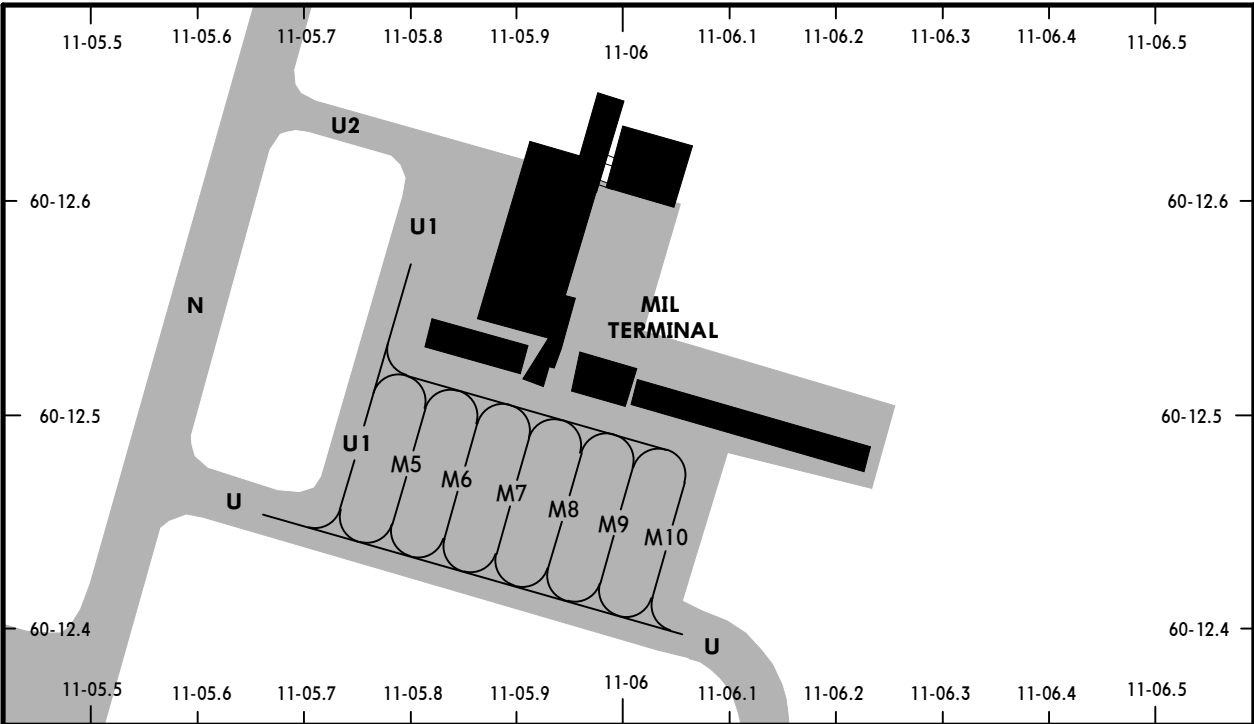
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OSLO, NORWAY
GARDERMOEN

13 SEP 13 10-9D Eff 19 Sep



INS COORDINATES	
STAND No.	COORDINATES
M5, M6	N60 12.5 E011 05.8
M7, M8	N60 12.5 E011 05.9
M9	N60 12.5 E011 06.0
M10	N60 12.4 E011 06.0

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JEPPESSEN
4 DEC 15 **10-9Y** Eff 10 Dec

JAA COPTER MINIMUMS
OSLO, NORWAY
GÄRDERMOEN

STRAIGHT-IN RWY		DA(H) / MDA(H)	RVR (ALS/ALS out)
01L	ILS	855' (200')	500m / 1000m
	LOC	960' (305')	800m / 1000m
	RNAV (LPV) Z	905' (250')	600m / 1000m
	RNAV (LNAV/VNAV) Z	1000' (345')	800m / 1000m
	RNAV (LNAV) Z	1240' (585')	1000m / 1000m
	RNAV (RNP) X ❶	978' (323')	750m / 1000m
	RNAV (RNP) X ❷	1084' (429')	750m / 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 (LPV) Z	920' (250')	600m / 1000m
	RNAV (LNAV/VNAV) Z	970' (300')	800m / 1000m
	RNAV (LNAV) Z	1230' (560')	1000m / 1000m
	RNAV (RNP) X ❶	945' (275')	600m / 1000m
	RNAV (RNP) X ❷	1062' (392')	750m / 1000m
	RNAV (RNP) W ❶	945' (275')	600m / 1000m
	RNAV (RNP) W ❷	1062' (392')	750m / 1000m
19L	ILS	881' (200')	500m / 1000m
	LOC	1030' (349')	800m / 1000m
	RNAV (LPV) Z	931' (250')	600m / 1000m
	RNAV (LNAV/VNAV) Z	1000' (319')	800m / 1000m
	RNAV (LNAV) Z	1230' (549')	1000m / 1000m
	RNAV (RNP) X ❶	990' (309')	750m / 1000m
	RNAV (RNP) X ❷	1030' (349')	750m / 1000m
19R	CAT 2 ILS	775' (100')	RA 100' - 300m
	ILS	875' (200')	500m / 1000m
	LOC	1020' (345')	800m / 1000m
	RNAV (LPV) Z ❸	930' (255')	600m / 1000m
	RNAV (LPV) Z ❷	1020' (345')	800m / 1000m
	RNAV (LNAV/VNAV) Z ❷	970' (295')	600m / 1000m
	RNAV (LNAV) Z ❷	1040' (365')	800m / 1000m
	RNAV (RNP) X ❶	970' (295')	600m / 1000m
	RNAV (RNP) X ❷	1060' (385')	750m / 1000m
	VOR	1060' (385')	800m / 1000m

❶ Missed apch climb gradient mim 5.0%.

❷ Missed apch climb gradient mim 2.5%.

❸ Missed apch climb gradient mim 3.1%.

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

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

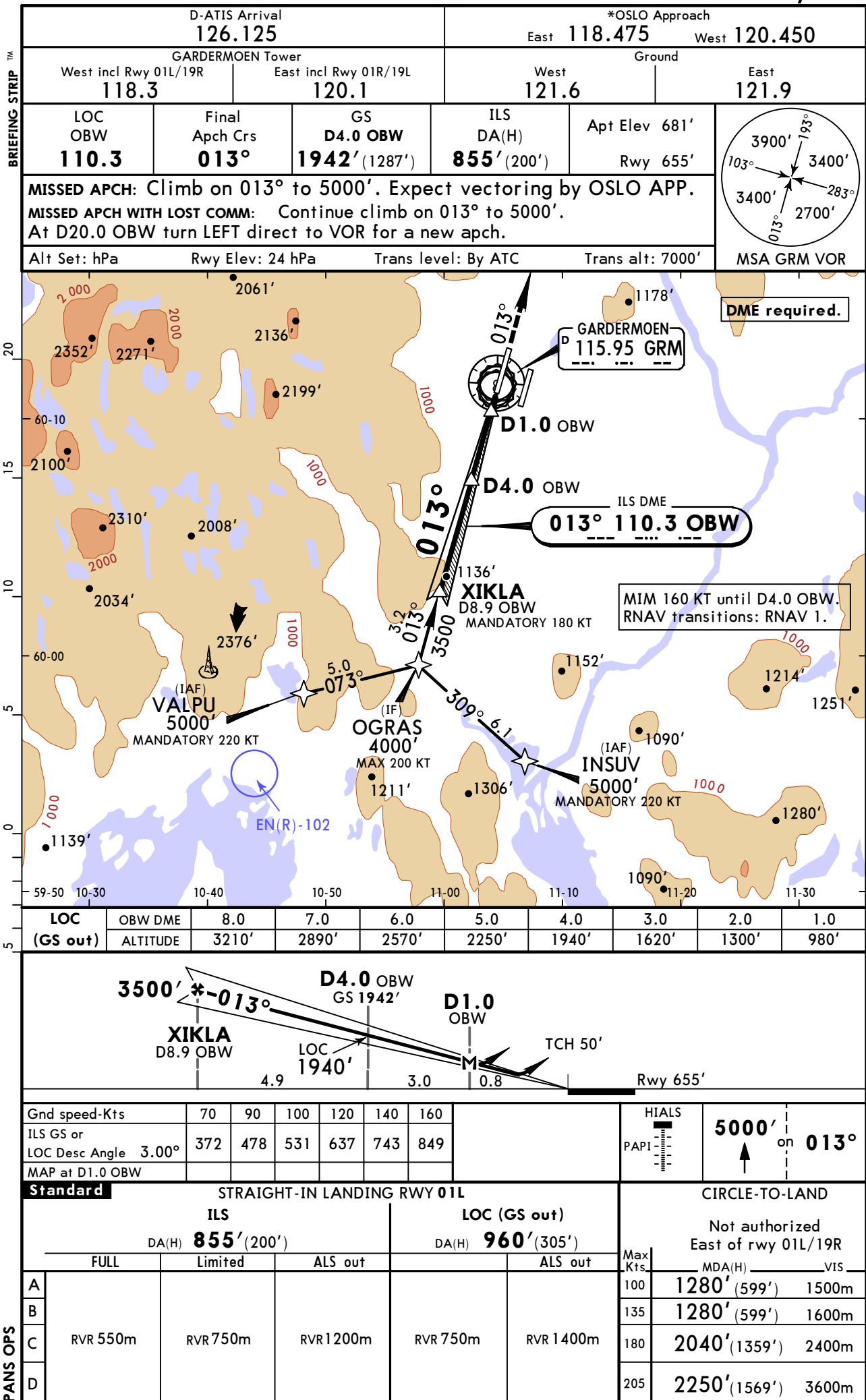
Rwy 01R/19L: Not authorized West of rwy 01R/19L.

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

LVP must be in Force ❺				
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 ❻	800m

❺ Without LVP 400m are stipulated.

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

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4 SEP 15 **(11-1)** **Eff 17 Sep**
OSLO, NORWAY
ILS or LOC Rwy 01L


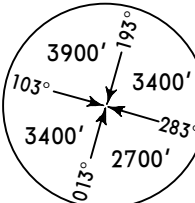
CHANGES: Speed restrictions.

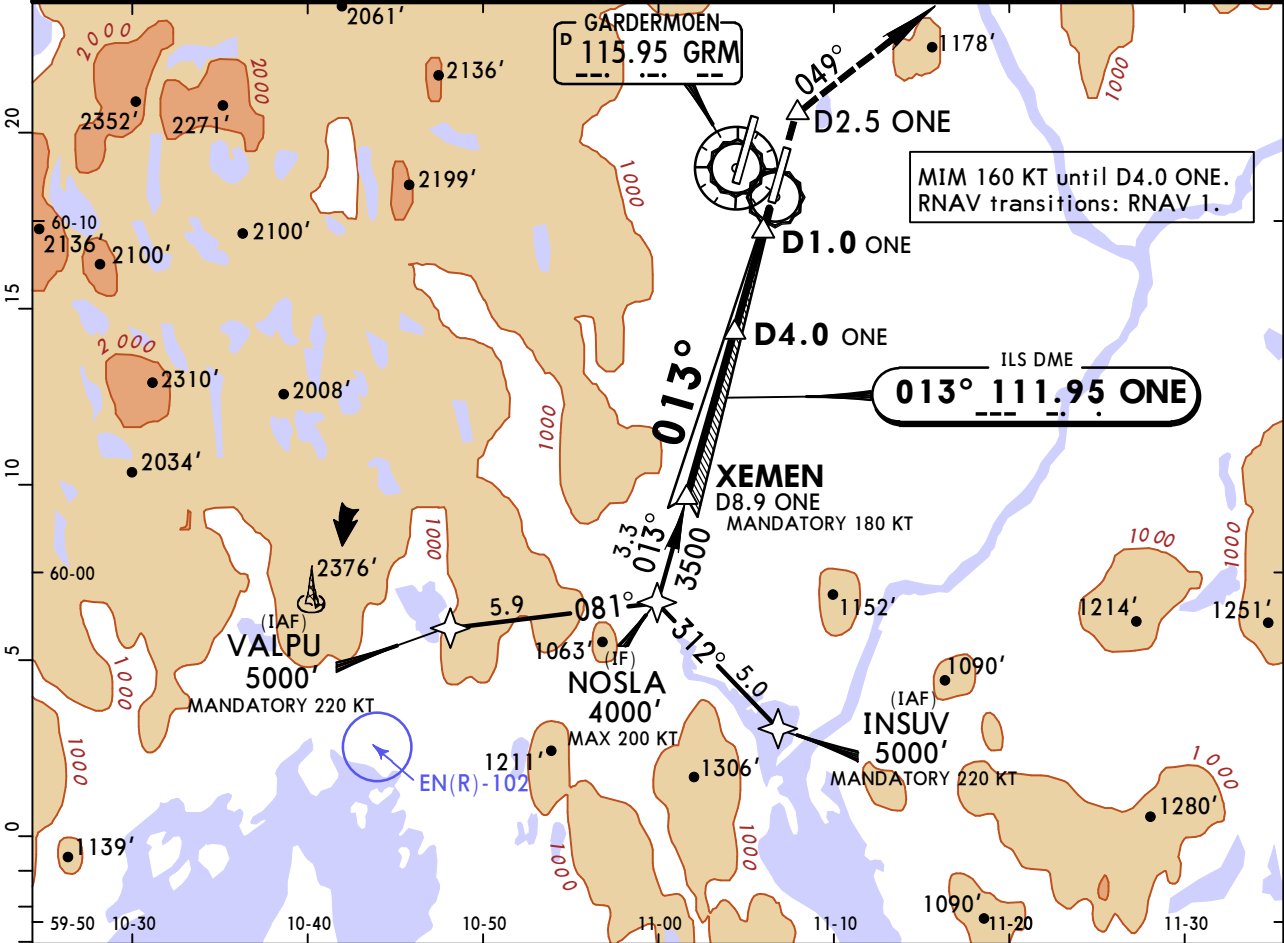
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GARDERMOEN

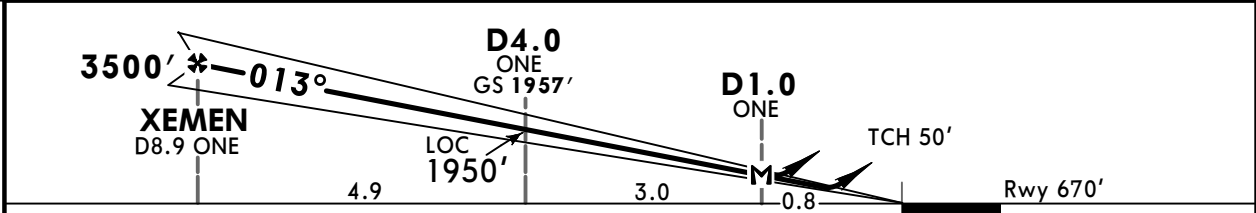
JEPPESSEN
4 SEP 15 (11-2) Eff 17 Sep

OSLO, NORWAY
ILS or LOC Rwy 01R

D-ATIS Arrival 126.125				*OSLO Approach East 118.475 West 120.450					
GARDERMOEN Tower West incl Rwy 01L/19R 118.3				East incl Rwy 01R/19L 120.1		Ground West 121.6		East 121.9	
LOC ONE 111.95		Final Apch Crs 013°		GS D4.0 ONE 1957' (1287')		ILS DA(H) Refer to Minimums		Apt Elev 681' Rwy 670'	
MISSED APCH: Climb on 013° to D2.5 ONE, then turn RIGHT and proceed onto 049° to 4000'. Expect vectoring by OSLO APP. MISSED APCH WITH LOST COMM: Climb on 049° to 4000'. At 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'			
MSA GRM VOR									



LOC (GS out)	ONE DME	8.0	7.0	6.0	5.0	4.0	3.0	2.0
	ALTITUDE	3220'	2900'	2590'	2270'	1950'	1630'	1310'



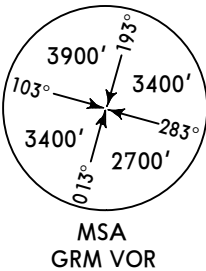
Gnd speed-Kts	70	90	100	120	140	160		Refer to Missed Apch above
ILS GS or LOC Desc Angle 3.00°	372	478	531	637	743	849		
MAP at D1.0 ONE								

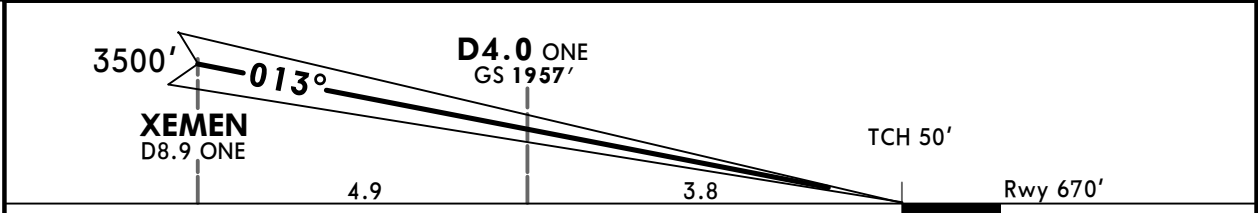
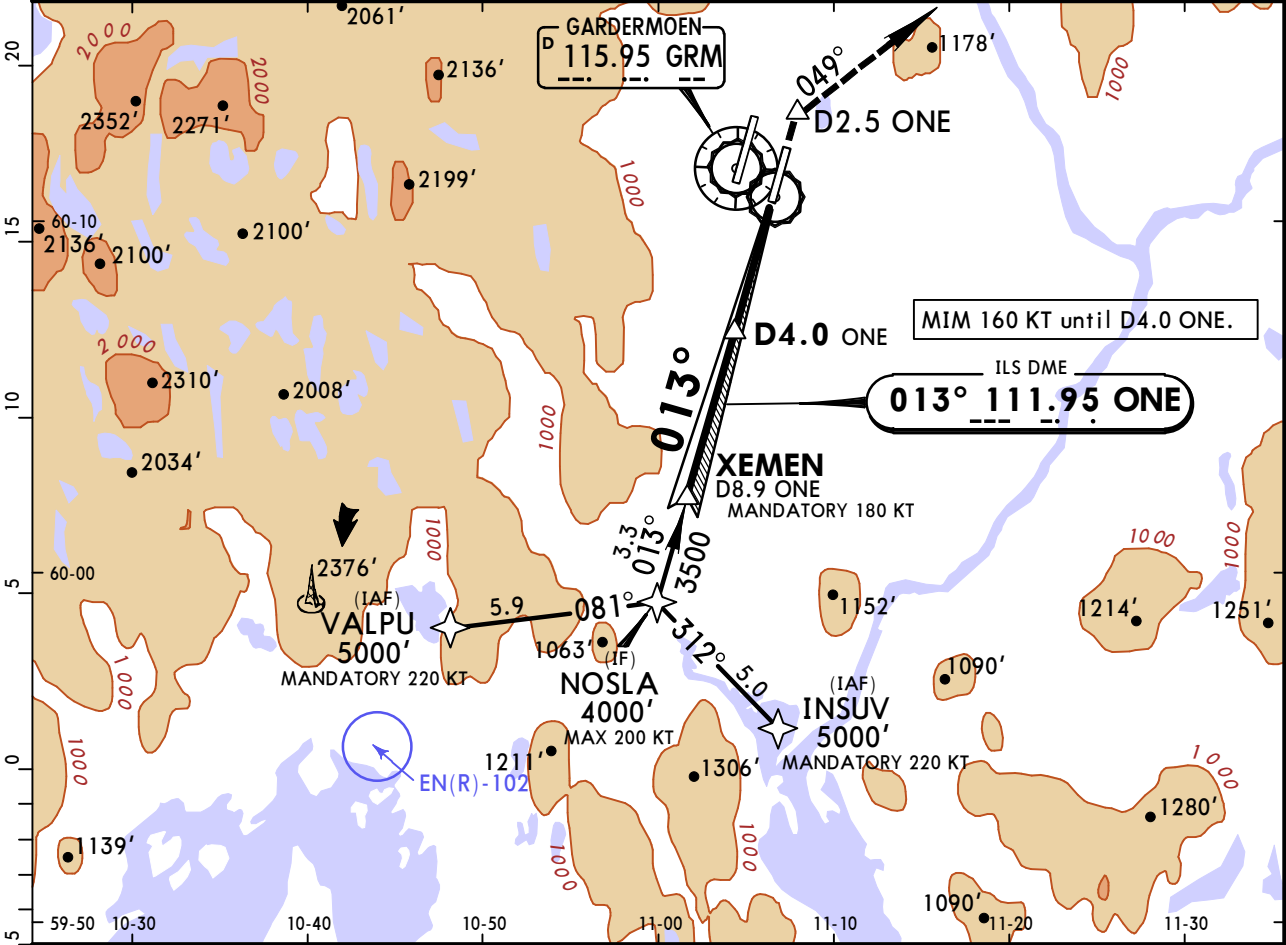
Standard STRAIGHT-IN LANDING RWY 01R					CIRCLE-TO-LAND		
ILS			LOC (GS out)		Not authorized West of rwy 01R/19L		
ABC: 870' (200') D: 880' (210')			DA(H) 970' (300')				
FULL Limited ALS out			DA(H) ALS out		Max Kts	MDA(H)	VIS
A					100	1280' (599')	1500m
B					135	1280' (599')	1600m
C	RVR 550m	RVR 750m	RVR 1200m	RVR 750m	180	1570' (889')	2400m
D				RVR 1400m	205	1630' (949')	3600m

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GARDERMOEN

JEPPESSEN
4 SEP 15
Eff 17 Sep 11-2A

OSLO, NORWAY
CAT II/III ILS Rwy 01R

D-ATIS Arrival 126.125			*OSLO Approach East 118.475 West 120.450		
GARDERMOEN Tower West incl Rwy 01L/19R 118.3			Ground East incl Rwy 01R/19L 120.1		
West 121.6			East 121.9		
LOC ONE 111.95	Final Apch Crs 013°	GS D4.0 ONE 1957' (1287')	CAT II & IIIA ILS Refer to Minimums	Apt Elev 681' Rwy 670'	
MISSED APCH: Climb on 013° to D2.5 ONE, then turn RIGHT and proceed onto 049° to 4000'. Expect vectoring by OSLO APP.					
MISSED APCH WITH LOST COMM: Climb on 049° to 4000'. At 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. Special Aircrew & Aircraft Certification Required.					
2. RNAV transitions: RNAV 1.					



Gnd speed-Kts	70	90	100	120	140	160		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 	

 Operators applying U.S. Specs: Autoland or HUD required below RVR 350m.
CHANGES: Speed restrictions. © JEPPESSEN, 2001, 2015. ALL RIGHTS RESERVED.

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OSLO, NORWAY

4 SEP 15

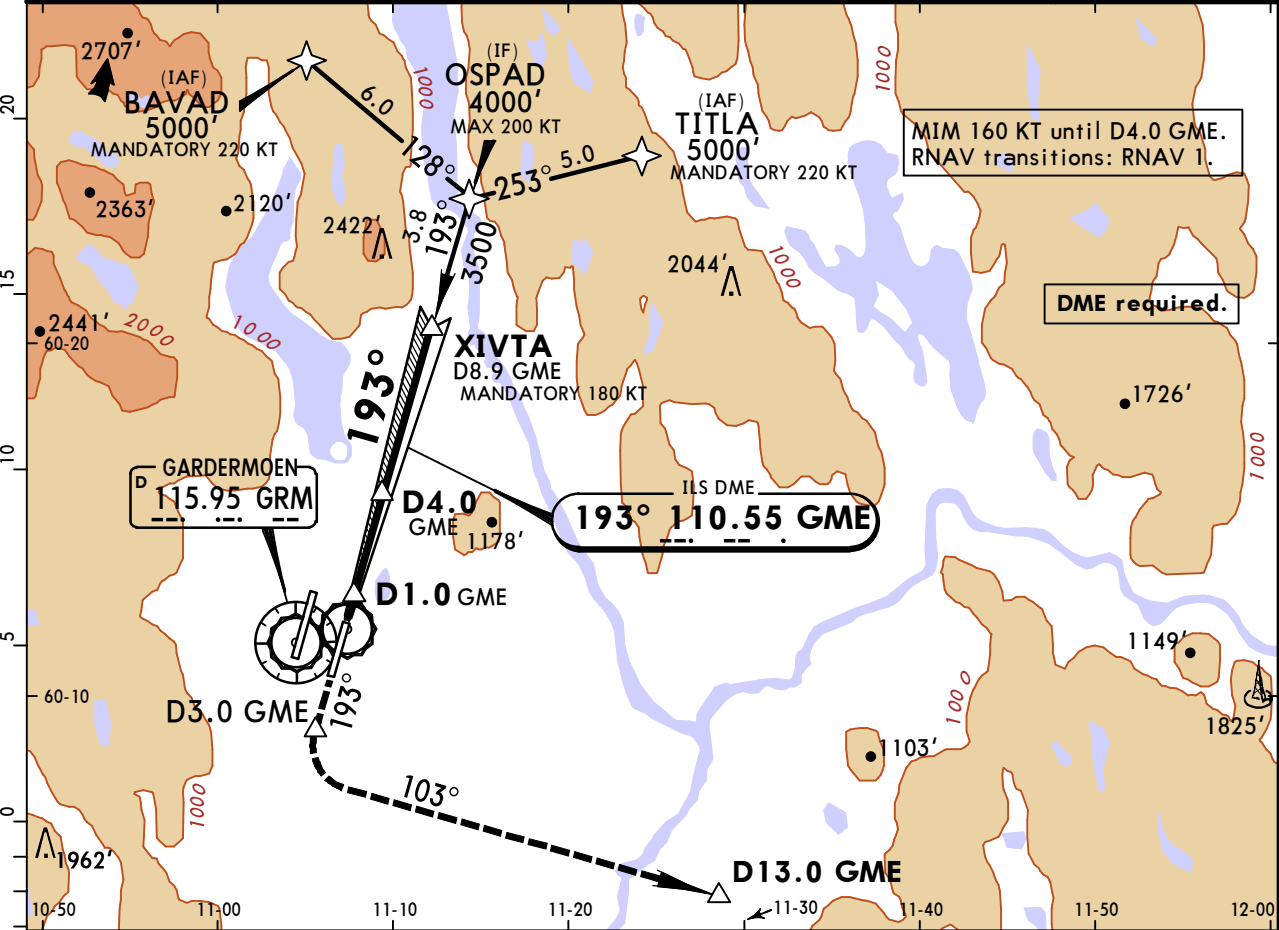
11-3

Eff 17 Sep

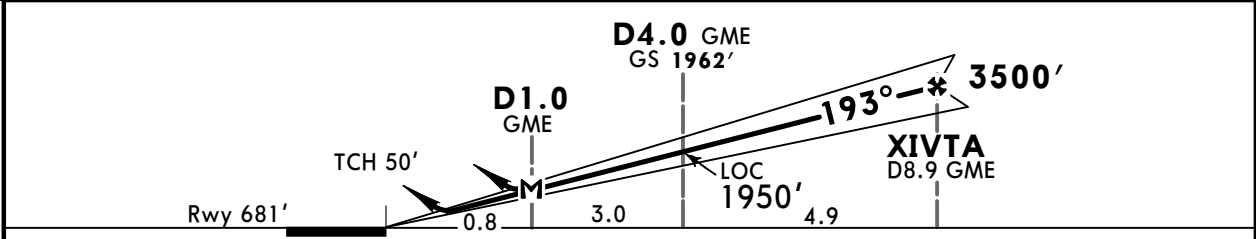
ILS or LOC Rwy 19L

BRIEFING STRIP

D-ATIS Arrival 126.125				*OSLO Approach East 118.475 West 120.450			
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 193°	GS D4.0 GME 1962' (1281')	ILS DA(H) 881' (200')	Apt Elev 681' Rwy 681'			
MISSED APCH: Climb on 193° to D3.0 GME. Turn LEFT to 103°. Climb to 3000'. At D13.0 GME climb to 5000'. Expect vectoring by OSLO APP.							
MISSED APCH WITH LOST COMM: Continue on 103° to 5000'. At 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	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
	ALTITUDE	1000'	1320'	1640'	1950'	2270'	2590'	2910'	3230'



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 GME								

Standard 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	MDA(H) VIS
PANS OPS	A					100	1280' (599') 1500m
	B				RVR 1500m	135	1280' (599') 1600m
	C	RVR 550m	RVR 750m	RVR 1200m	RVR 900m	180	1570' (889') 2400m
	D				RVR 1600m	205	1630' (949') 3600m

CHANGES: Speed restrictions.

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GARDERMOEN



OSLO, NORWAY

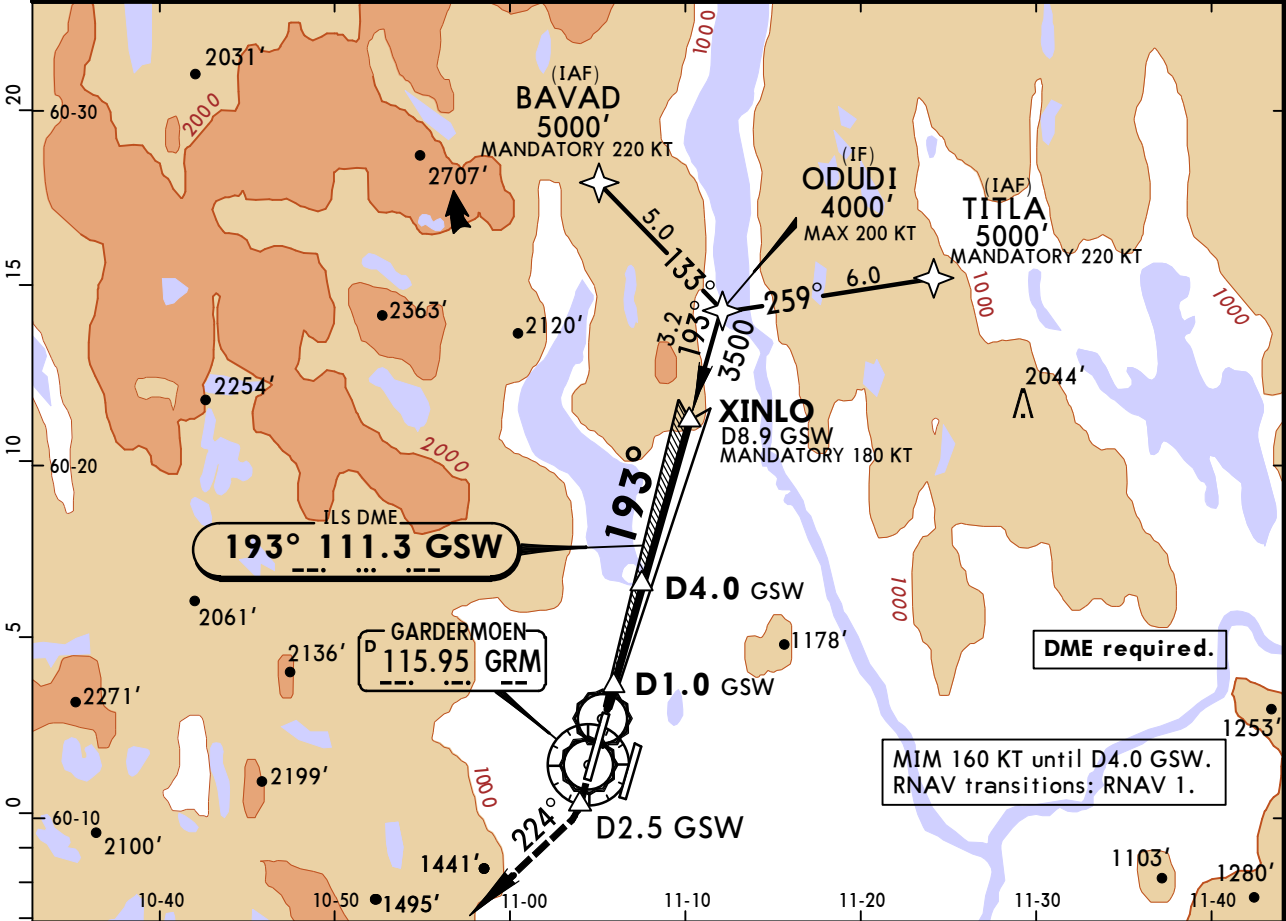
4 SEP 15

11-4

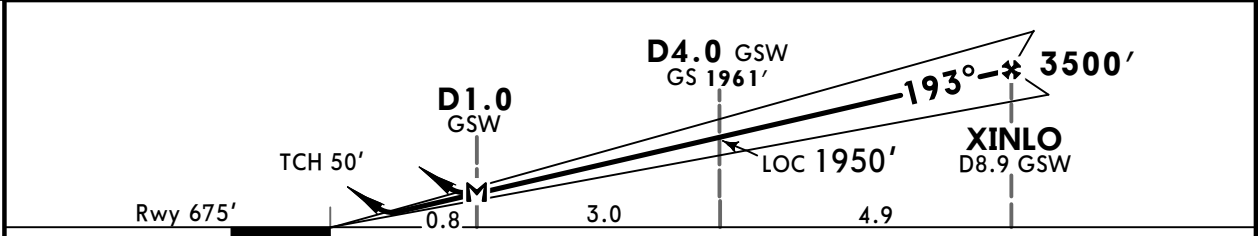
Eff 17 Sep

ILS or LOC Rwy 19R

D-ATIS Arrival 126.125				*OSLO Approach East 118.475 West 120.450						
GARDERMOEN Tower West incl Rwy 01L/19R 118.3				Ground West 121.6 East 121.9						
LOC GSW 111.3		Final Apch Crs 193°		GS D4.0 GSW 1961' (1286')		ILS DA(H) 875' (200')		Apt Elev 681' Rwy 675'		
MISSED APCH: Climb on 193° to D2.5 GSW, then turn RIGHT onto 224°. Climb to 5000'. Expect vectoring by OSLO APP. MISSED APCH WITH LOST COMM: Continue on 224°. 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	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
	ALTITUDE	1000'	1320'	1630'	1950'	2270'	2590'	2910'	3230'



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								

Standard				CIRCLE-TO-LAND			
STRAIGHT-IN LANDING RWY 19R				Not authorized East of rwy 01L/19R			
ILS		LOC (GS out)		DA(H) 1020' (345')		Max Kts	
DA(H) 875' (200')		DA(H)		ALS out		MDA(H) VIS	
FULL	Limited	ALS out				100	1280' (599') 1500m
A						135	1280' (599') 1600m
B	RVR 550m	RVR 750m	RVR 1200m	RVR 900m	RVR 1500m	180	1980' (1299') 2400m
C					RVR 1600m	205	2230' (1549') 3600m
D							

ENGM/OSL
GARDERMOEN

4 SEP 15
Eff 17 Sep 11-4A

OSLO, NORWAY
CAT II/III ILS Rwy 19R

D-ATIS Arrival
126.125

*OSLO Approach
East 118.475 West 120.450

West incl Rwy 01L/19R
118.3

East incl Rwy 01R/19L
120.1

West
121.6

Ground
East
121.9

LOC
GSW
111.3

Final
Aptch Crs
193°

GS
D4.0 GSW
1961' (1286')

CAT II & IIIA ILS
Refer to
Minimums

Apt Elev 681'
Rwy 675'

3900'

193°

3400'

103°

3400'

283°

2700'

013°

MSA
GRM VOR

MISSED APCH: Climb on 193° to D2.5 GSW, then turn RIGHT onto 224°. Climb to 5000'. Expect vectoring by OSLO APP.

MISSED APCH WITH LOST COMM: Continue on 224°. 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'

1. **DME required.** 2. Special Aircrew & Aircraft Certification Required.

3. RNAV transitions: RNAV 1.

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 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.

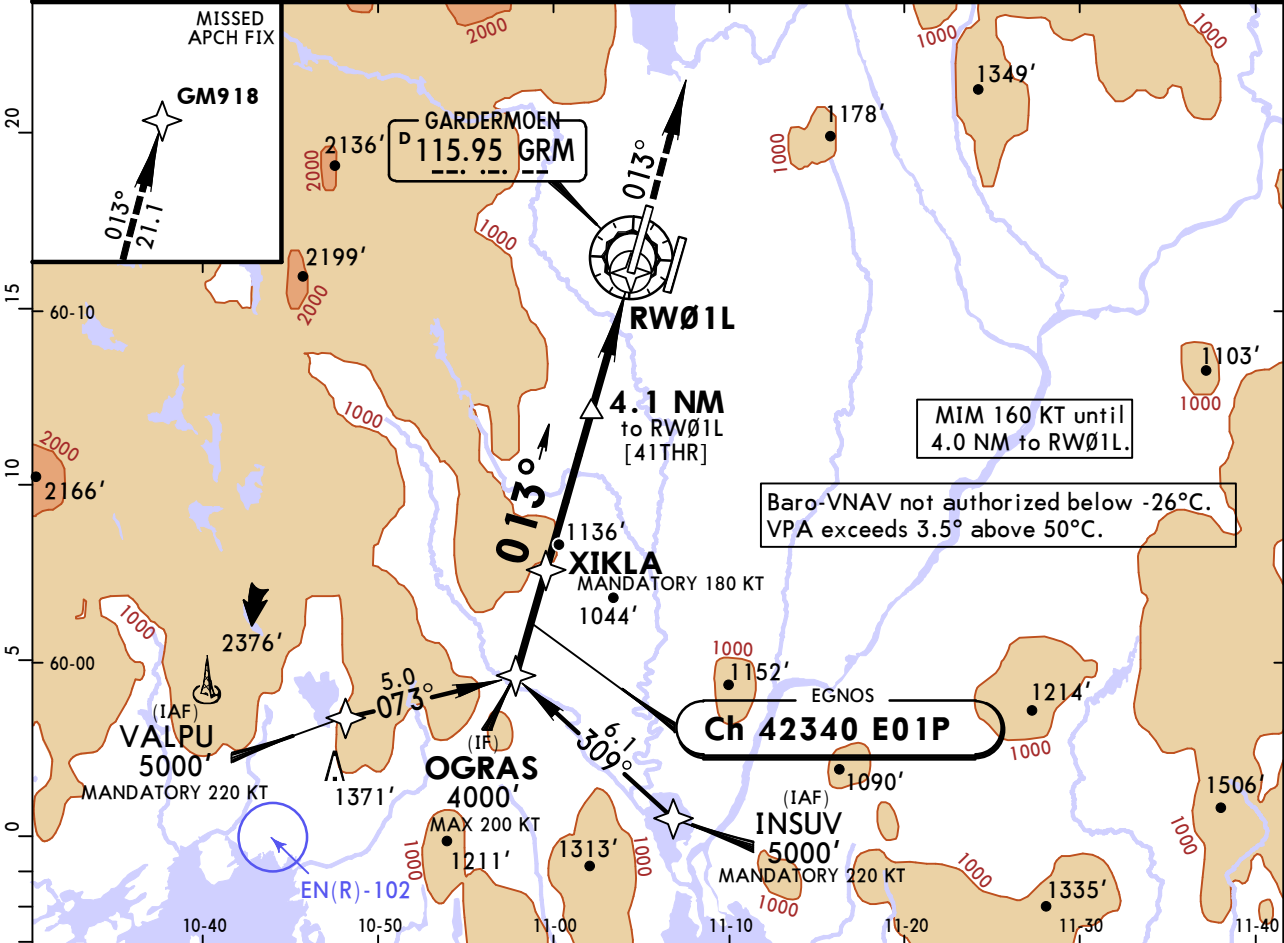
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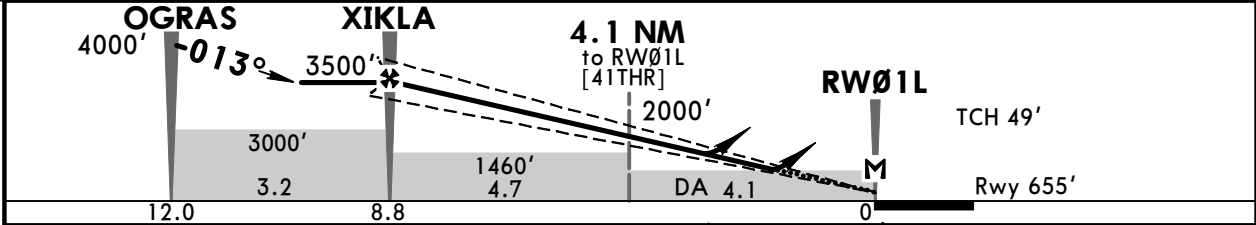
JEPPESSEN
1 JAN 16
Eff 7 Jan (12-1)

OSLO, NORWAY
RNAV (GNSS) Z Rwy 01L

D-ATIS Arrival 126.125				*OSLO Approach East 118.475 West 120.450		
GARDERMOEN Tower West incl Rwy 01L/19R 118.3				Ground West 121.6 East 121.9		
EGNOS Ch 42340 E01P		Final Apch Crs 013°	Procedure Alt XIKLA 3500' (2845')	LPV DA(H) 905' (250')	Apt Elev 681' Rwy 655'	3900' MSA ARP
MISSED APCH: Climb to 5000' to GM918. Expect vectoring.						
MISSED APCH WITH LOST COMM: At GM918 turn LEFT direct to GRM VOR for a new apch.						
Alt Set: hPa		Rwy Elev: 24 hPa		Trans level: By ATC		
				Trans alt: 7000'		



DIST to RW01L	8.0	7.0	6.0	5.0	4.0	3.0	2.0
ALTITUDE	3260'	2940'	2620'	2300'	1980'	1670'	1350'

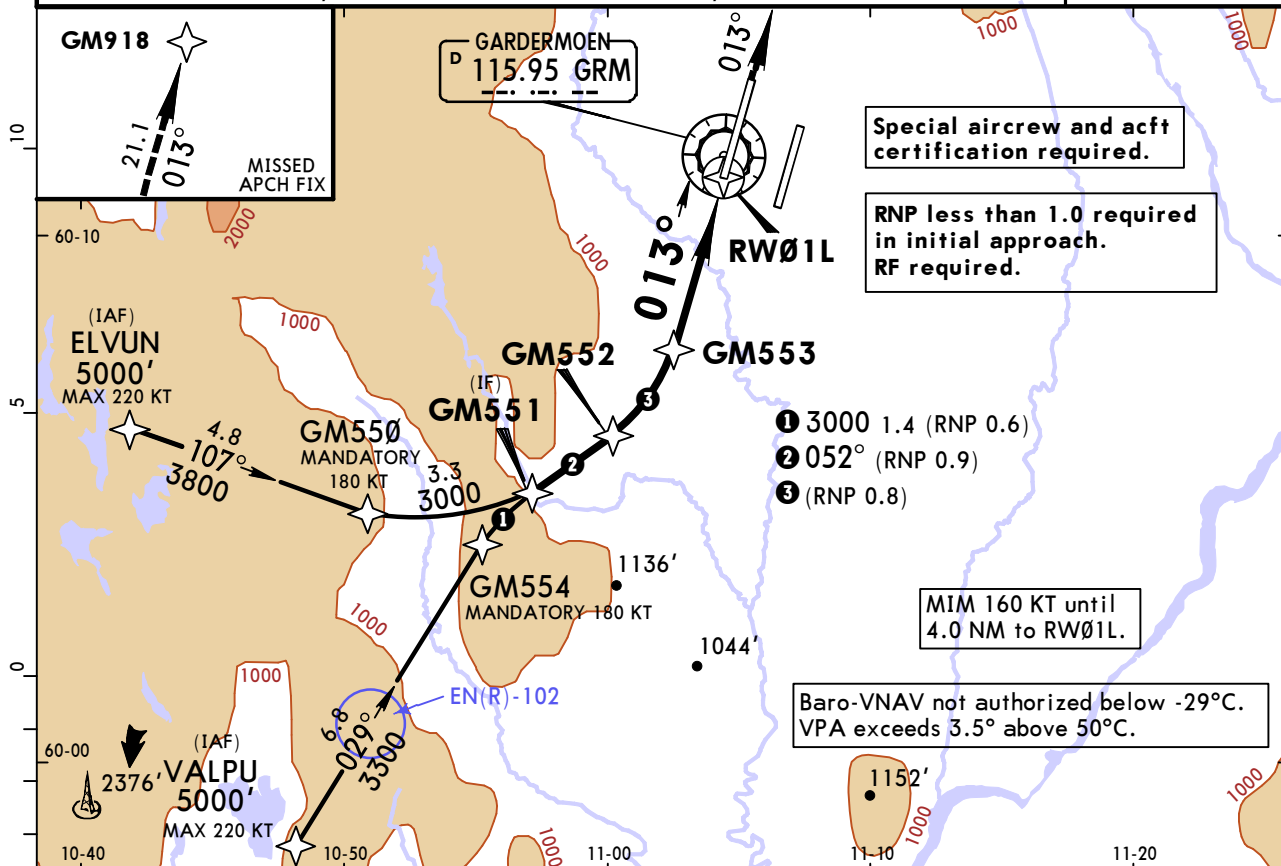


Gnd speed-Kts	70	90	100	120	140	160	HIALS PAPI GM918 on 013°
Glide Path Angle 3.00°	372	478	531	637	743	849	
LPV, LNAV/VNAV: MAP at DA							
LNAV: MAP at RW01L							

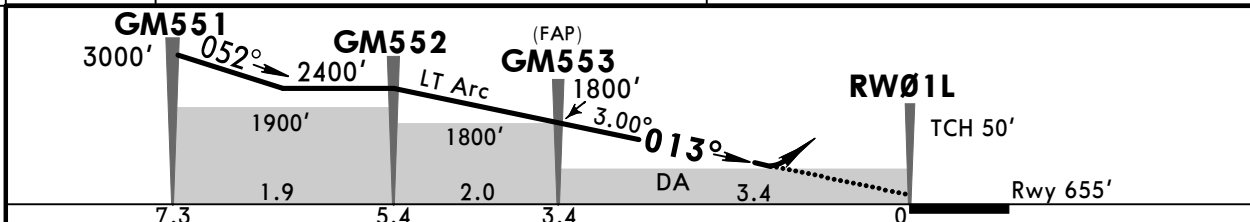
Standard				STRAIGHT-IN LANDING RWY 01L				CIRCLE-TO-LAND			
LPV			DA(H) LNAV/VNAV		LNAV			Not authorized East of rwy 01L/19R			
DA(H) 905' (250')			A: 1000' (345') C: 1030' (375') B: 1010' (355') D: 1150' (495')		DA(H) 1240' (585')						
		ALS out			ALS out				Max Kts.		
A	RVR 750m	RVR 1300m	RVR 900m		RVR 1500m		RVR 1500m		100	MDA(H) 1280' (599') 1500m	
B							135	1280' (599') 1600m			
C			RVR 1000m		RVR 1700m		RVR 2000m	CMV 2400m	180	1920' (1239') 2400m	
D			RVR 1500m		CMV 2300m				205	2230' (1549') 3600m	

ENGM/OSL
GARDERMOEN
JEPPESSEN
 1 JAN 16
Eff 7 Jan
(12-2)
OSLO, NORWAY
RNAV (RNP) X Rwy 01L

D-ATIS Arrival 126.125		*OSLO Approach East 118.475 West 120.450	
GARDERMOEN Tower West incl Rwy 01L/19R 118.3		Ground West 121.6 East 121.9	
RNAV	Final Apch Crs 013°	Procedure Alt GM553 1800' (1145')	RNP 0.30 DA(H) Refer to Minimums
Apt Elev 681'		Rwy 655'	
MISSED APCH: Climb to 5000' to GM918. Expect vectoring. MISSED APCH WITH LOST COMM: At GM918 turn LEFT direct to GRM VOR for a new apch.			3900'
Alt Set: hPa	Rwy Elev: 24 hPa	Trans level: By ATC	Trans alt: 7000'
MSA ARP			



DIST to RW01L	3.0	2.0
ALTITUDE	1680'	1350'



Gnd speed-Kts	70	90	100	120	140	160
Glide Path Angle 3.00°	372	478	531	637	743	849
MAP at DA						

Standard **STRAIGHT-IN LANDING RWY 01L**

RNP 0.30 Missed apch climb gradient mim 5.0% A: 978' (323') C: 1029' (374') B: 1006' (351') D: 1052' (397')		RNP 0.30 Missed apch climb gradient mim 2.5% DA(H) 1084' (429')		CIRCLE-TO-LAND Not authorized East of rwy 01L/19R	
ALS out		ALS out		Max Kts	MDA(H) VIS
A	RVR 800m	RVR 1300m	RVR 1500m	100	1280' (599') 1500m
B	RVR 900m			135	1280' (599') 1600m
C	RVR 1000m			180	1920' (1239') 2400m
D	RVR 1100m			205	2230' (1549') 3600m

CHANGES: Missed approach.

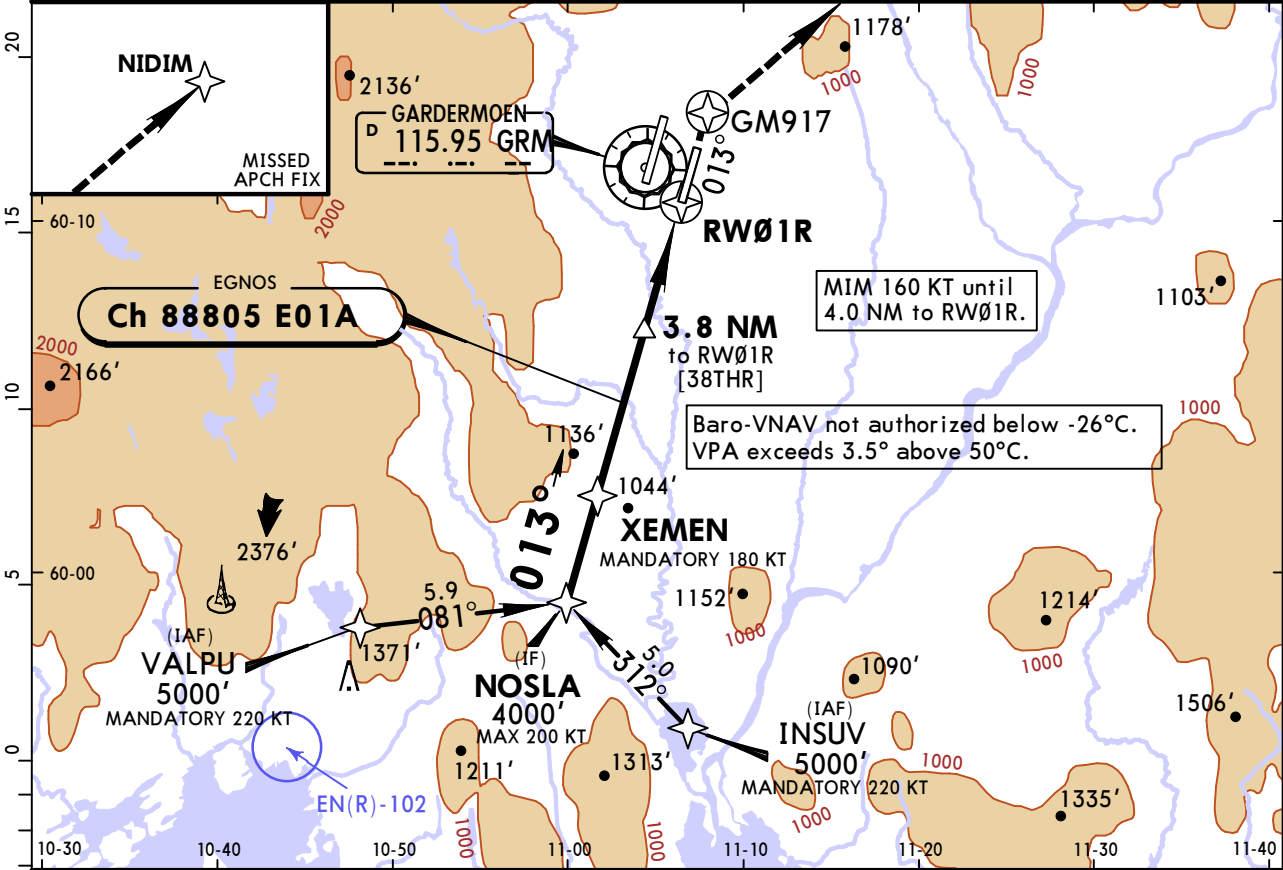
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GARDERMOEN

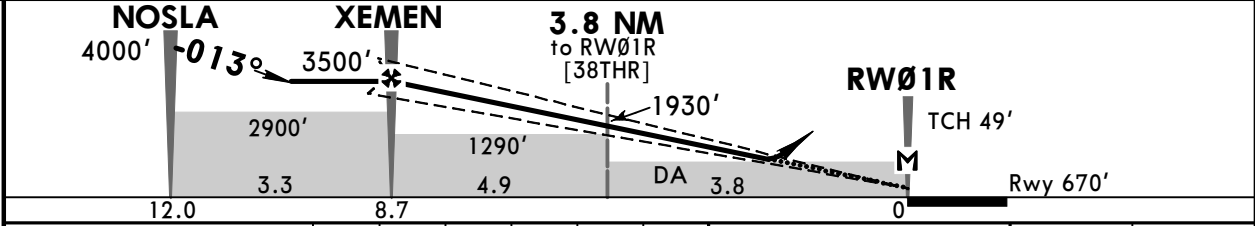
JEPPESSEN
1 JAN 16
Eff 7 Jan (12-3)

OSLO, NORWAY
RNAV (GNSS) Z Rwy 01R

D-ATIS Arrival 126.125			*OSLO Approach East 118.475 West 120.450			
GARDERMOEN Tower West incl Rwy 01L/19R 118.3			Ground West 121.6 East 121.9			
EGNOS Ch 88805 E01A		Final Apch Crs 013°	Procedure Alt XEMEN 3500' (2830')	LPV DA(H) 920' (250')	Apt Elev 681' Rwy 670'	3900' MSA ARP
MISSED APCH: Climb to GM917. Turn RIGHT direct to NIDIM climbing to 4000'. Expect vectoring.						
MISSED APCH WITH LOST COMM: At NIDIM turn RIGHT direct to GRM VOR for a new apch.						
Alt Set: hPa		Rwy Elev: 24 hPa	Trans level: By ATC		Trans alt: 7000'	



DIST to RW01R	8.0	7.0	6.0	5.0	4.0	3.0	2.0
ALTITUDE	3270'	2950'	2640'	2320'	2000'	1680'	1360'



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI GM917
Glide Path Angle 3.00°	372	478	531	637	743	849	
LPV, LNAV/VNAV: MAP at DA							
LNAV: MAP at RW01R							

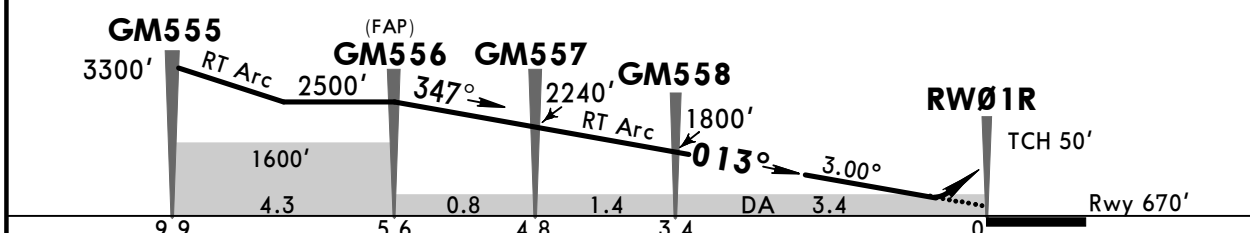
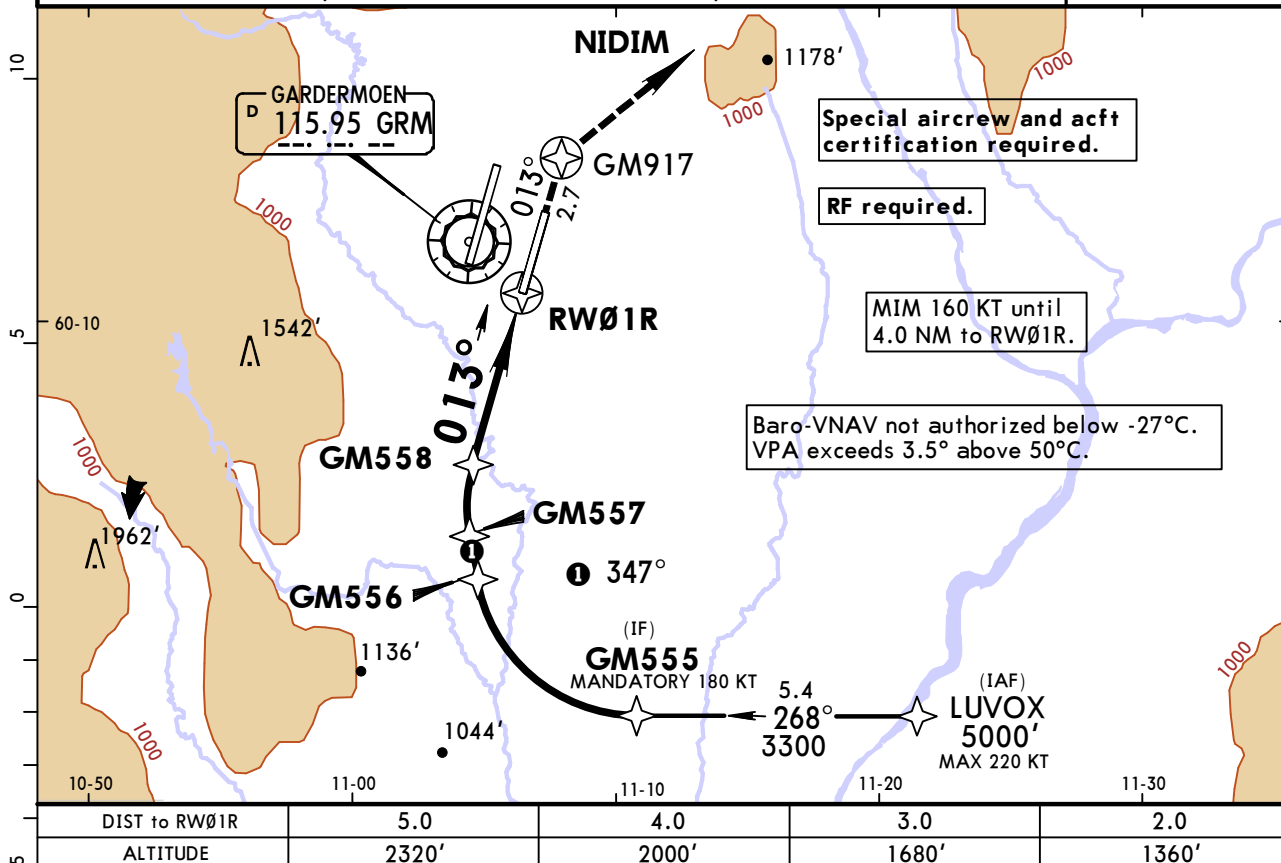
Standard				STRAIGHT-IN LANDING RWY 01R				CIRCLE-TO-LAND	
LPV		DA(H) LNAV/VNAV		LNAV				Not authorized West of rwy 01R/19L	
DA(H) 920' (250')		A: 970' (300') C: 1010' (340') B: 990' (320') D: 1030' (360')		DA(H) 1230' (560')					
ALS out		ALS out		ALS out					
A		RVR 750m 2		RVR 1400m		RVR 1500m		Max Kts 100	1280' (599') 1500m
B	RVR 750m 1	RVR 1300m	RVR 750m 3					135	1280' (599') 1600m
C			RVR 800m	RVR 1500m		RVR 1800m	CMV 2400m	180	1530' (849') 2400m
D			RVR 900m	RVR 1600m				205	1630' (949') 3600m

1 With TDZ, CL and HUD: RVR 600m. 2 With TDZ, CL and HUD: RVR 650m.
3 With TDZ, CL and HUD: RVR 700m.

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ENGM/OSL
GARDERMOEN
1 JAN 16
Eff 7 Jan
(12-5)
JEPPESSEN
OSLO, NORWAY
RNAV (RNP) W Rwy 01R

D-ATIS Arrival 126.125		*OSLO Approach East 118.475 West 120.450	
GARDERMOEN Tower West incl Rwy 01L/19R 118.3		Ground West 121.6 East 121.9	
RNAV	Final Apch Crs 013°	Procedure Alt GM556 2500' (1830')	RNP 0.30 DA(H) Refer to Minimums
Apt Elev 681'		Rwy 670'	
MISSED APCH: Climb to GM917. Turn RIGHT direct to NIDIM, climbing to 4000'. Expect vectoring. MISSED APCH WITH LOST COMM: At NIDIM turn RIGHT direct to GRM VOR for a new apch.			3900'
Alt Set: hPa	Rwy Elev: 24 hPa	Trans level: By ATC	Trans alt: 7000'
			MSA ARP



Gnd speed-Kts	70	90	100	120	140	160
Glide Path Angle	3.00°	372	478	531	637	743
MAP at DA						

Standard **STRAIGHT-IN LANDING RWY 01R** **CIRCLE-TO-LAND**

RNP 0.30 Missed apch climb gradient mim 5.0% A: 945' (275') C: 996' (326') B: 972' (302') D: 1019' (349')		RNP 0.30 Missed apch climb gradient mim 2.5% DA(H) 1062' (392')		Not authorized West of rwy 01R/19L	
---	--	---	--	---------------------------------------	--

ALS out		ALS out		Max Kts	MDA(H)	VIS
A	RVR 750m 1	RVR 1300m		100	1280' (599')	1500m
B	RVR 750m 2	RVR 1400m		135	1280' (599')	1600m
C	RVR 800m	RVR 1500m		180	1570' (889')	2400m
D	RVR 900m	RVR 1600m		205	1630' (949')	3600m

1 With TDZ, CL and HUD: RVR 600m. **2** With TDZ, CL and HUD: RVR 700m.

CHANGES: Missed approach.

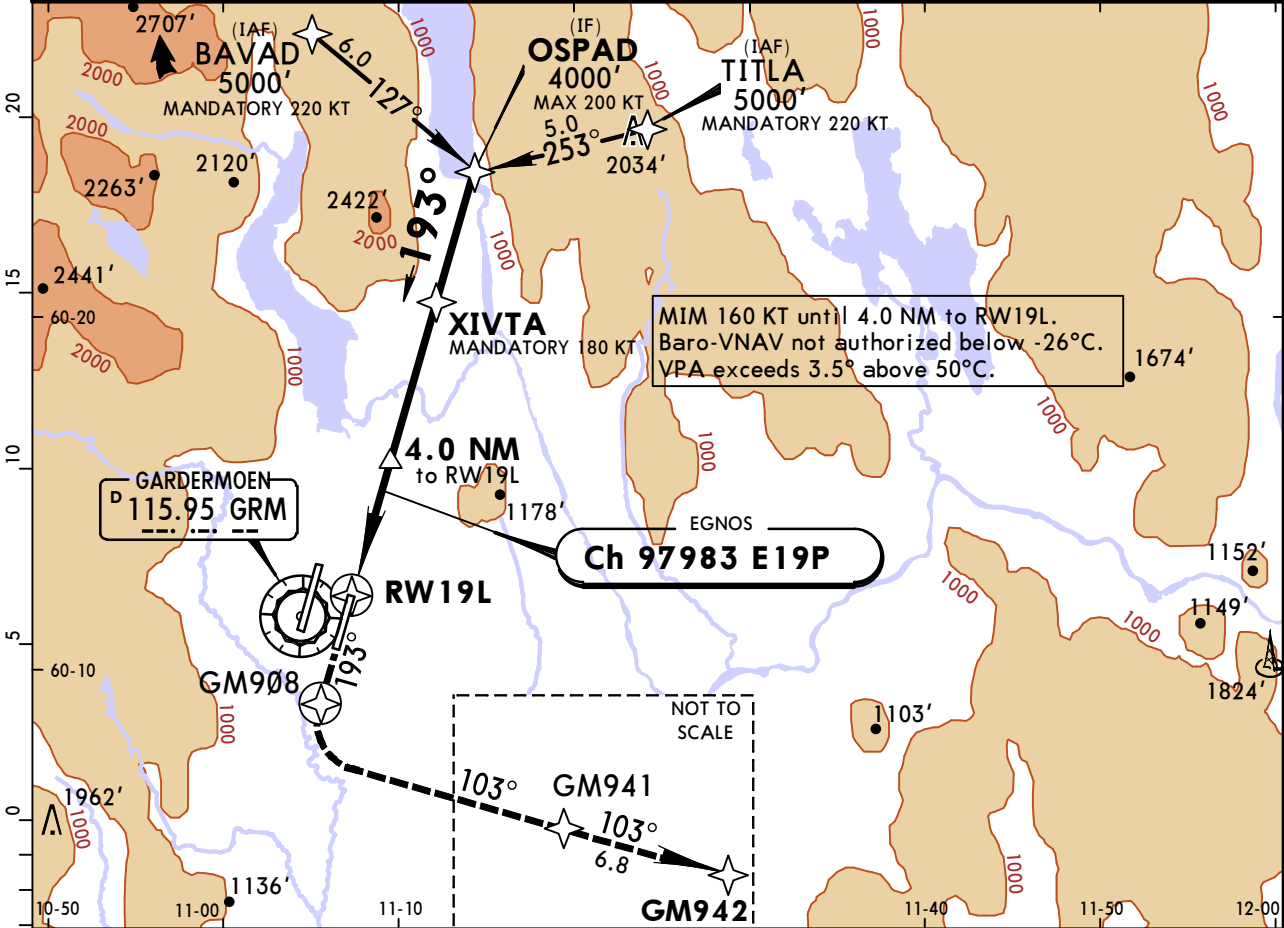
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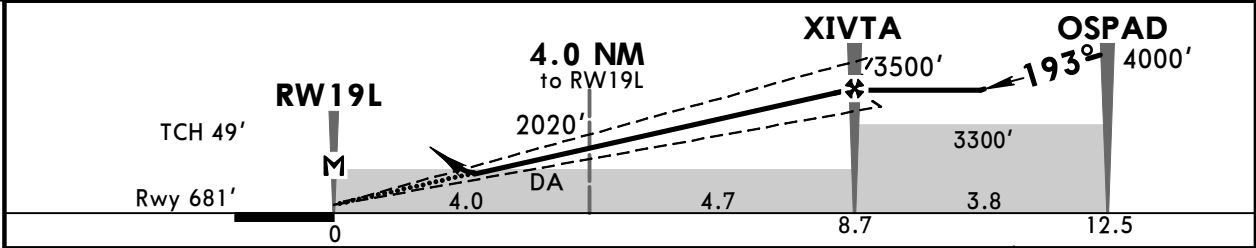
JEPPESSEN
1 JAN 16
Eff 7 Jan 12-6

OSLO, NORWAY
RNAV (GNSS) Z Rwy 19L

D-ATIS Arrival 126.125				*OSLO Approach East 118.475 West 120.450	
GARDERMOEN Tower West incl Rwy 01L/19R 118.3			Ground West 121.6 East 121.9		
EGNOS Ch 97983 E19P	Final Apch Crs 193°	Procedure Alt XIVTA 3500' (2819')	LPV DA(H) Refer to Minimums	Apt Elev 681' Rwy 681'	3900' MSA ARP
MISSED APCH: Climb to GM908. Turn LEFT to GM941 on course 103°, climbing to 3000', then climb to 5000' to GM942. Expect vectoring.					
MISSED APCH WITH LOST COMM: At GM942 turn LEFT direct to GRM VOR for a new apch.					
Alt Set: hPa		Rwy Elev: 25 hPa		Trans level: By ATC	
				Trans alt: 7000'	

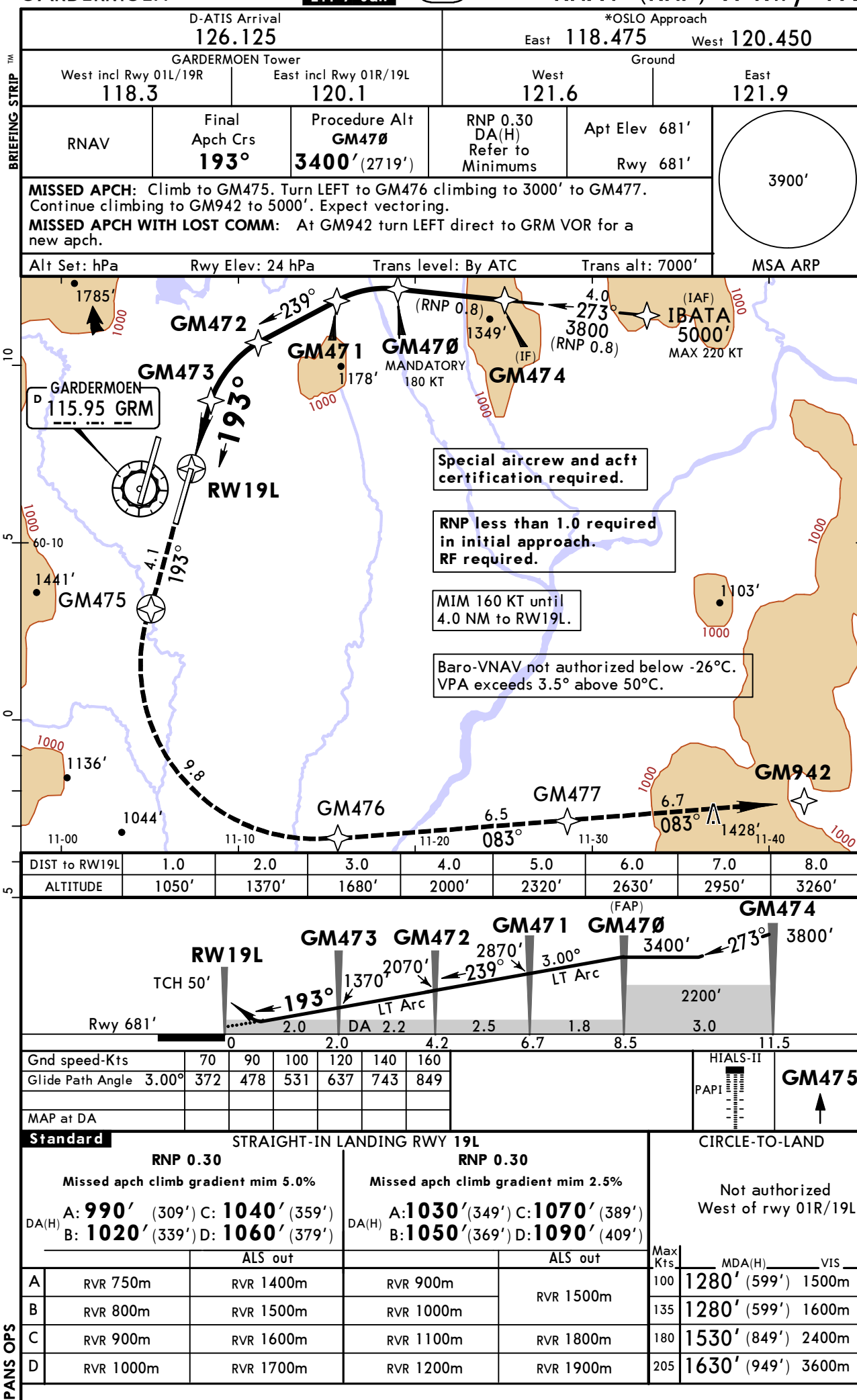


DIST to RW19L	2.0	3.0	4.0	5.0	6.0	7.0	8.0
ALTITUDE	1370'	1690'	2010'	2330'	2650'	2970'	3280'



Gnd speed-Kts	70	90	100	120	140	160	HIALS PAPI ↑ GM908
Glide Path Angle 3.00°	372	478	531	637	743	849	
LPV, LNAV/VNAV: MAP at DA							
LNAV: MAP at RW19L							

Standard		STRAIGHT-IN LANDING RWY 19L					CIRCLE-TO-LAND	
LPV		LNAV/VNAV		LNAV		Not authorized West of rwy 01R/19L		
DA(H)		DA(H)		DA(H)				
AB:		A:						
931' C: 940' (259') (250') D: 950' (269')		1000' (319') C: 1030' (349') B: 1010' (329') D: 1150' (469')		1230' (549')				
ALS out		ALS out		ALS out		Max Kts.	MDA(H) VIS	
A	RVR 750m	RVR 1300m	RVR 750m	RVR 1400m	RVR 1500m		100	1280' (599') 1500m
B			RVR 800m	RVR 1500m			135	1280' (599') 1600m
C			RVR 900m	RVR 1600m	RVR 1800m	CMV 2400m	180	1530' (849') 2400m
D			RVR 1500m	CMV 2200m			205	1630' (949') 3600m

ENGM/OSL
GARDERMOEN
1 JAN 16
Eff 7 Jan
(12-7)
OSLO, NORWAY
RNAV (RNP) X Rwy 19L


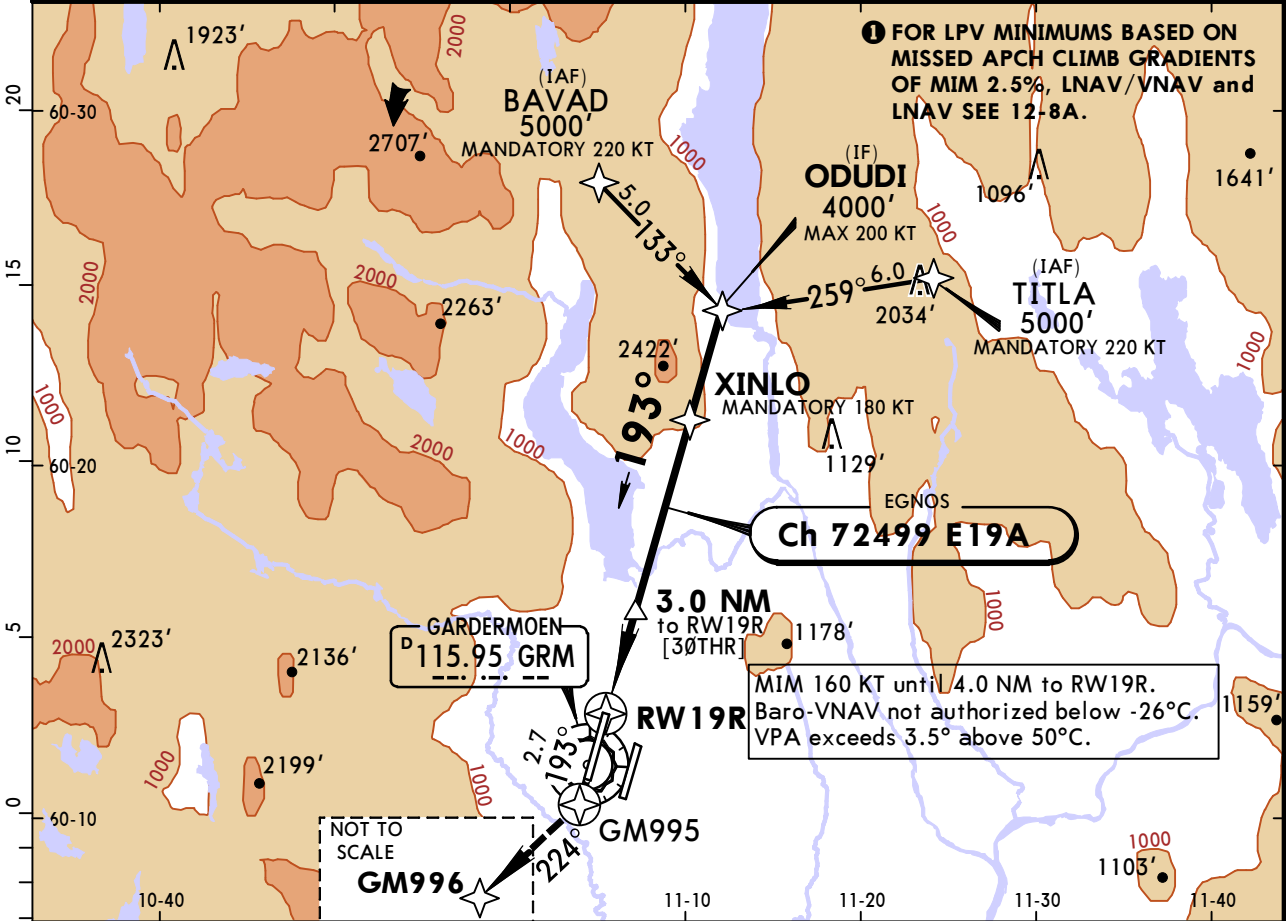
ENGM/OSL
GARDERMOEN

1 JAN 16
Eff 7 Jan

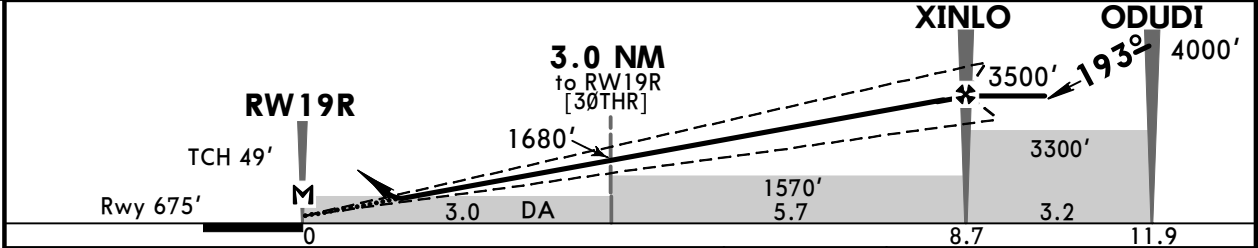
JEPPESSEN
12-8

OSLO, NORWAY
RNAV (GNSS) Z Rwy 19R

D-ATIS Arrival 126.125				*OSLO Approach East 118.475 West 120.450	
GARDERMOEN Tower West incl Rwy 01L/19R East incl Rwy 01R/19L 118.3 120.1				Ground West 121.6 East 121.9	
EGNOS Ch 72499 E19A	Final Apch Crs 193°	Procedure Alt XINLO 3500' (2825')	LPV DA(H) Refer to Minimums	Apt Elev 681' Rwy 675'	3900' MSA ARP
MISSED APCH: Climb to GM995. Turn RIGHT to GM996 on course 224°, climbing to 5000'. Expect vectoring.					
MISSED APCH WITH LOST COMM: At GM996 turn RIGHT direct to GRM VOR for a new apch.					
Alt Set: hPa Rwy Elev: 25 hPa Trans level: By ATC Trans alt: 7000'					



DIST to RW19R	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
ALTITUDE	1050'	1370'	1680'	2000'	2320'	2640'	2960'	3280'



Gnd speed-Kts	70	90	100	120	140	160
Glide Path Angle	3.00°	372	478	531	637	743
MAP at DA						

STRAIGHT-IN LANDING RWY 19R LPV Missed apch climb gradient mim 3.1% A: 930' (255') C: 950' (275') B: 940' (265') D: 960' (285')		CIRCLE-TO-LAND Not authorized East of rwy 01L/19R	
ALS out		Max Kts	MDA(H)
A	RVR 750m 1	100	1280' (599')
B	RVR 750m 2	135	1280' (599')
C	RVR 750m 2	180	1920' (1239')
D	RVR 750m 2	205	2230' (1549')

ENGM/OSL
GARDEMOEN

OSLO, NORWAY

RNAV (GNSS) Z Rwy 19R MINIMUMS
BASED ON:

MISSED APCH CLIMB GRADIENT MIM 2.5%

Standard STRAIGHT-IN LANDING RWY 19R LPV		
DA(H) A: 1020'(345') C: 1040'(365') B: 1030'(355') D: 1050'(375')		
		ALS out
A	RVR 900m	RVR 1500m
B		
C	RVR 1000m	RVR 1700m
D		

Standard STRAIGHT-IN LANDING RWY 19R LNAV/VNAV		
DA(H) A: 970'(295') C: 1000'(325') B: 980'(305') D: 1030'(355')		
		ALS out
A	RVR 750m 1	RVR 1400m
B	RVR 750m 2	
C	RVR 800m	RVR 1500m
D	RVR 900m	RVR 1600m
1 With TDZ, CL and HUD: RVR 650m.		
2 With TDZ, CL and HUD: RVR 700m.		

Standard STRAIGHT-IN LANDING RWY 19R LNAV		
DA(H) C: 1060'(385') AB: 1040'(365') D: 1080'(405')		
		ALS out
A	RVR 1000m	RVR 1500m
B		
C	RVR 1100m	RVR 1800m
D	RVR 1200m	RVR 1900m

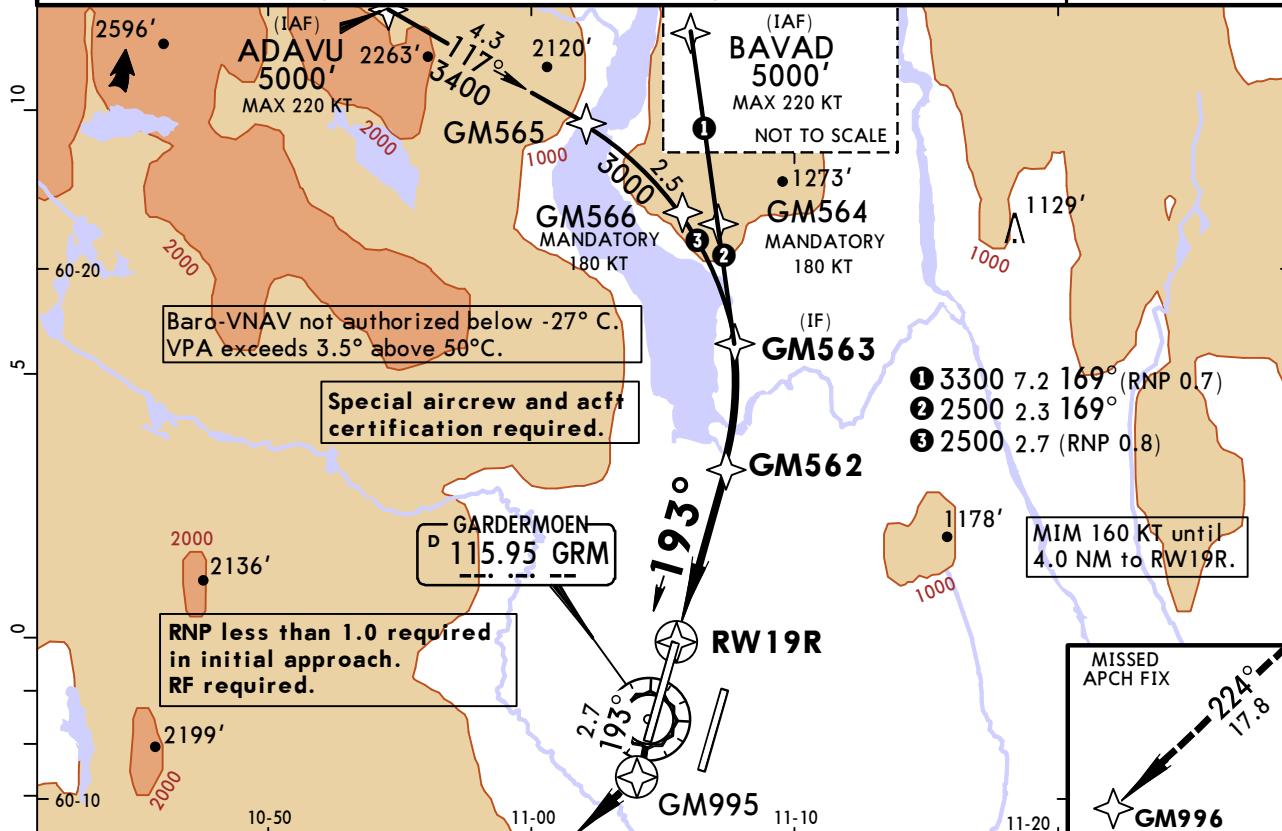
ENGM/OSL
GARDERMOEN

1 JAN 16
Eff 7 Jan

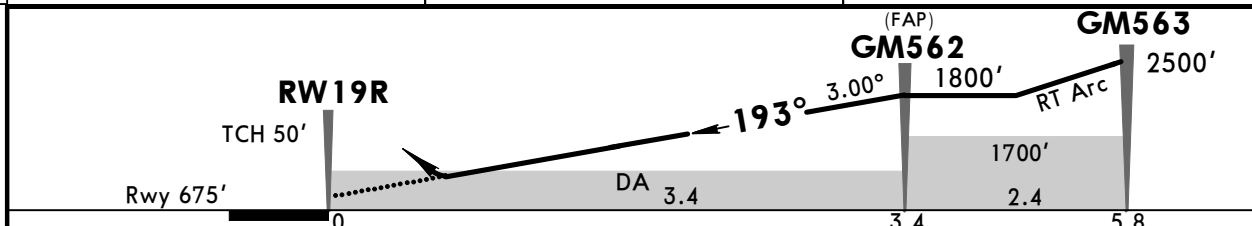
(12-9)

OSLO, NORWAY
RNAV (RNP) X Rwy 19R

BRIEFING STRIP™	D-ATIS Arrival 126.125		*OSLO Approach East 118.475 West 120.450	
	GARDERMOEN Tower West incl Rwy 01L/19R 118.3		Ground West 121.6 East 121.9	
	RNAV	Final Apch Crs 193°	Procedure Alt GM562 1800' (1125')	RNP 0.30 DA(H) Refer to Minimums
			Apt Elev 681' Rwy 675'	
MISSED APCH: Climb to GM995. Turn RIGHT on 224° climbing to 5000'. Expect vectoring. MISSED APCH WITH LOST COMM: At GM996 turn RIGHT direct to GRM VOR for a new apch.				
Alt Set: hPa Rwy Elev: 24 hPa Trans level: By ATC Trans alt: 7000'				MSA ARP



DIST to RW19R	2.0	3.0
ALTITUDE	1360'	1680'



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI	GM995
Glide Path Angle	3.00°	372	478	531	637	743		
MAP at DA								

STRAIGHT-IN LANDING RWY 19R				CIRCLE-TO-LAND	
RNP 0.30		RNP 0.30		Not authorized East of rwy 01L/19R	
Missed apch climb gradient mim 5.0%		Missed apch climb gradient mim 2.5%			
DA(H) 970' (295')		DA(H) 1060' (385')			
ALS out		ALS out		Max Kts	MDA(H) VIS
A		B		100	1280' (599') 1500m
B		C		135	1280' (599') 1600m
C		D		180	1920' (1239') 2400m
D				205	2230' (1549') 3600m

1 With TDZ, CL and HUD: RVR 650m.

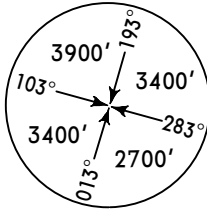
CHANGES: Missed approach.

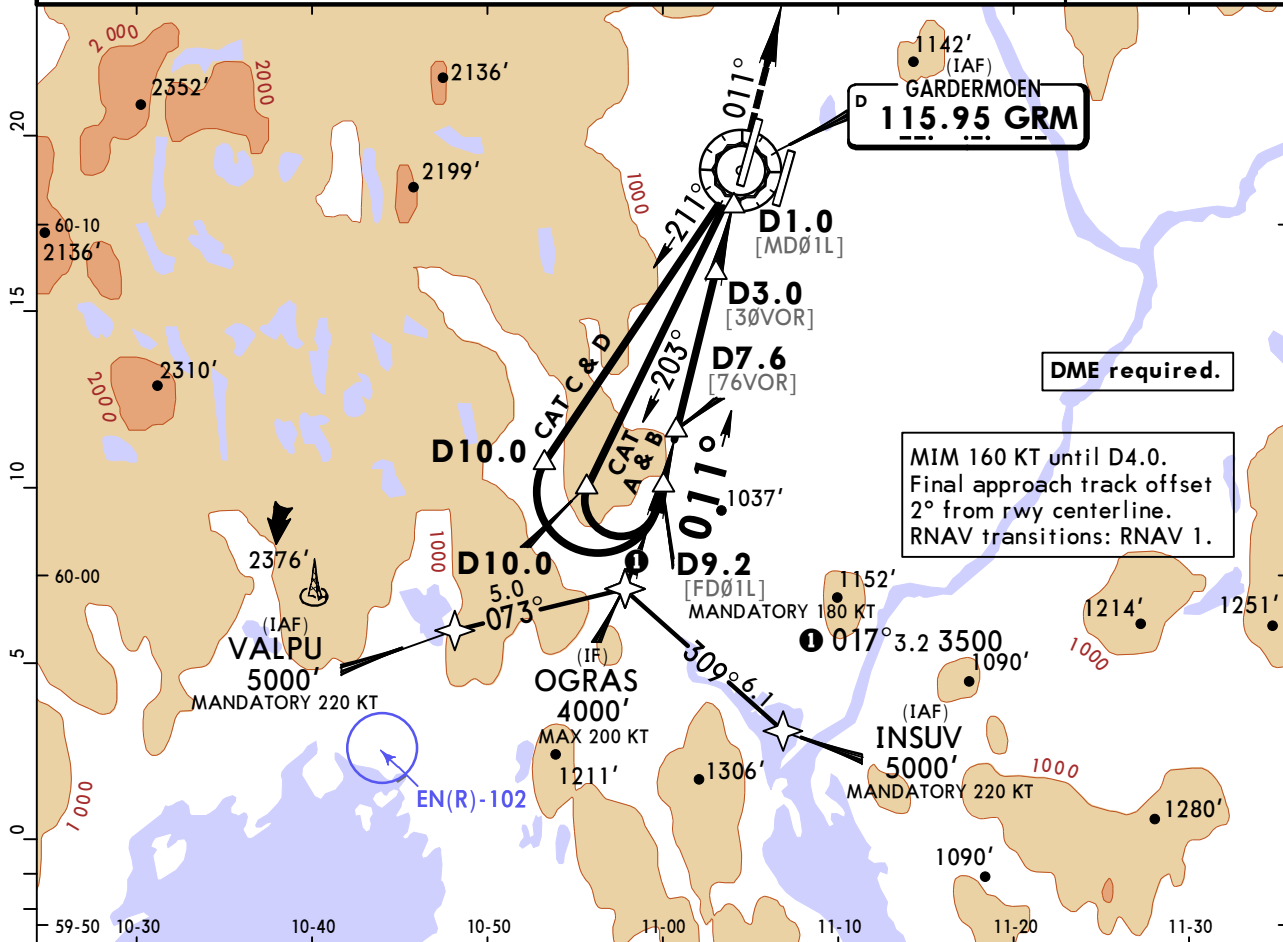
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ENGM/OSL
GARDERMOEN

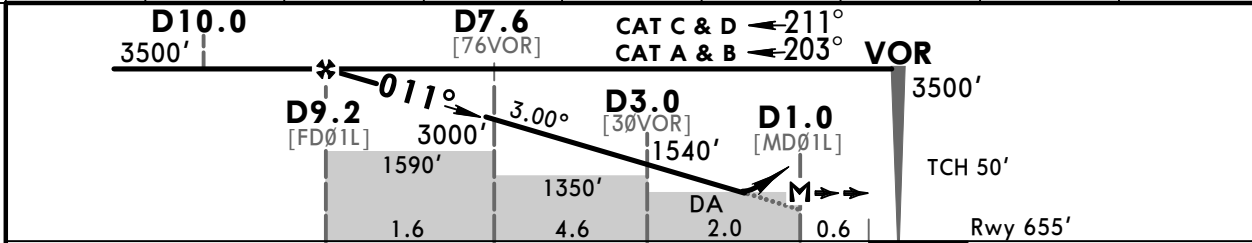
JEPPESSEN
4 SEP 15 13-1 Eff 17 Sep

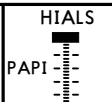
OSLO, NORWAY
VOR Rwy 01L

D-ATIS Arrival 126.125		*OSLO Approach East 118.475 West 120.450			
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 011°	Procedure Alt D9.2 3500' (2845')	DA(H) Refer to Minimums	Apt Elev 681' Rwy 655'	
MISSED APCH: Climb to VOR, then continue on R-011 to 5000'. Expect vectoring by OSLO APP. MISSED APCH WITH LOST COMM: Climb on R-011 to 5000'. At D20.0 turn LEFT direct to VOR for new instrument apch.					
Alt Set: hPa		Rwy Elev: 24 hPa	Trans level: By ATC	Trans alt: 7000'	MSA GRM VOR



GRM DME	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0
ALTITUDE	3450'	3130'	2810'	2490'	2180'	1860'	1540'	1220'



Gnd speed-Kts	70	90	100	120	140	160		5000' on 115.95 R-011
Descent Angle 3.00°	372	478	531	637	743	849		
MAP at D1.0								

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

CHANGES: Speed restrictions. Minimums.

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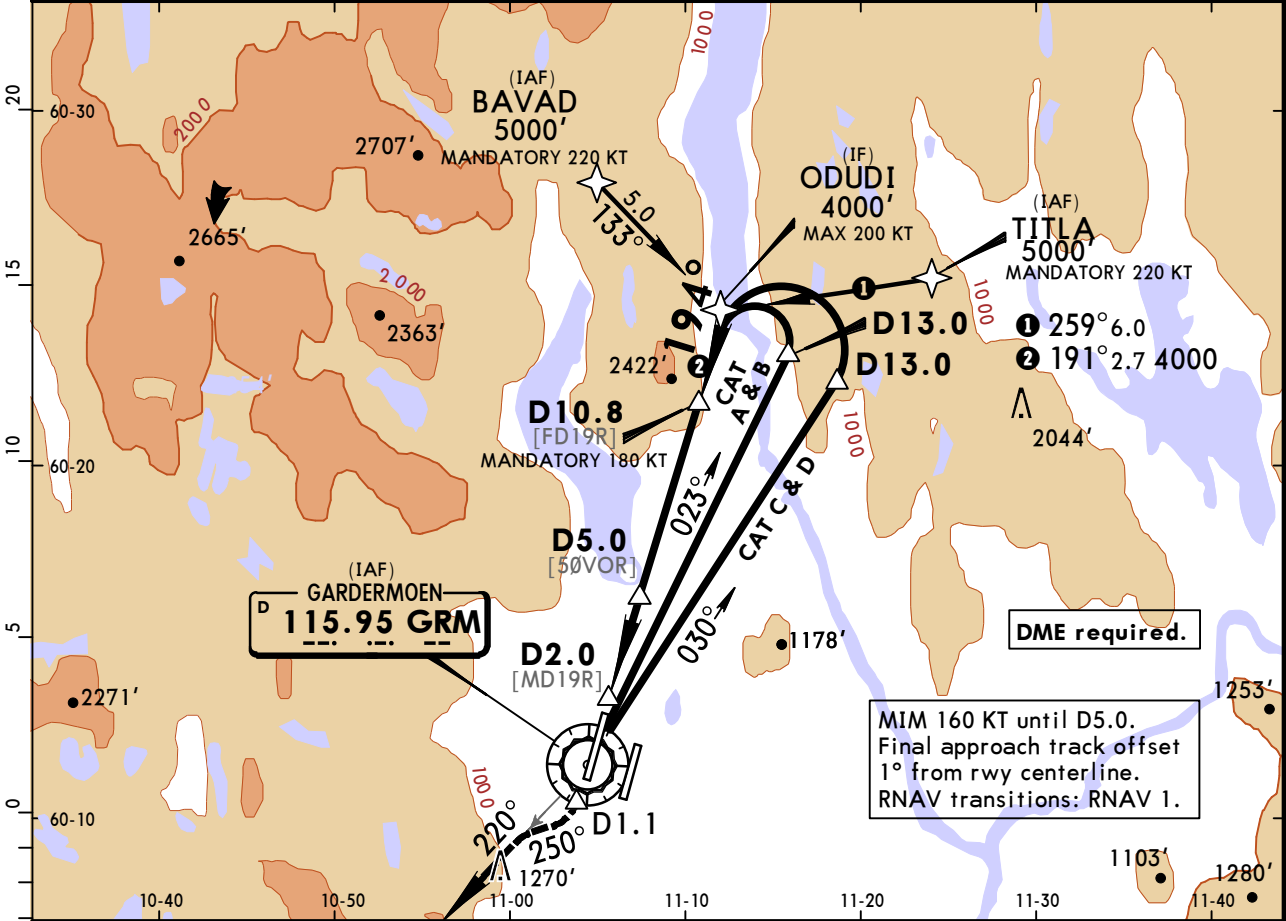
ENGM/OSL
GARDERMOEN

JEPPESSEN
4 SEP 15 (13-2) Eff 17 Sep

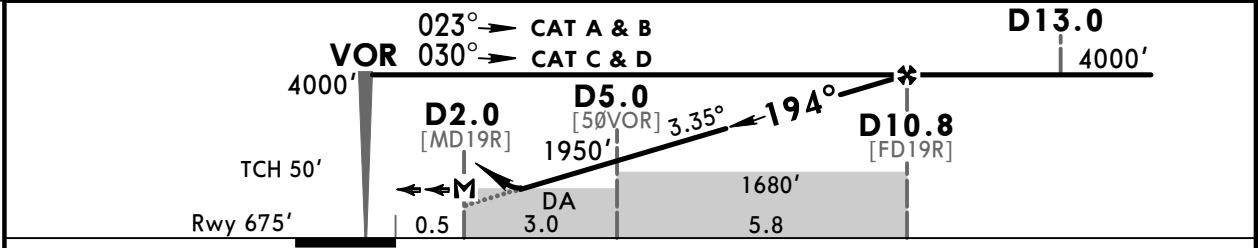
OSLO, NORWAY
VOR Rwy 19R

BRIEFING STRIP™

D-ATIS Arrival 126.125				*OSLO Approach East 118.475 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 194°		Procedure Alt D10.8 4000' (3325')		DA(H) 1060' (385')		Apt Elev 681' Rwy 675'	
MISSED APCH: Climb on R-014 inbound to VOR. Continue climb on R-194 to D1.1, then turn RIGHT to 250°, intercept and proceed R-220. Climb to 5000'. Expect vectoring by OSLO APP. MISSED APCH WITH LOST COMM: Continue climb on R-220 to 5000'. At D20.0 turn RIGHT direct to VOR for new instrument apch.									
Alt Set: hPa		Rwy Elev: 25 hPa		Trans level: By ATC		Trans alt: 7000'			
								MSA GRM VOR	



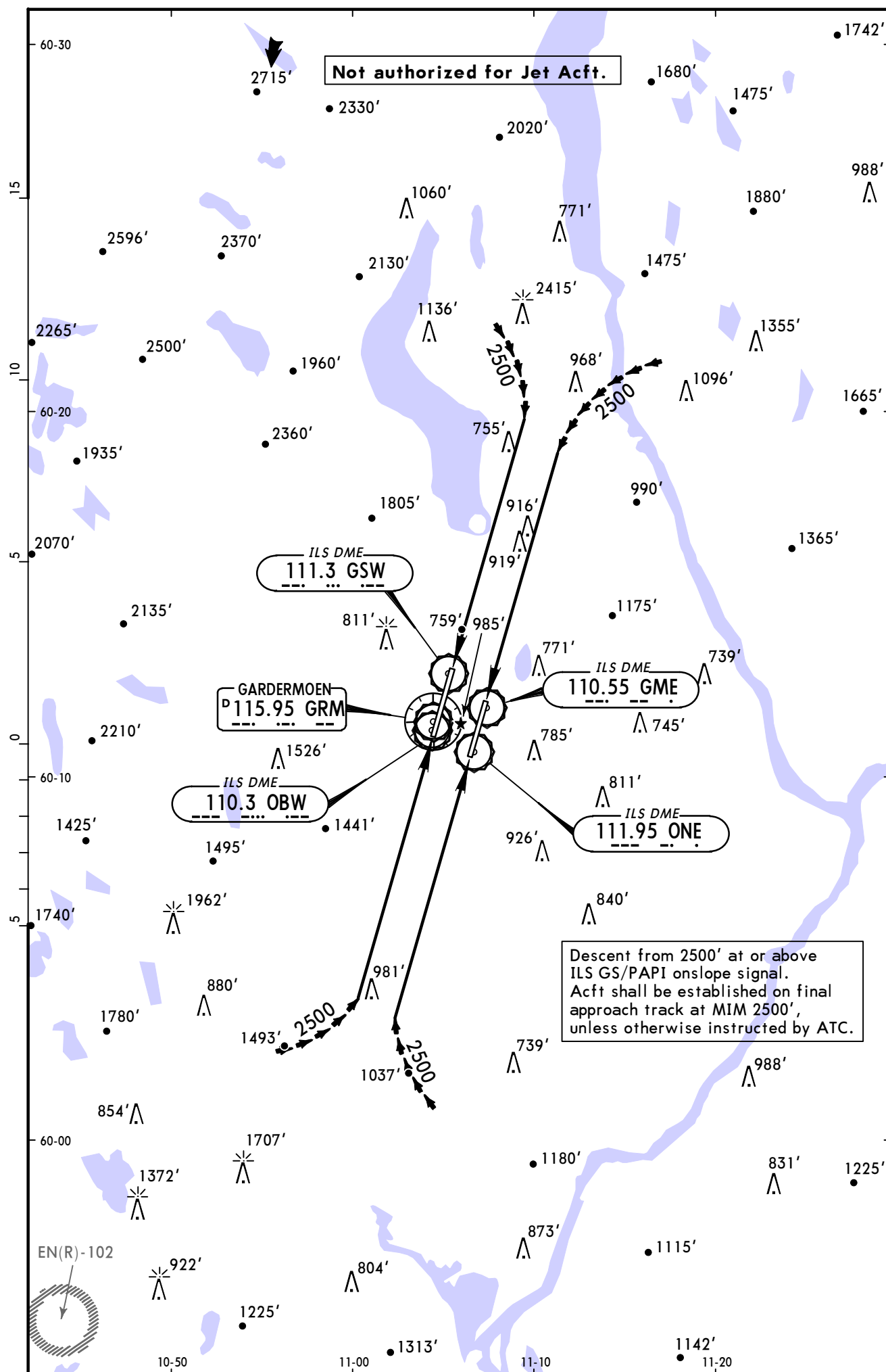
GRM DME	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
ALTITUDE	1240'	1600'	1950'	2310'	2660'	3010'	3370'	3720'



Gnd speed-Kts	70	90	100	120	140	160		D1.1 ↑ on GRM 115.95 R-194
Descent Angle 3.35°	415	534	593	711	830	948		
MAP at D2.0								

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

VISUAL APPROACH PROCEDURES



CHANGES: Procedures.

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Chart changes since cycle 26-2015

ADD = added chart, REV = revised chart, DEL = deleted chart.

ACT	PROCEDURE IDENT	INDEX	REV DATE	EFF DATE
OSLO, (GARDERMOEN - ENGM)				
REV	RNAV (GNSS) Z RWY 01L	12-1	01 Jan 2016	07 Jan 2016
REV	RNAV (RNP) X RWY 01L	12-2	01 Jan 2016	07 Jan 2016
REV	RNAV (GNSS) Z RWY 01R	12-3	01 Jan 2016	07 Jan 2016
REV	RNAV (RNP) X RWY 01R	12-4	01 Jan 2016	07 Jan 2016
REV	RNAV (RNP) W RWY 01R	12-5	01 Jan 2016	07 Jan 2016
REV	RNAV (GNSS) Z RWY 19L	12-6	01 Jan 2016	07 Jan 2016
REV	RNAV (RNP) X RWY 19L	12-7	01 Jan 2016	07 Jan 2016
REV	RNAV (GNSS) Z RWY 19R	12-8	01 Jan 2016	07 Jan 2016
REV	RNAV (GNSS) Z RWY 19R MNM...	12-8A	01 Jan 2016	07 Jan 2016
REV	RNAV (RNP) X RWY 19R	12-9	01 Jan 2016	07 Jan 2016

TERMINAL CHART CHANGE NOTICES

Chart Change Notices for Airport ENGM

Type: Terminal

Effectivity: Temporary

Begin Date: Immediately

End Date: Until Further Notice

(12-1, 12-3, 12-6, 12-8/12-8A) RNAV (GNSS) Z RWY 01L, RWY 01R, RWY 19L and RWY 19R LPV minimums suspended.