

Page 1

Changed chart(s) since Disc 22-2011

ADD = Added chart, REV = Revised chart, DEL = Deleted chart.

ACT	PROCEDURE IDENT	INDEX	REV DATE	EFF DATE
<b>Tromso, (Langnes - ENTC)</b>				
REV	AIRPORT, PARKING, AIRPORT I...	10-9	04 ïŸ 2011	17 ïŸ 2011
REV	JAA MNMS	10-9X	04 ïŸ 2011	17 ïŸ 2011

## **TERMINAL CHART NOTAMS**

**No Chart NOTAMs for Airport ENTC**

## General Info

Tromso, NOR

N 69° 40.9' E 18° 55.1' Mag Var: 4.5°E

Elevation: 32'

Public, IFR, Control Tower, Customs

Fuel: 100LL, Jet A-1

Time Zone Info: GMT+1:00 uses DST

## Runway Info

Runway 01-19 8028' x 148' asphalt

Runway 01 (8.0°M) TDZE 27'

Lights: Edge, ALS, Centerline

Runway 19 (188.0°M) TDZE 15'

Lights: Edge, ALS, Centerline

Displaced Threshold Distance 1273'

## Communications Info

ATIS **126.125**

Tromso Tower **118.3**

Tromso Approach Control **123.75**

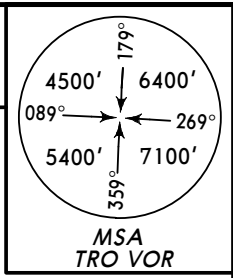
## Notebook Info

ENTC/TOS  
 LANGNES

**JEPPESEN**  
 16 JAN 09 (10-2)

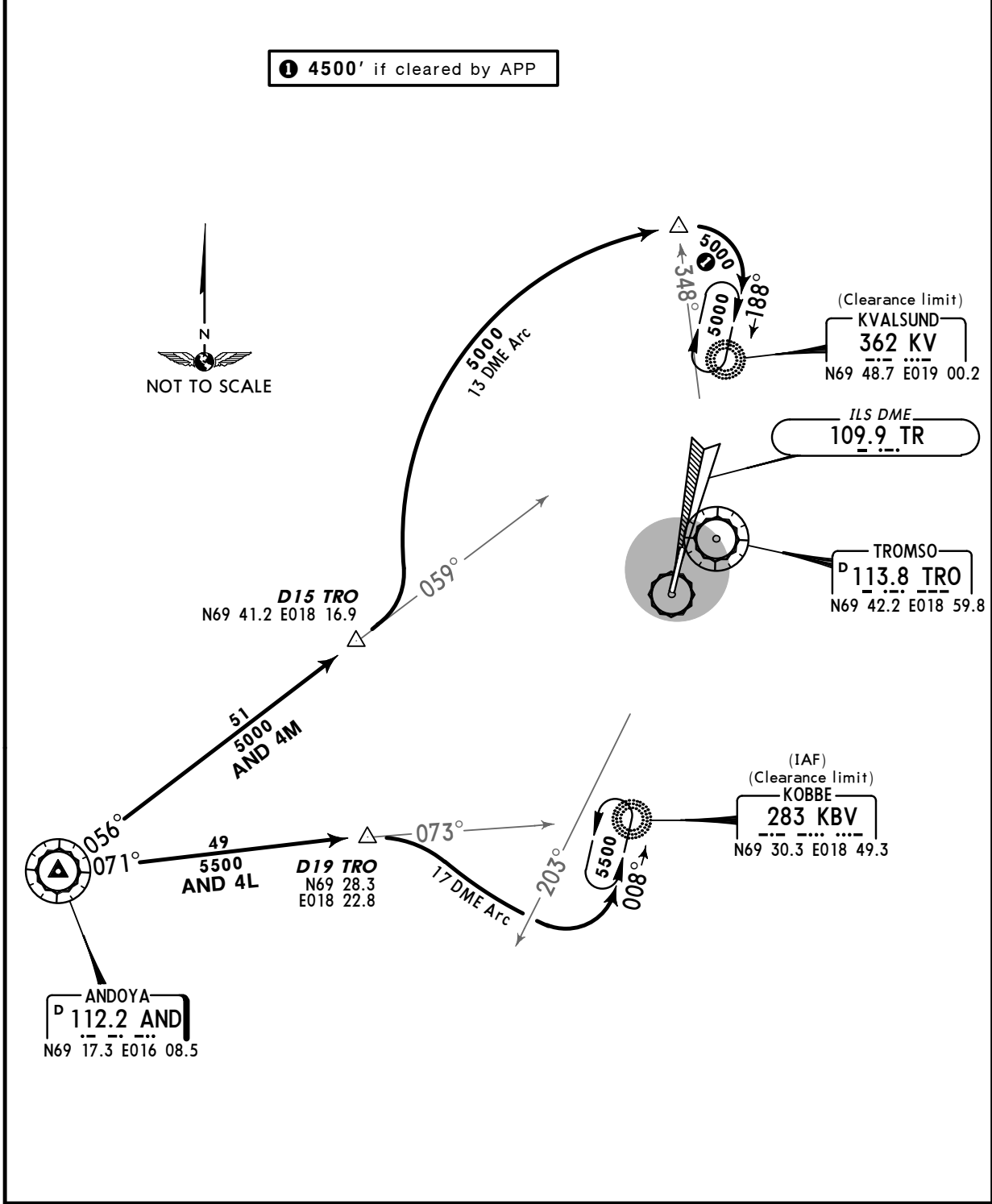
**TROMSO, NORWAY**  
**STAR**

*ATIS <b>126.12</b>	Apt Elev <b>31'</b>	Alt Set: hPa Trans level: By ATC Trans alt: 7000' Descent as cleared by ATC. PIC must strictly follow instructions from ATC concerning altitudes and flight levels.
------------------------	---------------------------	--



**ANDOYA FOUR LIMA (AND 4L)**  
**ANDOYA FOUR MIKE (AND 4M)**  
**RWYS 01, 19 ARRIVALS**  
**SPEED MAX 250 KT BELOW FL100**

**① 4500' if cleared by APP**



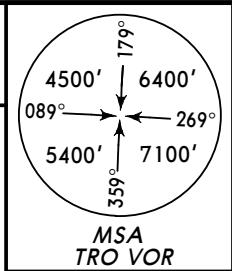
STAR	RWY	ROUTING
AND 4L	01	Intercept AND R-071 (073° bearing towards KBV), when passing D19 TRO turn RIGHT, along TRO 17 DME arc, when passing TRO R-203 turn LEFT, intercept 008° bearing to KBV.
AND 4M	19	Intercept AND R-056 (059° bearing towards KV), when passing D15 TRO turn LEFT, along TRO 13 DME arc, when passing TRO R-348 turn RIGHT, intercept TR or 188° bearing to KV.

**ENTC/TOS**  
LANGNES

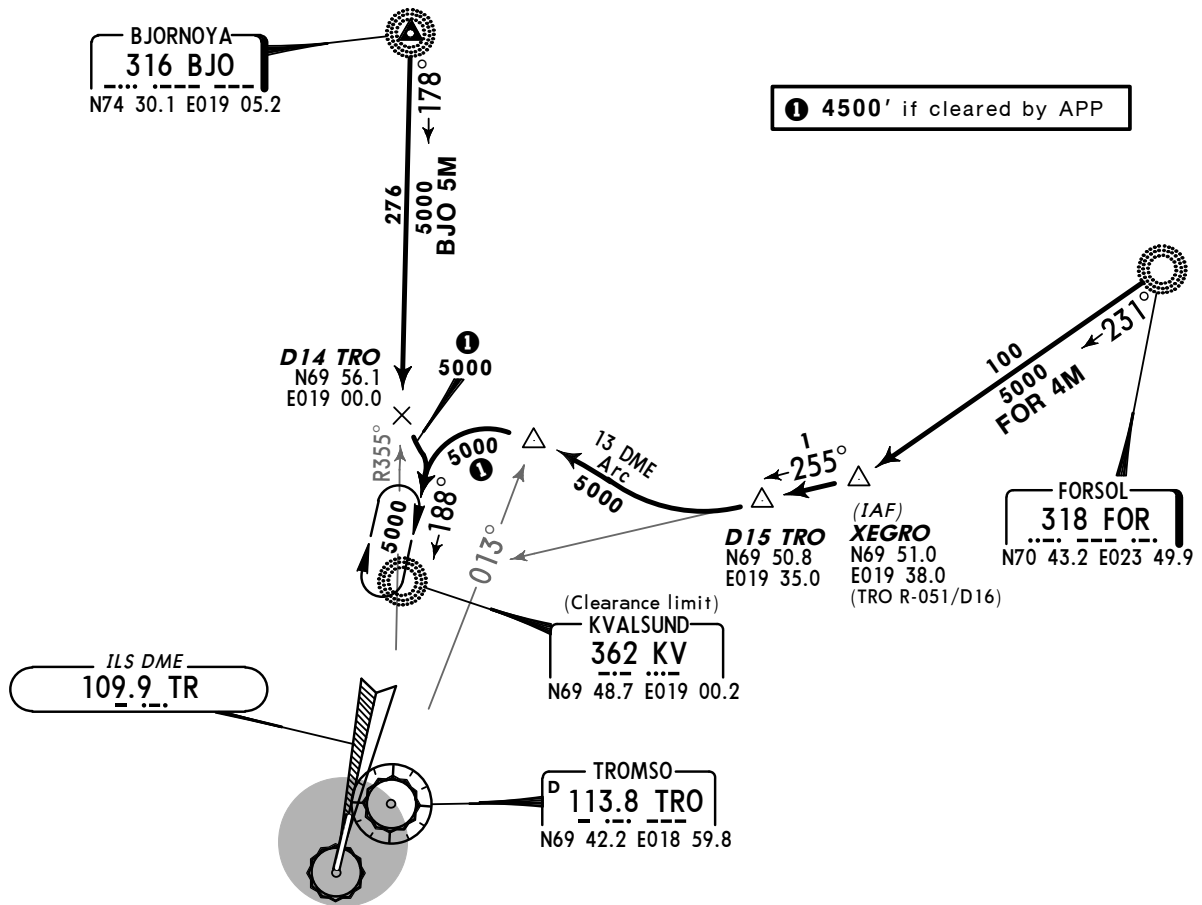
**JEPPESEN**  
16 JAN 09 **(10-2A)**

**TROMSO, NORWAY**  
**STAR**

*ATIS <b>126.12</b>	Apt Elev <b>31'</b>	Alt Set: hPa Trans level: By ATC Trans alt: 7000' Descent as cleared by ATC. PIC must strictly follow instructions from ATC concerning altitudes and flight levels.
------------------------	---------------------------	--



**BJORNOYA FIVE MIKE (BJO 5M)**  
**FORSOL FOUR MIKE (FOR 4M)**  
**RWY 19 ARRIVALS**  
**~~SPEED~~ MAX 250 KT BELOW FL100**



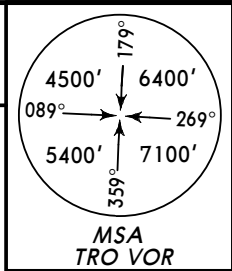
STAR	ROUTING
<b>BJO 5M</b>	Intercept TRO R-355 inbound, when passing D14 TRO turn LEFT, intercept TR or 188° bearing to KV.
<b>FOR 4M</b>	231° bearing to XEGRO, turn RIGHT, along TRO 13 DME arc, when passing TRO R-013 turn LEFT, intercept TR or 188° bearing to KV.

**ENTC/TOS**  
**LANGNES**

**JEPESEN**  
17 OCT 08 **10-2B** **Eff 23 Oct**

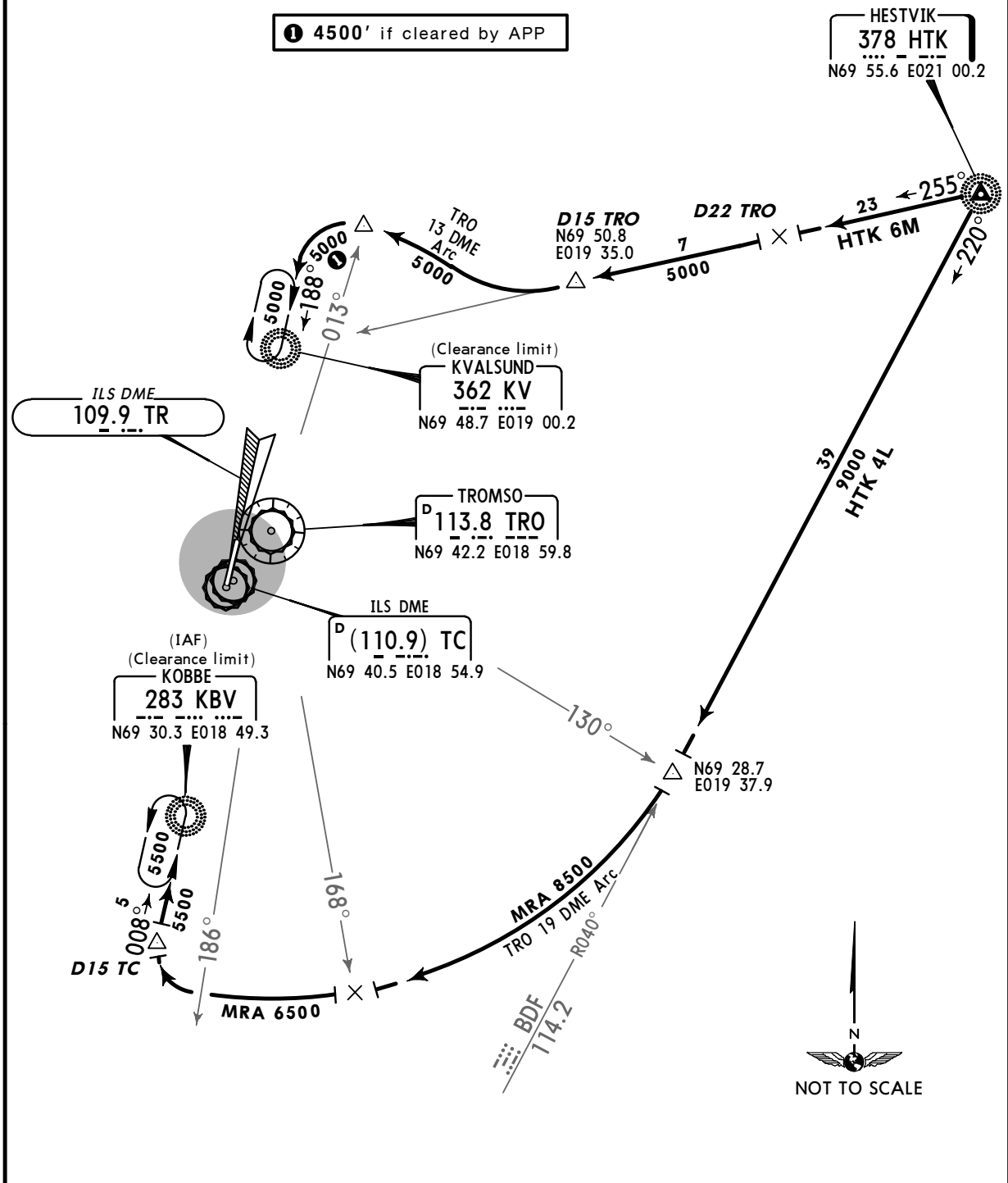
**TROMSO, NORWAY**  
**STAR**

*ATIS <b>126.12</b>	Apt Elev <b>31'</b>	Alt Set: hPa Trans level: By ATC Trans alt: 7000' Descent as cleared by ATC. PIC must strictly follow instructions from ATC concerning altitudes and flight levels.
------------------------	---------------------------	--



**HESTVIK FOUR LIMA (HTK 4L)**  
**HESTVIK SIX MIKE (HTK 6M)**  
**RWYS 01, 19 ARRIVALS**  
**~~SPEED~~ MAX 250 KT BELOW FL100**

**① 4500' if cleared by APP**



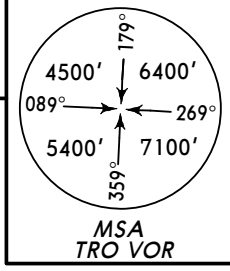
STAR	RWY	ROUTING
<b>HTK 4L</b>	<b>01</b>	Intercept 220° bearing (BDF R-040 inbound), when passing TRO R-130 turn RIGHT, along TRO 19 DME arc, when passing TRO R-186 turn RIGHT, intercept 008° bearing to KBV.
<b>HTK 6M</b>	<b>19</b>	Intercept 255° bearing towards KV, when passing D15 TRO turn RIGHT, along TRO 13 DME arc, when passing TRO R-013 turn LEFT, intercept TR or 188° bearing to KV.

**ENTC/TOS**  
**LANGNES**

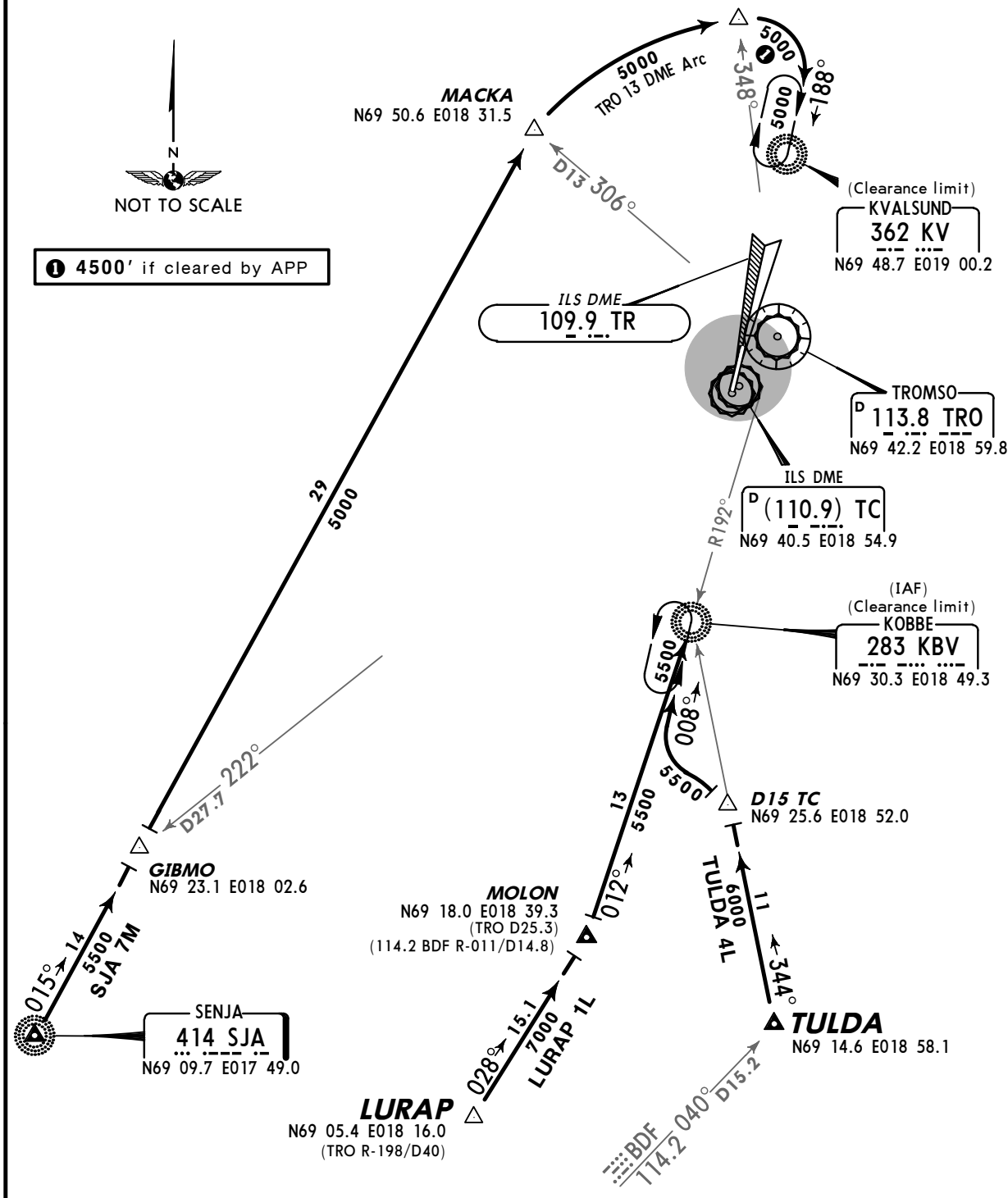
**JEPPESEN**  
17 OCT 08 **(10-2C)** **Eff 23 Oct**

**TROMSO, NORWAY**  
**STAR**

\*ATIS **126.12**    *Apt Elev* **31'**    Alt Set: hPa    Trans level: By ATC    Trans alt: 7000'  
Descent as cleared by ATC. PIC must strictly follow instructions from ATC concerning altitudes and flight levels.



**LURAP ONE LIMA (LURAP 1L) [LURA1L]**  
**SENJA SEVEN MIKE (SJA 7M)**  
**TULDA FOUR LIMA (TULDA 4L) [TULD4L]**  
**RWYS 01, 19 ARRIVALS**  
**SPEED MAX 250 KT BELOW FL100**



STAR	RWY	ROUTING
LURAP 1L	01	028° track, intercept TRO R-192 (012° bearing to KBV) inbound to KBV.
SJA 7M	19	015° bearing via GIBMO to MACKA, turn RIGHT, along TRO 13 DME arc, when passing TRO R-348 turn RIGHT, intercept TR or 188° bearing to KV.
TULDA 4L	01	Intercept 344° bearing towards KBV, when passing D15 TC turn LEFT, intercept 008° bearing to KBV.

**ENTC/TOS**  
**LANGNES**

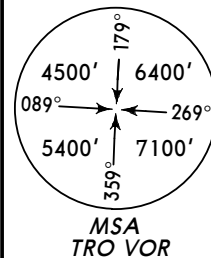
**JEPPESEN**  
 17 OCT 08 **10-3** Eff 23 Oct

**TROMSO, NORWAY**  
**SID**

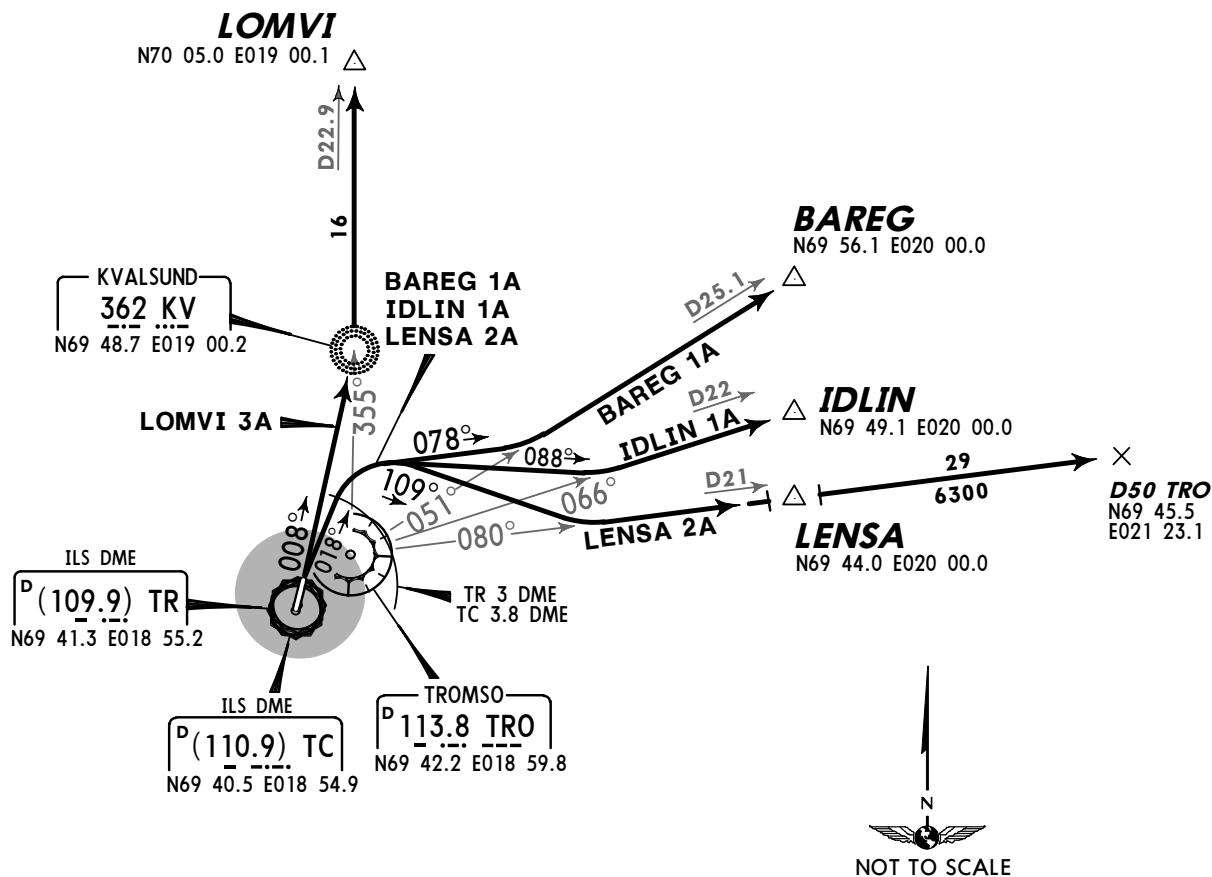
\*TROMSO  
 Approach  
**123.75**

*Apt Elev*  
**31'**

- Trans level: By ATC Trans alt: 7000'
1. Contact TROMSO Approach immediately after take-off.
  2. Enroute cruising level will be issued after take-off by TROMSO Approach.
  3. Vectoring deviating from SID may be used by ATC.
  4. At MEA clearance for direct routing will be given as soon as traffic permits.



**BAREG ONE ALFA (BAREG 1A) [BARE1A]**  
**IDLIN ONE ALFA (IDLIN 1A) [IDL11A]**  
**LENSA TWO ALFA (LENSA 2A) [LENS2A]**  
**LOMVI THREE ALFA (LOMVI 3A) [LOMV3A]**  
**RWY 01 DEPARTURES**  
**TO NORTH & EAST**



These SIDs require minimum climb gradients of

**BAREG 1A, IDLIN 1A**  
 365' per NM (6%) up to **2700'**.

**LENSA 2A**  
 383' per NM (6.3%) up to **4200'**.

**LOMVI 3A**  
 377' per NM (6.2%) up to **1600'**.

Gnd speed-KT	75	100	150	200	250	300
383' per NM	479	638	957	1276	1595	1914
377' per NM	471	628	942	1256	1570	1884
365' per NM	456	608	911	1215	1519	1823

If unable to comply advise ATC.

**BAREG 1A, IDLIN 1A:** MAX 160 KT during turns.      **LENSA 2A:** MAX 176 KT during turns.  
**LOMVI 3A:** MAX 185 KT during turns.

**Initial climb clearance FL90**

SID	ROUTING
<b>BAREG 1A</b>	Climb on 018° track to TR 3 DME (TC 3.8 DME), turn RIGHT, 078° track, intercept TRO R-051 to BAREG.
<b>IDLIN 1A</b>	Climb on 018° track to TR 3 DME (TC 3.8 DME), turn RIGHT, 088° track, intercept TRO R-066 to IDLIN
<b>LENSA 2A</b>	Climb on 018° track to TR 3 DME (TC 3.8 DME), turn RIGHT, 109° track, intercept TRO R-080 to LENS A.
<b>LOMVI 3A</b>	Climb on 008° bearing to KV, intercept TRO R-355 to LOMVI.



**ENTC/TOS**  
LANGNES

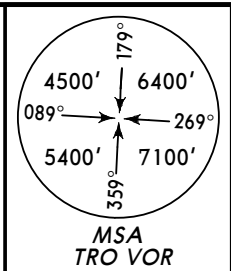
**JEPPESEN**  
17 OCT 08 **(10-3A)** Eff 23 Oct

**TROMSO, NORWAY**  
**SID**

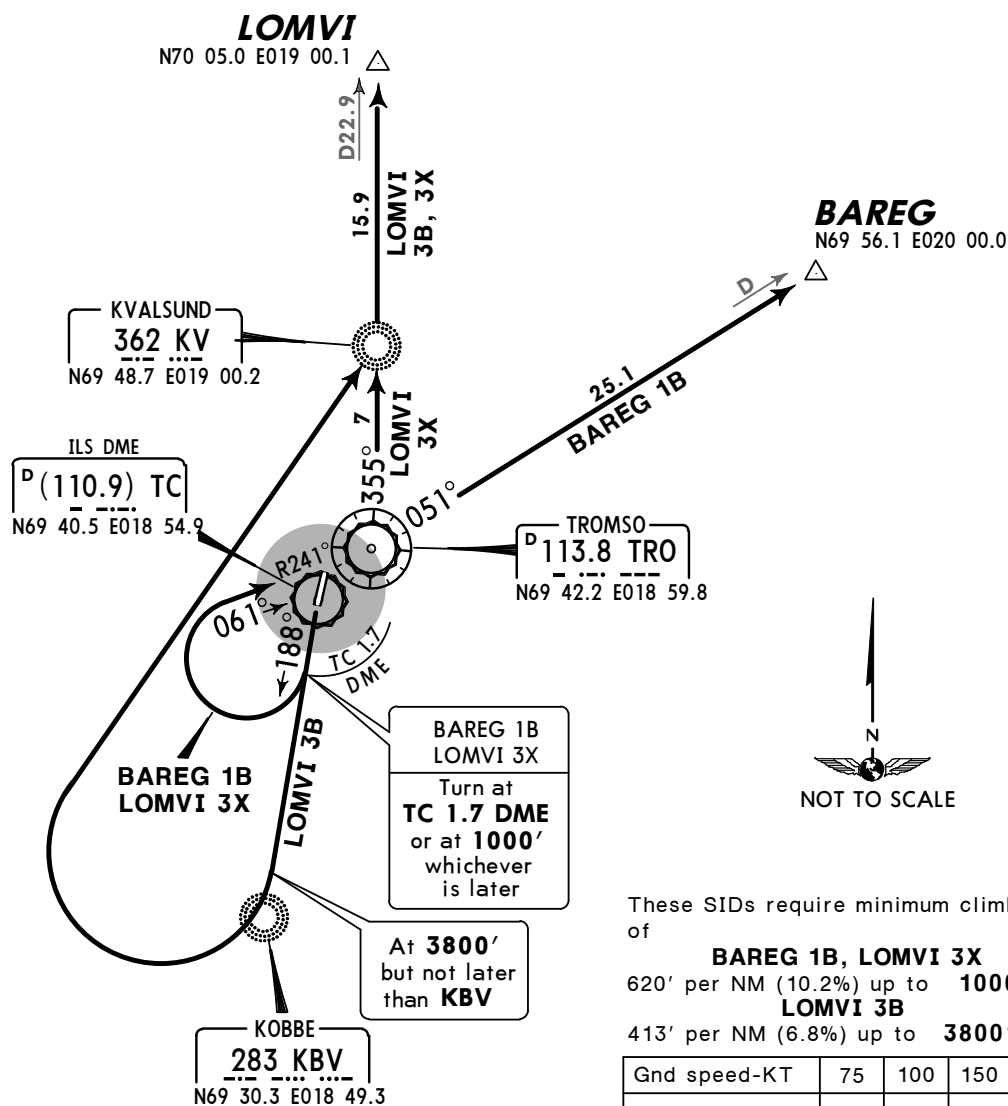
\*TROMSO  
Approach  
**123.75**

*Apt Elev*  
**31'**

- Trans level: By ATC Trans alt: 7000'
1. Contact TROMSO Approach immediately after take-off.
  2. Enroute cruising level will be issued after take-off by TROMSO Approach.
  3. Vectoring deviating from SID may be used by ATC.
  4. At MEA clearance for direct routing will be given as soon as traffic permits.



**BAREG ONE BRAVO (BAREG 1B) [BARE1B]**  
**LOMVI THREE BRAVO (LOMVI 3B) [LOMV3B]**  
**LOMVI THREE X-RAY (LOMVI 3X) [LOMV3X]**  
**RWY 19 DEPARTURES**  
**TO NORTH**



These SIDs require minimum climb gradients of

- BAREG 1B, LOMVI 3X**  
620' per NM (10.2%) up to **1000'**.
- LOMVI 3B**  
413' per NM (6.8%) up to **3800'**.

Gnd speed-KT	75	100	150	200	250	300
620' per NM	775	1033	1549	2066	2582	3099
413' per NM	516	689	1033	1377	1722	2066

If unable to comply advise ATC.

**BAREG 1B:** MAX 140 KT during turns. **LOMVI 3B, 3X:** MAX 185 KT during turns.

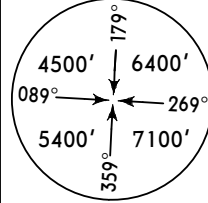
Initial climb clearance **FL90**

SID	ROUTING
<b>BAREG 1B</b>	Climb on runway track to TC 1.7 DME or <b>1000'</b> , whichever is later, turn RIGHT, intercept TRO R-241 inbound to TRO, TRO R-051 to BAREG.
<b>LOMVI 3B</b>	Climb towards KBV, at <b>3800'</b> , but not later than KBV turn RIGHT to KV, intercept TRO R-355 to LOMVI.
<b>LOMVI 3X</b>	Climb on runway track to TC 1.7 DME or <b>1000'</b> , whichever is later, turn RIGHT, intercept TRO R-241 inbound to TRO, TRO R-355 to LOMVI.

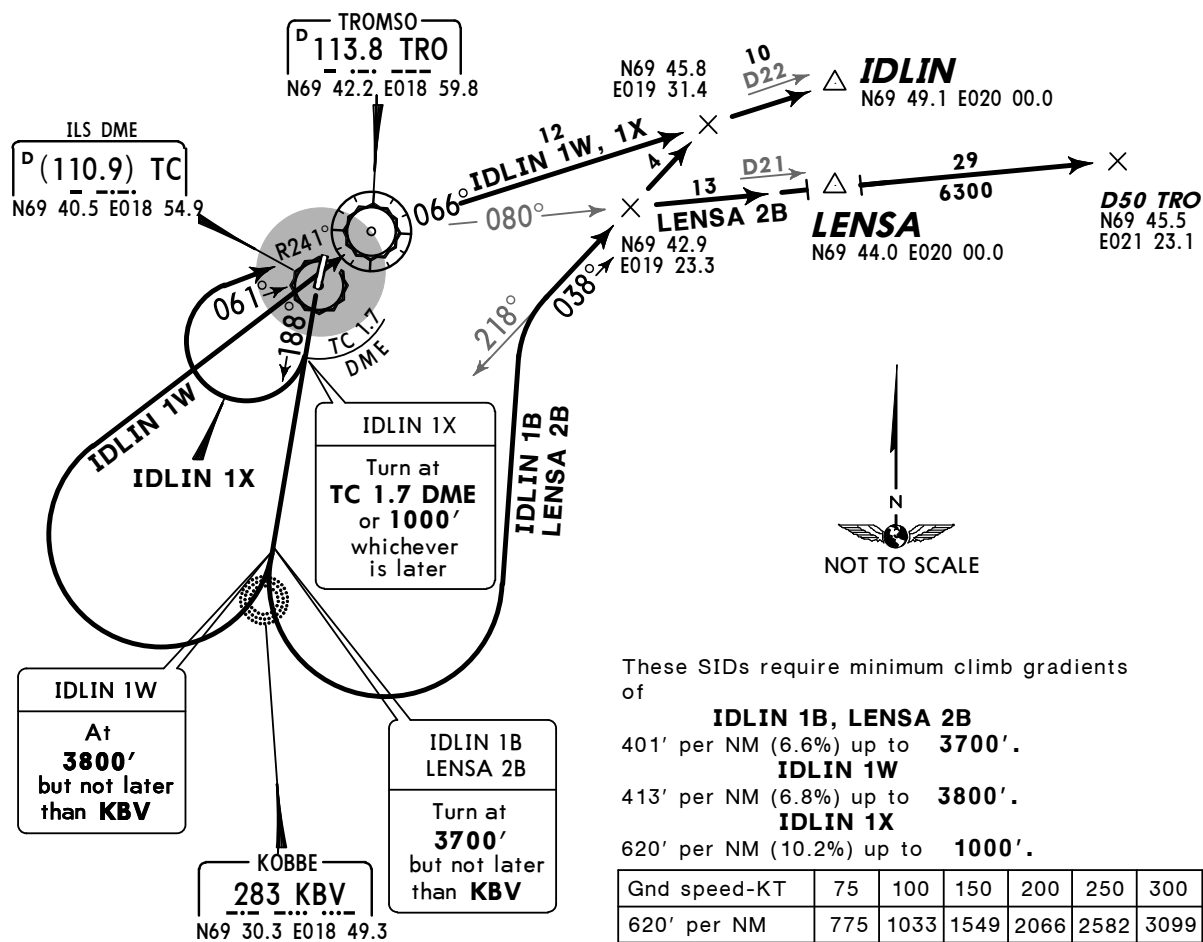
ENTC/TOS  
 LANGNES

**JEPPESEN**  
 17 OCT 08 **10-3B** Eff 23 Oct

**TROMSO, NORWAY**  
**SID**

<p>*TROMSO Approach                  123.75</p>	<p>Apt Elev                  31'</p>	<p>Trans level: By ATC Trans alt: 7000'                  1. Contact TROMSO Approach immediately after take-off.                  2. Enroute cruising level will be issued after take-off by TROMSO Approach.                  3. Vectoring deviating from SID may be used by ATC.                  4. At MEA clearance for direct routing will be given as soon as traffic permits.</p>	 <p>MSA                  TRO VOR</p>
---	--	---	---

**IDLIN ONE BRAVO (IDLIN 1B) [IDL11B]  
 IDLIN ONE WHISKEY (IDLIN 1W) [IDL11W]  
 IDLIN ONE X-RAY (IDLIN 1X) [IDL11X]  
 LENSA TWO BRAVO (LENSA 2B) [LENS2B]  
 RWY 19 DEPARTURES  
 TO EAST**



These SIDs require minimum climb gradients of

- IDLIN 1B, LENSA 2B**  
 401' per NM (6.6%) up to **3700'**.
- IDLIN 1W**  
 413' per NM (6.8%) up to **3800'**.
- IDLIN 1X**  
 620' per NM (10.2%) up to **1000'**.

Gnd speed-KT	75	100	150	200	250	300
620' per NM	775	1033	1549	2066	2582	3099
413' per NM	516	689	1033	1377	1722	2066
401' per NM	501	668	1003	1337	1671	2005

If unable to comply advise ATC.

**IDLIN 1B, 1W, LENSA 2B:** MAX 185 KT during turns. **IDLIN 1X:** MAX 140 KT during turns.

Initial climb clearance **FL90**

SID	ROUTING
<b>IDLIN 1B</b>	Climb towards KBV, at <b>3700'</b> , but not later than KBV turn LEFT, intercept 038° bearing from KBV, intercept TRO R-066 to IDLIN.
<b>IDLIN 1W</b>	Climb towards KBV, at <b>3800'</b> , but not later than KBV turn RIGHT to TRO, TRO R-066 to IDLIN.
<b>IDLIN 1X</b>	Climb on runway track to TC 1.7 DME or <b>1000'</b> , whichever is later, turn RIGHT, intercept TRO R-241 inbound to TRO, TRO R-066 to IDLIN.
<b>LENSA 2B</b>	Climb towards KBV, at <b>3700'</b> , but not later than KBV turn LEFT, intercept 038° bearing from KBV, intercept TRO R-080 to LENSA.

ENTC/TOS  
LANGNES

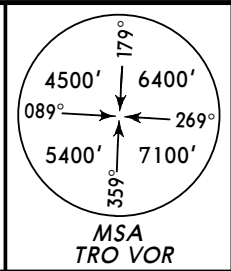
**JEPPESEN**  
17 OCT 08 **10-3C** Eff 23 Oct

**TROMSO, NORWAY**  
**SID**

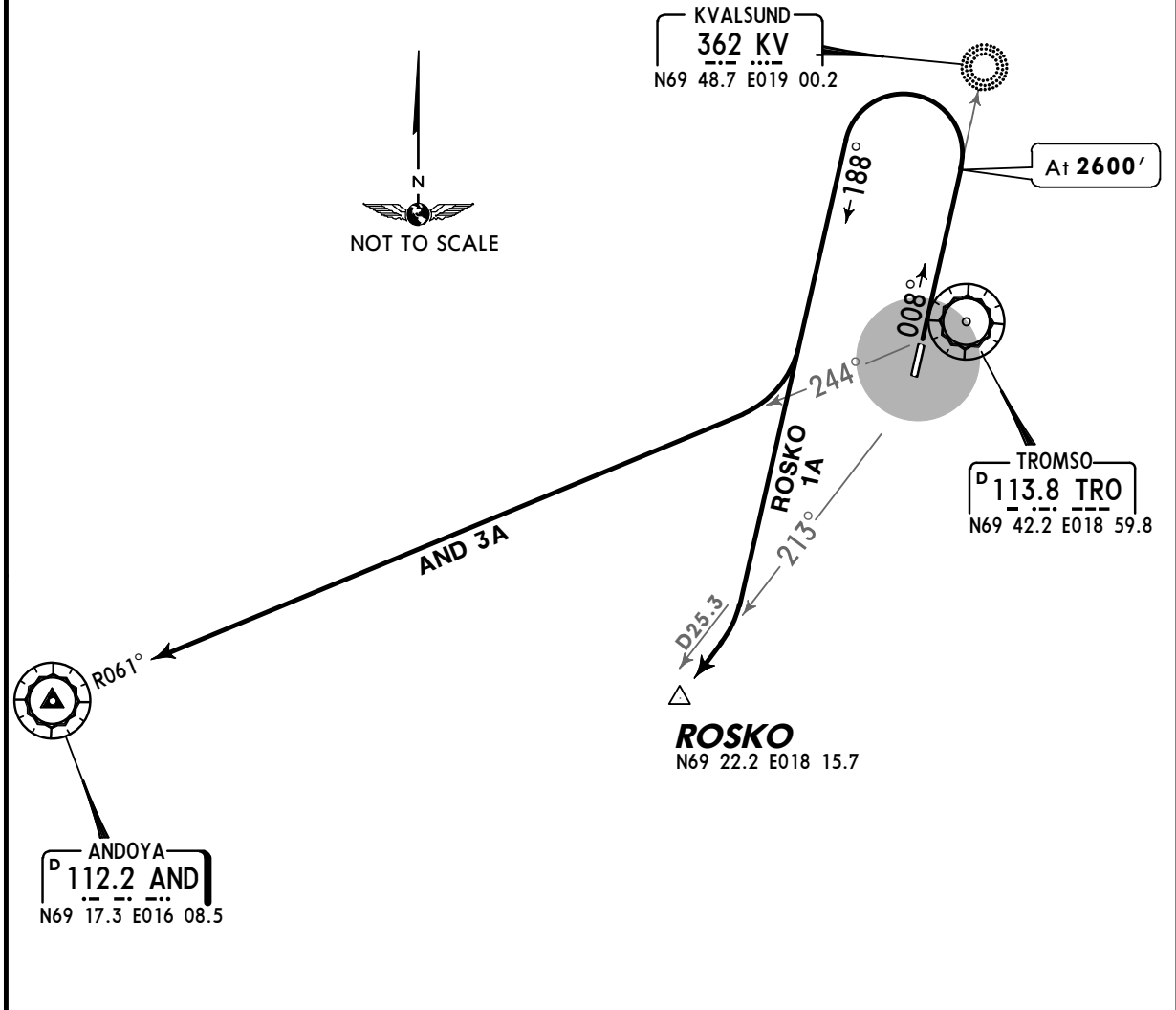
\*TROMSO  
Approach  
**123.75**

*Apt Elev*  
**31'**

Trans level: By ATC Trans alt: 7000'  
**1.** Contact TROMSO Approach immediately after take-off.  
**2.** Enroute cruising level will be issued after take-off by TROMSO Approach.  
**3.** Vectoring deviating from SID may be used by ATC.  
**4.** At MEA clearance for direct routing will be given as soon as traffic permits.



**ANDOYA THREE ALFA (AND 3A)**  
**ROSKO ONE ALFA (ROSKO 1A) [ROSK1A]**  
**RWY 01 DEPARTURES**  
 TO SOUTH & WEST  
***SPEED: MAX 185 KT DURING TURNS***



These SIDs require a minimum climb gradient of 377' per NM (6.2%) up to **2600'**.

Gnd speed-KT	75	100	150	200	250	300
377' per NM	471	628	942	1256	1570	1884

If unable to comply advise ATC.

Initial climb clearance **FL90**

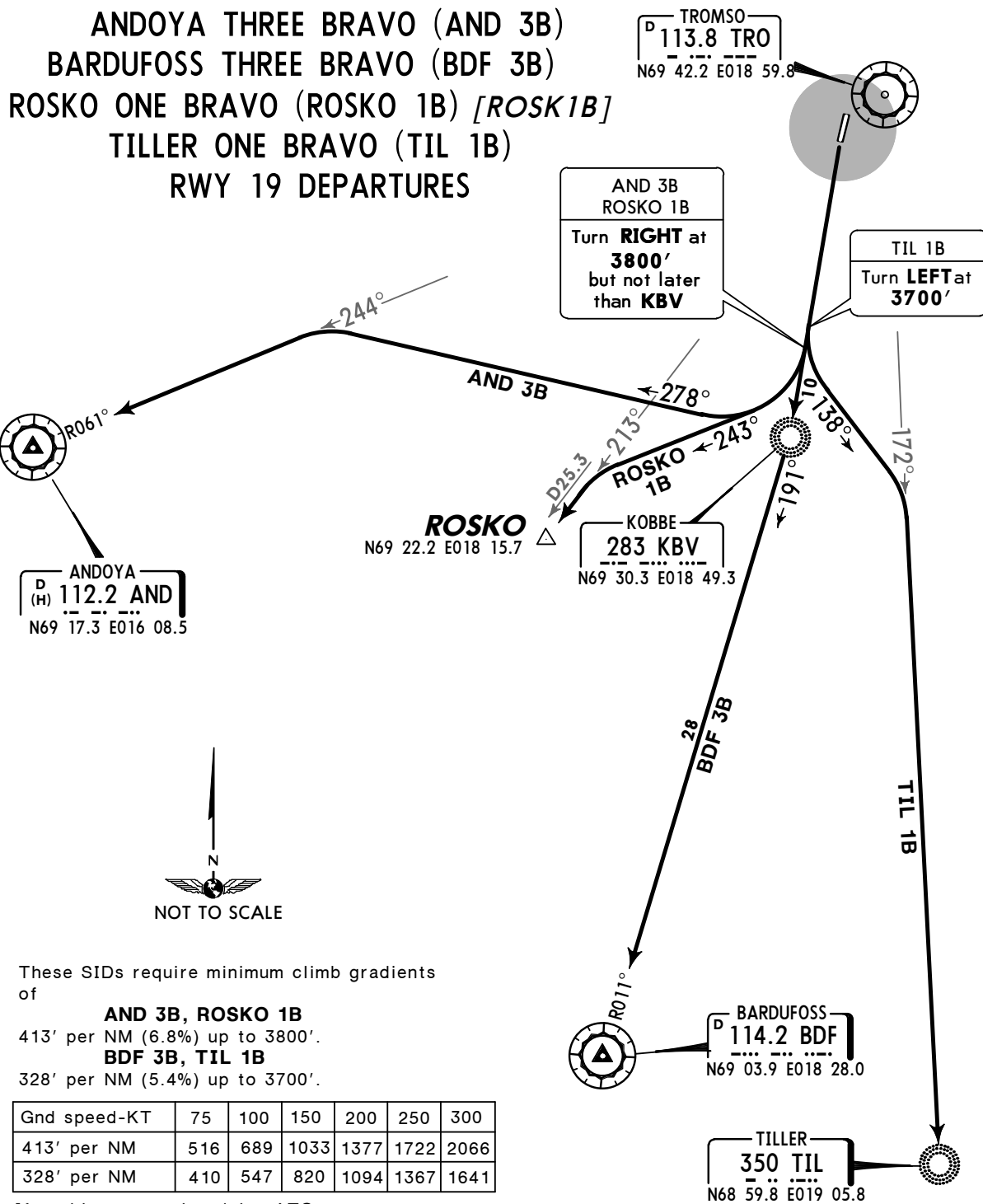
SID	ROUTING
<b>AND 3A</b>	Climb on 008° bearing towards KV, at <b>2600'</b> turn LEFT, 188° track, intercept TRO R-244 to AND.
<b>ROSKO 1A</b>	Climb on 008° bearing towards KV, at <b>2600'</b> turn LEFT, 188° track, intercept TRO R-213 to ROSKO.

**ENTC/TOS**  
**LANGNES**

**JEPPESEN**  
21 OCT 11 **(10-3D)**

**TROMSO, NORWAY**  
**SID**

<p>*TROMSO Approach <b>123.75</b></p>	<p><i>Apt Elev</i> <b>32'</b></p>	<p>Trans level: By ATC Trans alt: 7000'</p> <ol style="list-style-type: none"> <li>Contact TROMSO Approach immediately after take-off.</li> <li>Enroute cruising level will be issued after take-off by TROMSO Approach.</li> <li>Vectoring deviating from SID may be used by ATC.</li> <li>At MEA clearance for direct routing will be given as soon as traffic permits.</li> </ol>	<p>MSA TRO VOR</p>
---	---------------------------------------	--	------------------------



Initial climb clearance **FL90**

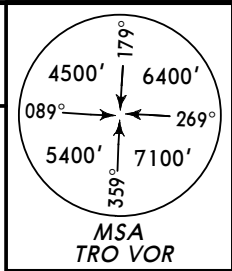
SID	ROUTING
<b>AND 3B</b>	Climb towards KBV, at 3800', but not later than KBV turn <b>RIGHT</b> , 278° track, intercept TRO R-244 to AND.
<b>BDF 3B</b>	Climb to KBV, intercept BDF R-011 inbound to BDF.
<b>ROSKO 1B</b>	Climb towards KBV, at 3800', but not later than KBV turn <b>RIGHT</b> , 243° track, intercept TRO R-213 to ROSKO.
<b>TIL 1B</b>	Climb towards KBV, at 3700' turn <b>LEFT</b> , 138° track, intercept TRO R-172 to TIL.

**ENTC/TOS**  
**LANGNES**

**JEPPESEN**  
21 OCT 11 **(10-3E)**

**TROMSO, NORWAY**  
**DEPARTURE**

*TROMSO Approach <b>123.75</b>	<i>Apt Elev</i> <b>32'</b>	Trans level: By ATC Trans alt: 7000'
--------------------------------------	-------------------------------	--------------------------------------



**RWYS 01, 19**  
**OMNIDIRECTIONAL DEPARTURES**  
EXPECT RADAR VECTORED BY TROMSO APPROACH TO JOIN THE CLEARED ATS ROUTE

These departures require minimum climb gradients of

**Rwy 01**  
456' per NM (7.5%) up to 3500'.

**Rwy 19**  
492' per NM (8.1%) up to 4500'.

Gnd speed-KT	75	100	150	200	250	300
492' per NM	615	820	1230	1641	2051	2461
456' per NM	570	760	1139	1519	1899	2279

If unable to comply advise ATC.

Initial climb clearance **FL90**

<b>RWY</b>	<b>ROUTING</b>
<b>01</b>	Climb on 008° track to TR 6.0 DME, then start turn according to ATC clearance.
<b>19</b>	Climb on 188° track to TC 8.0 DME, then start turn according to ATC clearance.

**ENTC/TOS**

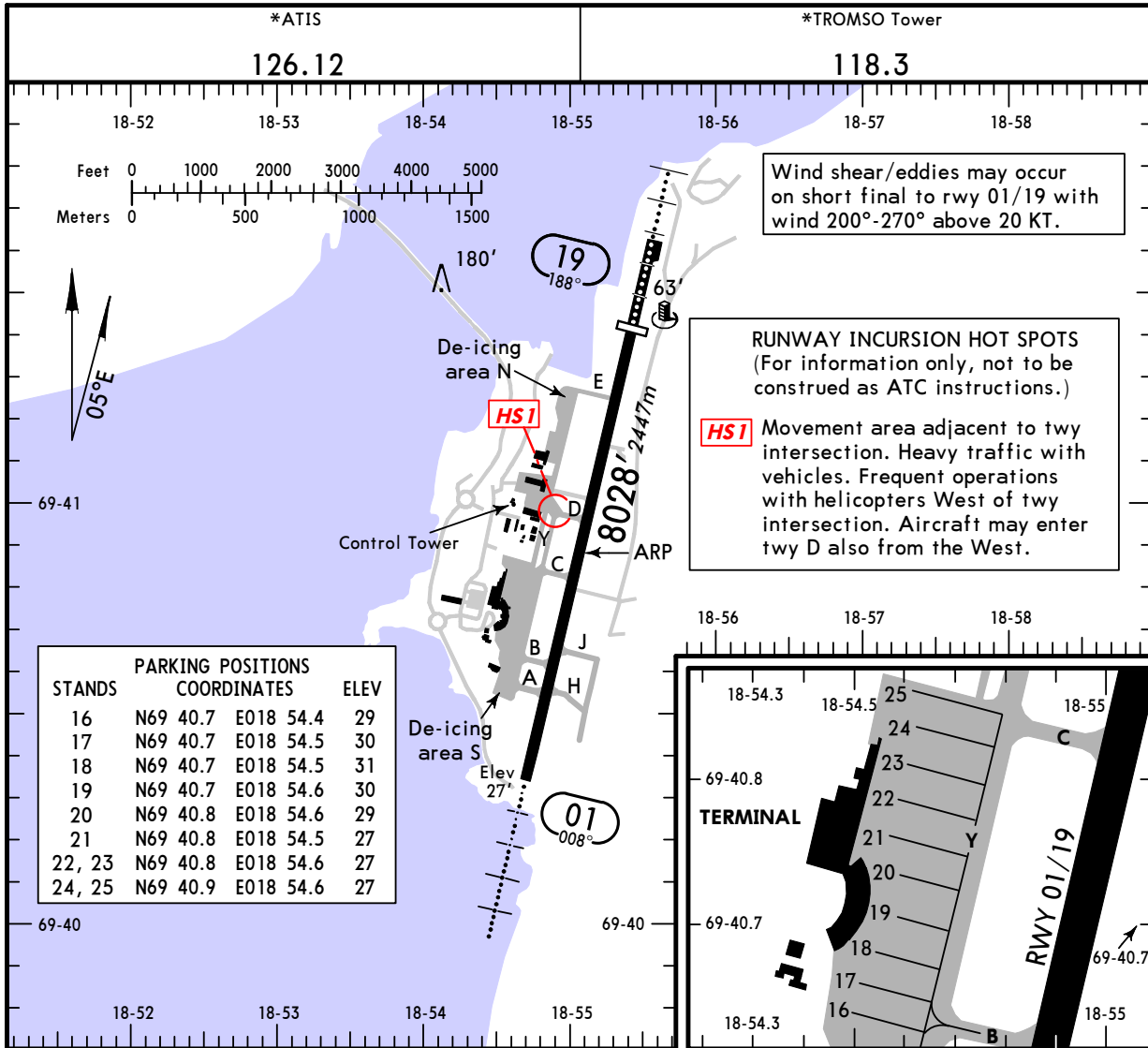
Apt Elev **32'**  
N69 40.9 E018 55.1



4 NOV 11 **(10-9)** Eff 17 Nov

**TROMSO, NORWAY**

LANGNES



**ADDITIONAL RUNWAY INFORMATION**

RWY	HIRL (60m) CL (60m) HIALS SFL PAPI (4.0°)	USABLE LENGTHS		TAKE-OFF	WIDTH
		Threshold	Glide Slope		
01	HIRL (60m) CL (60m) HIALS SFL PAPI (4.0°)	7844' 2391m	7176' 2187m	②	148' 45m
19	HIRL (60m) CL (60m) HIALS SFL PAPI (4.0°)	6572' 2003m	5782' 1762m		

① Surface is split mastic, same wet friction characteristics as for grooved rwy.

**② TAKE-OFF RUN AVAILABLE**

**RWY 01:**

from rwy head	8028' (2447m)
twy H int	6627' (2020m)
twy A int	6621' (2018m)
twy B int	6207' (1892m)
twy J int	6060' (1847m)
twy C int	4970' (1515m)

**RWY 19:**

from rwy head	7844' (2391m)
twy E int	5489' (1673m)
twy D int	3829' (1167m)
twy C int	2874' (876m)

**NOISE ABATEMENT PROCEDURE**

Aircraft with MTOM 2500 KG or more, shall not overfly island of Tromsoya below 2000'.

**Standard**

**TAKE-OFF**

	RCLM (DAY only) or RL	NIL (DAY only)
A	550m	
B		
C		
D		

**ENTC/TOS**



4 NOV 11

**10-9X**

**Eff 17 Nov**

**JAA MINIMUMS**

**TROMSO, NORWAY**  
**LANGNES**

STRAIGHT-IN RWY		A	B	C	D	
01	ILS ①	<b>352'</b> (325')	<b>372'</b> (345')	<b>385'</b> (358')	<b>402'</b> (375')	
		<b>R800m</b>	<b>R800m</b>	<b>R800m</b>	<b>R800m</b>	
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m	
	ILS ②	<b>684'</b> (657')	<b>704'</b> (677')	<b>718'</b> (691')	<b>734'</b> (707')	
		<b>R800m</b>	<b>R800m</b>	<b>R800m</b>	<b>R800m</b>	
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m	
	ILS ③	<b>764'</b> (737')	<b>784'</b> (757')	<b>798'</b> (771')	<b>815'</b> (788')	
		<b>R800m</b>	<b>R800m</b>	<b>R800m</b>	<b>R800m</b>	
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m	
	LOC ②	<b>750'</b> (723')	<b>750'</b> (723')	<b>750'</b> (723')	<b>750'</b> (723')	
		<b>R1200m</b>	<b>R1400m</b>	<b>R1400m</b>	<b>R1800m</b>	
	<i>ALS out</i>	R1500m	R1500m	R2000m	R2000m	
	LOC ③	<b>760'</b> (733')	<b>790'</b> (763')	<b>810'</b> (783')	<b>830'</b> (803')	
		<b>R1200m</b>	<b>R1400m</b>	<b>R1400m</b>	<b>R1800m</b>	
	<i>ALS out</i>	R1500m	R1500m	R2000m	R2000m	
	19	ILS ①	<b>289'</b> (274')	<b>309'</b> (294')	<b>322'</b> (307')	<b>339'</b> (324')
			<b>R650m</b>	<b>R650m</b>	<b>R800m</b>	<b>R800m</b>
		<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m
ILS ③		<b>413'</b> (398')	<b>430'</b> (415')	<b>445'</b> (430')	<b>1033'</b> (1018')	
		<b>R800m</b>	<b>R800m</b>	<b>R800m</b>	<b>R800m</b>	
<i>ALS out</i>		R1200m	R1200m	R1200m	R1200m	
	LOC	<b>860'</b> (845')	<b>860'</b> (845')	<b>860'</b> (845')	<b>860'</b> (845') ④	
		<b>R1200m</b>	<b>R1400m</b>	<b>R1400m</b>	<b>R1800m</b>	
	<i>ALS out</i>	R1500m	R1500m	R2000m	R2000m	
	LOC ③				<b>1030'</b> (1015')	
					<b>R1800m</b>	
	<i>ALS out</i>				R2000m	

- ① Missed apch climb gradient mim 4.0%.
- ② Missed apch climb gradient mim 3.0%.
- ③ Missed apch climb gradient mim 2.5%.
- ④ CAT D: Missed apch climb gradient mim 2.8%.

CIRCLE-TO-LAND ⑤	100 KT	135 KT	180 KT	205 KT
	<b>840'</b> (808') ⑥	<b>850'</b> (818') ⑥	<b>2660'</b> (2628')	<b>2960'</b> (2928')
	V1500m	V1600m	V2400m	V3600m
VOR-A	<b>1300'</b> (1268')	<b>1300'</b> (1268')	<b>2760'</b> (2728')	<b>3020'</b> (2988')
	V1500m	V1600m	V2400m	V3600m

- ⑤ Not authorized West of airport.
- ⑥ After LOC 19: MDA(H) 860' (828').

**TAKE-OFF RWY 01, 19**

	RCLM (DAY only) or RL	NIL (DAY only)
A		
B		
C	550m	
D		

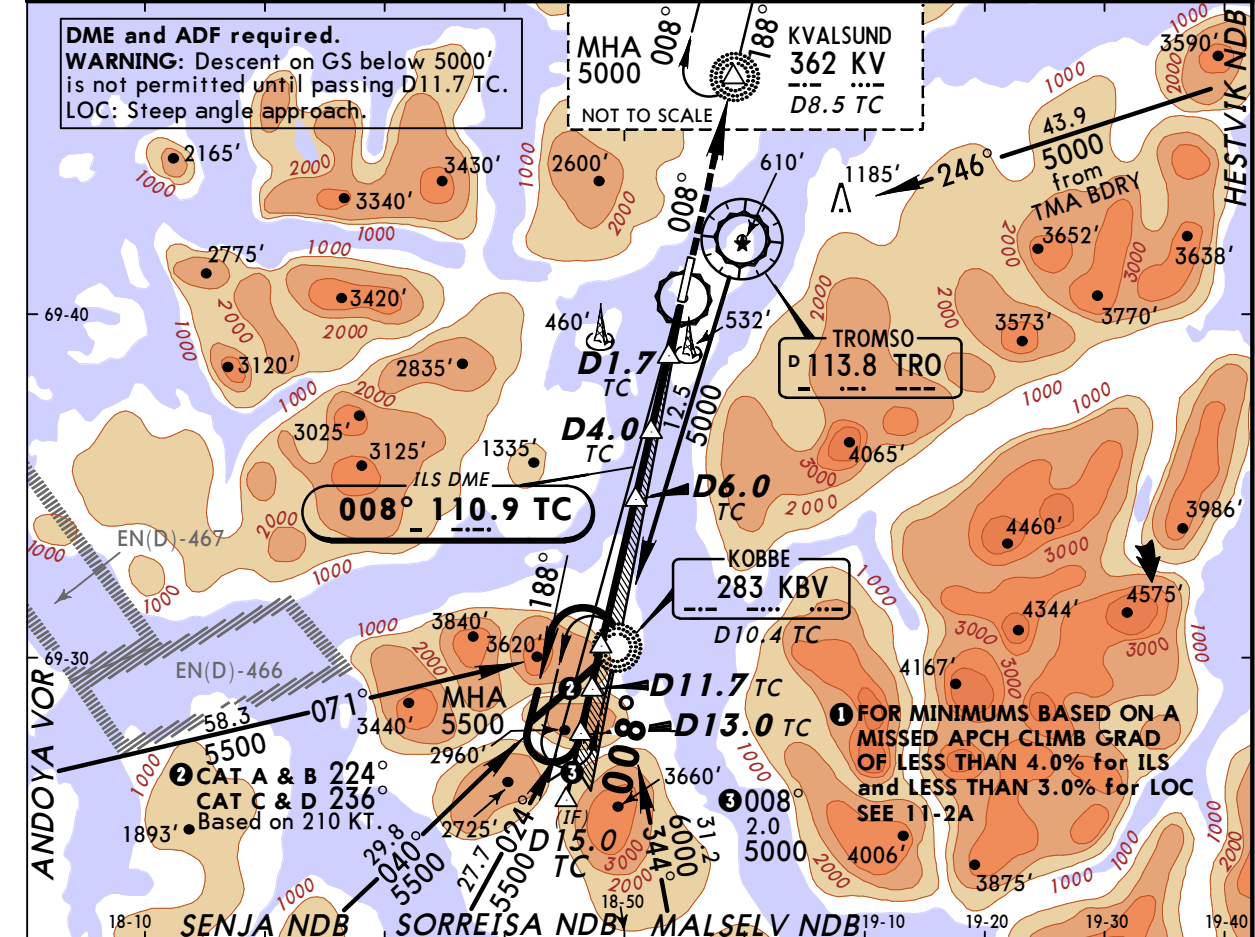
**ENTC/TOS**  
**LANGNES**

**JEPPESEN**

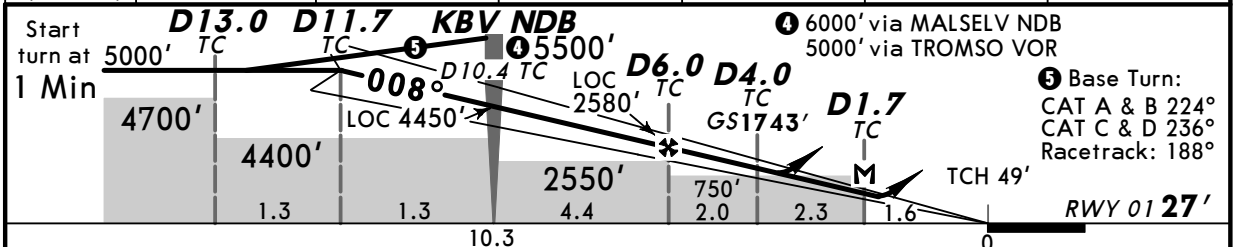
**TROMSO, NORWAY**  
**ILS or LOC Rwy 01**

12 NOV 10 **(11-1)** Eff 18 Nov

*ATIS <b>126.12</b>		*TROMSO Approach <b>123.75</b>		*TROMSO Tower <b>118.3</b>		<p>MSA KBV NDB</p>
LOC TC <b>110.9</b>	Final Apch Crs <b>008°</b>	GS <b>D4.0 TC</b> <b>1743' (1716')</b>	ILS DA(H) Refer to Minimums	Apt Elev <b>32'</b> <b>RWY 27'</b>		
<p><b>MISSED APCH:</b> Climb on 008° to KV Lctr (D8.5 TC), then turn LEFT climbing on 348°. When passing 3500' turn LEFT direct to KV Lctr, climbing to 5000' and hold.</p>						
Alt Set: hPa		Rwy Elev: 1 hPa		Trans level: By ATC		Trans alt: 7000'
<p><b>WARNING:</b> Steep GS angle, appropriate aircraft and crew qualification required.</p>						



LOC (GS out)	TC DME	6.0	5.0	4.0	3.0	2.0
	ALTITUDE	2580'	2160'	1730'	1310'	880'



Gnd speed-Kts	70	90	100	120	140	160		<b>008°</b> ↑ <b>KV 362' / D8.5 TC</b>	
ILS GS or LOC Descent Angle	4.00°	501	644	716	859	1002			1145
MAP at D1.7 TC									

<b>PANS OPS 4</b>	<b>Standard</b>				<b>STRAIGHT-IN LANDING RWY 01</b>		<b>CIRCLE-TO-LAND</b>	
	<b>ILS</b> Missed apch climb gradient mim 4.0%		<b>LOC (GS out)</b> Missed apch climb gradient mim 3.0%				Not authorized West of airport	
	A: <b>352' (325')</b> C: <b>385' (358')</b> B: <b>372' (345')</b> D: <b>402' (375')</b>		DA(H) <b>750' (723')</b>					
	FULL/Limited		ALS out		ALS out		Max Kts   MDA(H)   Vis	
A	RVR 800m	RVR 1500m		RVR 1500m		100	<b>840' (808')</b> 1500m	
B	RVR 900m	RVR 1600m		CMV 2700m		135	<b>850' (818')</b> 1600m	
C	RVR 1000m	RVR 1700m		CMV 3400m		180	<b>2660' (2628')</b> 3400m	
D	RVR 1000m	RVR 1700m		CMV 3400m		205	<b>2960' (2928')</b> 3600m	



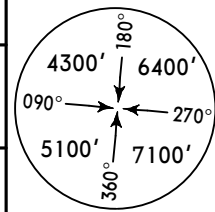
**ENTC/TOS**  
**LANGNES**

**JEPPESEN**  
12 NOV 10 **(11-2)** Eff 18 Nov

**TROMSO, NORWAY**  
**ILS or LOC Rwy 19**

BRIEFING STRIP™

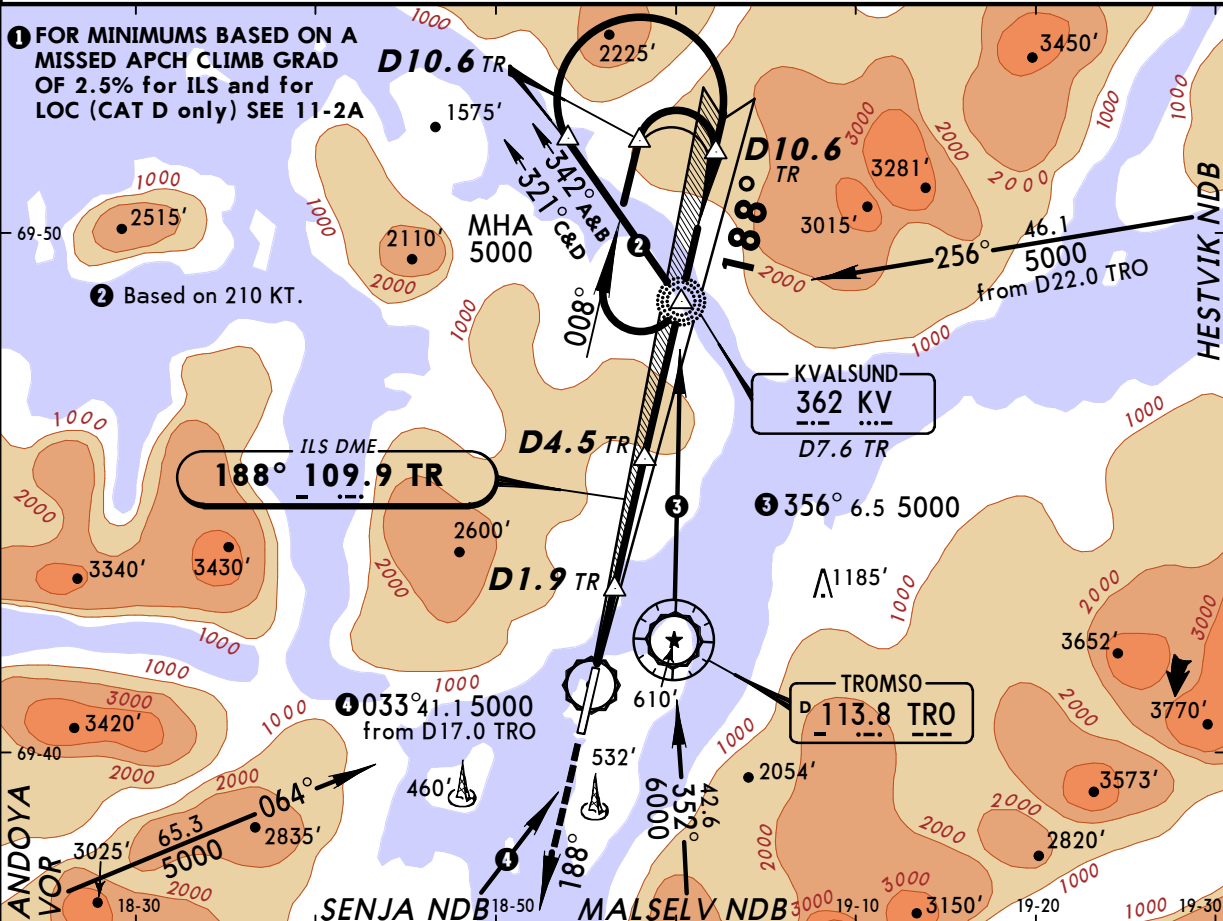
*ATIS <b>126.12</b>		*TROMSO Approach <b>123.75</b>		*TROMSO Tower <b>118.3</b>	
LOC TR <b>109.9</b>	Final Apch Crs <b>188°</b>	GS <b>D4.5 TR</b> 1934' (1919')	ILS DA(H) Refer to Minimums	Apt Elev <b>32'</b> RWY <b>15'</b>	



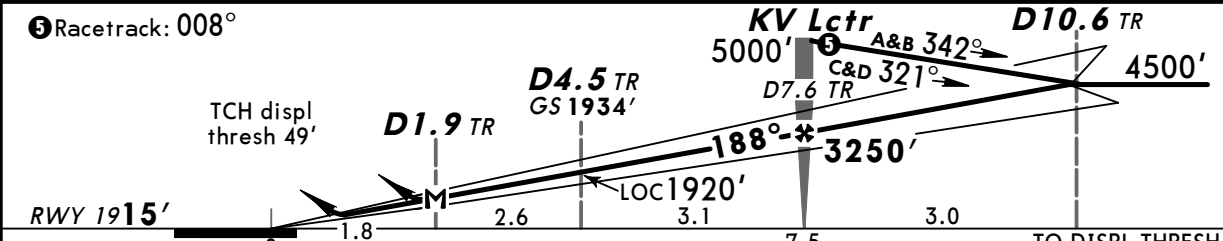
**MISSED APCH:** Climb STRAIGHT AHEAD to 3000' or D7.7 TR whichever earlier. Turn RIGHT to intercept and proceed on 015° to KV Lctr, climbing to 5000' and hold.

Alt Set: hPa Rwy Elev: 1 hPa Trans level: By ATC Trans alt: 7000'  
 1. **DME and ADF required.** 2. **WARNING:** Steep GS angle, appropriate acft and crew qualification required.  
 3. Terrain penetrates OAS between D4.5 TR and KV Lctr.

**FOR MINIMUMS BASED ON A MISSED APCH CLIMB GRAD OF 2.5% for ILS and for LOC (CAT D only) SEE 11-2A**



LOC (GS out)	TR DME ALTITUDE	3.0 1290'	4.0 1710'	5.0 2140'	6.0 2570'	7.0 2990'
--------------	-----------------	-----------	-----------	-----------	-----------	-----------



Gnd speed-Kts	70	90	100	120	140	160	HIALS PAPI PAPI 3000' or 3250' D7.7 TR whichever earlier
ILS GS or LOC Descent Angle 4.00°	501	644	716	859	1002	1145	
MAP at D1.9 TR							

Standard STRAIGHT-IN LANDING RWY 19					CIRCLE-TO-LAND		
ILS Missed apch climb gradient mim 4.0% DA(H) A: <b>289'</b> (274') C: <b>322'</b> (307') B: <b>309'</b> (294') D: <b>339'</b> (324')				LOC (GS out) DA(H) ABC: <b>860'</b> (845') Missed apch climb gradient mim 2.8% DA(H) D: <b>860'</b> (845')		Not authorized West of airport	
	FULL	Limited	ALS out		ALS out	Max Kts	MDA(H) VTS
A	RVR 600m	RVR 750m	RVR 1300m	RVR 1500m		100	880' (848') 1500m
B	RVR 650m		RVR 1400m			135	880' (848') 1600m
C	RVR 700m			CMV 3100m	CMV 3800m	180	2660' (2628') 3800m
D	RVR 800m		RVR 1500m			205	2960' (2928') 4900m

PANS OPS 4

ENTC/TOS  
LANGNES

**JEPPESEN**  
12 NOV 10 **11-2A** Eff 18 Nov

TROMSO, NORWAY

### ILS RWY 01 MINIMUMS

**MISSED APCH CLIMB GRADIENT MIM 3.0%**

<b>Standard</b>		STRAIGHT-IN LANDING RWY 01	
		ILS	
		A: <b>684'</b> (657')	C: <b>718'</b> (691')
		<sup>DA(H)</sup> B: <b>704'</b> (677')	D: <b>734'</b> (707')
		FULL/Limited	ALS out
A	RVR 1500m		
B			
C			
D			

### ILS or LOC RWY 01 MINIMUMS

**MISSED APCH CLIMB GRADIENT MIM 2.5%**

<b>Standard</b>		STRAIGHT-IN LANDING RWY 01						
		ILS		LOC (GS out)				
		A: <b>764'</b> (737')	C: <b>798'</b> (771')	A: <b>760'</b> (733')	C: <b>810'</b> (783')			
		<sup>DA(H)</sup> B: <b>784'</b> (757')	D: <b>815'</b> (788')	<sup>DA(H)</sup> B: <b>790'</b> (763')	D: <b>830'</b> (803')			
		FULL/Limited	ALS out	ALS out				
A	RVR 1500m		RVR 1500m					
B								
C	CMV 2400m					CMV 2900m	CMV 3600m	
D						CMV 3100m	CMV 3800m	

### ILS RWY 19 MINIMUMS

**MISSED APCH CLIMB GRADIENT MIM 2.5%**

<b>Standard</b>		STRAIGHT-IN LANDING RWY 19	
		ILS	
		A: <b>413'</b> (398')	C: <b>445'</b> (430')
		<sup>DA(H)</sup> B: <b>430'</b> (415')	D: <b>1033'</b> (1018')
		FULL/Limited	ALS out
A	RVR 1100m		RVR 1500m
B	RVR 1200m		
C	RVR 1300m		
D	CMV 2400m		

### LOC RWY 19 MINIMUMS

**MISSED APCH CLIMB GRADIENT MIM 2.5%**

<b>Standard</b>		STRAIGHT-IN LANDING RWY 19	
		LOC (GS out)	
		<sup>DA(H)</sup> <b>1030'</b> (1015')	
		ALS out	
D	CMV 4100m	CMV 4900m	

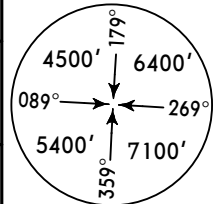
**ENTC/TOS**  
**LANGNES**

**JEPPESEN**  
23 APR 10 (13-1)

**TROMSO, NORWAY**  
**VOR-A**

BRIEFING STRIP™

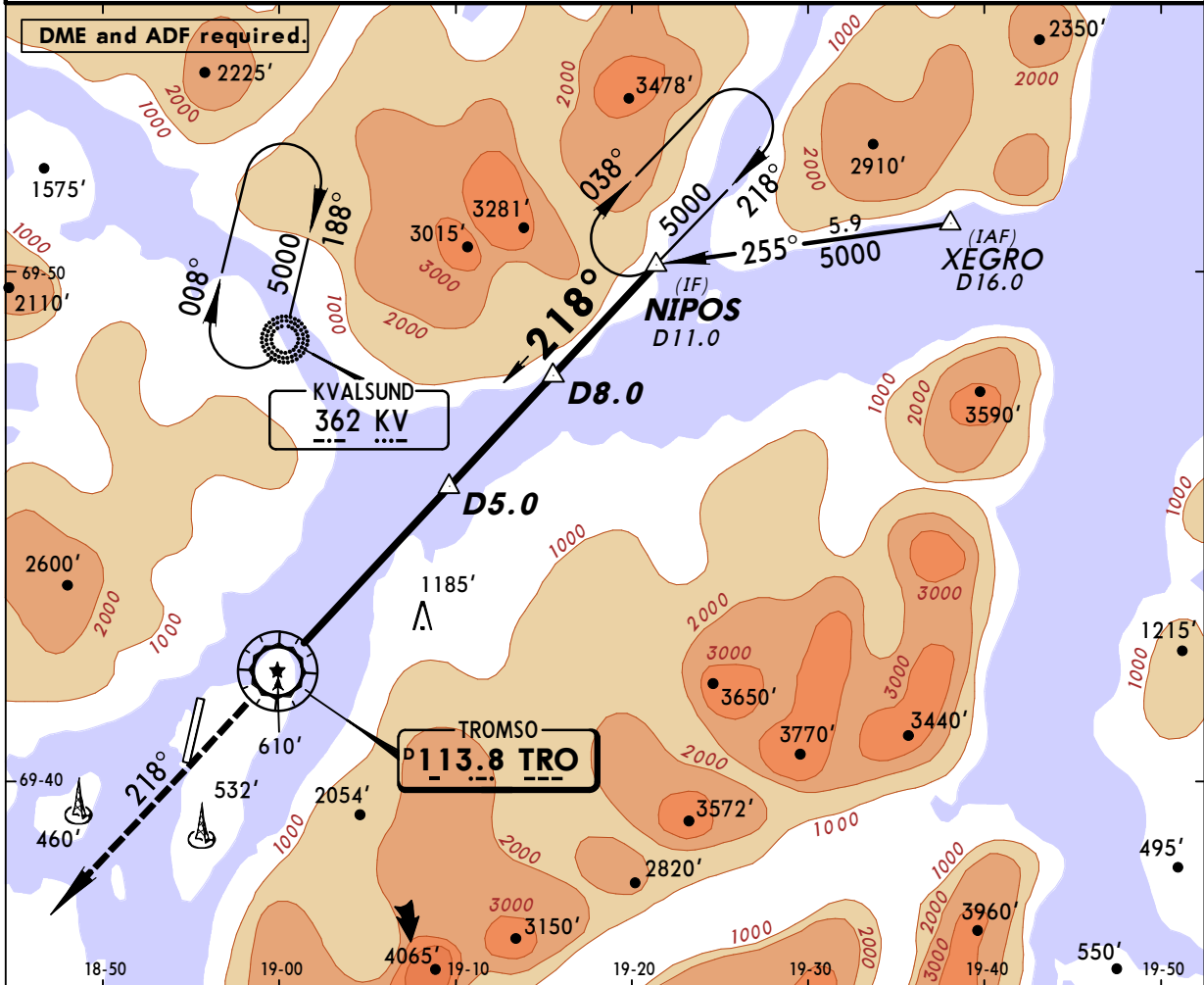
*ATIS <b>126.12</b>		*TROMSO Approach <b>123.75</b>		*TROMSO Tower <b>118.3</b>	
VOR TRO <b>113.8</b>	Final Apch Crs <b>218°</b>	Minimum Alt <b>D5.0</b> 3100' (3069')	MDA(H) Refer to Minimums	Apt Elev <b>31'</b>	



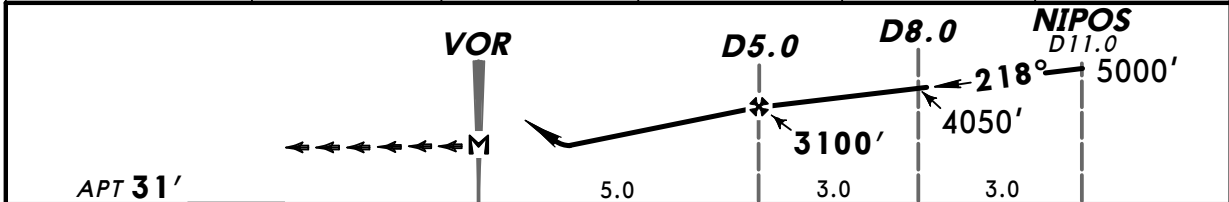
**MISSED APCH:** Climb on R-218 to D8.0, then climbing turn LEFT (MAX 185 KT) to VOR, then on R-356 to KV Lctr to 5000' and hold.

MSA TRO VOR

Alt Set: hPa      Apt Elev: 1 hPa      Trans level: By ATC      Trans alt: 7000'



TRO DME	2.0	3.0	4.0	5.0	6.0
ALTITUDE	2030'	2380'	2740'	3100'	3420'



Gnd speed-Kts	70	90	100	120	140	160	Lighting- Refer to Airport chart	D8.0 ↑ TRO on <b>113.8</b> R-218	
Descent Angle	3.39°	420	540	600	720	840			960
MAP at VOR									

Standard		CIRCLE-TO-LAND	
Not authorized West of airport			
	Max Kts	MDA(H)	VIS
A	100	<b>1300'</b> (1269')	1500m
B	135	<b>1300'</b> (1269')	1600m
C	180	<b>2760'</b> (2729')	2400m
D	205	<b>3020'</b> (2989')	3600m

PANS OPS 4