

Page 1

Changed chart(s) since Disc 26-2012

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

ACT	PROCEDURE IDENT	INDEX	REV DATE	EFF DATE
Mineralnyye Vody, (Mineralnyye Vody - URMM)				
REV	ALEGI, BADKO & SULOD 2R RN...	10-2	04 ýîâ 2013	10 ýîâ 2013
REV	ALEGI, BADKO & SULOD 4R RN...	10-2A	04 ýîâ 2013	10 ýîâ 2013
REV	ABELA, MARAT, RESLO & TP 2...	10-2B	04 ýîâ 2013	10 ýîâ 2013
REV	ABELA, MARAT, RESLO & TP 4...	10-2C	04 ýîâ 2013	10 ýîâ 2013
REV	ALEGI, BADKO & SULOD 2C AR...	10-2D	04 ýîâ 2013	10 ýîâ 2013
REV	ALEGI, BADKO & SULOD 4C AR...	10-2E	04 ýîâ 2013	10 ýîâ 2013
REV	ABELA, MARAT, RESLO & TP 2...	10-2F	04 ýîâ 2013	10 ýîâ 2013
REV	ABELA, MARAT, RESLO & TP 4...	10-2G	04 ýîâ 2013	10 ýîâ 2013
REV	ALEGI, BADKO & SULOD 2V AR...	10-2H	04 ýîâ 2013	10 ýîâ 2013
REV	ALEGI, BADKO & SULOD 4V AR...	10-2J	04 ýîâ 2013	10 ýîâ 2013
REV	ABELA, MARAT, RESLO & TP 2...	10-2K	04 ýîâ 2013	10 ýîâ 2013
REV	ABELA, MARAT, RESLO & TP 4...	10-2L	04 ýîâ 2013	10 ýîâ 2013
REV	ALEGI, BADKO & SULOD 2W A...	10-2M	04 ýîâ 2013	10 ýîâ 2013
REV	ALEGI, BADKO & SULOD 4W A...	10-2N	04 ýîâ 2013	10 ýîâ 2013
REV	ABELA, MARAT, RESLO & TP 2...	10-2P	04 ýîâ 2013	10 ýîâ 2013
REV	ABELA, MARAT, RESLO & TP 4...	10-2Q	04 ýîâ 2013	10 ýîâ 2013
ADD	BADKO & SULOD 1R RNAV DE...	10-3	04 ýîâ 2013	10 ýîâ 2013
ADD	BADKO & SULOD 3R RNAV DE...	10-3A	04 ýîâ 2013	10 ýîâ 2013
REV	ABELA, MARAT, RESLO, SORO...	10-3B	04 ýîâ 2013	10 ýîâ 2013
REV	ABELA, MARAT, RESLO, SORO...	10-3C	04 ýîâ 2013	10 ýîâ 2013
ADD	BADKO & SULOD 1V DEPS	10-3D	04 ýîâ 2013	10 ýîâ 2013
ADD	BADKO & SULOD 3V DEPS	10-3E	04 ýîâ 2013	10 ýîâ 2013
REV	ABELA, MARAT, RESLO, SORO...	10-3F	04 ýîâ 2013	10 ýîâ 2013
REV	ABELA, MARAT, RESLO, SORO...	10-3G	04 ýîâ 2013	10 ýîâ 2013
ADD	BADKO & SULOD 1W DEPS	10-3H	04 ýîâ 2013	10 ýîâ 2013
ADD	BADKO & SULOD 3W DEPS	10-3J	04 ýîâ 2013	10 ýîâ 2013
REV	ABELA, MARAT, RESLO & TP 1...	10-3K	04 ýîâ 2013	10 ýîâ 2013
REV	ABELA, MARAT, RESLO, SORO...	10-3L	04 ýîâ 2013	10 ýîâ 2013
REV	AIRPORT, AIRPORT INFO, TAK...	10-9	28 ääê 2012	10 ýîâ 2013
REV	PARKING STANDS & COORDS, ...	10-9A	28 ääê 2012	10 ýîâ 2013
REV	STANDARD MNMS	10-9S	28 ääê 2012	10 ýîâ 2013
REV	JAA MNMS	10-9X	28 ääê 2012	10 ýîâ 2013
REV	CAT I/II ILS DME OR NDB RWY ...	11-1	28 ääê 2012	10 ýîâ 2013
REV	CAT I/II VOR DME ILS RWY 12	11-2	28 ääê 2012	10 ýîâ 2013
REV	ILS DME RWY 30	11-3	28 ääê 2012	10 ýîâ 2013
REV	VOR DME ILS RWY 30	11-4	28 ääê 2012	10 ýîâ 2013
REV	VOR DME RWY 12	13-1	28 ääê 2012	10 ýîâ 2013
REV	VOR DME RWY 30	13-2	28 ääê 2012	10 ýîâ 2013

TERMINAL CHART NOTAMs

No Chart NOTAMs for Airport URMM

URMM (Mineralnyye Vody)**General Info**

Mineralnyye Vody, RUS

N 44° 13.6' E 43° 05.0' Mag Var: 5.6°E

Elevation: 1047'

Public, IFR, Control Tower, Customs, Landing Fee

Fuel: Jet A-1

Repairs: Minor Airframe, Minor Engine

Time Zone Info: GMT+4:00 no DST

Runway Info

Runway 12-30 12795' x 197' concrete

Runway 12 (115.0°M) TDZE 1037'

Lights: Edge, ALS, Centerline, TDZ

Runway 30 (295.0°M) TDZE 1044'

Lights: Edge, ALS, Centerline

Communications InfoATIS **127.4** Non-EnglishATIS **125.25**Mineralnyye Vody Start Tower **128.0**Mineralnyye Vody Taxiing Ground Control **121.9**Mineralnyye Vody Approach Control **119.3**Mineralnyye Vody Krug Radar **120.7**Mineralnyye Vody Transit Operations **118.0****Notebook Info**

URMM/MRV
MINERALNYYE VODY

4 JAN 13

10-2

Eff 10 Jan

RNAV STAR

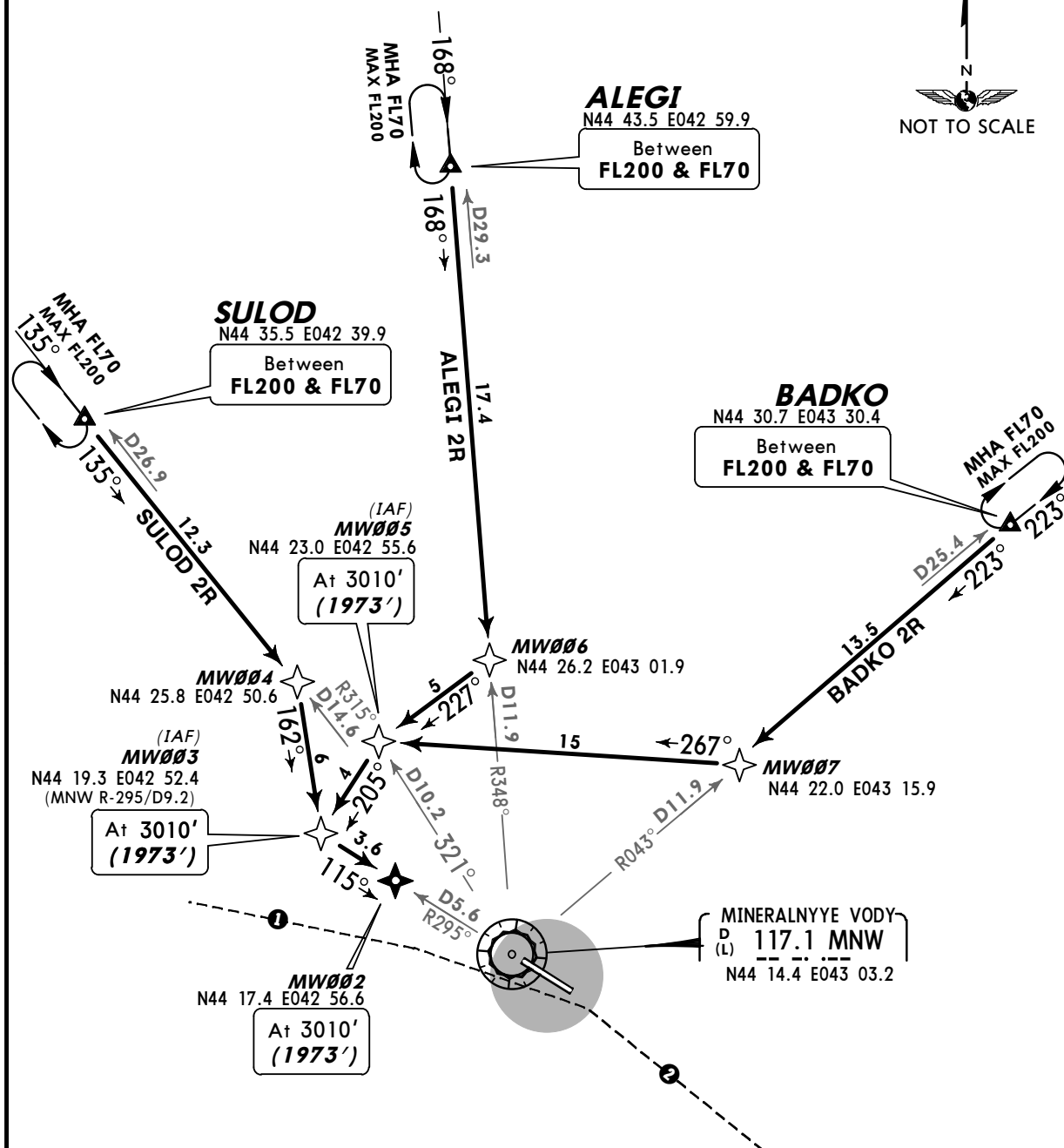
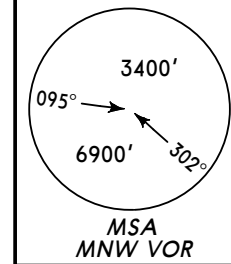
ATIS
125.25 (Russian 127.4)

Apt Elev
1047'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: FL60
FL70 if pressure is less than 704mm (938.6 hPa)
Trans alt: 4000' (2963')

ALEGI 2R [ALEG2R]
BADKO 2R [BADK2R]
SULOD 2R [SULO2R]
RWY 12 RNAV ARRIVALS
RNAV (GNSS)

SPEED MAX 250 KT BELOW FL100



- ① 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
- ② 302° to ARP between 12.1 NM and 1.9 NM do not fly south below FL60.

ALT/HEIGHT CONVERSION
QNH (QFE)
4000' (2963' - 900m)
3010' (1973' - 600m)

URMM/MRV
MINERALNYYE VODY

4 JAN 13

10-2A

Eff 10 Jan

JEPPESEN MINERALNYYE VODY, RUSSIA

RNAV STAR

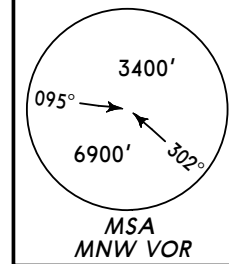
ATIS
125.25 (Russian 127.4)

Apt Elev
1047'

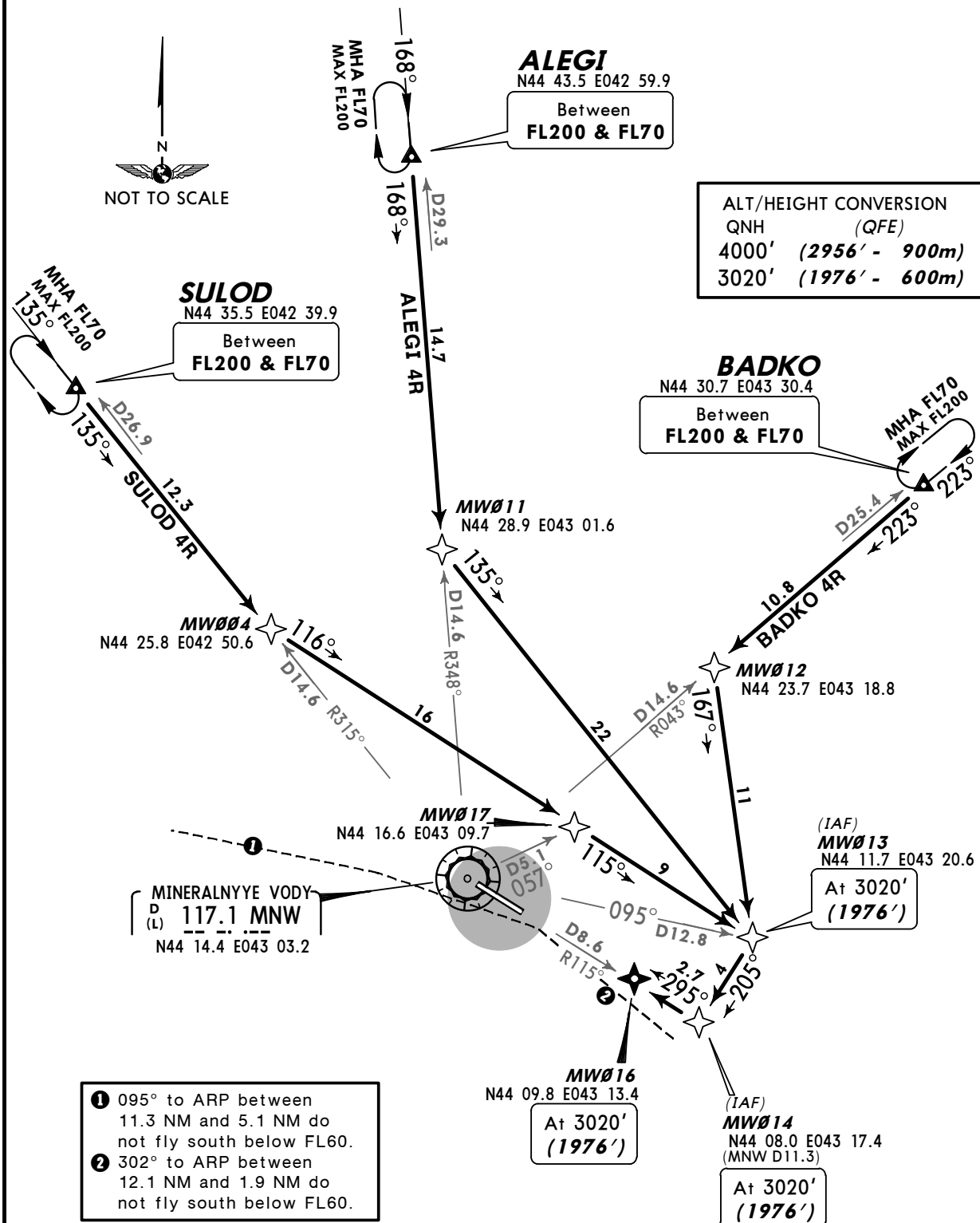
Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: FL60
FL70 if pressure is less than 704mm (938.6 hPa)
Trans alt: 4000' (2956')

ALEGI 4R [ALEG4R]
BADKO 4R [BADK4R]
SULOD 4R [SULO4R]
RWY 30 RNAV ARRIVALS
RNAV (GNSS)

SPEED: MAX 250 KT BELOW FL100



ALT/HEIGHT CONVERSION	
QNH	(QFE)
4000'	(2956' - 900m)
3020'	(1976' - 600m)



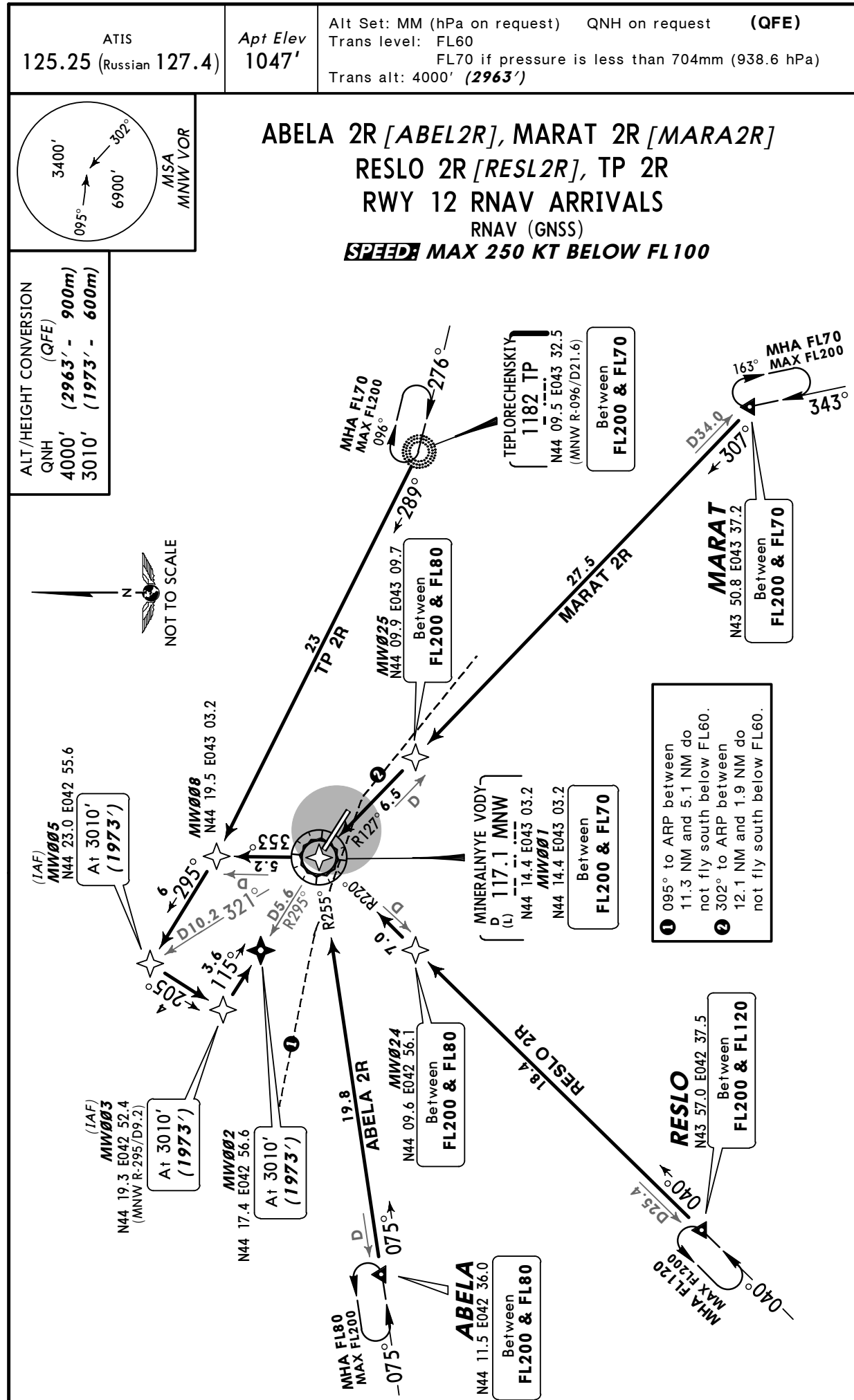
URMM/MRV
MINERALNYE VODY

4 JAN 13

10-2B

Eff 10 Jan

RNAV STAR



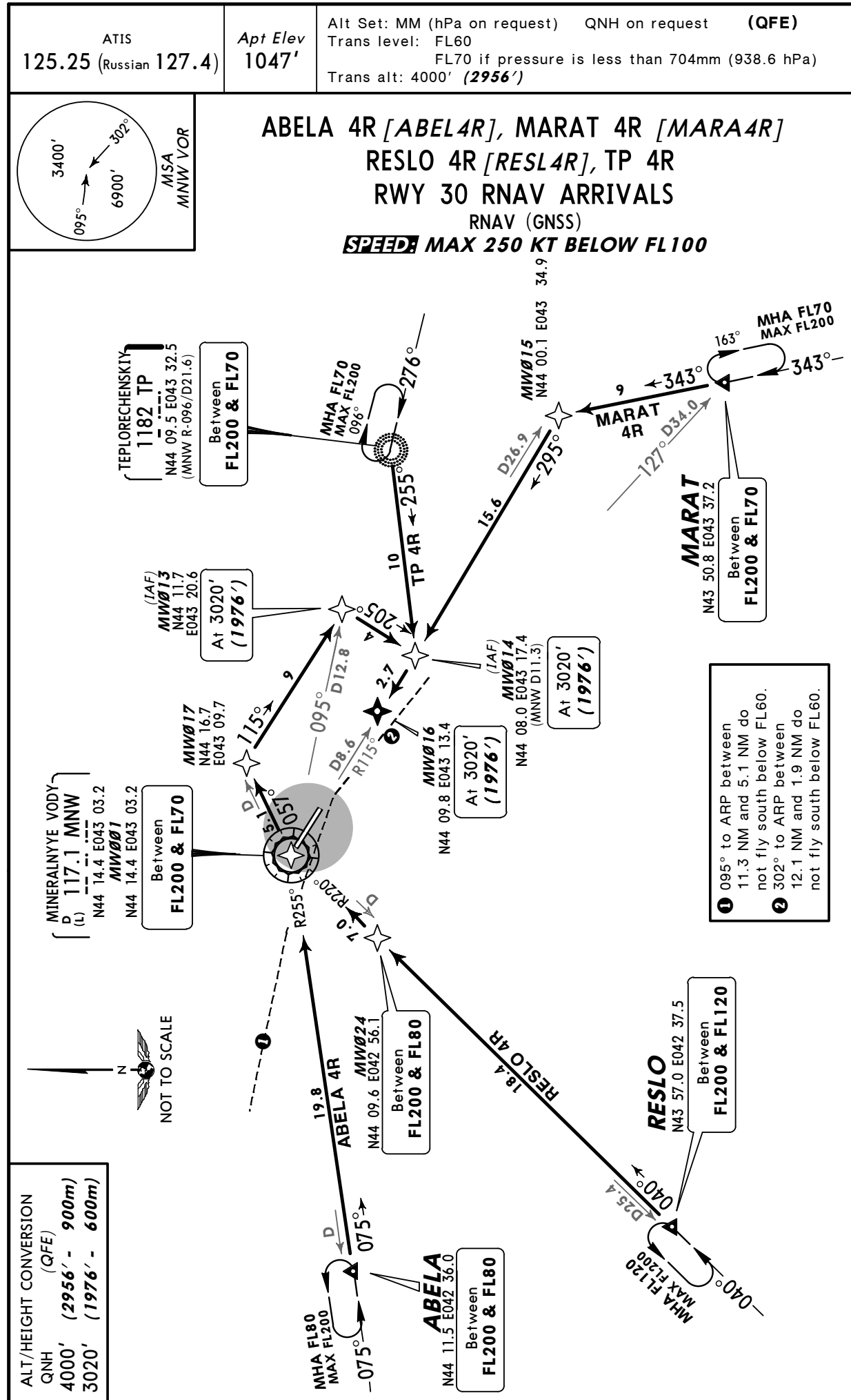
URMM/MRV
MINERALNYYE VODY

4 JAN 13

10-2C

Eff 10 Jan

RNAV STAR



URMM/MRV
MINERALNYYE VODY

4 JAN 13

10-2D

Eff 10 Jan

STAR

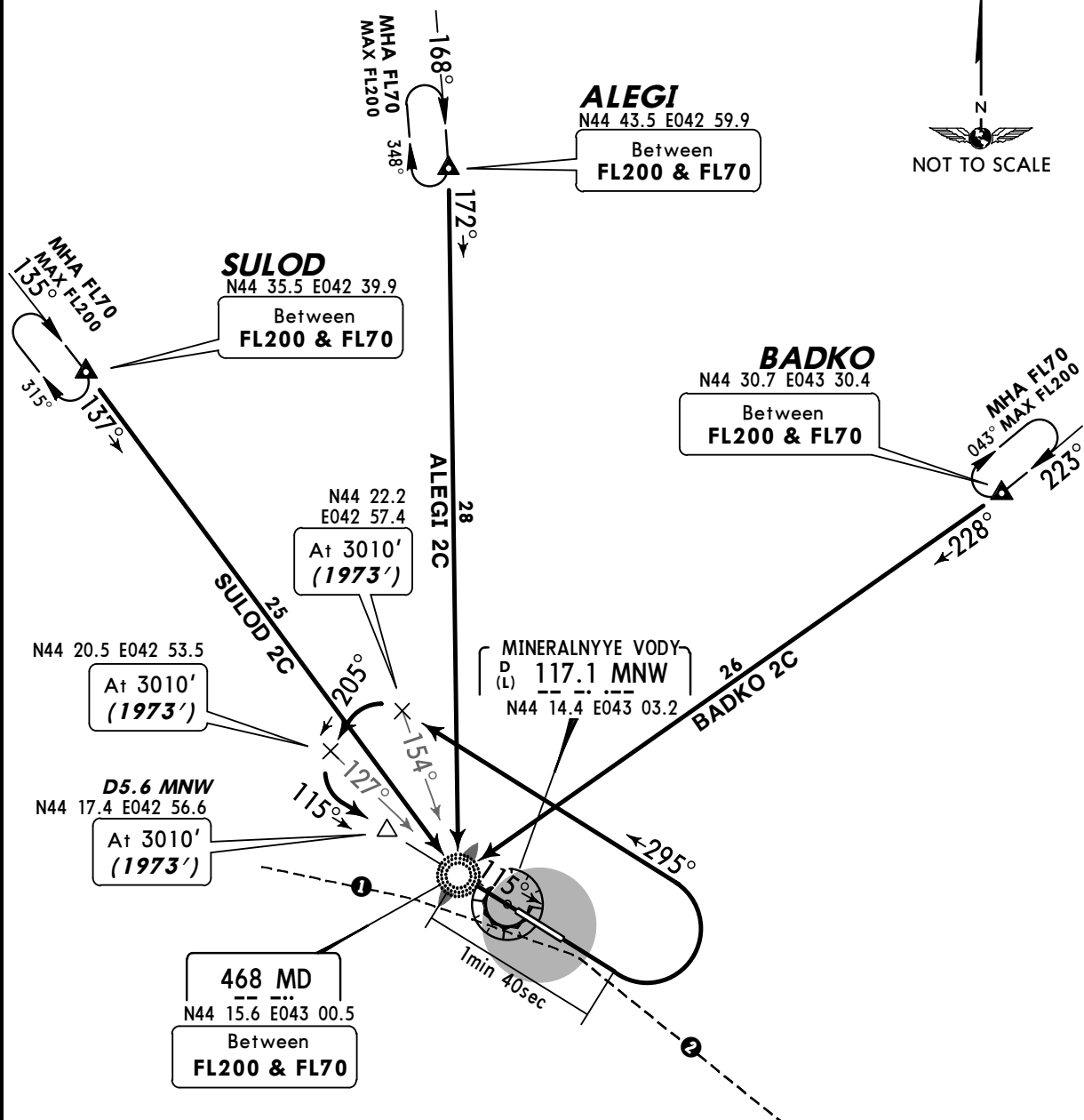
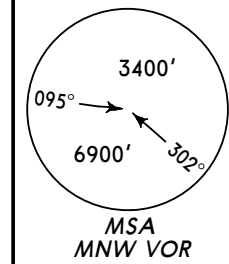
JEPPESEN MINERALNYYE VODY, RUSSIA

ATIS
125.25 (Russian 127.4)

Apt Elev
1047'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: FL60
FL70 if pressure is less than 704mm (938.6 hPa)
Trans alt: 4000' (2963')

ALEGI 2C [ALEG2C]
BADKO 2C [BADK2C]
SULOD 2C [SULO2C]
RWY 12 ARRIVALS
~~SPEED~~ MAX 250 KT BELOW FL100



- ① 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
- ② 302° to ARP between 12.1 NM and 1.9 NM do not fly south below FL60.

ALT/HEIGHT CONVERSION
QNH (QFE)
4000' (2963' - 900m)
3010' (1973' - 600m)

URMM/MRV

MINERALNYYE VODY

4 JAN 13

10-2E

Eff 10 Jan

JEPPESEN MINERALNYYE VODY, RUSSIA

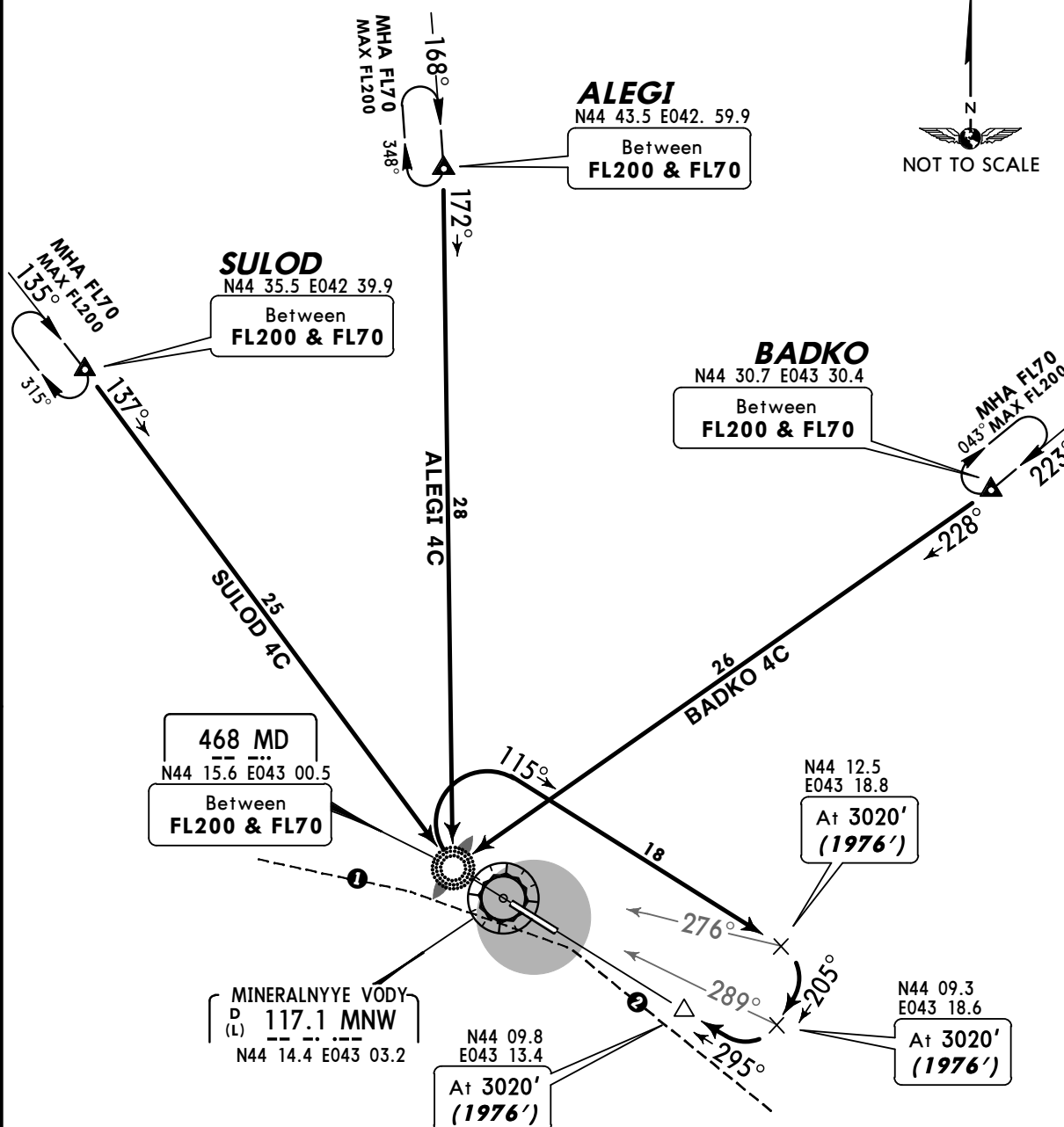
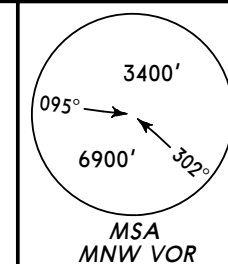
STAR

ATIS
125.25 (Russian 127.4)

Apt Elev
1047'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: FL60
FL70 if pressure is less than 704mm (938.6 hPa)
Trans alt: 4000' (2956')

ALEGI 4C [ALEG4C]
BADKO 4C [BADK4C]
SULOD 4C [SULO4C]
RWY 30 ARRIVALS
SPEED MAX 250 KT BELOW FL100



- ① 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
- ② 302° to ARP between 12.1 NM and 1.9 NM do not fly south below FL60.

ALT/HEIGHT CONVERSION	
QNH	(QFE)
4000'	(2956' - 900m)
3020'	(1976' - 600m)

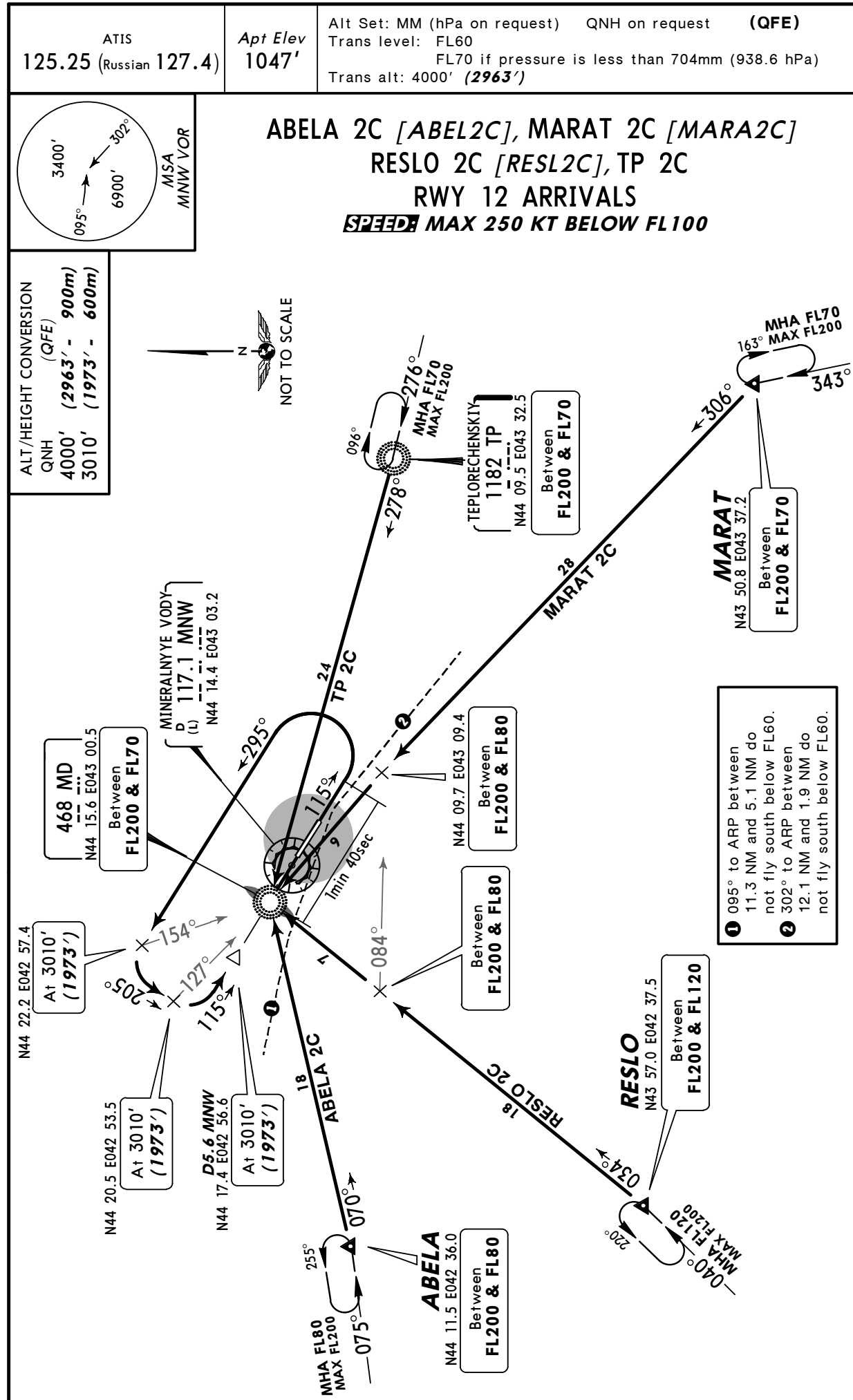
URMM/MRV MINERALNYYE VODY

4 JAN 13

10-2F

Eff 10 Jan

STAR



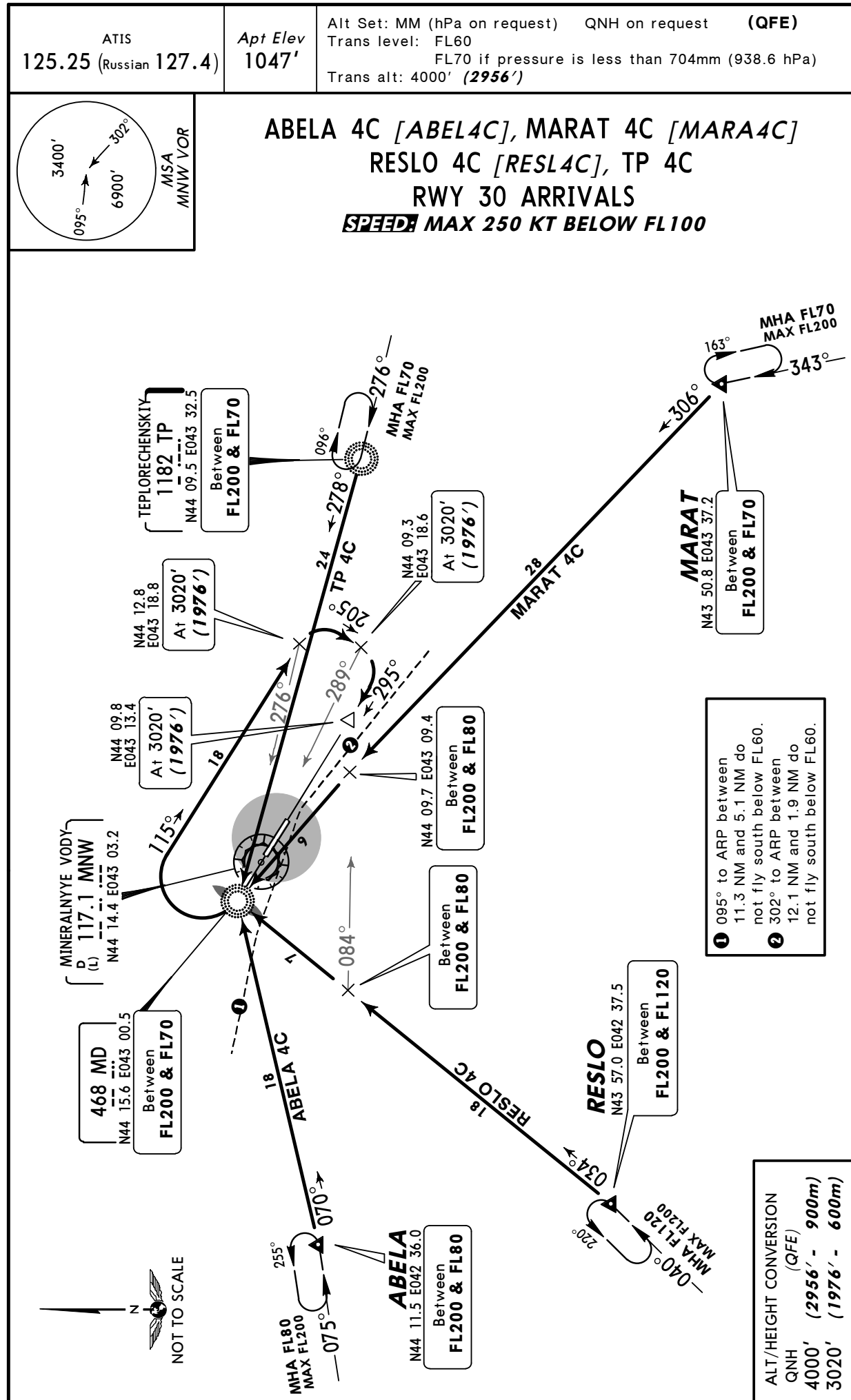
URMM/MRV
MINERALNYYE VODY

4 JAN 13

10-2G

Eff 10 Jan

STAR



URMM/MRV
MINERALNYYE VODY

4 JAN 13

(10-2H)

Eff 10 Jan

STAR

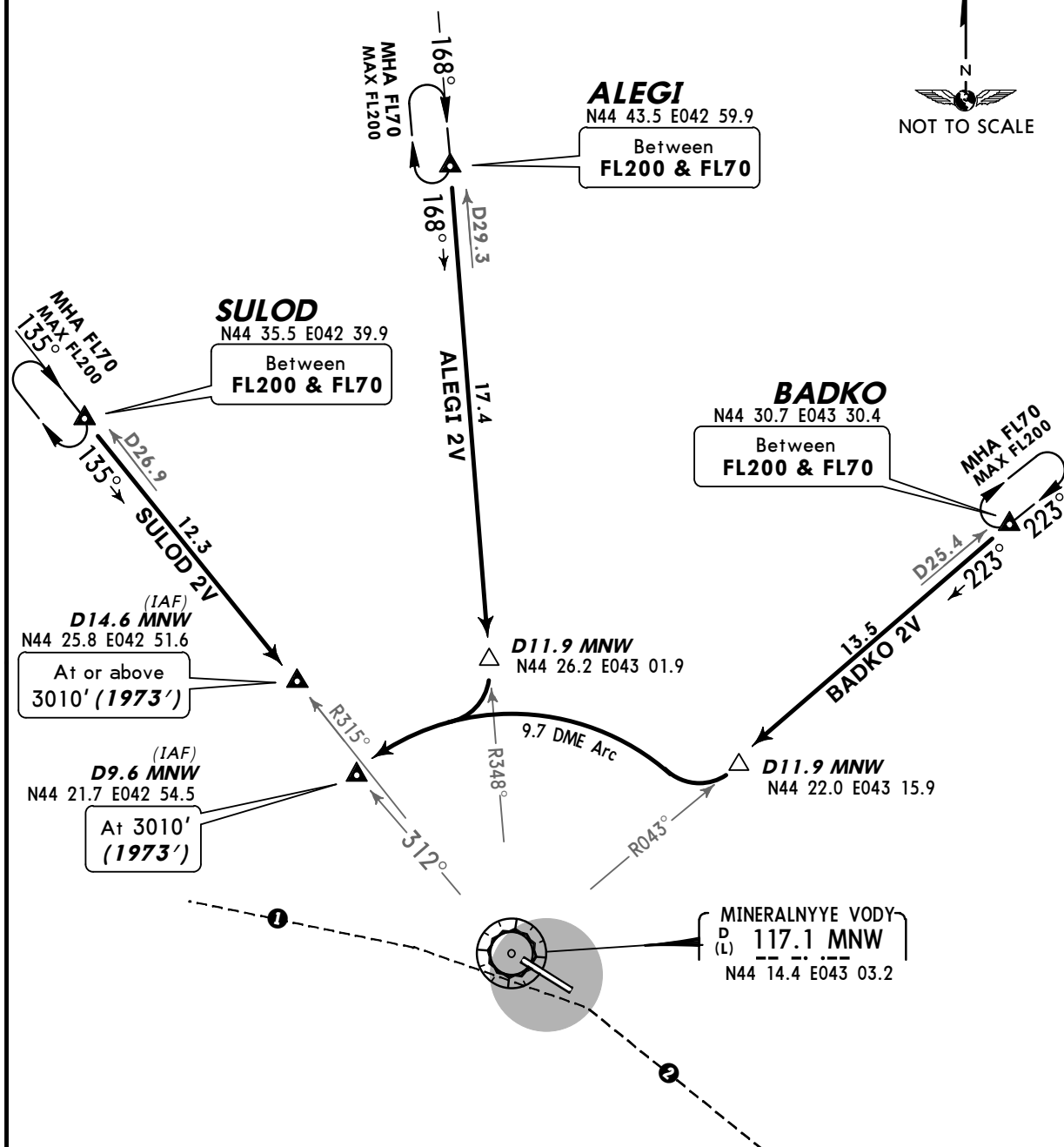
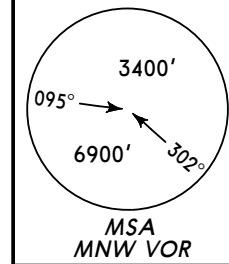
JEPPESEN MINERALNYYE VODY, RUSSIA

ATIS
125.25 (Russian 127.4)

Apt Elev
1047'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: FL60
FL70 if pressure is less than 704mm (938.6 hPa)
Trans alt: 4000' (2963')

ALEGI 2V [ALEG2V]
BADKO 2V [BADK2V]
SULOD 2V [SULO2V]
RWY 12 ARRIVALS
SPEED MAX 250 KT BELOW FL100



- ① 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
- ② 302° to ARP between 12.1 NM and 1.9 NM do not fly south below FL60.

ALT/HEIGHT CONVERSION
QNH (QFE)
4000' (2963' - 900m)
3010' (1973' - 600m)

URMM/MRV
MINERALNYYE VODY

4 JAN 13

10-2J

Eff 10 Jan

JEPPESEN MINERALNYYE VODY, RUSSIA

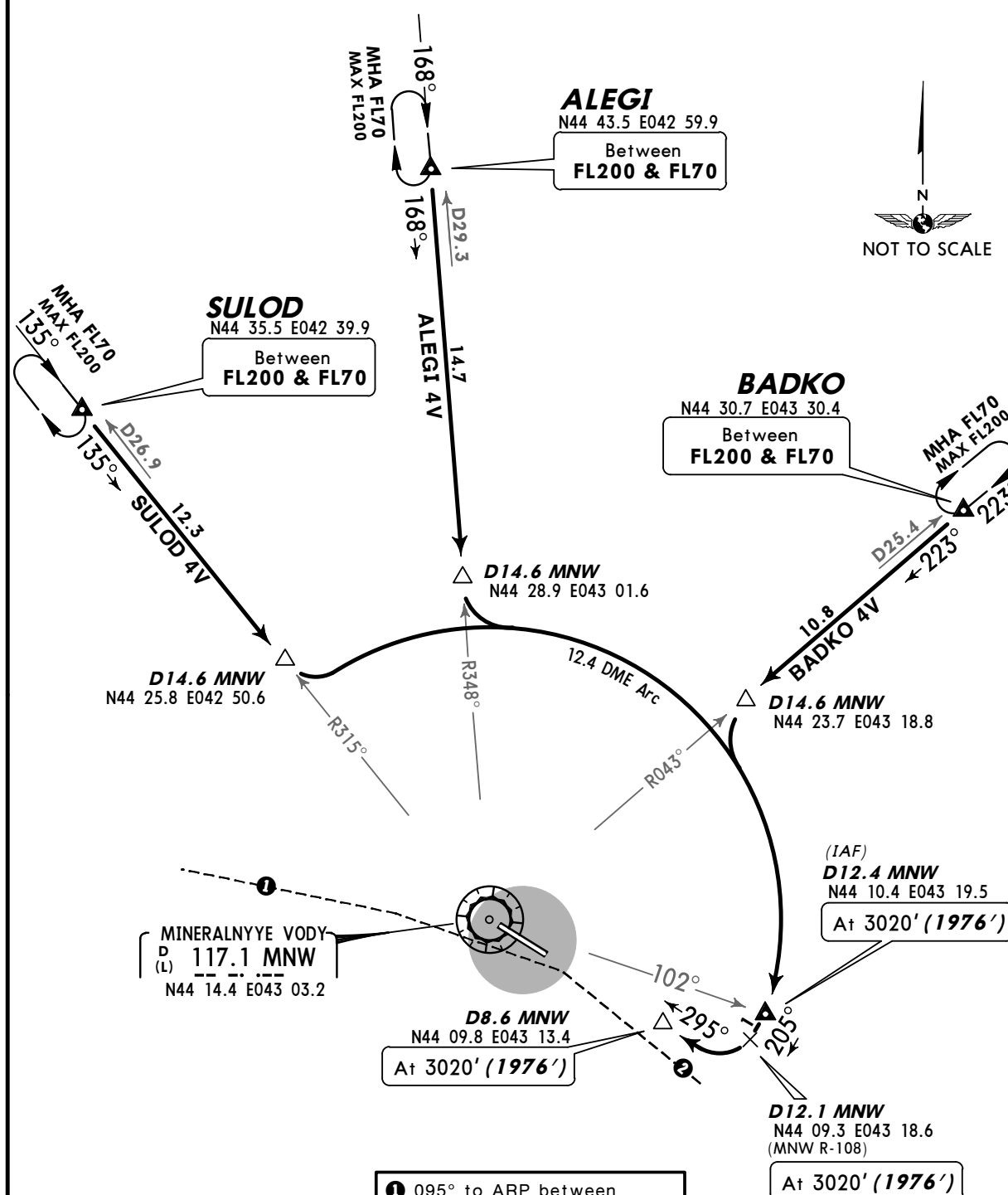
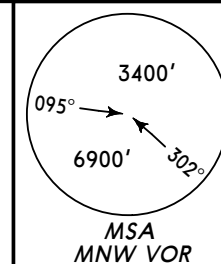
STAR

ATIS
125.25 (Russian 127.4)

Apt Elev
1047'

Alt Set: MM (hPa on request) QNH on request **(QFE)**
Trans level: FL60
 FL70 if pressure is less than 704mm (938.6 hPa)
Trans alt: 4000' **(2956')**

ALEGI 4V [ALEG4V]
BADKO 4V [BADK4V]
SULOD 4V [SULO4V]
RWY 30 ARRIVALS
ED MAX 250 KT BELOW FL100



ALT/HEIGHT CONVERSION
QNH (QFE)
4000' (2956' - 900m)
3020' (1976' - 600m)

- ① 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
- ② 302° to ARP between 12.1 NM and 1.9 NM do not fly south below FL60.

URMM/MRV
MINERALNYYE VODY

4 JAN 13

(10-2K)

Eff 10 Jan

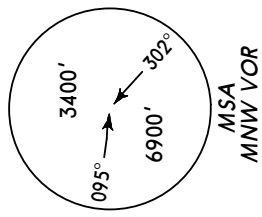
JEPPESEN MINERALNYYE VODY, RUSSIA

STAR

ATIS
125.25 (Russian 127.4)

Apt Elev
1047'

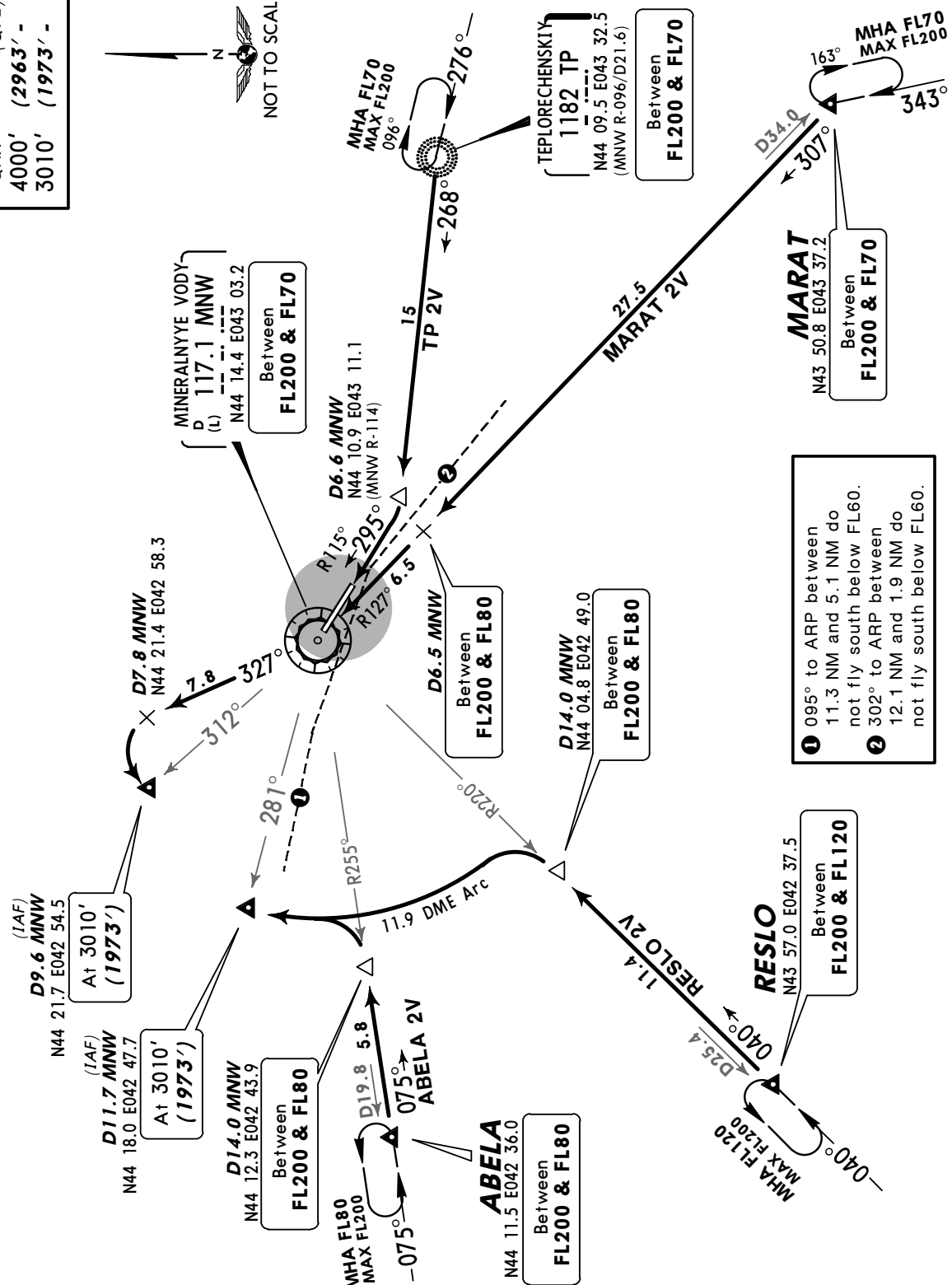
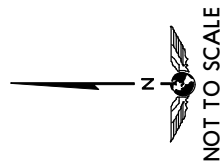
Alt Set: MM (hPa on request) QNH on request **(QFE)**
Trans level: FL60
FL70 if pressure is less than 704mm (938.6 hPa)
Trans alt: 4000' **(2963')**



ABELA 2V [ABEL2V], MARAT 2V [MARA2V]
RESLO 2V [RESL2V], TP 2V
RWY 12 ARRIVALS
SPEED MAX 250 KT BELOW FL100

ALT/HEIGHT CONVERSION
QNH (QFE)

4000' (2963' - 900m)
3010' (1973' - 600m)



URMM/MRV
MINERALNYYE VODY

4 JAN 13

10-2L

Eff 10 Jan

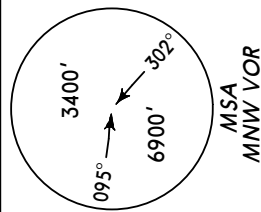
JEPPESSEN MINERALNYYE VODY, RUSSIA

STAR

ATIS
125.25 (Russian 127.4)

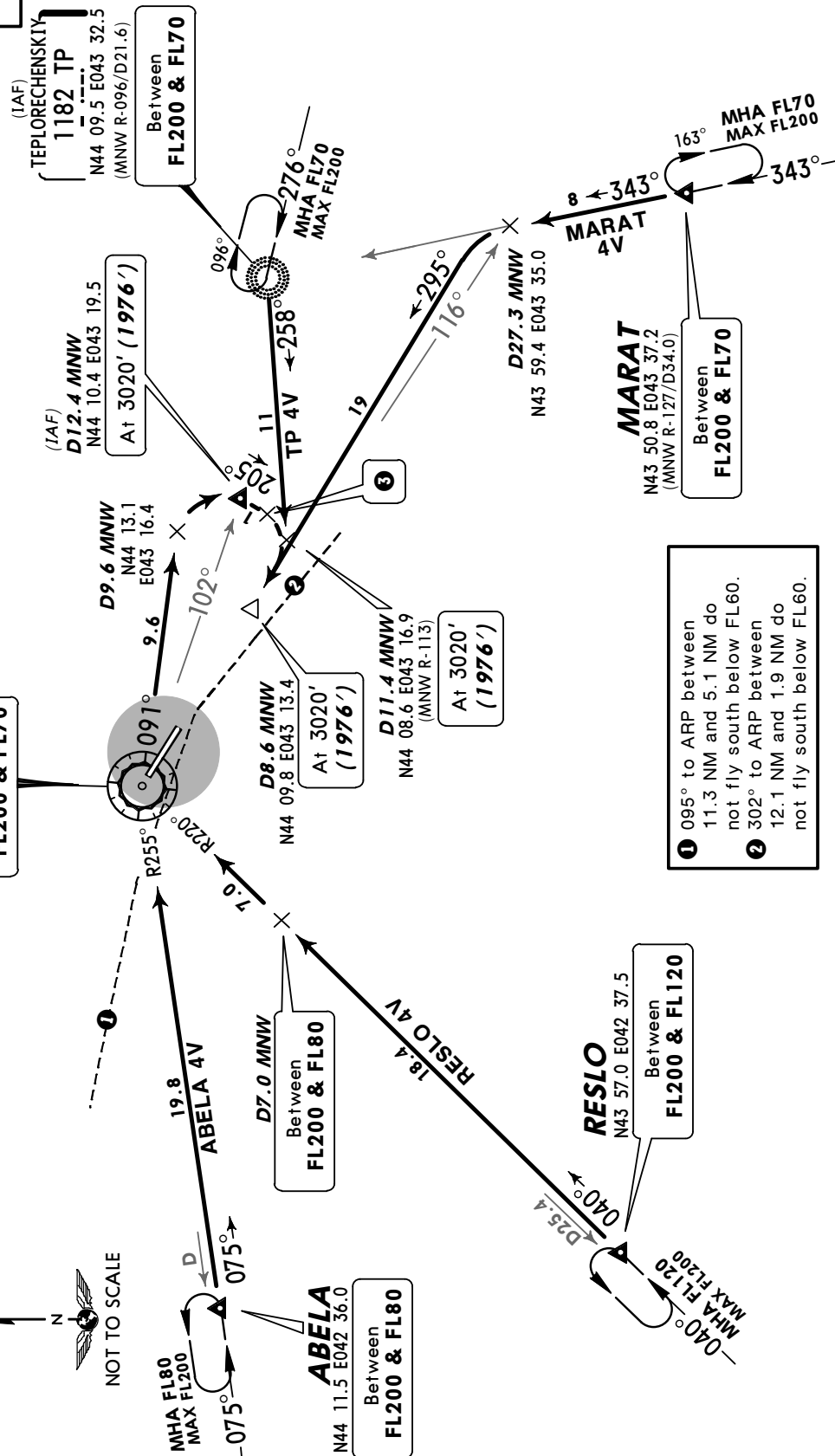
Apt Elev
1047'

Alt Set: MM (hPa on request) QNH on request **(QFE)**
Trans level: FL60
FL70 if pressure is less than 704mm (938.6 hPa)
Trans alt: 4000' **(2956')**



ABELA 4V [ABEL4V], MARAT 4V [MARA4V]
RESLO 4V [RESL4V], TP 4V
RWY 30 ARRIVALS
SPEED: MAX 250 KT BELOW FL100

③ D12.1 MNW
N44 09.3 E043 18.6
(MNW R-108)
At 3020' (1976')

ALT/HEIGHT CONVERSION
QNH (QFE)

4000' (2956' - 900m)
3020' (1976' - 600m)

NOT TO SCALE

ABELA
N44 11.5 E042 36.0
Between
FL200 & FL80

RESLO
N43 57.0 E042 37.5
Between
EI 200 & EI 120

- ➊ 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
- ➋ 302° to ARP between 12.1 NM and 1.9 NM do not fly south below FL60.

URMM/MRV
MINERALNYYE VODY

4 JAN 13

(10-2M)

Eff 10 Jan

STAR

JEPPESEN MINERALNYYE VODY, RUSSIA

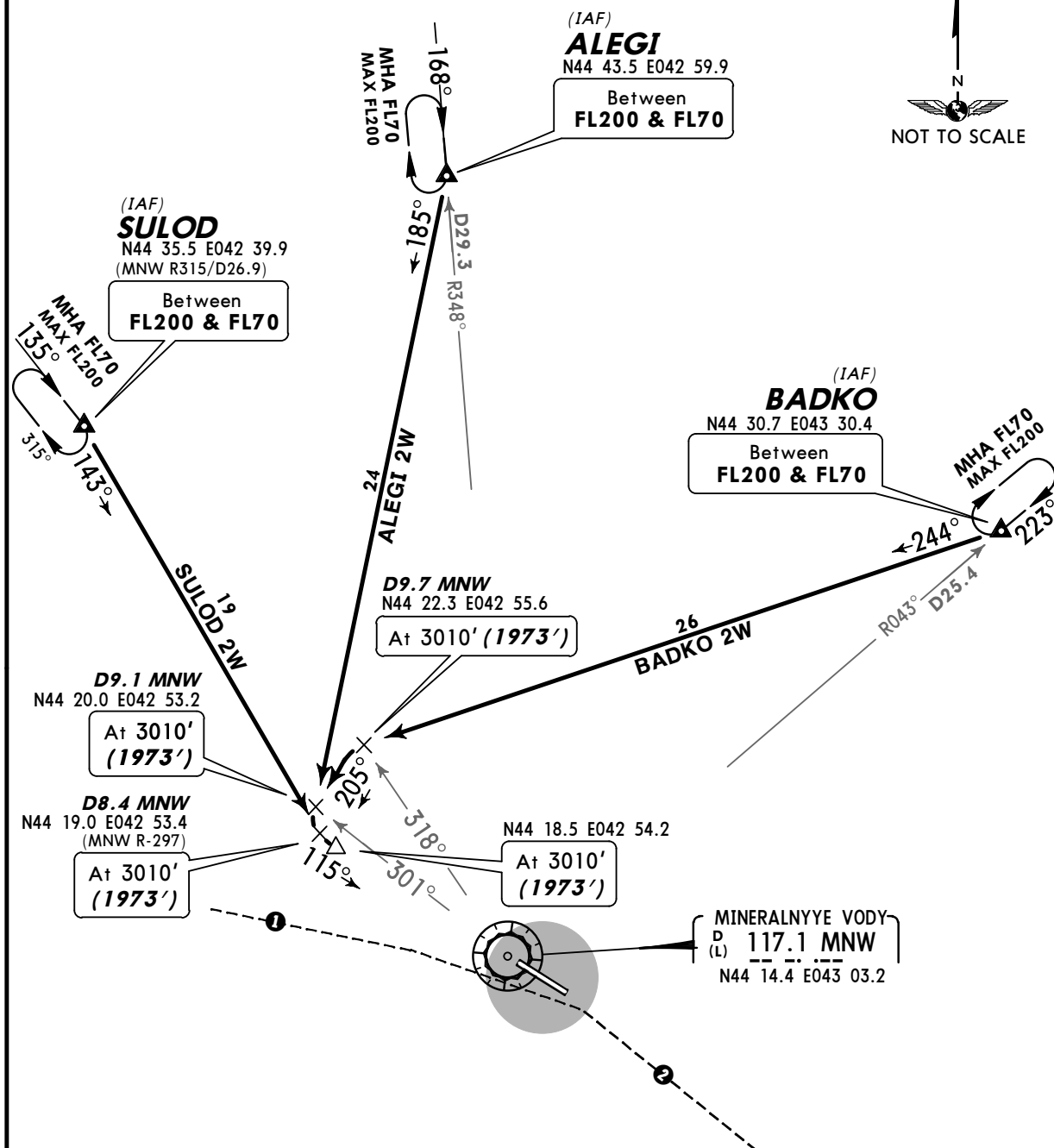
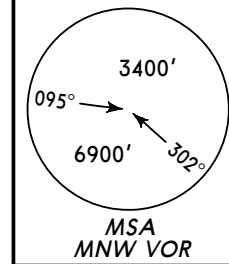
ATIS
125.25 (Russian 127.4)

Apt Elev
1047'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: FL60
FL70 if pressure is less than 704mm (938.6 hPa)
Trans alt: 4000' (2963')

ALEGI 2W [ALEG2W]
BADKO 2W [BADK2W]
SULOD 2W [SULO2W]
RWY 12 ARRIVALS
UNDER RADAR CONTROL

SPEED MAX 250 KT BELOW FL100



- ① 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
- ② 302° to ARP between 12.1 NM and 1.9 NM do not fly south below FL60.

ALT/HEIGHT CONVERSION	
QNH	(QFE)
4000'	(2963' - 900m)
3010'	(1973' - 600m)

URMM/MRV
MINERALNYYE VODY

4 JAN 13

10-2N

Eff 10 Jan

STAR



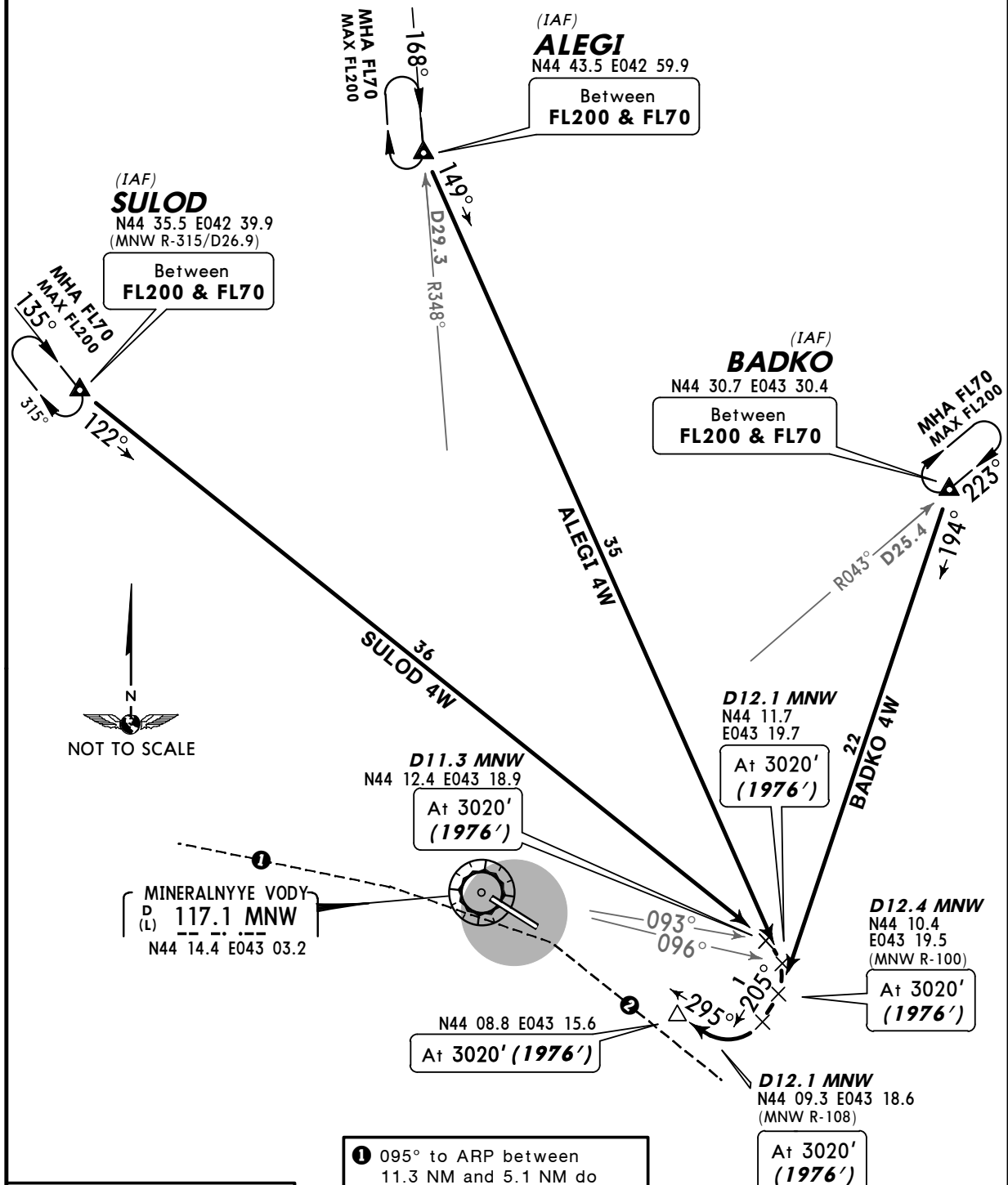
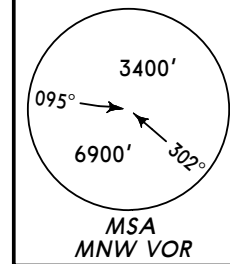
JEPPESEN MINERALNYYE VODY, RUSSIA

ATIS
125.25 (Russian 127.4)

Apt Elev
1047'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: FL60
FL70 if pressure is less than 704mm (938.6 hPa)
Trans alt: 4000' (2956')

ALEGI 4W [ALEG4W]
BADKO 4W [BADK4W]
SULOD 4W [SULO4W]
RWY 30 ARRIVALS
UNDER RADAR CONTROL
SPEED MAX 250 KT BELOW FL100



ALT/HEIGHT CONVERSION
QNH (QFE)
4000' (2956' - 900m)
3020' (1976' - 600m)

- ① 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
- ② 302° to ARP between 12.1 NM and 1.9 NM do not fly south below FL60.

URMM/MRV
MINERALNYYE VODY

4 JAN 13

10-2P

Eff 10 Jan

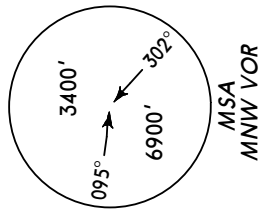
JEPPESEN MINERALNYYE VODY, RUSSIA

STAR

ATIS
125.25 (Russian 127.4)

Apt Elev
1047'

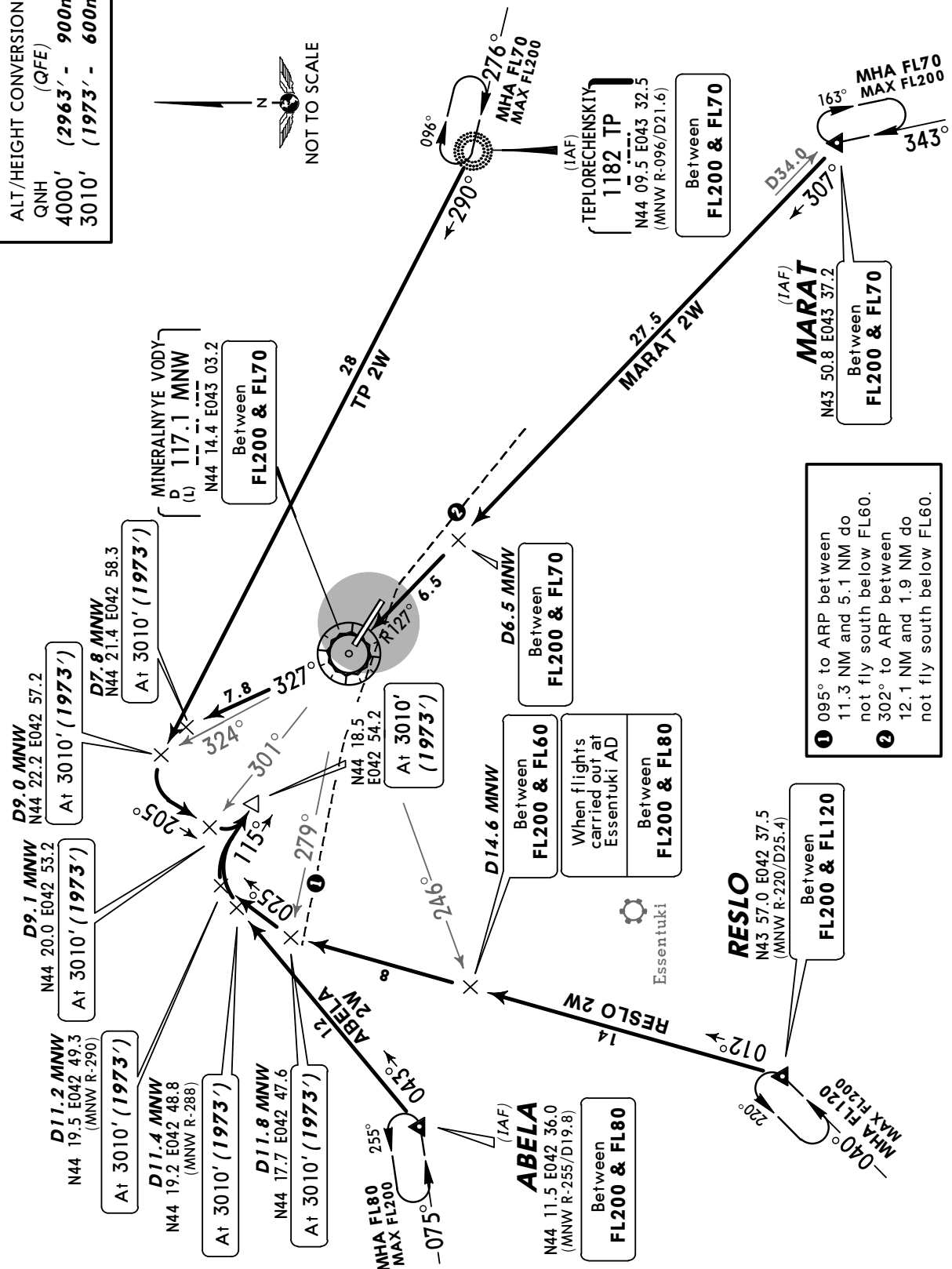
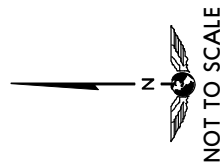
Alt Set: MM (hPa on request) QNH on request **(QFE)**
Trans level: FL60
FL70 if pressure is less than 704mm (938.6 hPa)
Trans alt: 4000' **(2963')**



ABELA 2W [ABEL2W], MARAT 2W [MARA2W]
RESLO 2W [RESL2W], TP 2W
RWY 12 ARRIVALS
UNDER RADAR CONTROL
SPEED: MAX 250 KT BELOW FL100

ALT/HEIGHT CONVERSION
(QFE)

QNH	
4000'	(2963' - 900m)
3010'	(1973' - 600m)



URMM/MRV
MINERALNYE VODY

4 JAN 13

10-2Q

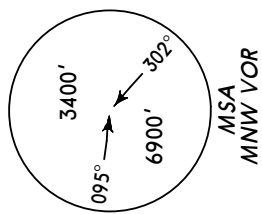
Eff 10 Jan

STAR

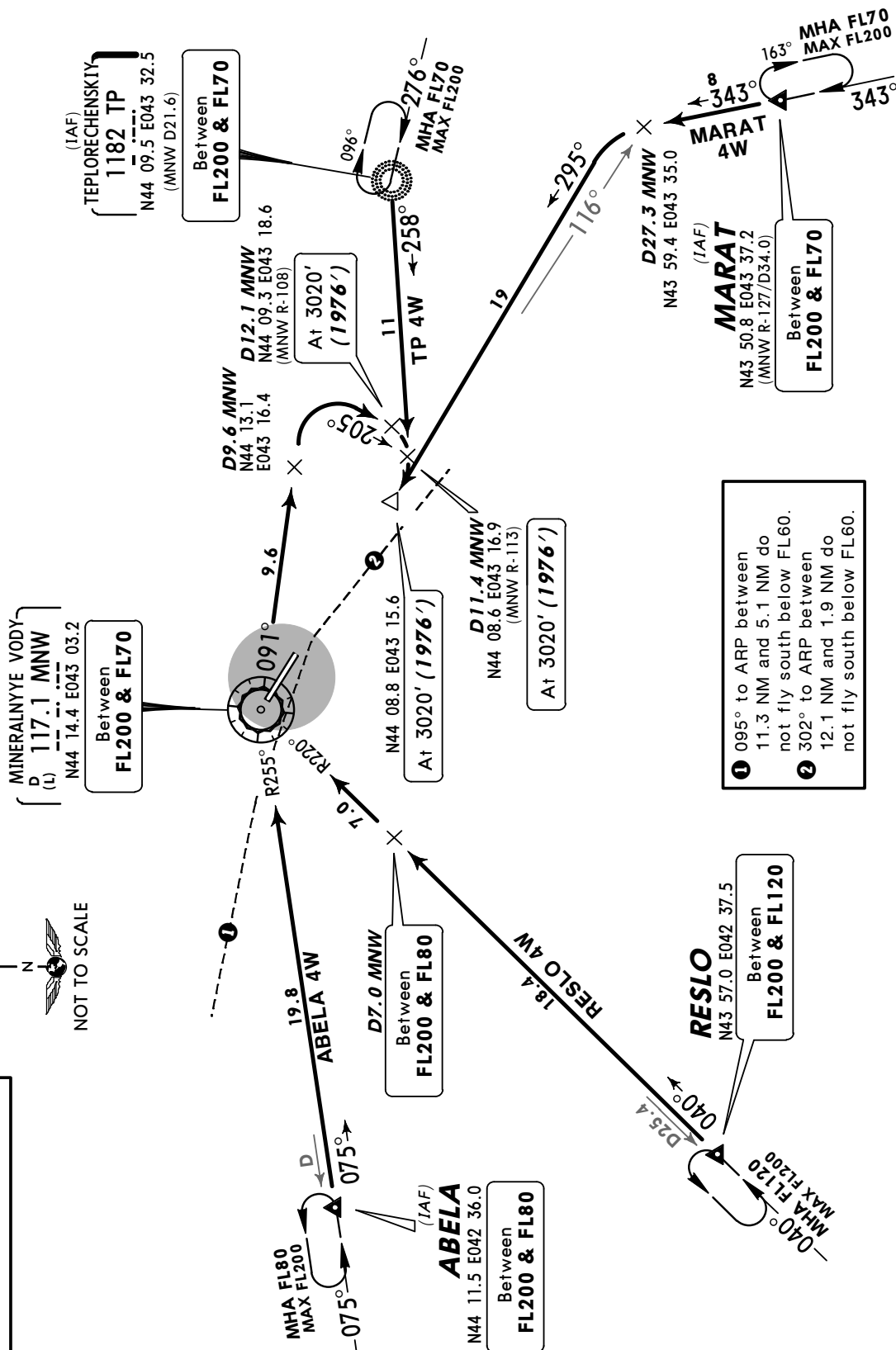
ATIS
125.25 (Russian 127.4)

Apt Elev
1047'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: FL60
FL70 if pressure is less than 704mm (938.6 hPa)
Trans alt: 4000' (2956')



ABELA 4W [ABEL4W], MARAT 4W [MARA4W]
RESLO 4W [RESL4W], TP 4W
RWY 30 ARRIVALS
UNDER RADAR CONTROL
SPEED MAX 250 KT BELOW FL100



ALT/HEIGHT CONVERSION
QNH (QFE)
4000' (2956' - 900m)
3020' (1976' - 600m)

URMM/MRV
MINERALNYE VODY

4 JAN 13

10-3

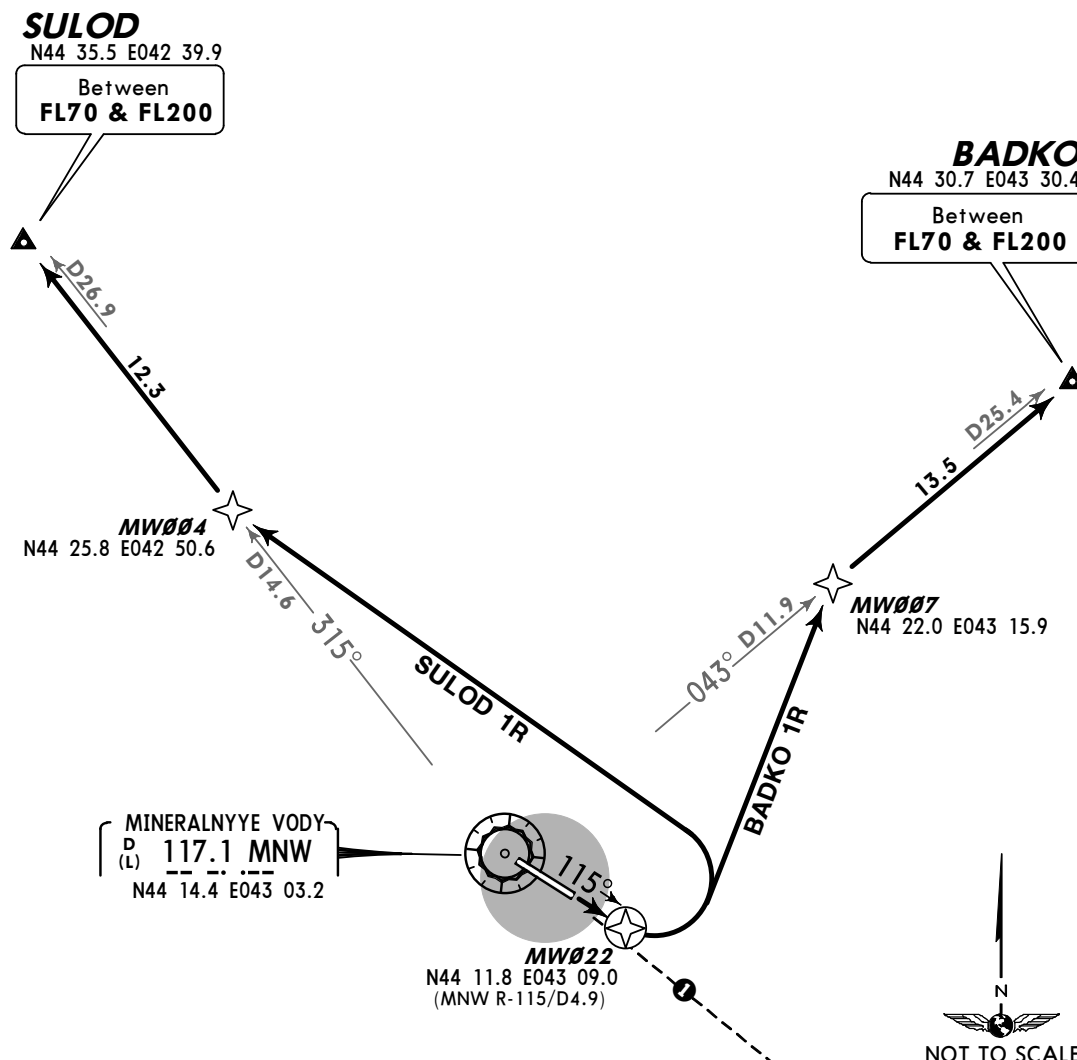
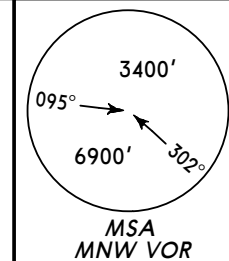
Eff 10 Jan

JEPPESEN MINERALNYE VODY, RUSSIA

RNAV SID

MINERALNYE VODY Krug 120.7	Apt Elev 1047'	QNH on request (QFE) Trans level: FL60 FL70 if pressure is less than 704 mm (938.6 hPa) Trans alt: 4000' (2963') 1. Contact MINERALNYE VODY Krug immediately after crossing 1440' (403'). 2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.
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**BADKO 1R [BADK1R]
SULOD 1R [SULO1R]
RWY 12 RNAV DEPARTURES**
RNAV (GNSS)



① 122° from ARP between 1.9 NM and 12.1 NM do not fly south below FL60.

This SID requires a minimum climb gradient of
BADKO 1R: 5.5%.
If unable to comply advise ATC.

Gnd speed-KT	75	100	150	200	250	300
5.5% (V/V fpm)	418	557	835	1114	1392	1671

ALT/HEIGHT CONVERSION	
QNH	(QFE)
1440'	(403' - 120m)
4000'	(2963' - 900m)

URMM/MRV
MINERALNYE VODY

4 JAN 13

(10-3A)

Eff 10 Jan

RNAV SID

JEPPESEN MINERALNYE VODY, RUSSIA

MINERALNYE
VODY
Krug
120.7

Apt Elev
1047'

QNH on request (QFE)

Trans level: FL60

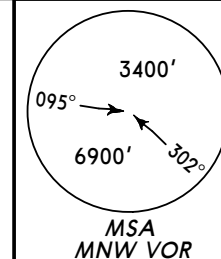
FL70 if pressure is less than 704 mm (938.6 hPa)

Trans alt: 4000' (2956')

1. Contact MINERALNYE VODY Krug immediately after crossing
1440' (396').

2. Take-off should be carried out with noise abatement procedures
according to Flight Operation Manual.

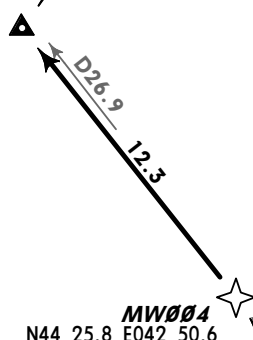
BADKO 3R [BADK3R]
SULOD 3R [SULO3R]
RWY 30 RNAV DEPARTURES
RNAV (GNSS)



SULOD

N44 35.5 E042 39.9

Between
FL70 & FL200

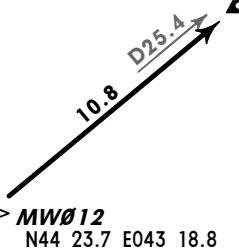


BADKO

N44 30.7 E043 30.4

Between
FL70 & FL200

BADKO 3R



468 MD

N44 15.6 E043 00.5

MW023

N44 15.6 E043 00.5
(MNW R-295/D2.3)

MINERALNYE VODY
D (L) 117.1 MNW
N44 14.4 E043 03.2
MW001
N44 14.4 E043 03.2

① 275° from ARP between
5.1 NM and 11.3 NM do
not fly south below FL60.

This SID requires a minimum climb gradient
of

BADKO 3R: 5.2%.

If unable to comply advise ATC.

Gnd speed-KT	75	100	150	200	250	300
5.2% (V/V fpm)	395	527	790	1053	1317	1549

ALT/HEIGHT CONVERSION

QNH (QFE)

1440' (396' - 120m)

4000' (2956' - 900m)

URMM/MRV

MINERALNYE VODY

4 JAN 13

10-3B

Eff 10 Jan



JEPPESSEN MINERALNYE VODY, RUSSIA

RNAV SID

MINERALNYE
VODY
Krug
120.7

Apt Elev
1047'

QNH on request (QFE)

Trans level: FL60

FL70 if pressure is less than 704 mm (938.6 hPa)

Trans alt: 4000' (2963')

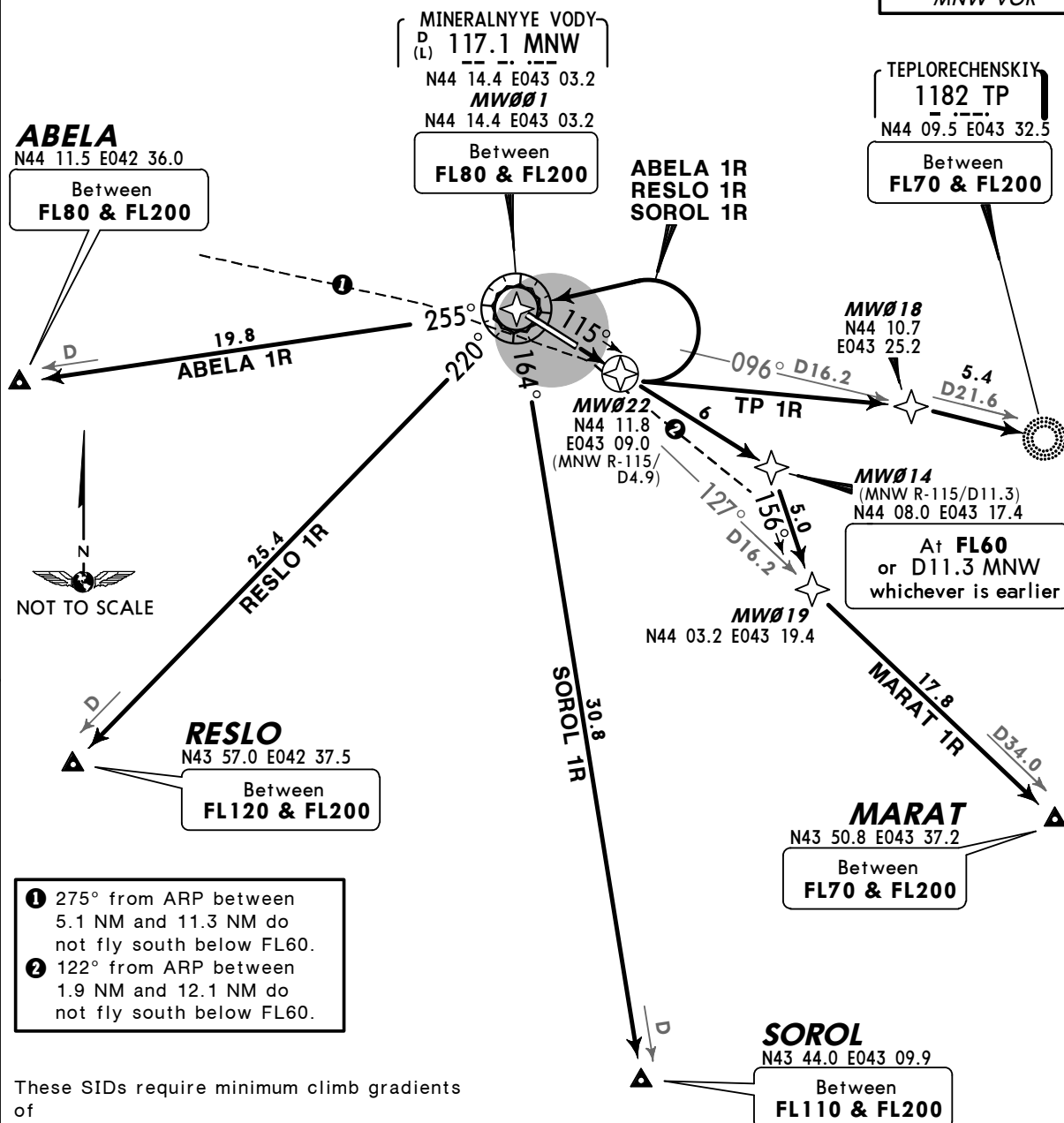
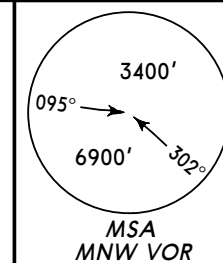
1. Contact MINERALNYE VODY Krug immediately after crossing 1440' (403').

2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

ABELA 1R [ABEL1R], MARAT 1R [MARA1R]
RESLO 1R [RESL1R], SOROL 1R [SORO1R]
TP 1R

RWY 12 RNAV DEPARTURES

RNAV (GNSS)



- ① 275° from ARP between 5.1 NM and 11.3 NM do not fly south below FL60.
- ② 122° from ARP between 1.9 NM and 12.1 NM do not fly south below FL60.

These SIDs require minimum climb gradients of
ABELA 1R, RESLO 1R, SOROL 1R: 7.0% to MNW.
MARAT 1R: 9.6% to MW014.
TP 1R: 4.4%.

If unable to comply advise ATC.

Gnd speed-KT	75	100	150	200	250	300
9.6% (V/V fpm)	729	972	1458	1944	2430	2917
7.0% (V/V fpm)	532	709	1063	1418	1772	2127
4.4% (V/V fpm)	334	446	668	891	1114	1337

ALT/HEIGHT CONVERSION	
QNH	(QFE)
1440'	(403' - 120m)
4000'	(2963' - 900m)

URMM/MRV MINERALNYE VODY

4 JAN 13

10-3C

Eff 10 Jan

RNAV SID

QNH on request (QFE)

Trans level: FL60

FL70 if pressure is less than 704 mm (938.6 hPa)

Trans alt: 4000' (2956')

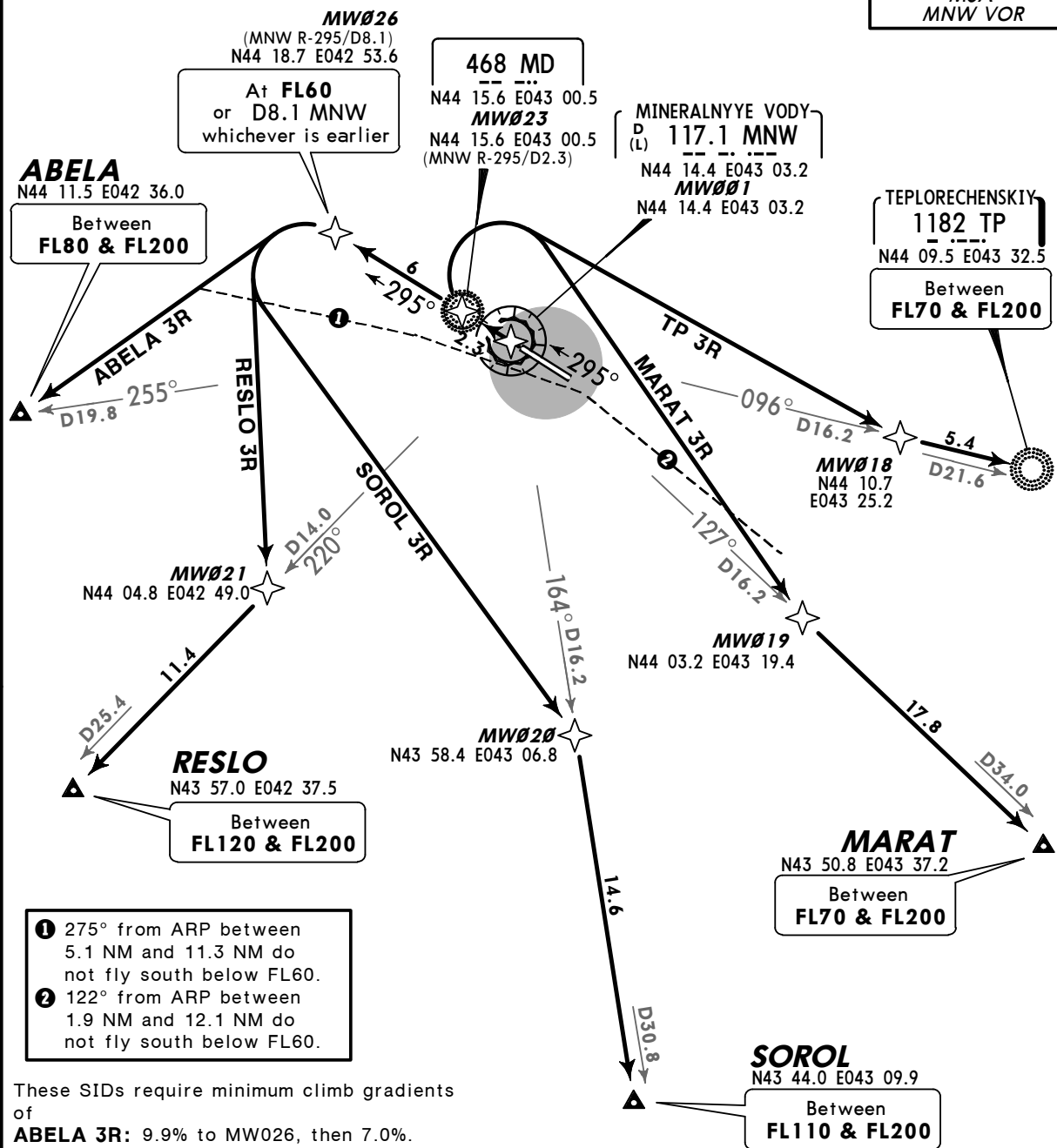
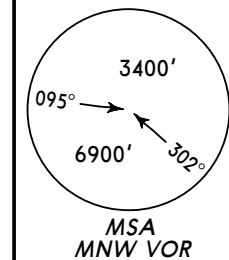
1. Contact MINERALNYE VODY Krug immediately after crossing 1440' (396').

2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

MINERALNYE
VODY
Krug
120.7

Apt Elev
1047'

ABELA 3R [ABEL3R], MARAT 3R [MARA3R] RESLO 3R [RESL3R], SOROL 3R [SORO3R] TP 3R RWY 30 RNAV DEPARTURES RNAV (GNSS)



Gnd speed-KT	75	100	150	200	250	300
9.9% (V/V fpm)	752	1003	1504	2005	2674	3209
7.0% (V/V fpm)	532	709	1063	1418	1772	2127
3.9% (V/V fpm)	296	395	592	790	987	1185

ALT/HEIGHT CONVERSION	
QNH	(QFE)
1440'	(396' - 120m)
4000'	(2956' - 900m)



NOT TO SCALE

URMM/MRV
MINERALNYE VODY

4 JAN 13

(10-3D)

Eff 10 Jan

SID

JEPPESEN MINERALNYE VODY, RUSSIA

MINERALNYE
VODY
Krug
120.7

Apt Elev
1047'

QNH on request (QFE)

Trans level: FL60

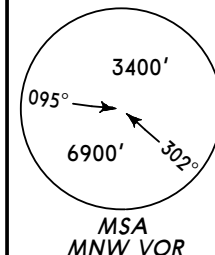
FL70 if pressure is less than 704 mm (938.6 hPa)

Trans alt: 4000' (2963')

1. Contact MINERALNYE VODY Krug immediately after crossing
1440' (403').

2. Take-off should be carried out with noise abatement procedures
according to Flight Operation Manual.

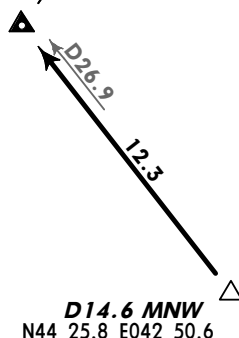
BADKO 1V [BADK1V]
SULOD 1V [SULO1V]
RWY 12 DEPARTURES



SULOD

N44 35.5 E042 39.9

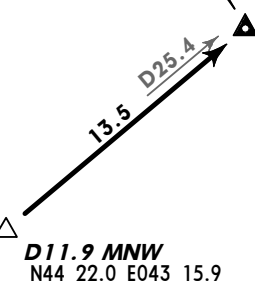
Between
FL70 & FL200



BADKO

N44 30.7 E043 30.4

Between
FL70 & FL200



MINERALNYE VODY
D 117.1 MNW
(L) N44 14.4 E043 03.2

4.9 DME



① 122° from ARP between
1.9 NM and 12.1 NM do
not fly south below FL60.

This SID requires a minimum climb gradient
of

BADKO 1V: 5.5%.

If unable to comply advise ATC.

Gnd speed-KT	75	100	150	200	250	300
5.5% (V/V fpm)	418	557	835	1114	1392	1671

ALT/HEIGHT CONVERSION

QNH (QFE)
1440' (403' - 120m)
4000' (2963' - 900m)

URMM/MRV
MINERALNYYE VODY

4 JAN 13

10-3E

Eff 10 Jan

SID

JEPPESEN MINERALNYYE VODY, RUSSIA

MINERALNYYE
VODY
Krug
120.7

Apt Elev
1047'

QNH on request (QFE)

Trans level: FL60

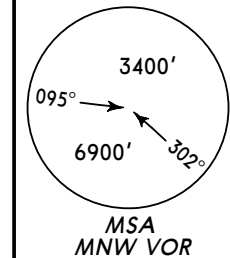
FL70 if pressure is less than 704 mm (938.6 hPa)

Trans alt: 4000' (2956')

1. Contact MINERALNYYE VODY Krug immediately after crossing 1440' (396').

2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

BADKO 3V [BADK3V]
SULOD 3V [SULO3V]
RWY 30 DEPARTURES



SULOD

N44 35.5 E042 39.9

Between
FL70 & FL200

D26.9 12.3
D14.6 MNW
N44 25.8 E042 50.6

BADKO

N44 30.7 E043 30.4

Between
FL70 & FL200

D25.4 10.8
D14.6 MNW
N44 23.7 E043 18.8

Direct distance from
Mineralnyye Vody Apt to:
MD 4 NM

BADKO 3V

468 MD

N44 15.6 E043 00.5

MINERALNYYE VODY
D (L) 117.1 MNW
N44 14.4 E043 03.2



① 275° from ARP between
5.1 NM and 11.3 NM do
not fly south below FL60.

This SID requires a minimum climb gradient
of

BADKO 3V: 5.2%.

If unable to comply advise ATC.

Gnd speed-KT	75	100	150	200	250	300
5.2% (V/V fpm)	395	527	790	1053	1317	1549

ALT/HEIGHT CONVERSION

QNH (QFE)

1440' (396' - 120m)

4000' (2956' - 900m)

URMM/MRV
MINERALNYYE VODY

4 JAN 13

10-3F

Eff 10 Jan**SID**

QNH on request **(QFE)**

Trans level: FL60

FL70 if pressure is less than 704 mm (938.6 hPa)

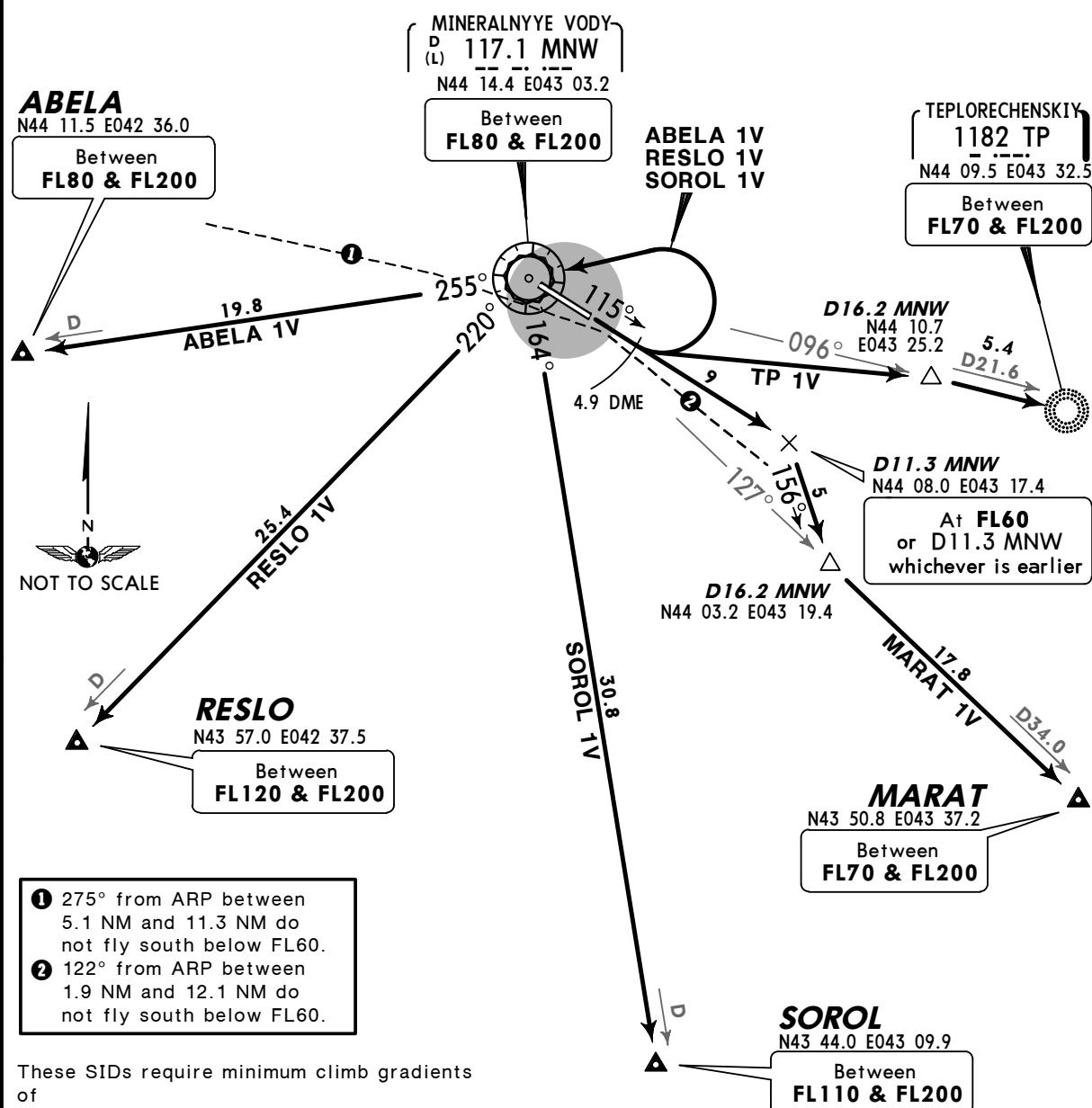
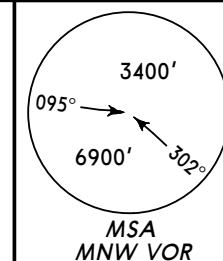
Trans alt: 4000' (**2963'**)

1. Contact MINERALNYYE VODY Krug immediately after crossing 1440' (403').
2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

MINERALNYYE
VODY
Krug
120.7

Apt Elev
1047'

ABELA 1V [ABEL1V], MARAT 1V [MARA1V]
RESLO 1V [RESL1V], SOROL 1V [SORO1V]
TP 1V
RWY 12 DEPARTURES



- 1 275° from ARP between 5.1 NM and 11.3 NM do not fly south below FL60.
- 2 122° from ARP between 1.9 NM and 12.1 NM do not fly south below FL60.

These SIDs require minimum climb gradients of

MABAT 1V: 9.6% to D11.3 MNW.

TP 1V: 4.4%

If unable to comply advise ATC.

Gnd speed-KT	75	100	150	200	250	300
9.6% (V/V fpm)	729	972	1458	1944	2430	2917
7.0% (V/V fpm)	532	709	1063	1418	1772	2127
4.4% (V/V fpm)	334	446	668	891	1114	1337

ALT/HEIGHT CONVERSION

QNH (QFE)

1440' (403' - 120m)

4000' (2963' - 900m)

URMM/MRV MINERALNYYE VODY

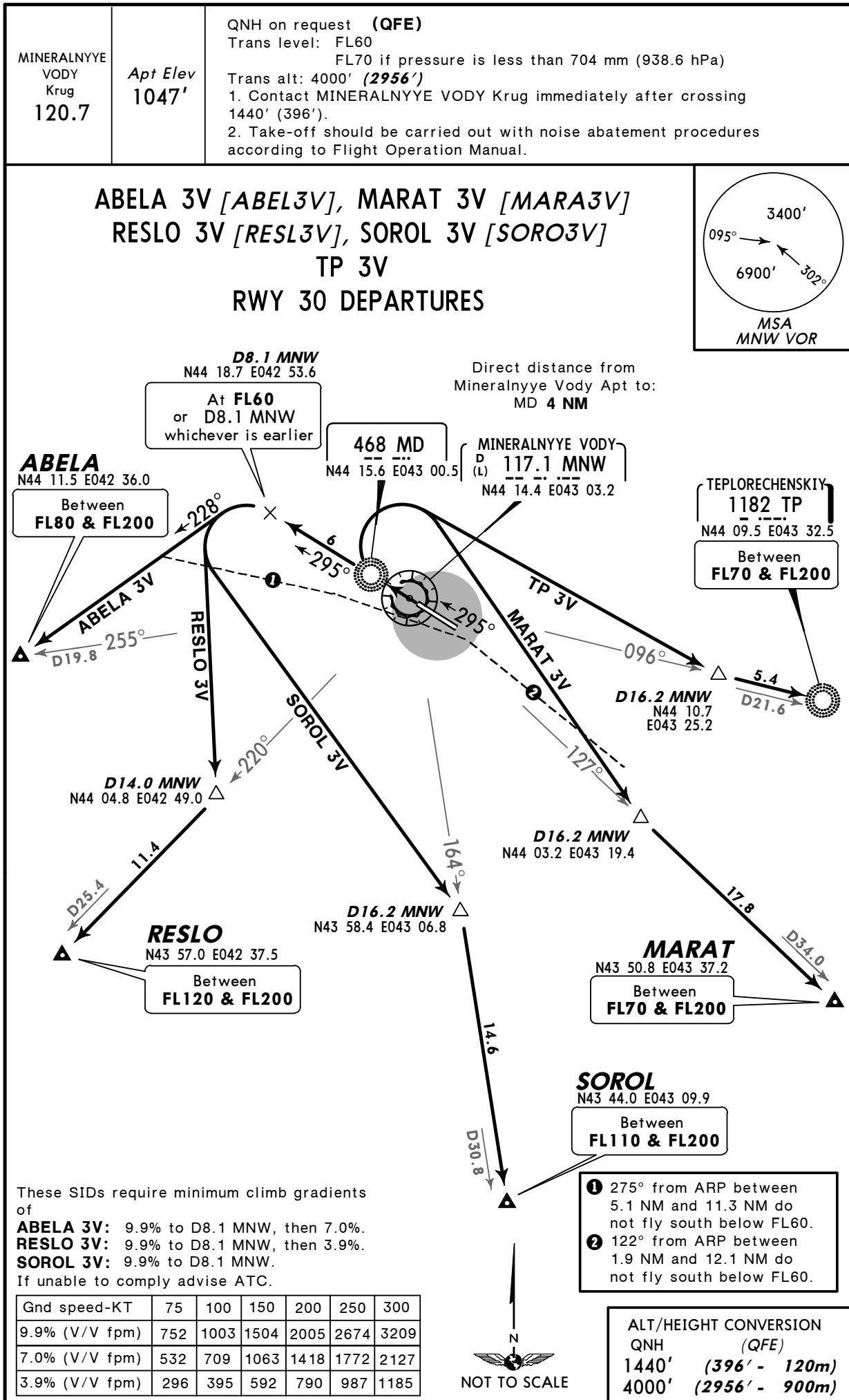
4 JAN 13

(10-3G)

Eff 10 Jan

SID

JEPPESSEN MINERALNYYE VODY, RUSSIA



URMM/MRV
MINERALNYYE VODY

4 JAN 13

(10-3H)

Eff 10 Jan

SID

JEPPESEN MINERALNYYE VODY, RUSSIA

MINERALNYYE
VODY
Krug
120.7

Apt Elev
1047'

QNH on request (QFE)

Trans level: FL60

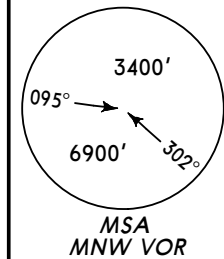
FL70 if pressure is less than 704 mm (938.6 hPa)

Trans alt: 4000' (2963')

1. Contact MINERALNYYE VODY Krug immediately after crossing
1440' (403').

2. Take-off should be carried out with noise abatement procedures
according to Flight Operation Manual.

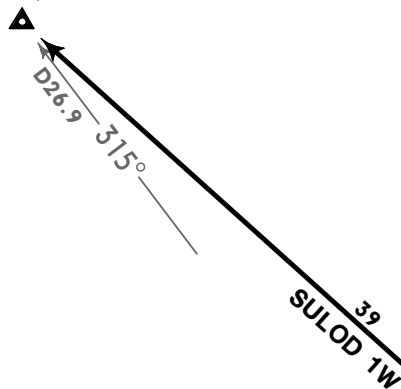
BADKO 1W [BADK1W]
SULOD 1W [SULO1W]
RWY 12 DEPARTURES
UNDER RADAR CONTROL



SULOD

N44 35.5 E042 39.9

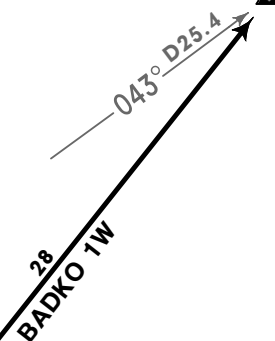
Between
FL70 & FL200



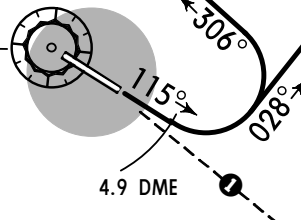
BADKO

N44 30.7 E043 30.4

Between
FL70 & FL200



MINERALNYYE VODY
D 117.1 MNW
(L) N44 14.4 E043 03.2



1 122° from ARP between
1.9 NM and 12.1 NM do
not fly south below FL60.

This SID requires a minimum climb gradient
of

BADKO 1W: 5.5%.

If unable to comply advise ATC.

Gnd speed-KT	75	100	150	200	250	300
5.5% (V/V fpm)	418	557	835	1114	1392	1671

ALT/HEIGHT CONVERSION

QNH (QFE)

1440' (403' - 120m)

4000' (2963' - 900m)

URMM/MRV
MINERALNYYE VODY

4 JAN 13

10-3J

Eff 10 Jan

SID

JEPPESEN MINERALNYYE VODY, RUSSIA

MINERALNYYE
VODY
Krug
120.7

Apt Elev
1047'

QNH on request (QFE)

Trans level: FL60

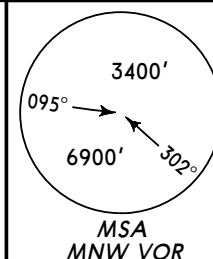
FL70 if pressure is less than 704 mm (938.6 hPa)

Trans alt: 4000' (2956')

1. Contact MINERALNYYE VODY Krug immediately after crossing
1440' (396').

2. Take-off should be carried out with noise abatement procedures
according to Flight Operation Manual.

BADKO 3W [BADK3W]
SULOD 3W [SULO3W]
RWY 30 DEPARTURES
UNDER RADAR CONTROL



SULOD

N44 35.5 E042 39.9
(MNW R-315/D26.9)

Between
FL70 & FL200



SULOD 3W
26

Direct distance from
Mineralnyye Vody Apt to:
MD 4 NM

053°

BADKO

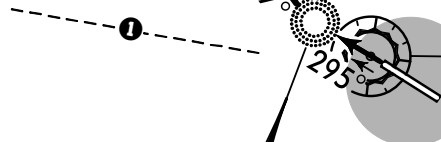
N44 30.7 E043 30.4

Between
FL70 & FL200



BADKO 3W
28

043°
D25.4



468 MD
N44 15.6 E043 00.5

① 275° from ARP between
5.1 NM and 11.3 NM do
not fly south below FL60.

This SID requires a minimum climb gradient
of

BADKO 3W: 5.2%.

If unable to comply advise ATC.

Gnd speed-KT	75	100	150	200	250	300
5.2% (V/V fpm)	395	527	790	1053	1317	1549

ALT/HEIGHT CONVERSION

QNH (QFE)

1440' (396' - 120m)

4000' (2956' - 900m)

URMM/MRV
MINERALNYE VODY

4 JAN 13

10-3K

Eff 10 Jan

SID

QNH on request (QFE)

Trans level: FL60

FL70 if pressure is less than 704 mm (938.6 hPa)

Trans alt: 4000' (2963')

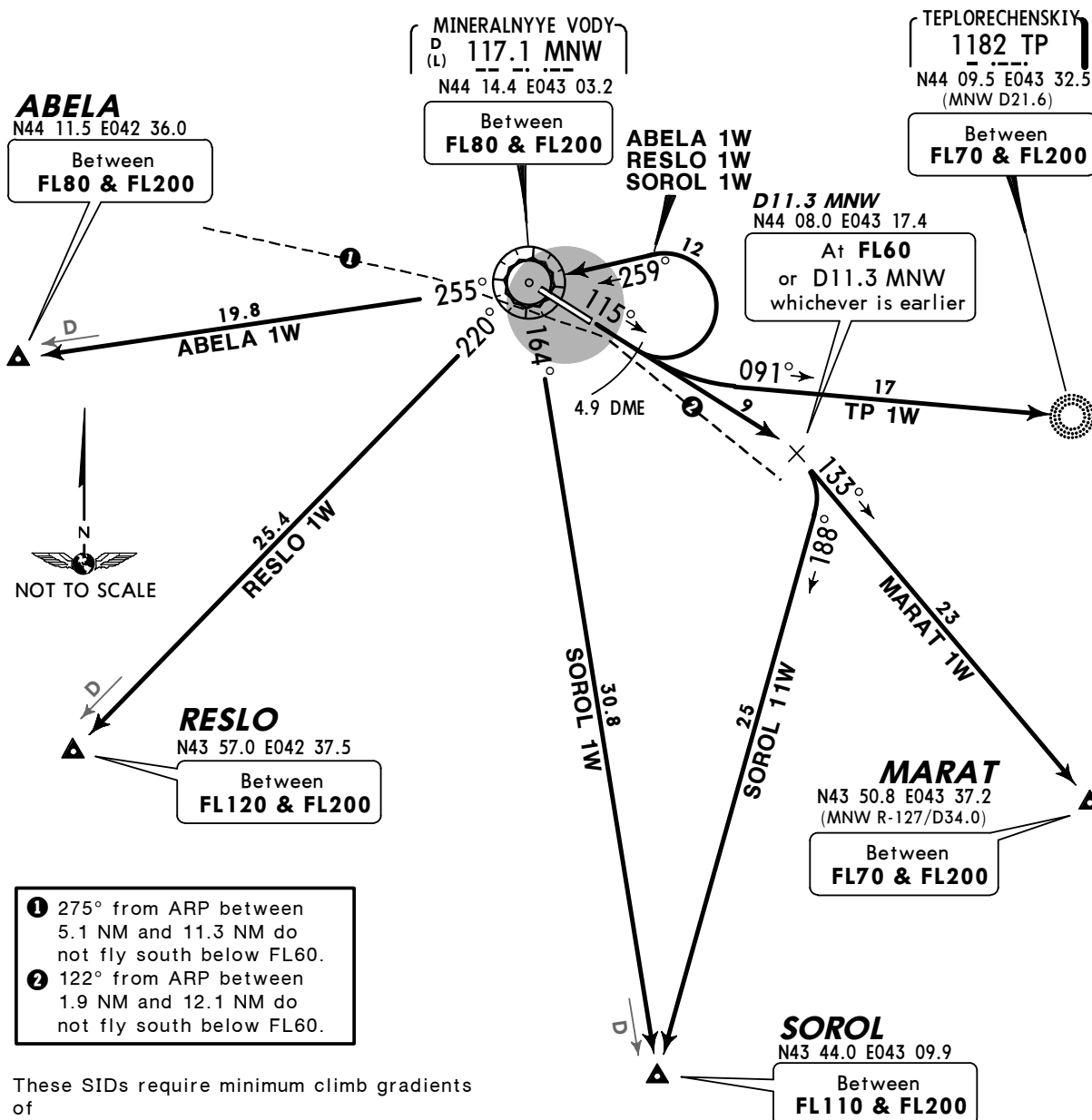
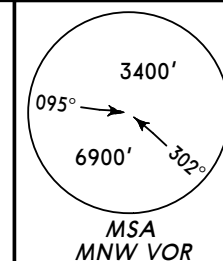
1. Contact MINERALNYE VODY Krug immediately after crossing 1440' (403').

2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

MINERALNYE
VODY
Krug
120.7

Apt Elev
1047'

ABELA 1W [ABEL1W], MARAT 1W [MARA1W]
RESLO 1W [RESL1W], SOROL 1W [SORO1W]
SOROL 11W [SOR11W], TP 1W
RWY 12 DEPARTURES
UNDER RADAR CONTROL



- ① 275° from ARP between 5.1 NM and 11.3 NM do not fly south below FL60.
- ② 122° from ARP between 1.9 NM and 12.1 NM do not fly south below FL60.

These SIDs require minimum climb gradients of

ABELA 1W, RESLO 1W, SOROL 1W: 7.0% to MNW.

MARAT 1W, SOROL 11W: 9.6% to D11.3 MNW.

TP 1W: 4.4%.

If unable to comply advise ATC.

Gnd speed-KT	75	100	150	200	250	300
9.6% (V/V fpm)	729	972	1458	1944	2430	2917
7.0% (V/V fpm)	532	709	1063	1418	1772	2127
4.4% (V/V fpm)	334	446	668	891	1114	1337

ALT/HEIGHT CONVERSION

QNH (QFE)
1440' (403' - 120m)
4000' (2963' - 900m)

URMM/MRV MINERALNYYE VODY

4 JAN 13

10-3L

Eff 10 Jan

SID

QNH on request (QFE)

Trans level: FL60

FL70 if pressure is less than 704 mm (938.6 hPa)

Trans alt: 4000' (2956')

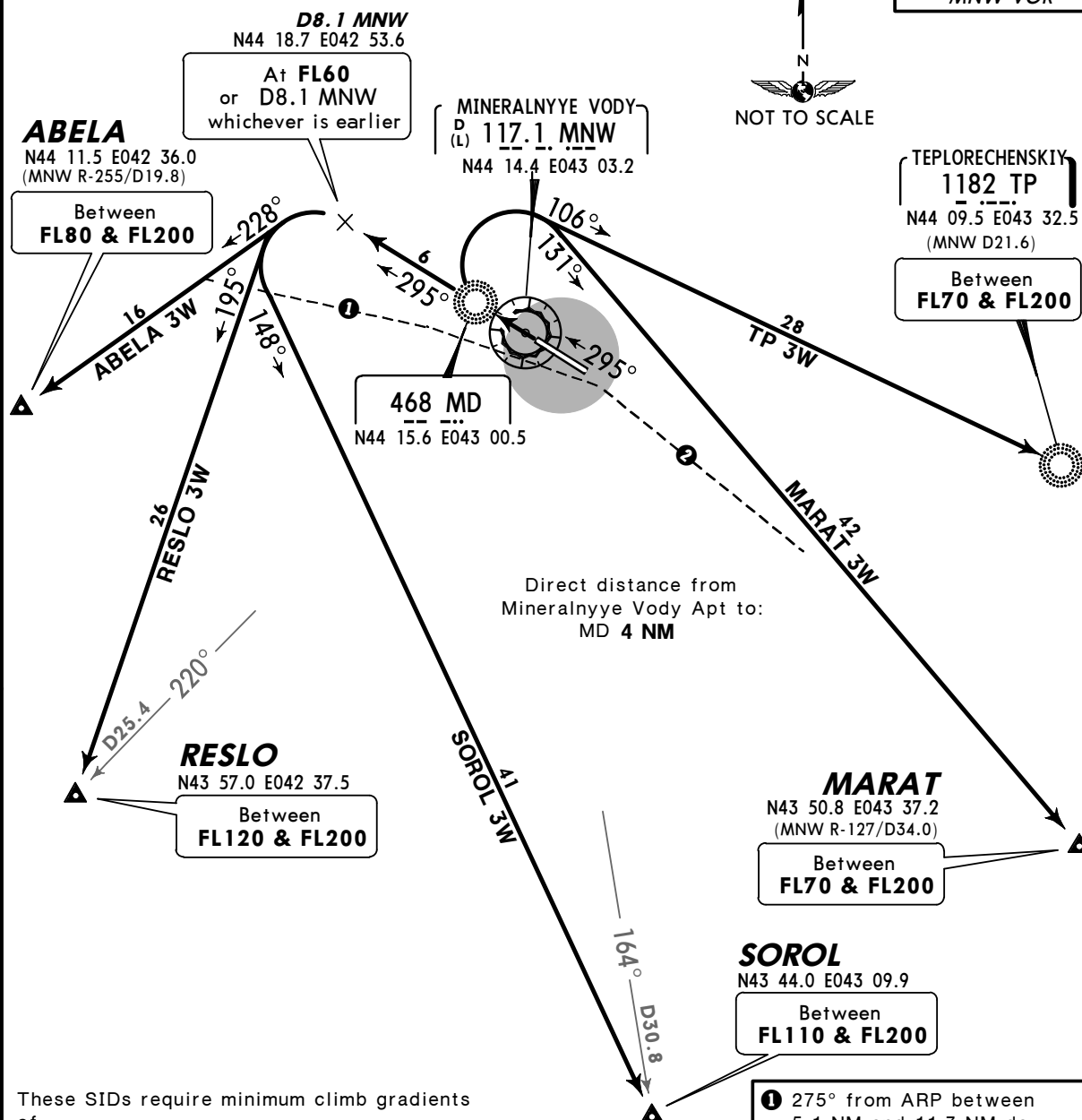
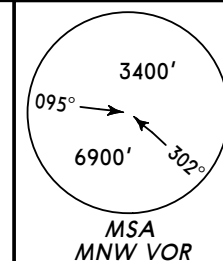
1. Contact MINERALNYYE VODY Krug immediately after crossing 1440' (396').

2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

MINERALNYYE
VODY
Krug
120.7

Apt Elev
1047'

ABELA 3W [ABEL3W], MARAT 3W [MARA3W] RESLO 3W [RESL3W], SOROL 3W [SORO3W] TP 3W RWY 30 DEPARTURES UNDER RADAR CONTROL



These SIDs require minimum climb gradients of

ABELA 3W: 9.9% to D8.1 MNW, then 7.0%.

RESLO 3W: 9.9% to D8.1 MNW, then 3.9%.

SOROL 3W: 9.9% to D8.1 MNW.

If unable to comply advise ATC.

Gnd speed-KT	75	100	150	200	250	300
9.9% (V/V fpm)	752	1003	1504	2005	2674	3209
7.0% (V/V fpm)	532	709	1063	1418	1772	2127
3.9% (V/V fpm)	296	395	592	790	987	1185

- 275° from ARP between 5.1 NM and 11.3 NM do not fly south below FL60.
- 122° from ARP between 1.9 NM and 12.1 NM do not fly south below FL60.

ALT/HEIGHT CONVERSION

QNH	(QFE)
1440'	(396' - 120m)
4000'	(2956' - 900m)

URMM/MRV



JEPPESEN

MINERALNYE VODY, RUSSIA

MINERALNYE VODY

12 AUG 11

10-4

Eff 25 Aug

NOISE

NOISE ABATEMENT**ARRIVALS****Runway 30**

Noise abatement procedures shall be executed by all aircraft. If special meteorological conditions, such as considerable wind, cumulo-nimbus clouds etc are present in arrival and approach sectors, ATC unit may, if it is considered necessary for safety reasons, at its own discretion or by a pilot-in-command's request deviate from the provisions stated below.

Restrictions

The required noise abatement procedures shall not be observed over the overflown areas in the following cases:

- if there is ice, slush, water, mud, rubber, oil etc on runway and friction coefficient is 0.4 or less
- when ceiling is less than 150m or visibility is less than 1800m
- when crosswind component (including gusts) on runway exceeds 7m/sec
- when tailwind component on runway exceeds 2.5m/sec
- when wind shear is forecasted or reported, or when it is expected that unfavourable weather conditions may influence aircraft approach and landing.

During instrument as well as visual approach it is not allowed to fly below ILS glide path.

No noise abatement procedure shall envisage the increasing of indicated air speed during descent.

A displacement of THR shall not be used as a noise abatement measure.

AIR-GROUND communication shall be kept to a minimum.

Downwind landing of aircraft taking into account friction coefficient shall be allowed in cases when this direction is optimal for noise abatement over the city or in cases when upwind landing does not provide safety or is prohibited. A tailwind component shall correspond to the norms established in Airplane Flight Manual.

Runway 30 special approach procedure

When reaching a distance of 13.5 ± 1.6 NM from THR pilots shall conduct the flight at 4000' (2956' - 900m) maintaining MAX 210 KT. At a distance of 11.9 NM from THR speed shall be reduced to 185 KT ± 10 KT. At 10.8 NM from THR pilots shall lower the landing gear and wing devices into intermediate position at 15-30° angle (speed and angle of wing devices' settings depend on type and mass of aircraft).

After glide path interception and commencement of descent along glide path pilots shall continue to reduce speed to 155 - 160 KT ± 15 KT by the moment of reaching 2530' (1486' - 450m) at a distance of about 5.2 NM from THR.

At or above 2530' (1486' - 450m) pilots shall terminate to set wing devices into landing position and before reaching 2200' (1156' - 350m) and a distance of 3.8 NM from THR complete the stabilization of aircraft in the landing configuration at final approach speed.

At or above 2200' (1156' - 350m) and a distance of 4.1 NM the aircraft shall be completely stabilized and the pilot shall maintain final approach speed until landing taking into account the aircraft weight.

URMM/MRV

JEPPESEN

MINERALNYE VODY

12 AUG 11

10-4A

Eff 25 Aug

MINERALNYE VODY, RUSSIA

NOISE

NOISE ABATEMENT**DEPARTURES****General**

Noise abatement procedures during take-off and climbing phase shall be executed by all ACFT, except in case of reduction of flight safety and in case of engine failure.

Restrictions

Downwind take-off taking into account friction coefficient shall be allowed in cases when the direction is optimal for noise abatement over the city or in cases when upwind take-off does not provide safety or is prohibited. The tailwind component shall correspond to the norms established in the aircraft Flight Manual.

The minimum indicated air speed during climb shall not be less than $V_2 + 10$ KT or less than that prescribed in the Aircraft Flight Manual if higher.

Maintaining the minimum indicated air speed of climb is not required if it leads to the exceeding of the minimum permissible angle of attack.

The reduction of power shall not be applied until:

- reaching 2040' (993' - 300m)
- the established standard power mode enables to maintain the established climb gradient of not less than 4% at the above specified speed and with maximum certified take-off mass
- take-off flight path provides overflying of all obstacles located under the flight path with sufficient clearance when all engines are operating normally and also taking into account possible engine failure and time period necessary for the rest engines to develop full power.

Special take-off procedure

Pilots shall apply two special take-off procedures, NADP 1 and NADP 2. The pilot-in-command may use any of them for reaching necessary effect. (ICAO Doc 8168, Vol I, Part V, Chapter 3).

REVERSE THRUST

Reverse thrust power with the exception of reverse idle thrust is used for safety reasons only.

URMM/MRV

Apt Elev **1047'**

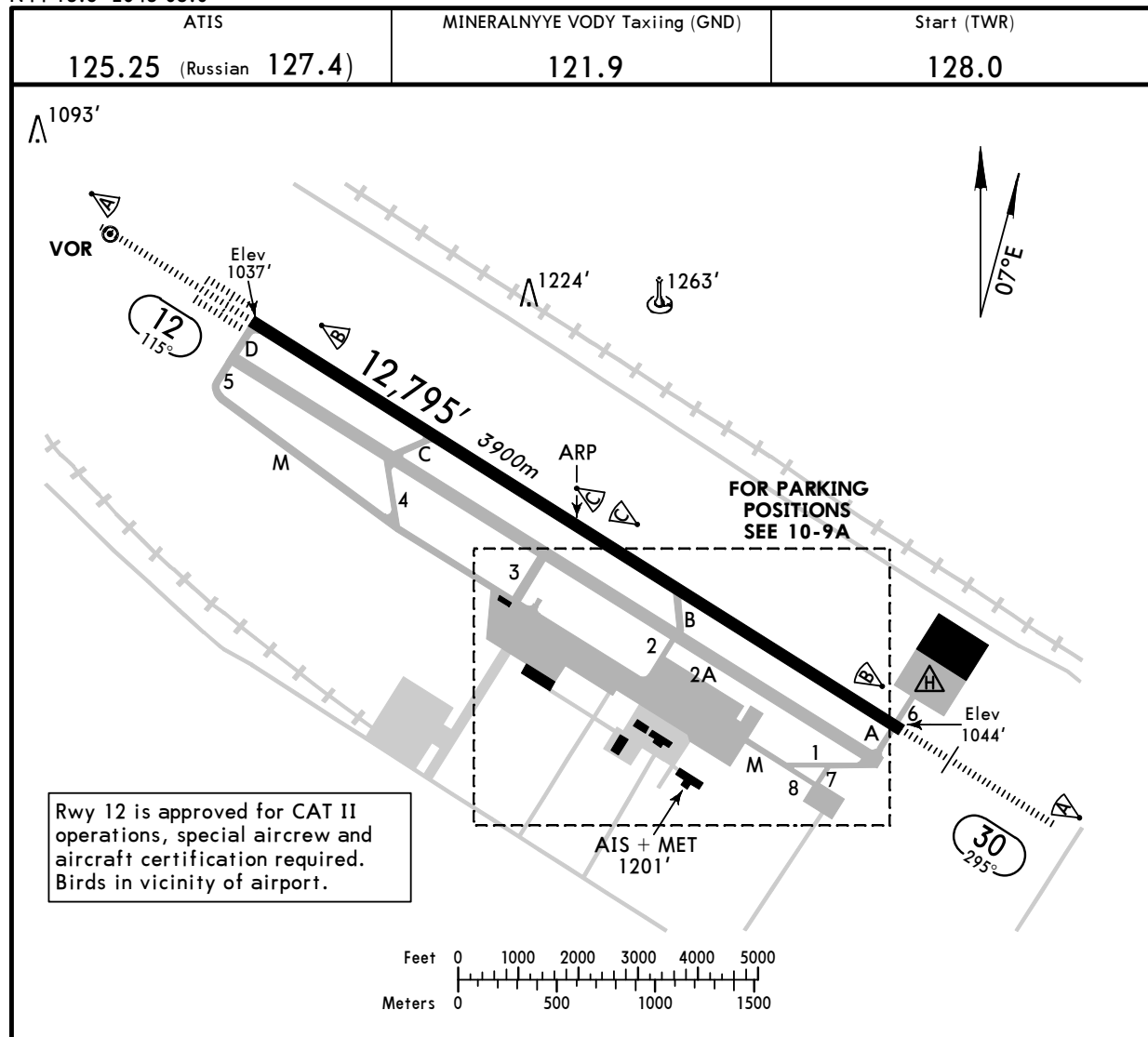
N44 13.6 E043 05.0

28 DEC 12 **(10-9)**

Eff 10 Jan

JEPPESEN MINERALNYYE VODY, RUSSIA

MINERALNYYE VODY



ADDITIONAL RUNWAY INFORMATION

		USABLE LENGTHS		TAKE-OFF	WIDTH
RWY		LANDING BEYOND			
		Threshold	Glide Slope		
12	HIRL(60m) CL(15m) HIALS-II TDZ PAPI-L(3.00°) RVR		11,762' 3585m		197'
30	HIRL(60m) CL(15m) HIALS PAPI-L(3.00°) RVR		11,823' 3604m		60m

TAKE-OFF

AIR CARRIER (JAA)

All Rwys

LVP must be in force

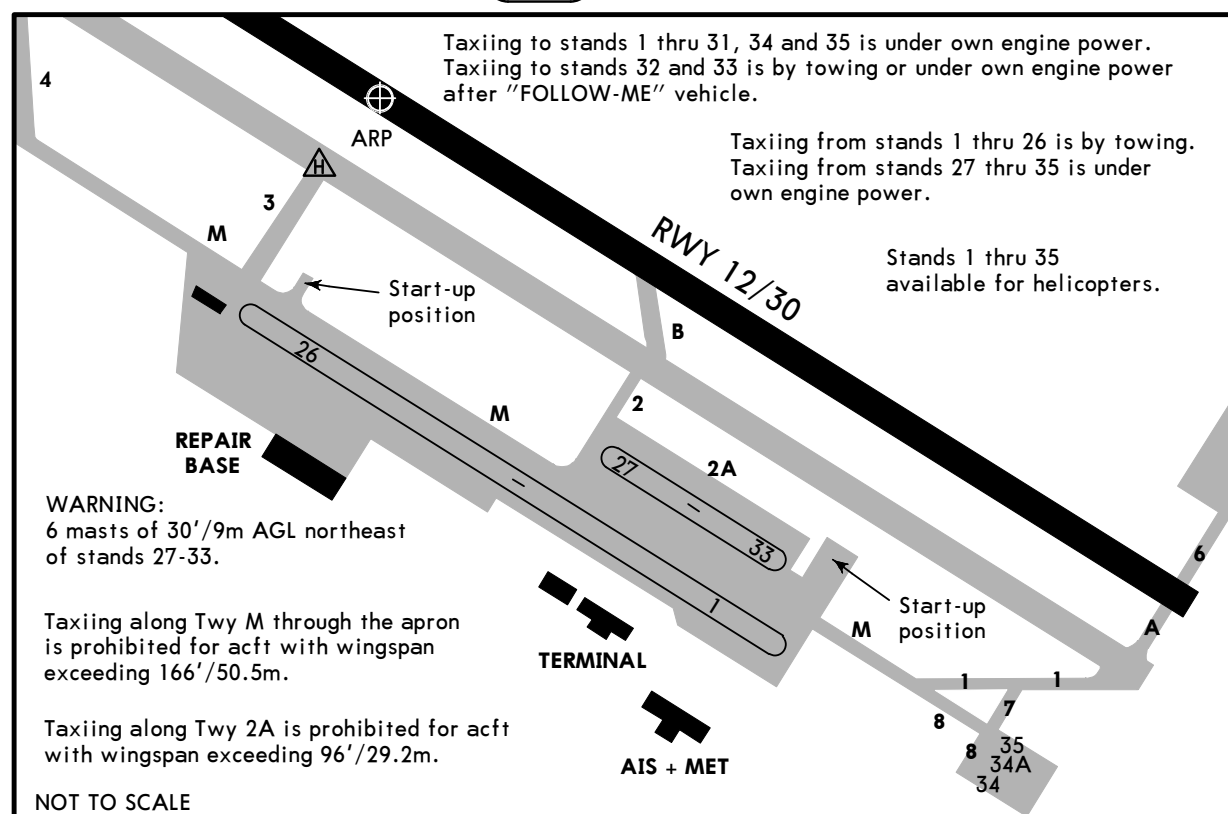
	RL & CL	RCLM (DAY only) or RL	RCLM (DAY only) or RL
A			
B	200m (150m)	250m	400m
C			
D	250m (200m)	300m	

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28 DEC 12

10-9A

Eff 10 Jan

JEPPESEN MINERALNYYE VODY, RUSSIA
MINERALNYYE VODY

INS COORDINATES

STAND No.	COORDINATES	STAND No.	COORDINATES
1 thru 3	N44 13.0 E043 05.6	27, 28	N44 13.2 E043 05.4
4, 5	N44 13.1 E043 05.5	29 thru 32	N44 13.1 E043 05.5
6 thru 9	N44 13.1 E043 05.4	33	N44 13.1 E043 05.6
10, 11	N44 13.1 E043 05.3		
12	N44 13.2 E043 05.3		
13 thru 16	N44 13.2 E043 05.2		
17	N44 13.2 E043 05.1		
18, 19	N44 13.3 E043 05.1		
20 thru 23	N44 13.3 E043 05.0		
24 thru 26	N44 13.3 E043 04.9		

LOW VISIBILITY PROCEDURES (LVP)

Low visibility procedures shall come into force when rwy visibility values are less than 1000m and/or cloud ceiling is 80m. The implementation of LVP will be broadcasted by ATIS:
"Low visibility procedures are in force". "Low visibility procedure" mean that an interval between arriving acft is maintained so that the ILS critical area should be vacant after each landing.

Rwy 12 is equipped for CAT II operations, rwy 30 for CAT I operations.
CAT I and II approach procedures shall be implemented under the following meteorological conditions:
Rwy 12 CAT I - ceiling less than 80m and RVR 1000m but not less than ceiling 60m RVR 550m.
Rwy 12 CAT II - ceiling less than 60m and RVR 550m but not less than ceiling 30m RVR 350m.
Rwy 30 CAT I - ceiling less than 80m and RVR 1000m but not less than ceiling 60m RVR 800m.
Landed acft shall report the vacation of rwy when they have passed ILS critical area.

1. Arrival

Vacating of rwy 12 along twy A or B, rwy 30 along twy C or D.

"FOLLOW ME" vehicle shall be applied during taxiing by request.

When visibility is less than 400m or when the flight crew has doubts in taxiing safety, the pilot shall stop the acft and request for the "FOLLOW ME" vehicle.

Acft arriving on rwy 12 shall be met after landing by the "FOLLOW ME" vehicle on twy A or B. Acft arriving on rwy 30 shall be met after landing by the "FOLLOW ME" vehicle on twy C or D. Further taxiing of acft after the "FOLLOW ME" vehicle shall be carried out under control of the taxiing controller.

2. Departure

Towing of acft shall be carried out with navigation and flashing lights switched on. Taxiing of acft on apron and twy, if an escort vehicle was requested, shall be carried out after the "FOLLOW ME" vehicle.

It is prohibited to cross the rwy holding position line on twys A thru D designated by ILS lighting marking and the established day marking without Tower controller's permission.

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JEPPESEN
 28 DEC 12
 Eff 10 Jan 10-9S
Standard**MINERALNYYE VODY, RUSSIA**
MINERALNYYE VODY

STRAIGHT-IN RWY		A	B	C	D
12	CAT 2 ILS	1137' (100') RA 115' R350m	1137' (100') RA 115' R350m	1137' (100') RA 115' R350m	1137' (100') RA 115' R350m
	ILS	1237' (200')	1237' (200')	1237' (200')	1237' (200')
	FULL	R550m	R550m	R550m	R550m
	Limited	R750m	R750m	R750m	R750m
	ALS out	R1200m	R1200m	R1200m	R1200m
	LOC ❶	1480' (443') R1400m	1480' (443') R1400m	1480' (443') R1400m	1480' (443') R1400m
30	ALS out	C2100m	C2100m	C2100m	C2100m
	RNAV ❶	1480' (443') R1400m	1480' (443') R1400m	1480' (443') R1400m	1480' (443') R1400m
	ALS out	R1500m	R1500m	C2100m	C2100m
	VOR ❶	1480' (443') R1400m	1480' (443') R1400m	1480' (443') R1400m	1480' (443') R1400m
	ALS out	R1500m	R1500m	C2100m	C2100m
	ILS	1244' (200')	1244' (200')	1244' (200')	1244' (200')
30	FULL	R550m	R550m	R550m	R550m
	Limited	R750m	R750m	R750m	R750m
	ALS out	R1200m	R1200m	R1200m	R1200m
	LOC ❷	1560' (516) R1800m	1560' (516) R1800m	1560' (516) R2000m	1560' (516) R2000m
	ALS out	C2600m	C2600m	C2800m	C2800m
	LOC ❸	1850' (806') C3300m	1850' (806') C3300m	1850' (806') C3500m	1850' (806') C3500m
30	ALS out	C4000m	C4000m	C4200m	C4200m
	RNAV ❶	1460' (416') R1200m	1460' (416') R1200m	1460' (416') R1200m	1460' (416') R1200m
	ALS out	R1500m	R1500m	R1900m	R1900m
	VOR ❶ ❹	1560' (516') R1500m	1560' (516') R1500m	1560' (516') R1600m	1560' (516') R1600m
	ALS out	R1500m	R1500m	C2400m	C2400m
	VOR ❹	1850' (806') C3300m	1850' (806') C3300m	1850' (806') C3500m	1850' (806') C3500m
30	ALS out	C4000m	C4000m	C4200m	C4200m

❶ Continuous Descent Final Approach.

❷ with Radar.

❸ w/o Radar.

❹ with D8.6.

❺ w/o D8.6.

TAKE-OFF RWY 12, 30

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

URMM/MRV



JEPPESEN

JAA MINIMUMS

28 DEC 12
Eff 10 Jan

10-9X

MINERALNYYE VODY, RUSSIA

MINERALNYYE VODY

STRAIGHT-IN RWY		A	B	C	D
12	CAT 2 ILS	1137' (100')	1137' (100')	1137' (100')	1137' (100')
		RA 115' R350m	RA 115' R350m	RA 115' R350m	RA 115' R350m
	ILS	1237' (200')	1237' (200')	1237' (200')	1237' (200')
		R550m	R550m	R550m	R550m
	ALS out	R1000m	R1000m	R1000m	R1000m
	LOC	1480' (443')	1480' (443')	1480' (443')	1480' (443')
		R900m	R1000m	R1000m	R1400m
	ALS out	R1500m	R1500m	R1800m	R2000m
	RNAV	1480' (443')	1480' (443')	1480' (443')	1480' (443')
		R900m	R1000m	R1000m	R1400m
30	ILS	1244' (200')	1244' (200')	1244' (200')	1244' (200')
		R550m	R550m	R550m	R550m
	ALS out	R1000m	R1000m	R1000m	R1000m
	LOC	1560' (516')	1560' (516')	1560' (516')	1560' (516')
		R1000m	R1200m	R1200m	R1600m
	with Radar	R1500m	R1500m	R2000m	R2000m
	ALS out				
	LOC	1850' (806')	1850' (806')	1850' (806')	1850' (806')
		R1200m	R1400m	R1400m	R1800m
	w/o Radar	R1500m	R1500m	R2000m	R2000m
	ALS out				
	RNAV	1460' (416')	1460' (416')	1460' (416')	1460' (416')
		R900m	R1000m	R1000m	R1400m
	ALS out	R1500m	R1500m	R1800m	R2000m
	VOR	1560' (516')	1560' (516')	1560' (516')	1560' (516')
		R1000m	R1200m	R1200m	R1600m
	with D8.6	R1500m	R1500m	R2000m	R2000m
	ALS out				
	VOR	1850' (806')	1850' (806')	1850' (806')	1850' (806')
		R1200m	R1400m	R1400m	R1800m
	w/o D8.6	R1500m	R1500m	R2000m	R2000m
	ALS out				

TAKE-OFF RWY 12, 30

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

URMM/MRV

MINERALNYE VODY

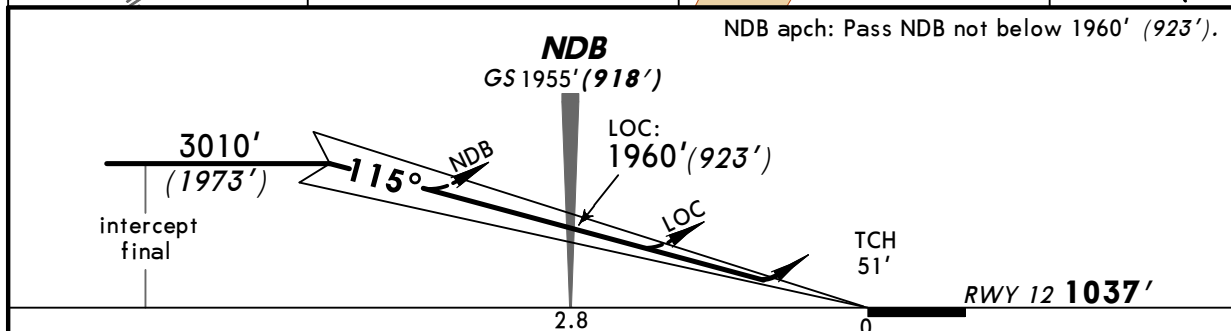
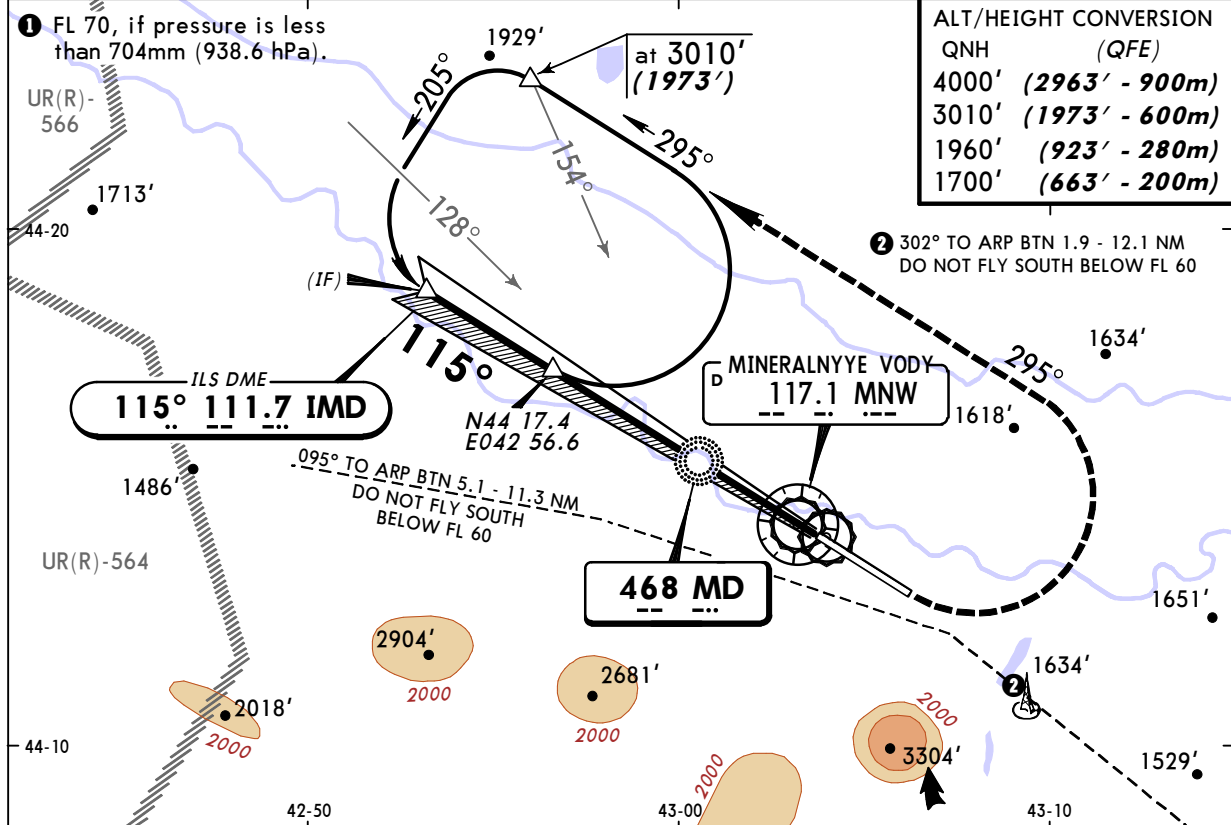
28 DEC 12
Eff 10 Jan

JEPPESEN MINERALNYE VODY, RUSSIA
CAT I/II ILS DME or NDB Rwy 12

BRIEFING STRIP

ATIS 125.25 (Russian 127.4)	MINERALNYE VODY Approach 119.3	MINERALNYE VODY Krug (R) 120.7	MINERALNYE VODY Start (TWR) 128.0	Ground 121.9
LOC 111.7	GS NDB 1955' (918')	CAT II ILS RA 115' DA(H) 1137' (100')	CAT I ILS DA(H) 1237' (200')	Apt Elev 1047'
NDB MD 468	Final Apch Crs 115°	Minimum Alt NDB 1960' (923')	NDB MDA(H) 2900' (1863')	RWY 1037'
MISSED APCH: Climb on 115° to 1700' (663'), then turn LEFT onto 295° climbing to 3010' (1973'), then as directed.				MSA MNW VOR

Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: FL 60 ① Trans alt: 4000' (2963')
1. LOC: NDB required. 2. CAT II ILS: Special Aircrew & Acft Certification Required.



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II	1700' (663') on 115°
ILS GS or LOC or NDB Desc Angle 3.00°	377	484	538	646	753	861	PAPI	

CAT II ILS		STRAIGHT-IN LANDING RWY 12		CAT I		LOC (GS out)		NDB	
RA 115'		DA(H) 1237' (200')		MDA(H) 1480' (443')		MDA(H) 2900' (1863')			
1137' (100')		FULL		TDZ or CL out		ALS out		ALS out	
A	RVR 350m	RVR 550m VIS 800m	RVR 720m VIS 800m	1200m	RVR 720m VIS 800m	RVR 1500m VIS 1600m	3200m		
B									
C									
D									

URMM/MRV MINERALNYE VODY

28 DEC 12
Eff 10 Jan

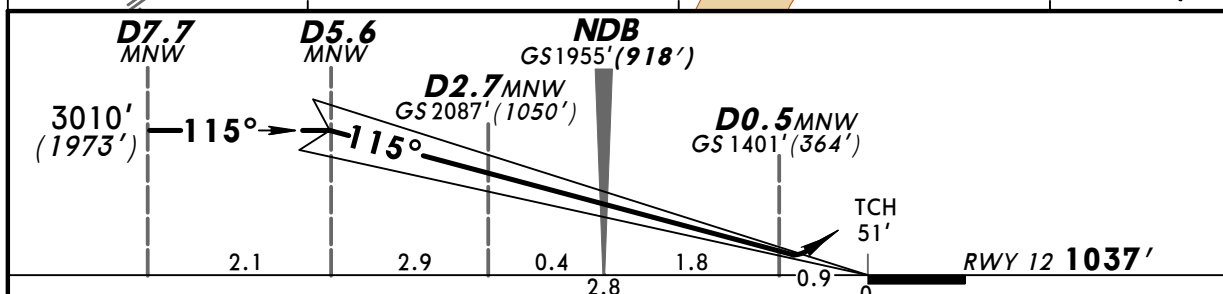
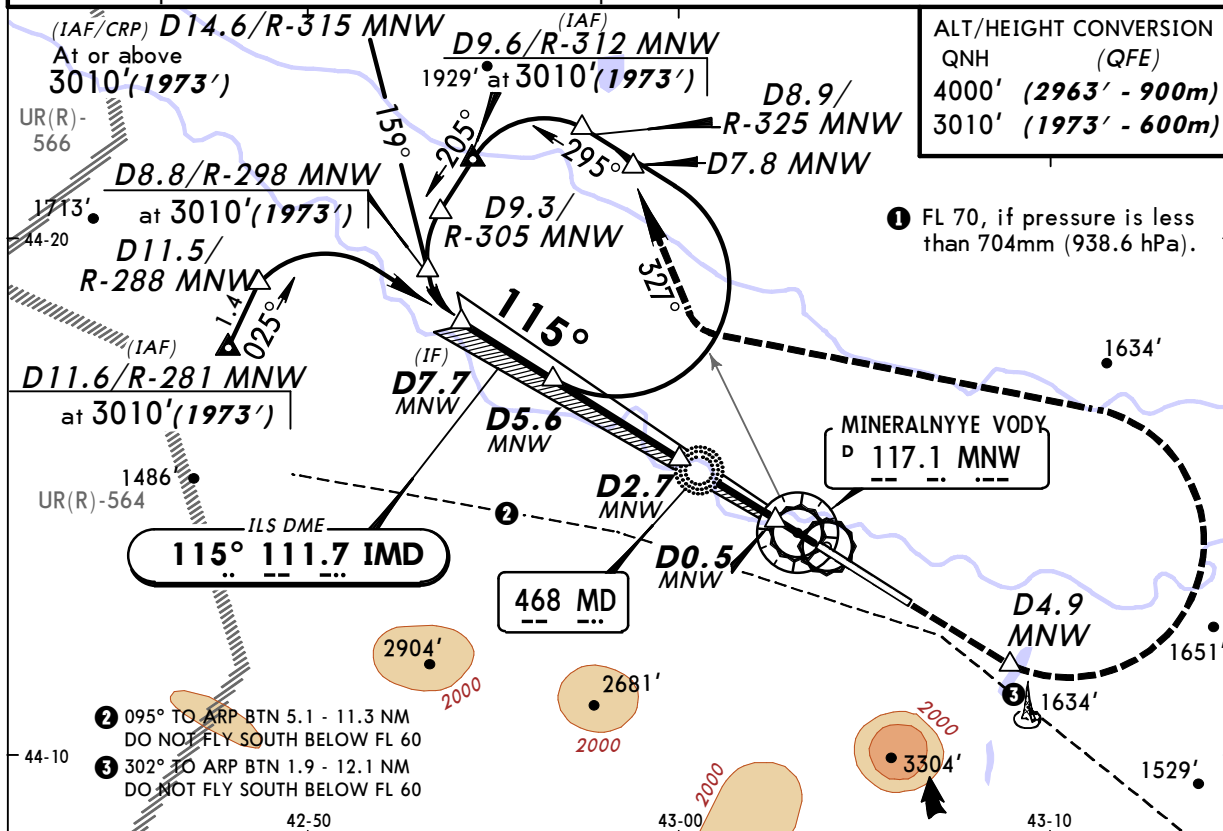
JEPPESEN MINERALNYE VODY, RUSSIA CAT I/II VOR DME ILS Rwy 12

BRIEFING STRIP

ATIS 125.25 (Russian 127.4)	MINERALNYE VODY Approach 119.3	MINERALNYE VODY Krug (R) 120.7	MINERALNYE VODY Start (TWR) 128.0	Ground 121.9
LOC IMD 111.7	Final Apch Crs 115°	GS NDB 1955'(918')	CAT II ILS RA 115' DA(H) 1137'(100')	CAT I ILS DA(H) 1237'(200')
Apt Elev 1047' RWY 1037'				MSA MNW VOR
MISSED APCH: Climb on 115° to D4.9 MNW, then turn LEFT to intercept R-327 climbing to 3010' (1973'), then as directed.				

Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: FL 60 ① Trans alt: 4000' (2963')

CAT II ILS: Special Aircrew & Acft Certification Required.



Gnd speed-Kts	70	90	100	120	140	160	
ILS GS	3.00°	377	484	538	646	753	861

STRAIGHT-IN LANDING RWY 12				LOC (GS out)	
CAT II RA 115' DA(H) 1137'(100')	ILS CAT I DA(H) 1237'(200')	FULL	TDZ or CL out	ALS out	
A					
B					
C					
D					

PANS OPS

URMM/MRV MINERALNYYE VODY

28 DEC 12

(11-3)

Eff 10 Jan



JEPPESEN

MINERALNYYE VODY, RUSSIA

ILS DME Rwy 30

BRIEFING STRIP

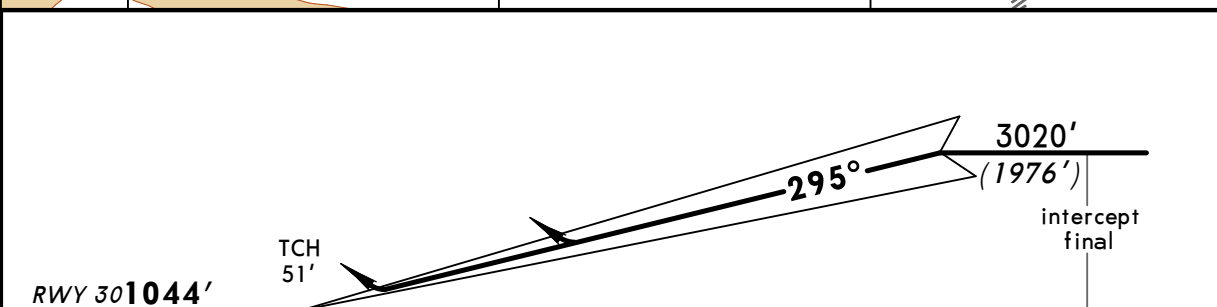
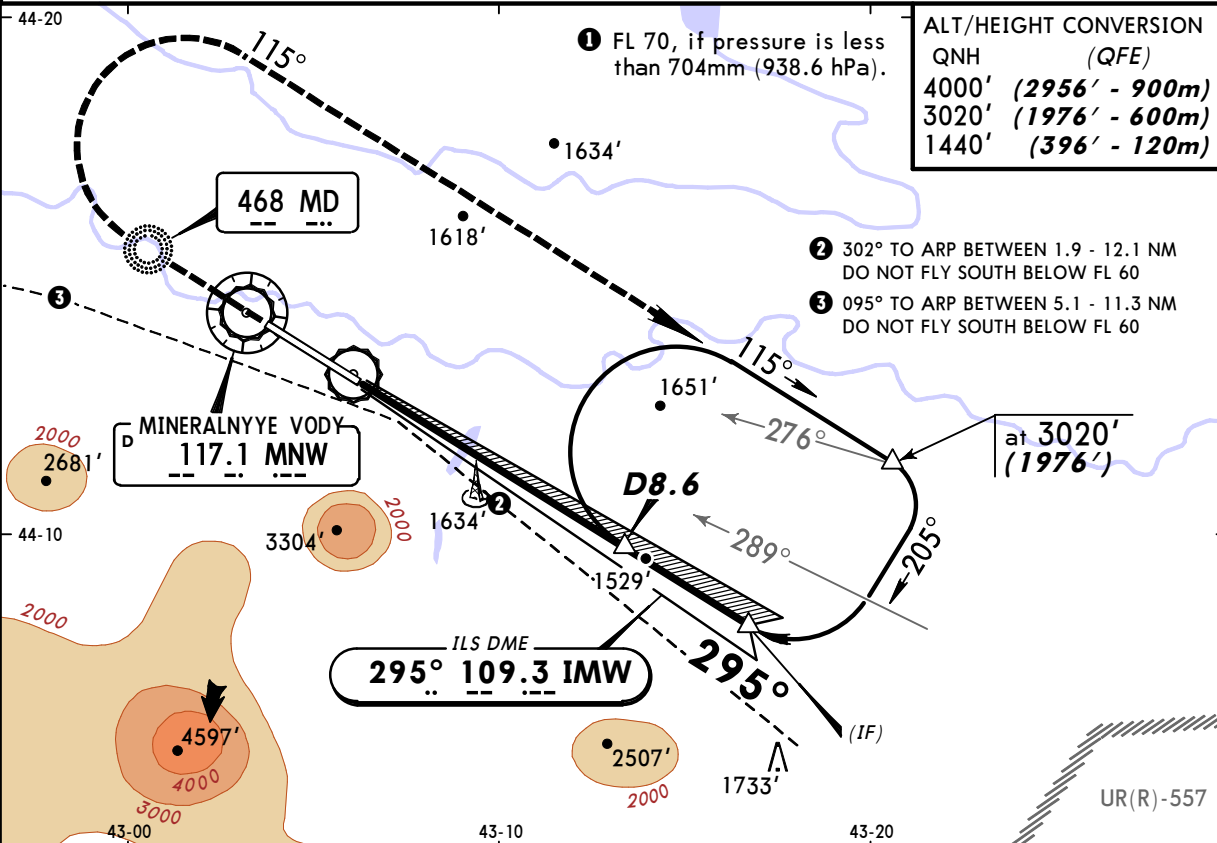
ATIS 125.25 (Russian 127.4)	MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
LOC IMW 109.3	Final Apch Crs 295°	GS No Altitude published	ILS DA(H) 1244' (200')	Apt Elev 1047' RWY 1044'
MISSED APCH: Climb on 295° to NDB, then turn RIGHT onto 115° climbing to 3020' (1976'), then as directed.				
MSA MNW VOR				

Alt Set: MM (hPa on req)

QNH on req (QFE)

Trans level: FL 60 ①

Trans alt: 4000' (2956')



Gnd speed-Kts	70	90	100	120	140	160	HIALS PAPI	MD 468 on 295°
ILS GS or	377	484	538	646	753	861		
LOC Desc Angle 3.00°								

ILS		STRAIGHT-IN LANDING RWY 30			
DA(H) 1244' (200')		with Radar LOC (GS out)		w/o Radar	
FULL		MDA(H) 1560' (516')		MDA(H) 1850' (806')	
ALS out		ALS out		ALS out	
A	RVR 720m VIS 800m	1200m	RVR 720m VIS 800m	RVR 720m VIS 800m	RVR 1500m VIS 1600m
B			RVR 1500m VIS 1600m	1200m	2000m
C			2400m	2800m	3600m
D			2800m	3200m	4000m

PANS OPS

URMM/MRV MINERALNYE VODY

28 DEC 12

11-4

Eff 10 Jan

JEPPESSEN MINERALNYE VODY, RUSSIA VOR DME ILS Rwy 30

BRIEFING STRIP

ATIS 125.25 (Russian 127.4)	MINERALNYE VODY Approach 119.3	MINERALNYE VODY Krug (R) 120.7	MINERALNYE VODY Start (TWR) 128.0	Ground 121.9
LOC IMW 109.3	Final Apch Crs 295°	GS D4.9 MNW 1835' (791')	ILS DA(H) 1244' (200')	Apt Elev 1047' RWY 1044'
MISSED APCH: Climb on 295° to NDB, then turn RIGHT climbing to 3020' (1976') and intercept R-091, then as directed.				

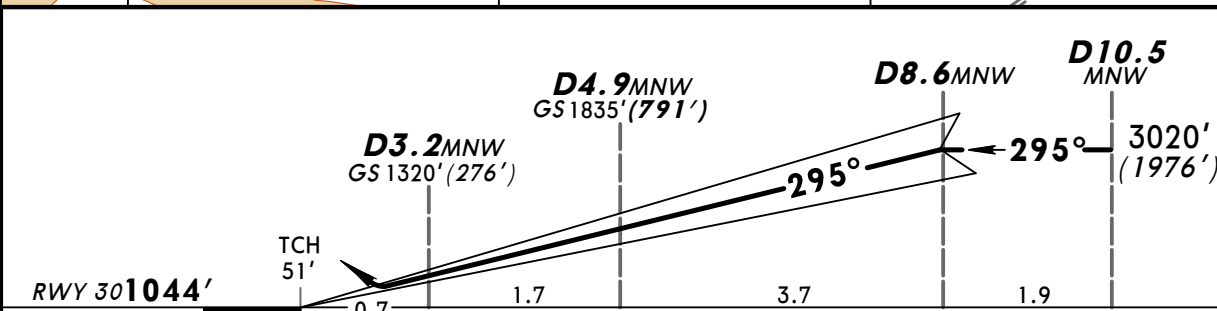
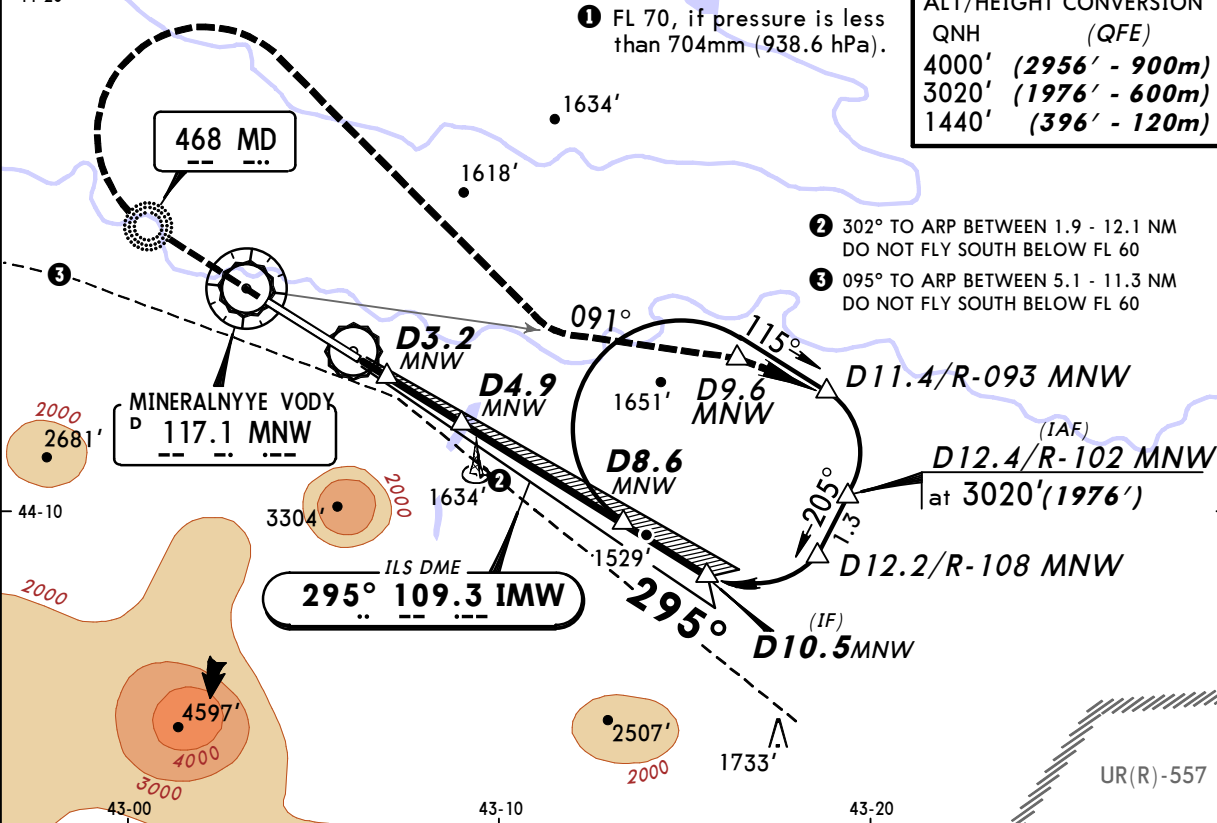
Alt Set: MM (hPa on req)

QNH on req (QFE)

Trans level: FL 60 1

Trans alt: 4000' (2956')

44-20



Gnd speed-Kts	70	90	100	120	140	160			
ILS GS	3.00°	377	484	538	646	753	861		

STRAIGHT-IN LANDING RWY 30				LOC (GS out)		
ILS		DA(H) 1244' (200')				
FULL		ALS out				
A						
B						
C	RVR 720m VIS 800m		1200m		NOT AUTHORIZED	
D						

PANS OPS

URMM/MRV

MINERALNYE VODY

18 MAY 12

(12-1)

Eff 31 May

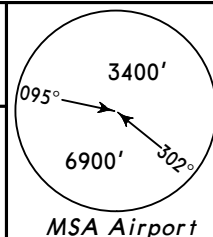


JEPPESSEN MINERALNYE VODY, RUSSIA

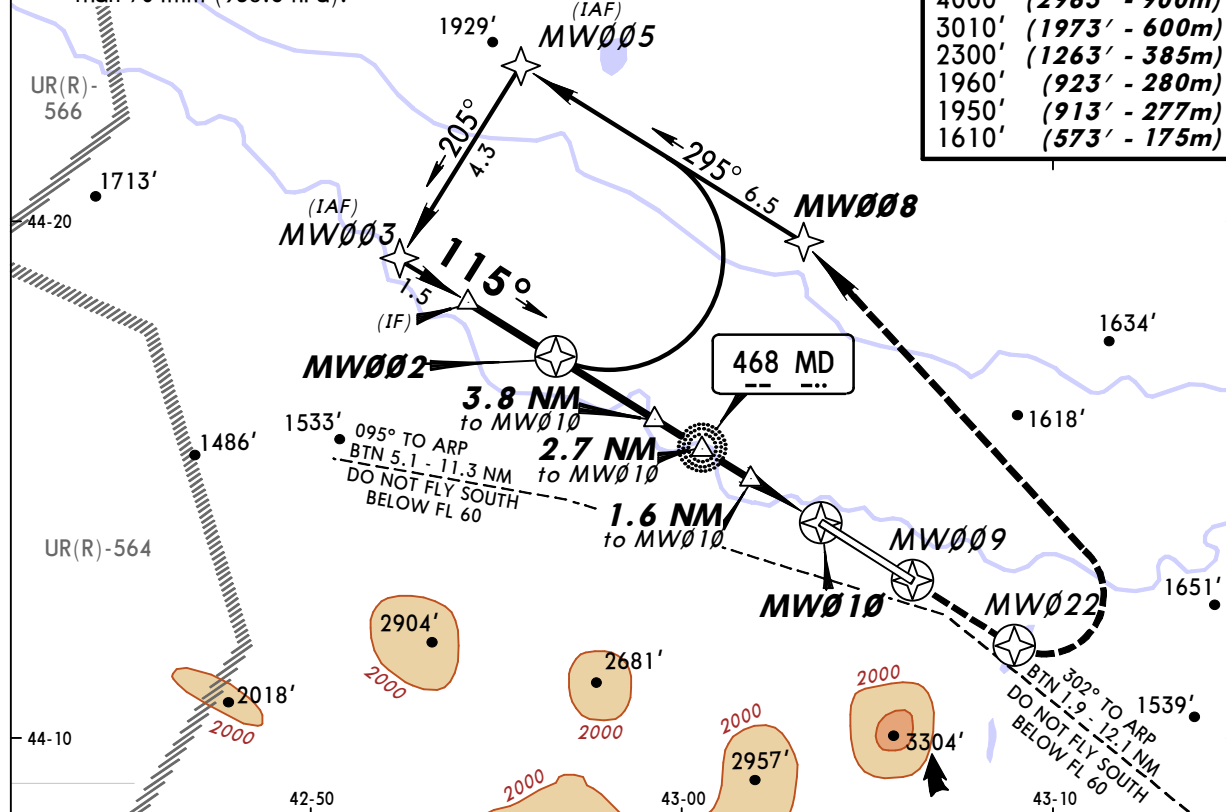
RNAV (GNSS) Rwy 12

BRIEFING STRIP

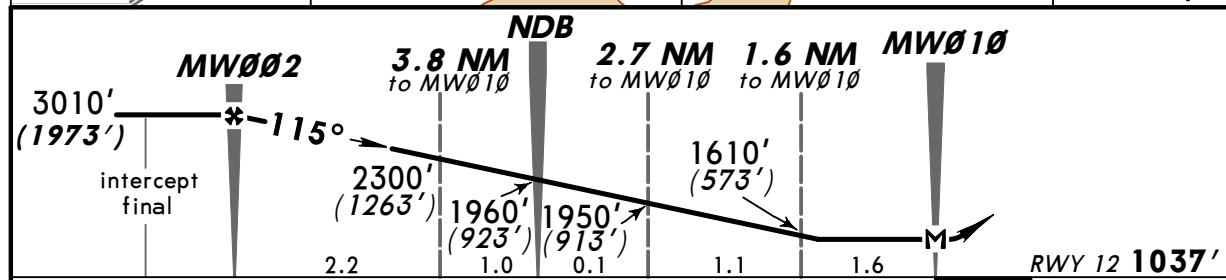
ATIS 125.25 (Russian 127.4)	MINERALNYE VODY Approach 119.3	MINERALNYE VODY Krug (R) 120.7	MINERALNYE VODY Start (TWR) 128.0	Ground 121.9
RNAV	Final Apch Crs 115°	Minimum Alt MW002 3010' (1973')	MDA(H) 1480' (443')	Apt Elev 1047' RWY 1037'
MISSED APCH: Climb on 115° to MW022, then turn LEFT climbing to 3010' (1973') and proceed to MW008, then as directed.				
Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: FL 60 ① Trans alt: 4000' (2963')				



① FL 70, if pressure is less than 704mm (938.6 hPa).



ALT/HEIGHT	CONVERSION
QNH	(QFE)
4000'	(2963' - 900m)
3010'	(1973' - 600m)
2300'	(1263' - 385m)
1960'	(923' - 280m)
1950'	(913' - 277m)
1610'	(573' - 175m)



Gnd speed-Kts	70	90	100	120	140	160
Descent Angle 3.00°	372	478	531	637	743	849
MAP at MW010						

STRAIGHT-IN LANDING RWY 12			
MDA(H) 1480' (443')			
ALS out			
A	RVR 720m VIS 800m	RVR 1500m VIS 1600m	
B			
C	1200m	RVR 1800m VIS 2000m	
D	RVR 1500m VIS 1600m	2400m	

PANS OPS

CHANGES: Missed approach.

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URMM/MRV MINERALNYE VODY

18 MAY 12

(12-2)

Eff 31 May

JEPPESSEN MINERALNYE VODY, RUSSIA RNAV (GNSS) Rwy 30

BRIEFING STRIP

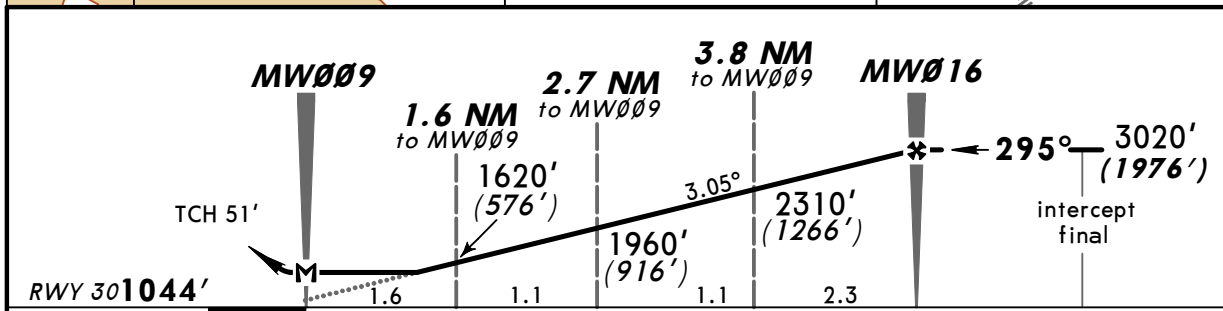
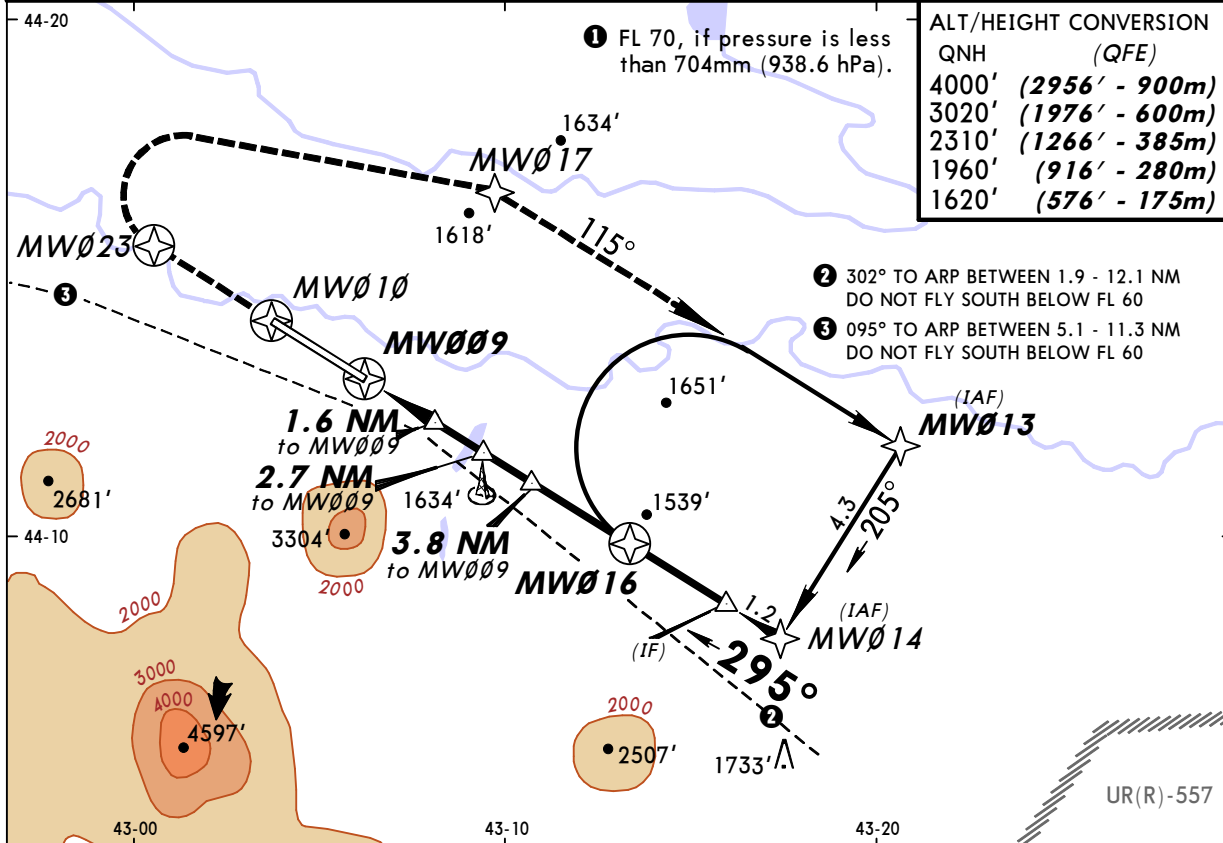
ATIS 125.25 (Russian 127.4)	MINERALNYE VODY Approach 119.3	MINERALNYE VODY Krug (R) 120.7	MINERALNYE VODY Start (TWR) 128.0	Ground 121.9
RNAV	Final Apch Crs 295°	Minimum Alt MW016 3020' (1976')	MDA(H) 1460' (416')	Apt Elev 1047' RWY1044'
MISSED APCH: Climb on 295° to MW023, then turn RIGHT climbing to 3020' (1976') and proceed to MW017, then as directed.				

Alt Set: MM (hPa on req)

QNH on req (QFE)

Trans level: FL 60 ①

Trans alt: 4000' (2956')



Gnd speed-Kts	70	90	100	120	140	160	
Descent Angle 3.05°	378	486	540	648	755	863	
MAP at MW009							

STRAIGHT-IN LANDING RWY 30

MDA(H) 1460' (416')

ALS out

A	RVR 720m VIS 800m	RVR 1500m VIS 1600m
B		
C	1200m	RVR 1800m VIS 2000m
D	RVR 1500m VIS 1600m	

PANS OPS

CHANGES: Missed approach.

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MINERALNYE VODY

28 DEC 12

(13-1)

Eff 10 Jan



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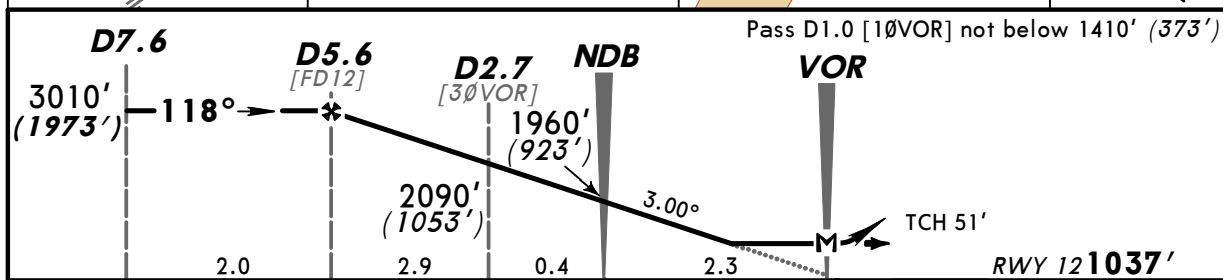
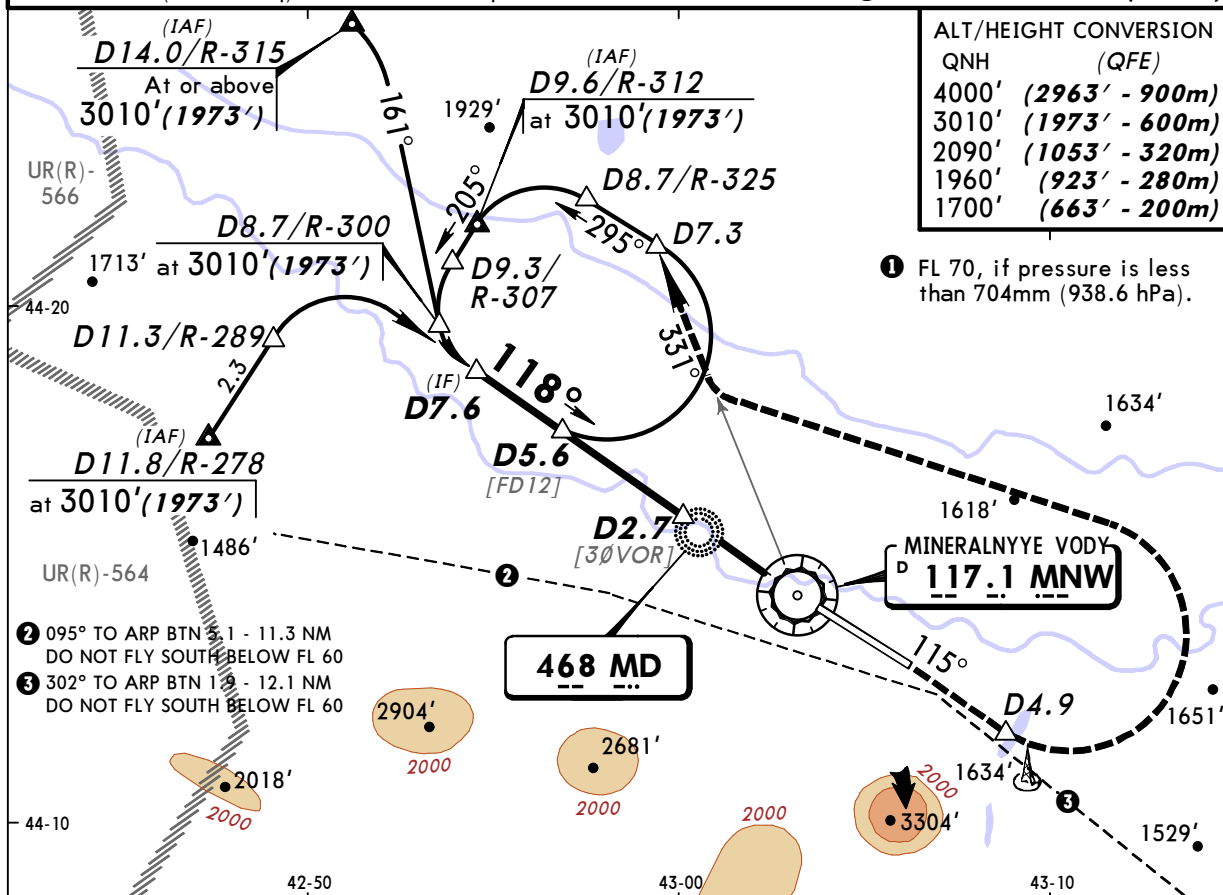
MINERALNYE VODY, RUSSIA

VOR DME Rwy 12

BRIEFING STRIP

ATIS 125.25 (Russian 127.4)	MINERALNYE VODY Approach 119.3	MINERALNYE VODY Krug (R) 120.7	MINERALNYE VODY Start (TWR) 128.0	Ground 121.9
VOR MNW 117.1	Final Apch Crs 118°	Minimum Alt D5.6 3010' (1973')	MDA(H) 1480' (443')	Apt Elev 1047' RWY 1037'
MISSED APCH: Climb on 115° to D4.9, then turn LEFT to intercept R-331 MNW climbing to 3010' (1973'), then as directed.				
MSA MNW VOR				

Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: FL 60 ① Trans alt: 4000' (2963')



Gnd speed-Kts	70	90	100	120	140	160
Descent angle 3.00°	372	478	531	637	743	849
MAP at VOR						

STRAIGHT-IN LANDING RWY 12		ALS out	
MDA(H) 1480' (443')			
A	RVR 720m VIS 800m	RVR 1500m VIS 1600m	
B			
C	1200m	RVR 1800m VIS 2000m	
D	RVR 1500m VIS 1600m	2400m	

PANS OPS

URMM/MRV MINERALNYYE VODY

28 DEC 12

(13-2)

Eff 10 Jan

JEPPESEN MINERALNYYE VODY, RUSSIA VOR DME Rwy 30

BRIEFING STRIP

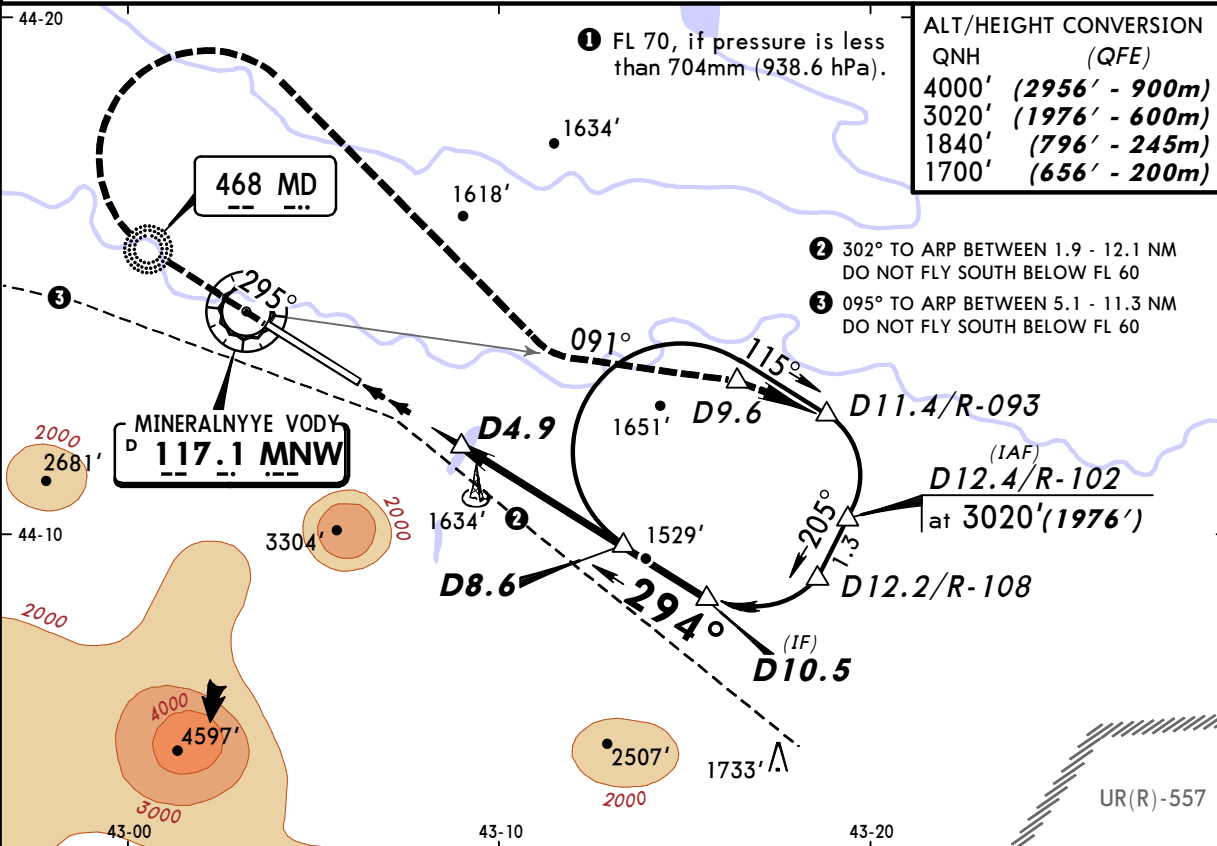
ATIS 125.25 (Russian 127.4)	MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
VOR MNW 117.1	Final Apch Crs 294°	Minimum Alt D8.6 3020' (1976')	MDA(H) (CONDITIONAL) 1560' (516')	Apt Elev 1047' RWY 1044'
MISSED APCH: Climb on 295° to NDB, then turn RIGHT climbing to 3020' (1976') and intercept R-091, then as directed.				

Alt Set: MM (hPa on req)

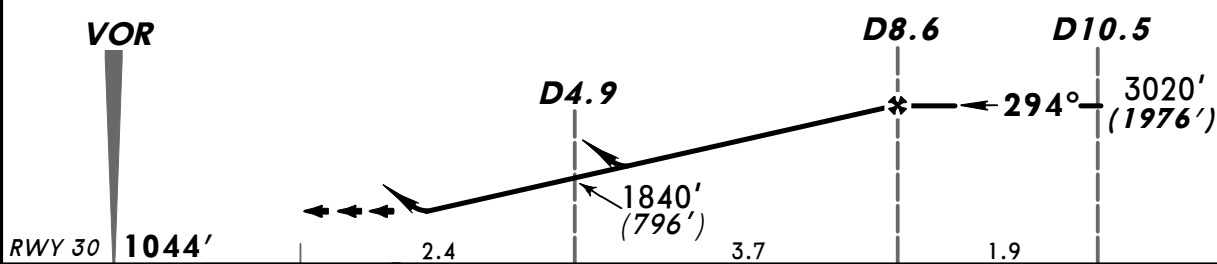
QNH on req (QFE)

Trans level: FL 60 ①

Trans alt: 4000' (2956')



Pass D3.3 not below 1320' (276').



Gnd speed-Kts	70	90	100	120	140	160	HIALS PAPI	MD 468 on 295°
Descent angle 3.00°	372	478	531	637	743	849		

STRAIGHT-IN LANDING RWY 30			
with D8.6		w/o D8.6	
MDA(H) 1560' (516')		MDA(H) 1850' (806')	
	ALS out		ALS out
A	RVR 720m VIS 800m	RVR 1500m VIS 1600m	RVR 720m VIS 800m RVR 1500m VIS 1600m
B			1200m RVR 1800m VIS 2000m
C	RVR 1500m VIS 1600m	2400m	2800m
D	RVR 1800m VIS 2000m	2800m	3200m