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Airport Information For URMM
Terminal Charts For URMM
Revision Letter For Cycle 17-2013
Change Notices
Notebook

General Information

Location: Mineralnyye Vody Rus
IATA Code: MRV
Lat/Long: N44° 13.6' E043° 05.0'
Elevation: 1047 ft

Airport Use: Public
Magnetic Variation: 7.0°E

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

Sunrise: 0223 Z
Sunset: 1556 Z,

Runway Information

Runway: 12
Length x Width: 12795 ft x 197 ft
Surface Type: concrete
TDZ-Elev: 1037 ft
Lighting: Edge, ALS, Centerline, TDZ

Runway: 30
Length x Width: 12795 ft x 197 ft
Surface Type: concrete
TDZ-Elev: 1044 ft
Lighting: Edge, ALS, Centerline

Communication Information

ATIS 127.4 Non-English
ATIS 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

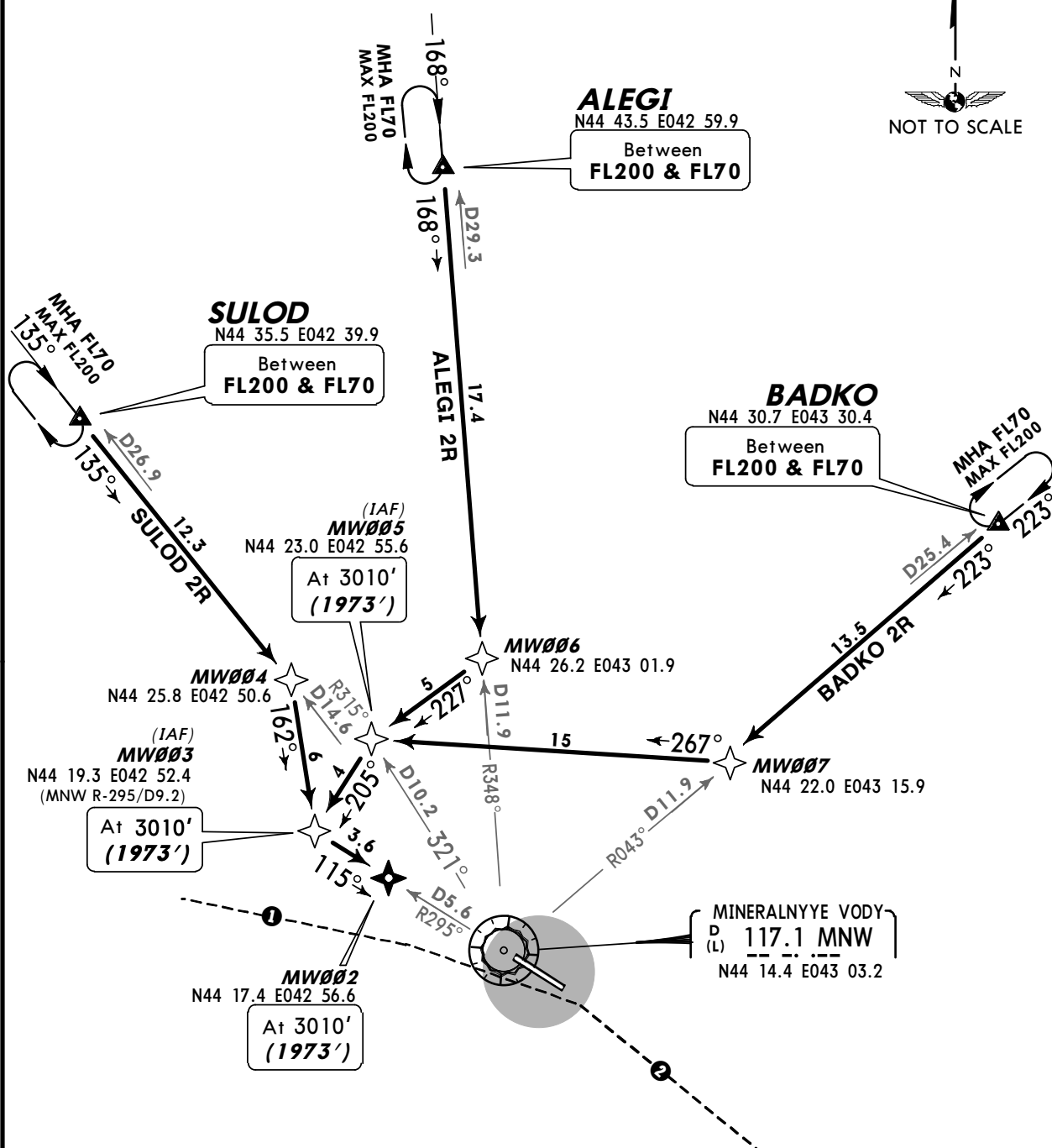
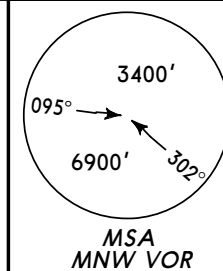
ATIS
125.25 (Russian 127.4)

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)

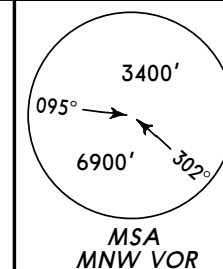
ATIS
125.25 (Russian 127.4)

Apt Elev
1047'

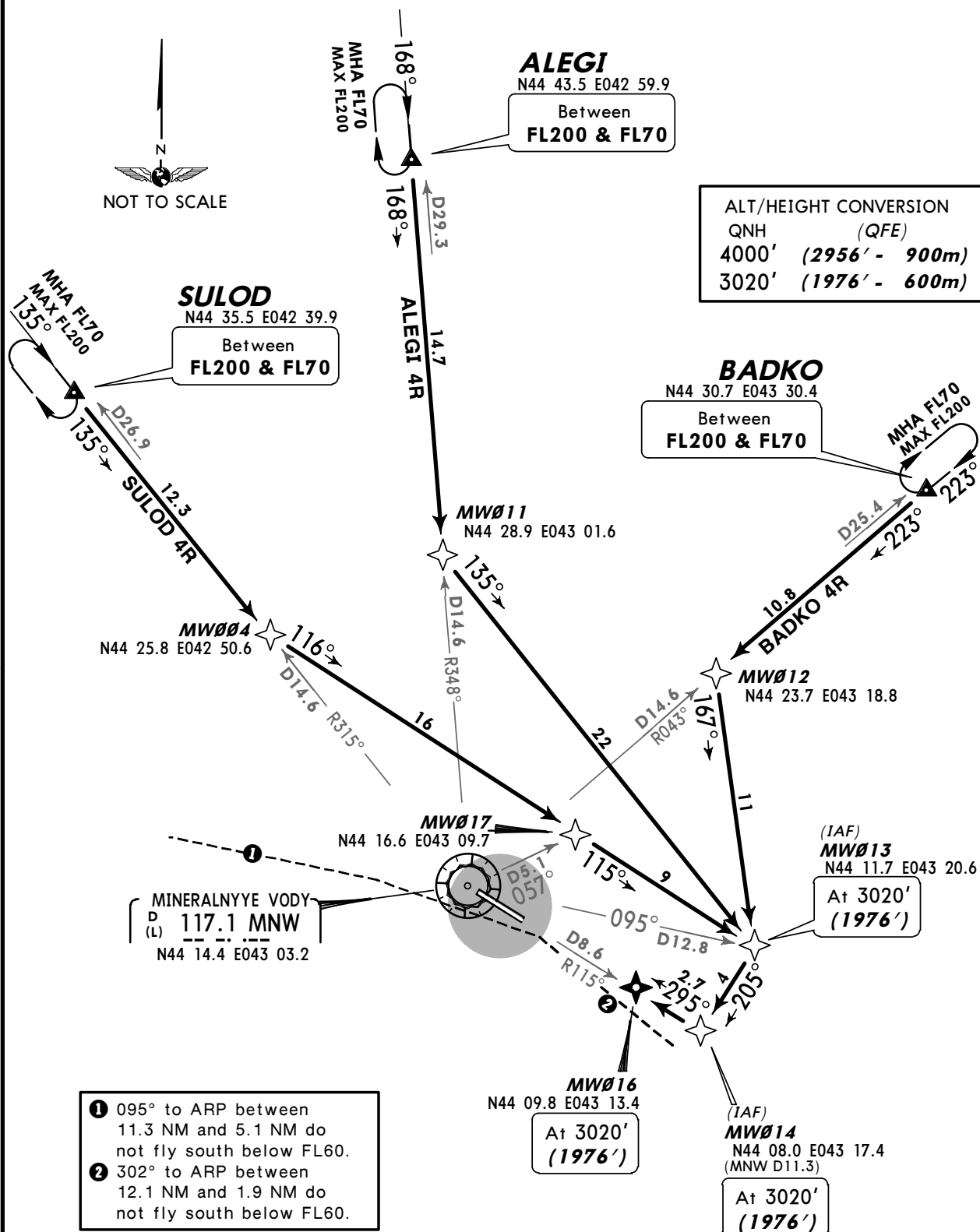
Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: FL60
FL70 if pressure is less than 704mm (938.6 hPa)
Trans alt: 4000' (2956')

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

SPEED MAX 250 KT BELOW FL100



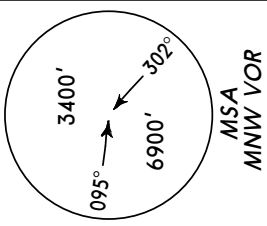
ALT/HEIGHT CONVERSION
QNH (QFE)
4000' (2956' - 900m)
3020' (1976' - 600m)



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')

ATIS
125.25 (Russian 127.4)

Apt Elev
1047'

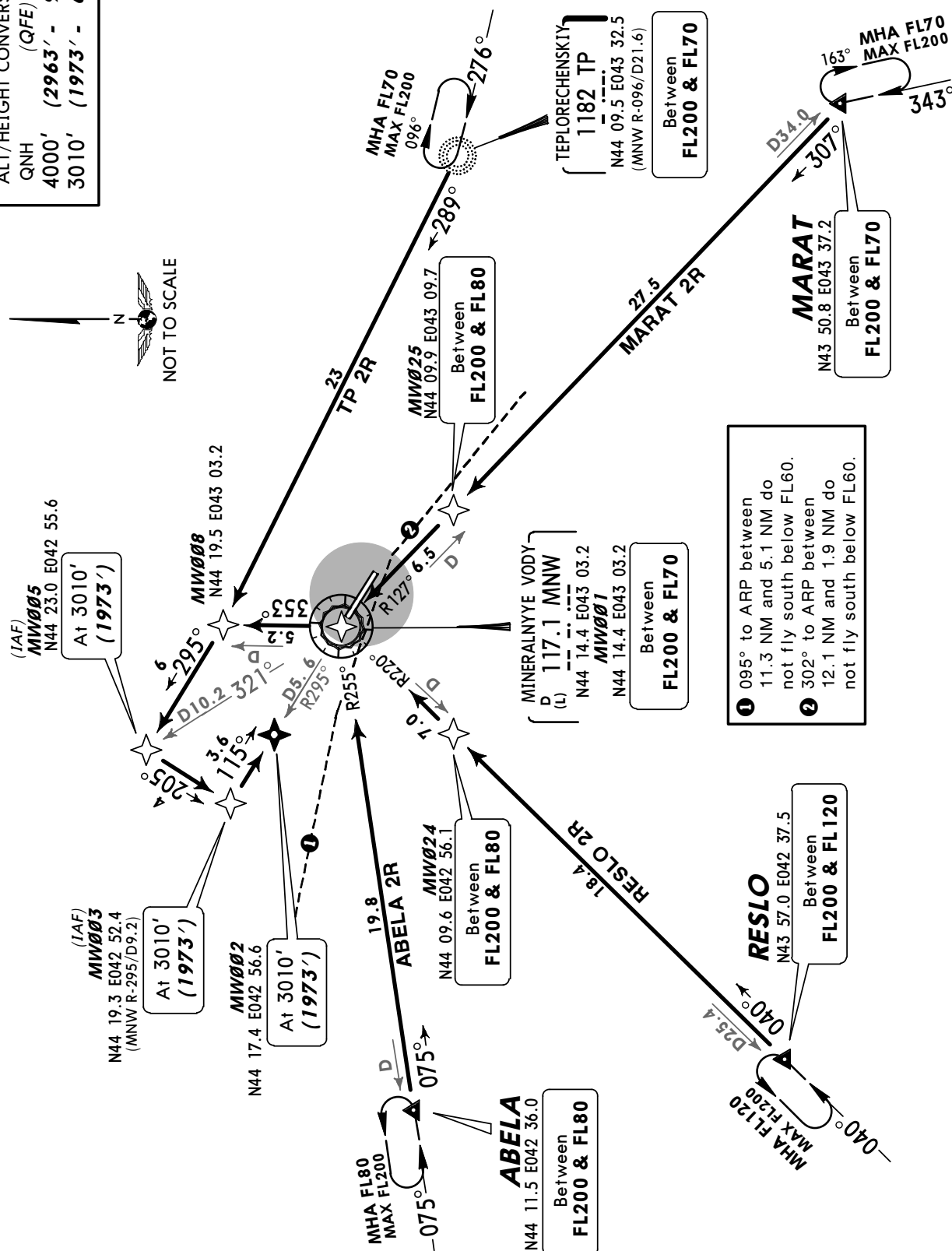
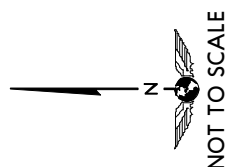


ABELA 2R [ABEL2R], MARAT 2R [MARA2R]
RESLO 2R [RESL2R], TP 2R
RWY 12 RNAV ARRIVALS

RNAV (GNSS)

SPEEDS MAX 250 KT BELOW FL100

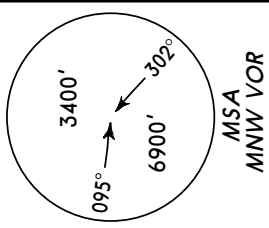
ALT/HEIGHT CONVERSION
(QFE)
QNH 4000' (2963') - 900m
3010' (1973') - 600m



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')

ATIS
125.25 (Russian 127.4)

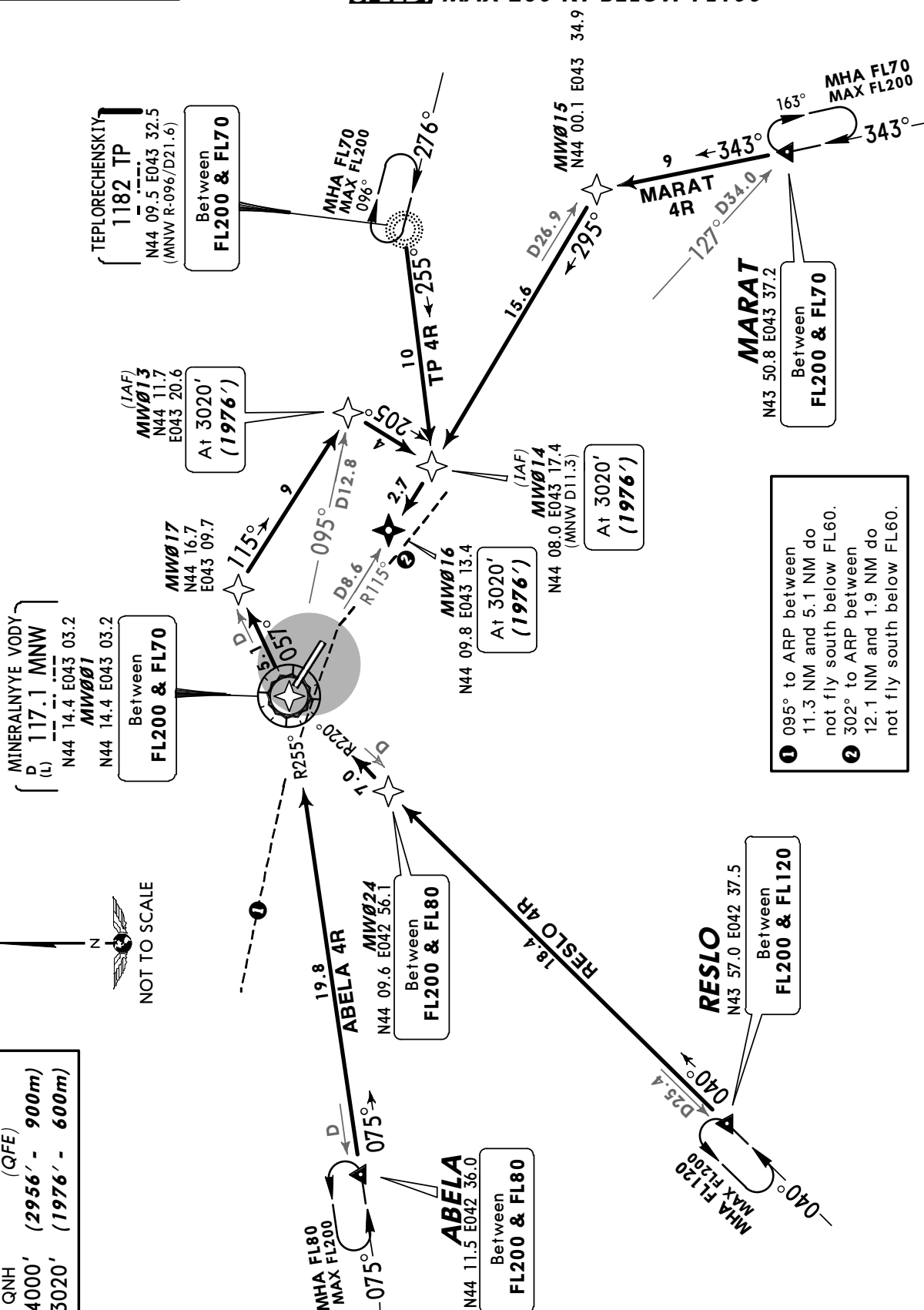
Apt Elev
1047'



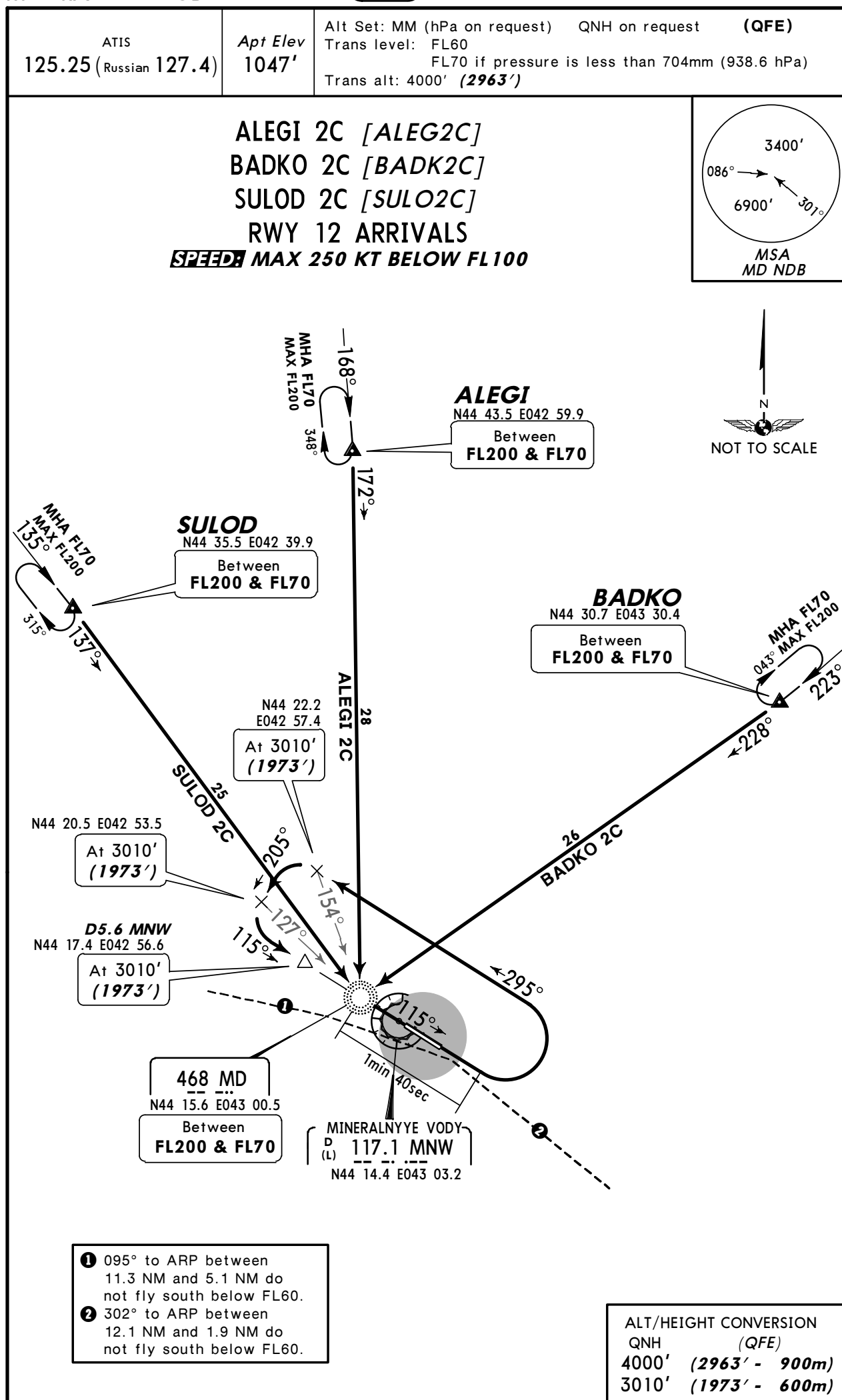
ABELA 4R [ABEL4R], MARAT 4R [MARA4R] RESLO 4R [RESL4R], TP 4R RWY 30 RNAV ARRIVALS

RNAV (GNSS)

SPEED MAX 250 KT BELOW FL100

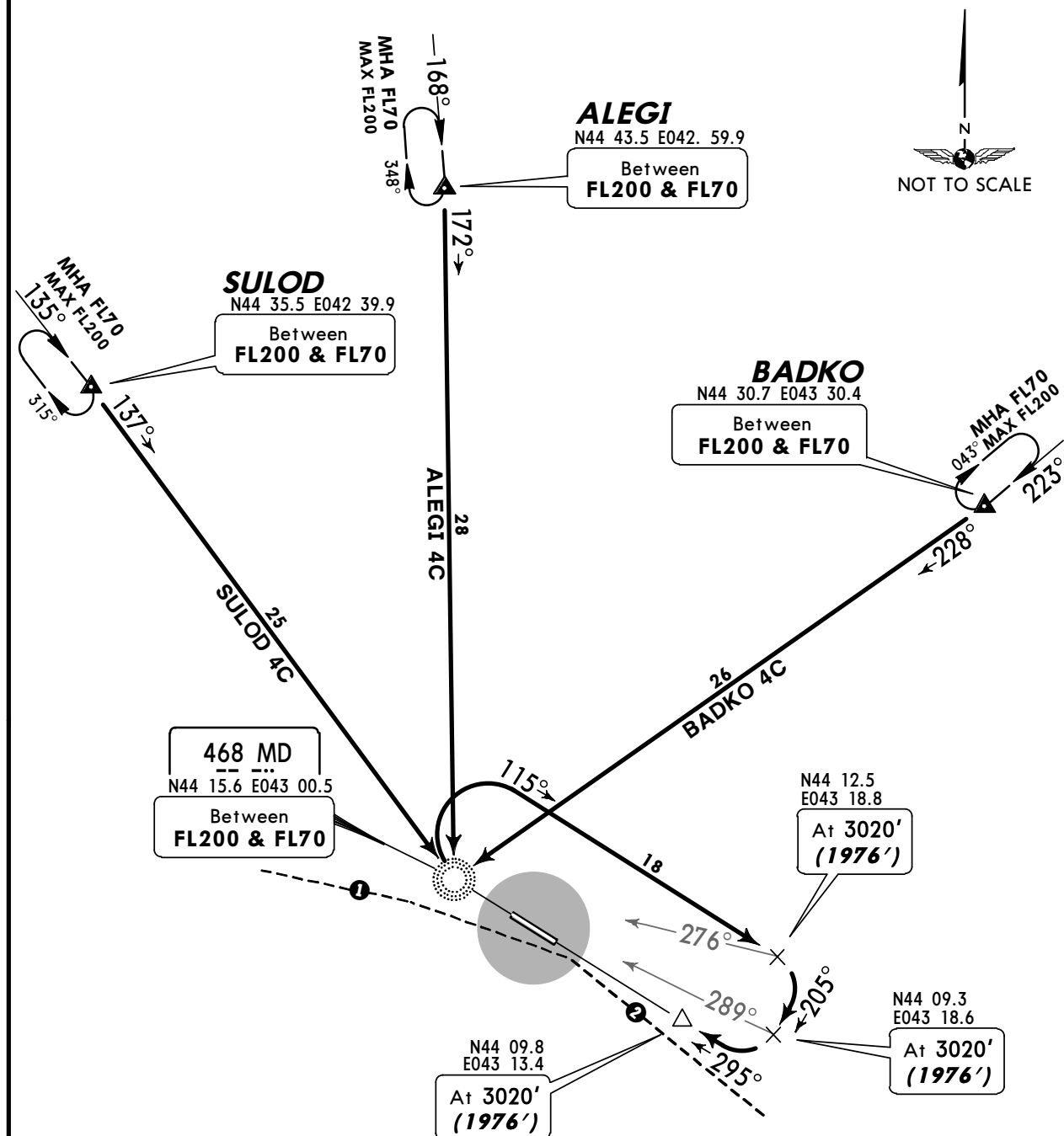
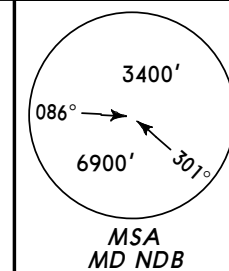


ALT/HEIGHT CONVERSION
(QFE)
QNH 4000' (2956' - 900m)
3020' (1976' - 600m)



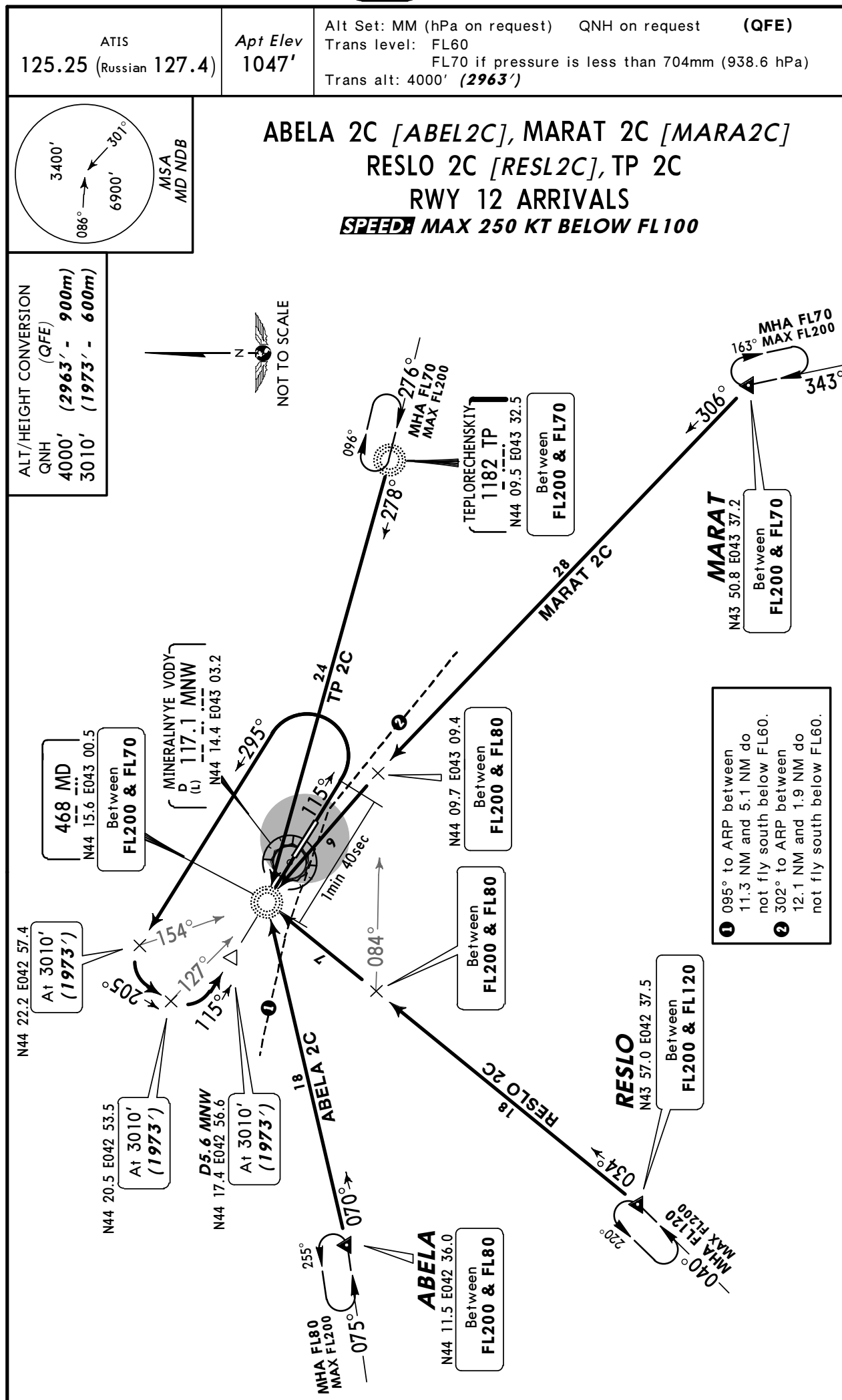
ATIS 125.25 (Russian 127.4)	Apt Elev 1047'	Alt Set: MM (hPa on request) QNH on request (QFE) Trans level: FL60 FL70 if pressure is less than 704mm (938.6 hPa) Trans alt: 4000' (2956')
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ALEGI 4C [ALEG4C]
BADKO 4C [BADK4C]
SULOD 4C [SULO4C]
RWY 30 ARRIVALS
~~SPEED~~ MAX 250 KT BELOW FL100



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

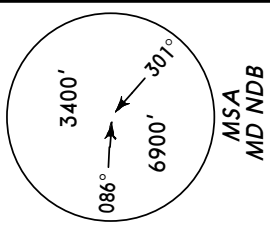
ALT/HEIGHT CONVERSION	
QNH	(QFE)
4000'	(2956' - 900m)
3020'	(1976' - 600m)



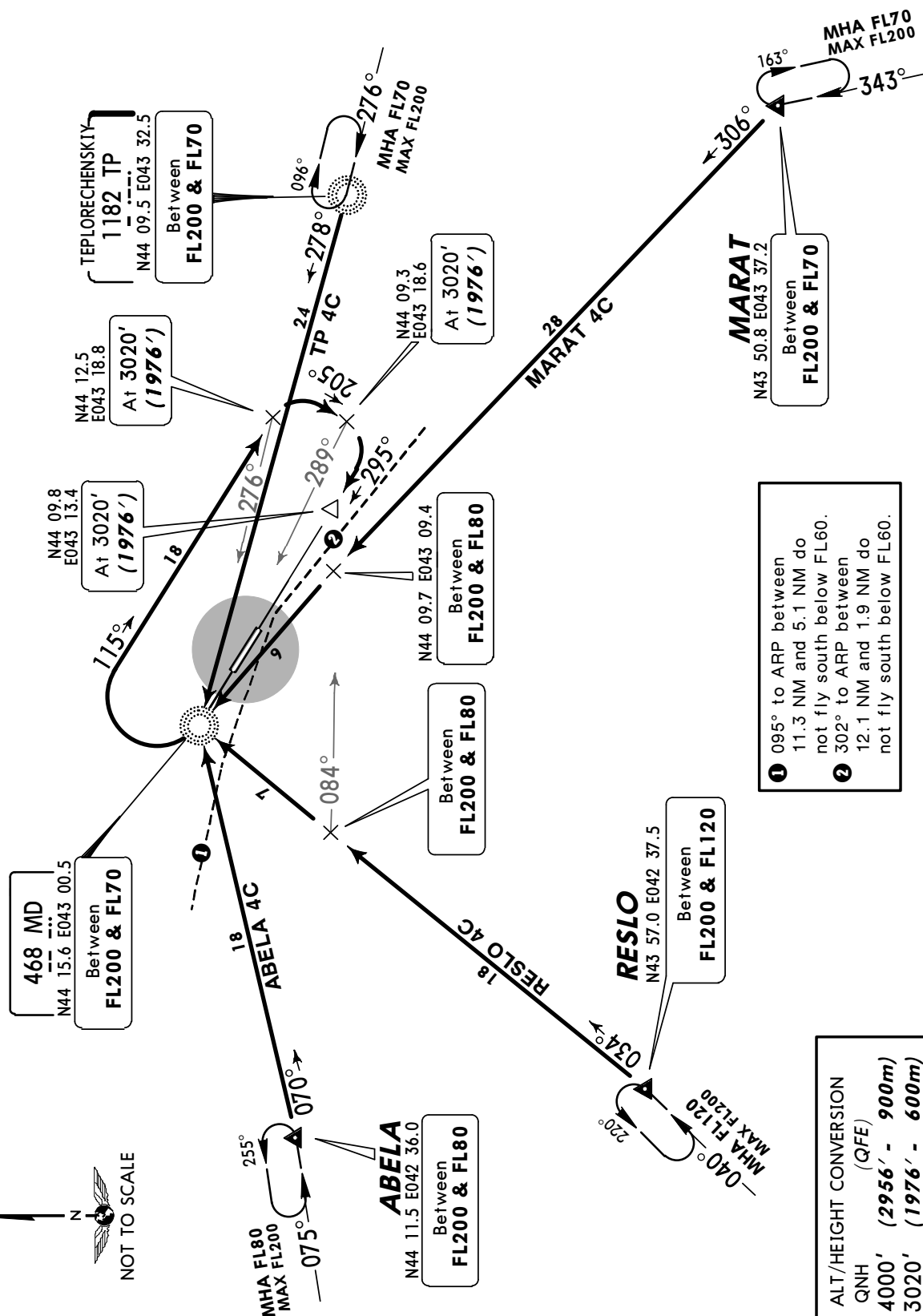
ATIS
125.25 (Russian 127.4)

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 4C [ABEL4C], MARAT 4C [MARA4C]
RESLO 4C [RESL4C], TP 4C
RWY 30 ARRIVALS**
SPEEDS MAX 250 KT BELOW FL100

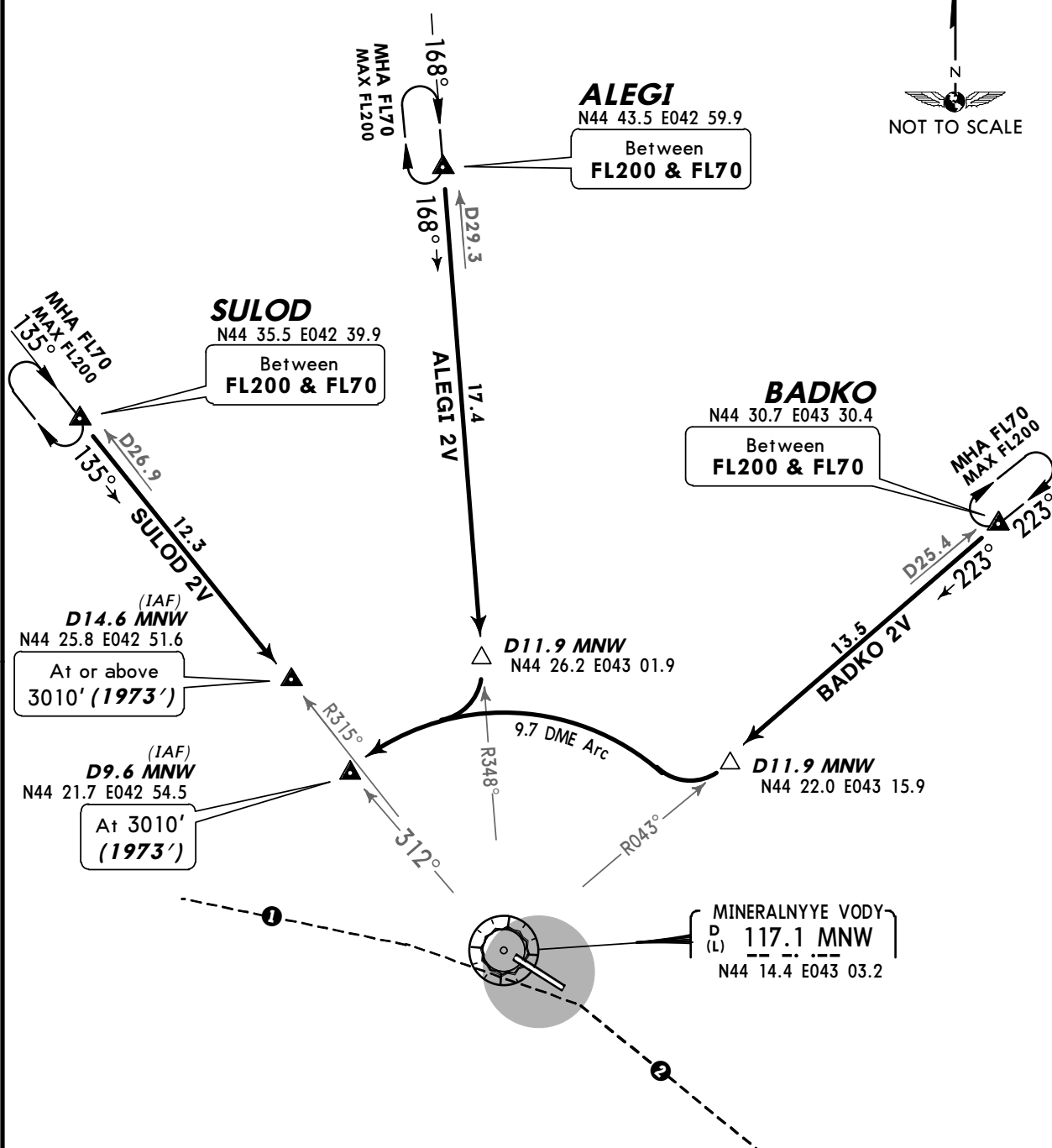
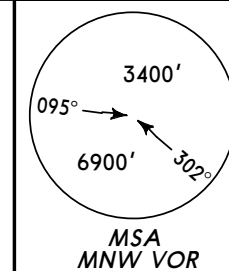


ATIS
125.25 (Russian 127.4)

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.

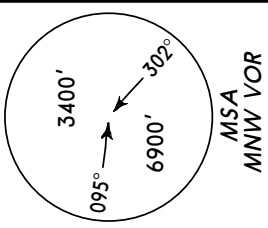
ALT/HEIGHT CONVERSION
QNH (QFE)
4000' (2963' - 900m)
3010' (1973' - 600m)

- 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.

ATIS
125.25 (Russian 127.4)

Apt Elev
1047'

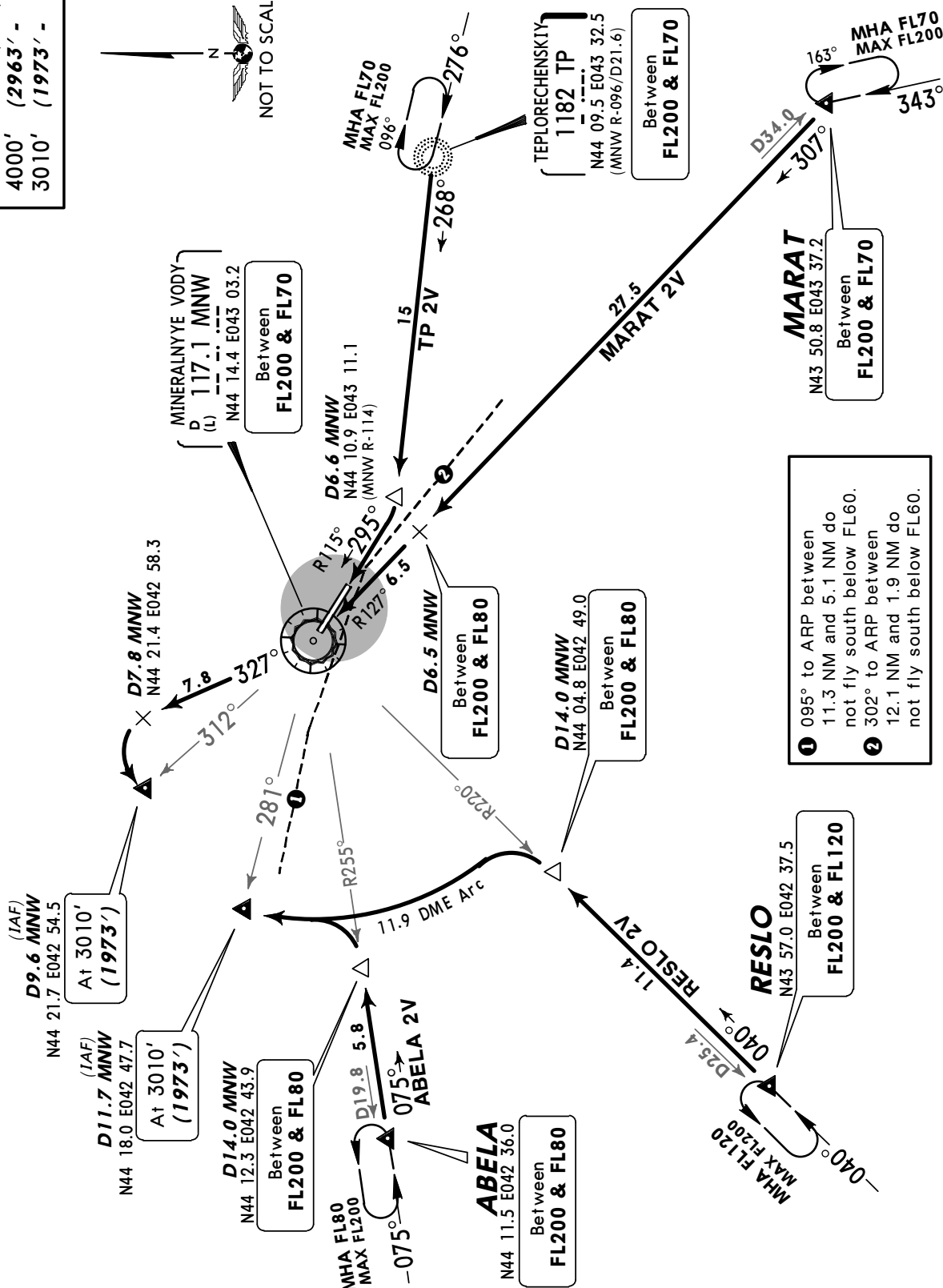
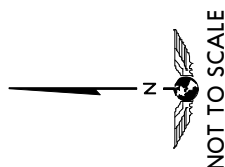
Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: FL60
FL70 if pressure is less than 704mm (938.6 hPa)
Trans alt: 4000' (2963')



ABELA 2V [ABEL2V], MARAT 2V [MARA2V]
RESLO 2V [RESL2V], TP 2V
RWY 12 ARRIVALS

SPEEDS MAX 250 KT BELOW FL100

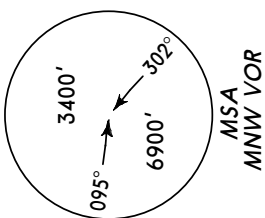
ALT/HEIGHT CONVERSION
(QFE)
QNH 4000' (2963' - 900m)
3010' (1973' - 600m)



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')

ATIS
125.25 (Russian 127.4)

Apt Elev
1047'



ABELA 4V [ABEL4V], MARAT 4V [MARA4V]
RESLO 4V [RESL4V], TP 4V
RWY 30 ARRIVALS

SPEED MAX 250 KT BELOW FL100

⑤ D12.1 MNW
N44 09.3 E043 18.6
(MNW R-108)
At 3020' (1976')

(IAF) TEPLORECHENSKIY
1182 TP
N44 09.5 E043 32.5
(MNW R-096/D21.6)
Between
FL200 & FL70

(IAF) D12.4 MNW
N44 10.4 E043 19.5
At 3020' (1976')

D9.6 MNW
N44 13.1
E043 16.4

MINERALNYE VODY
D 117.1 MNW
(L) N44 14.4 E043 03.2
Between
FL200 & FL70

D8.6 MNW
N44 09.8 E043 13.4
At 3020' (1976')

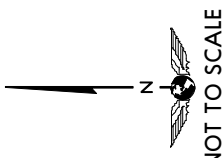
D11.4 MNW
N44 08.6 E043 16.9
(MNW R-113)
At 3020' (1976')

D27.3 MNW
N43 59.4 E043 35.0

MARAT
N43 50.8 E043 37.2
(MNW R-127/D34.0)
Between
FL200 & FL70

- 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)



ABELA
N44 11.5 E042 36.0
Between
FL200 & FL80

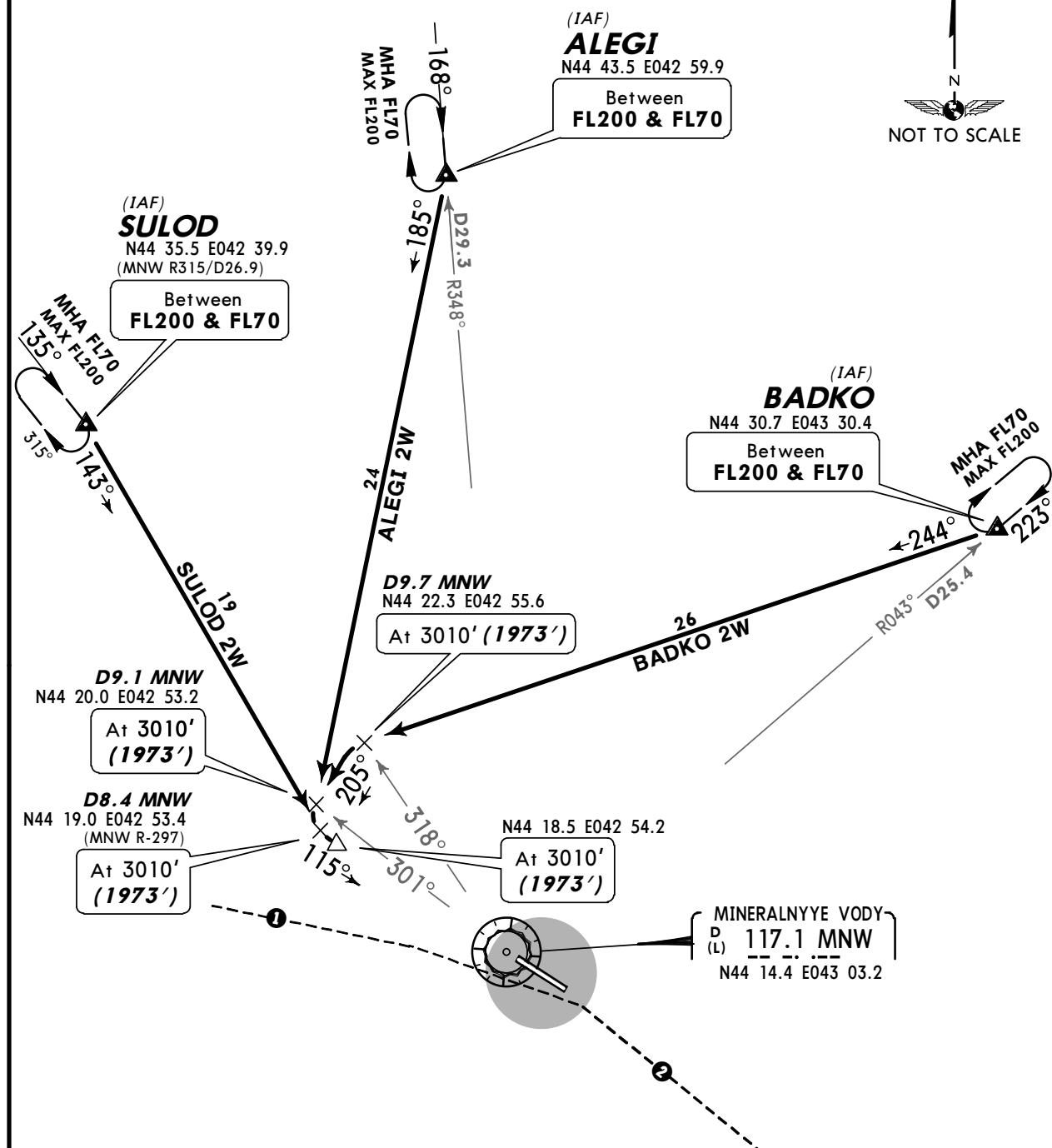
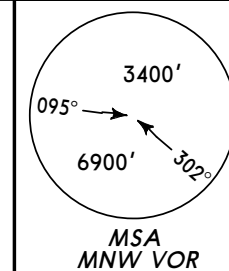
D7.0 MNW
Between
FL200 & FL80

RESLO
N43 57.0 E042 37.5
Between
FL200 & FL120

MHA FL120
MAX FL200
040°
D25.4

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')
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ALEGI 2W [ALEG2W]
BADKO 2W [BADK2W]
SULOD 2W [SULO2W]
RWY 12 ARRIVALS
UNDER RADAR CONTROL
SPEED MAX 250 KT BELOW FL100



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

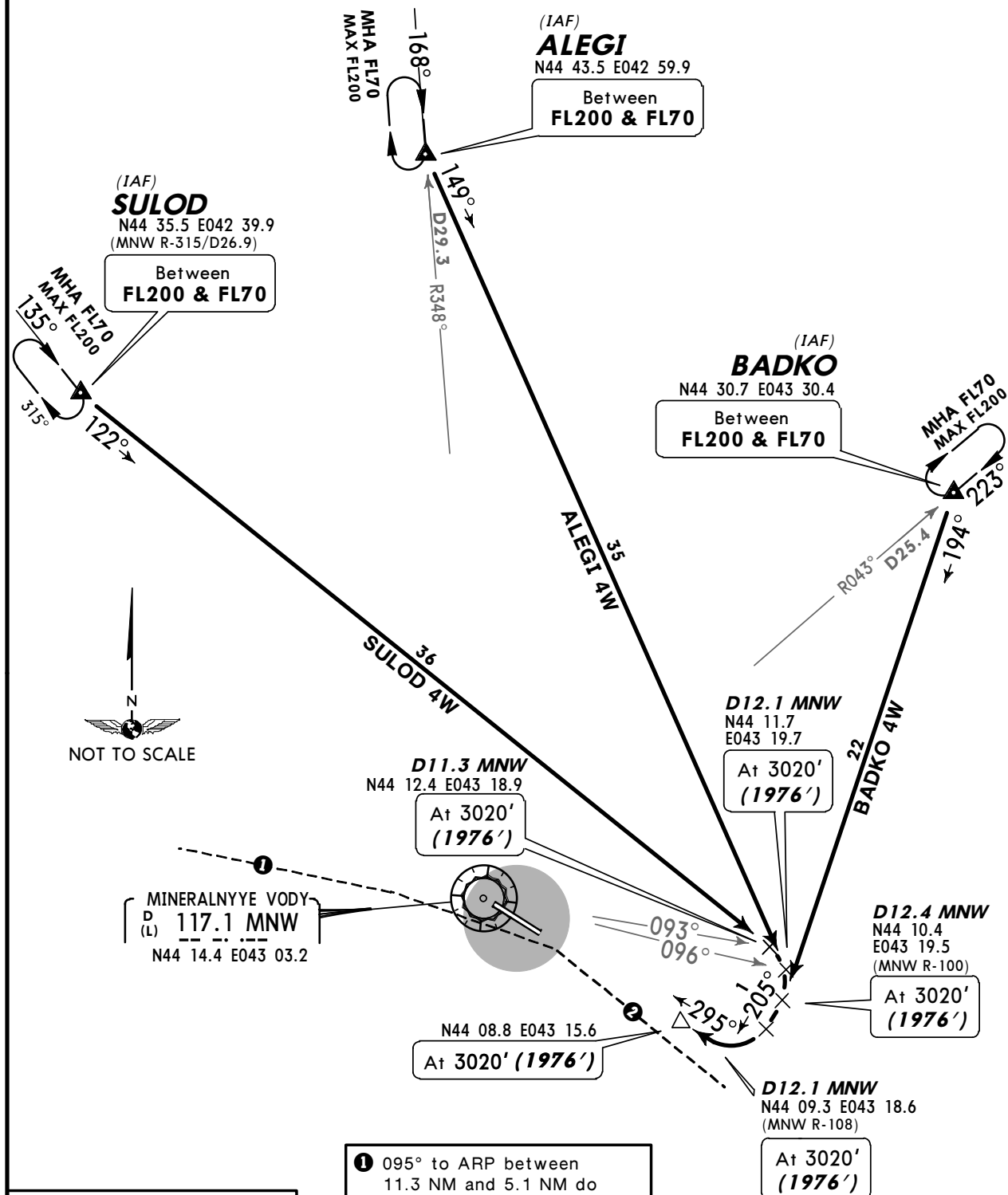
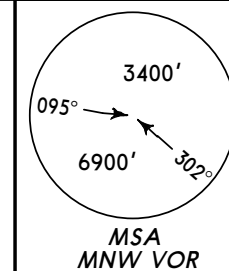
ALT/HEIGHT CONVERSION	
QNH	(QFE)
4000'	(2963' - 900m)
3010'	(1973' - 600m)

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



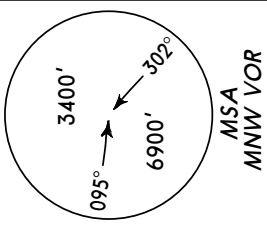
ALT/HEIGHT CONVERSION
QNH (QFE)
4000' (2956' - 900m)
3020' (1976' - 600m)

- 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.

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')

ATIS
125.25 (Russian 127.4)

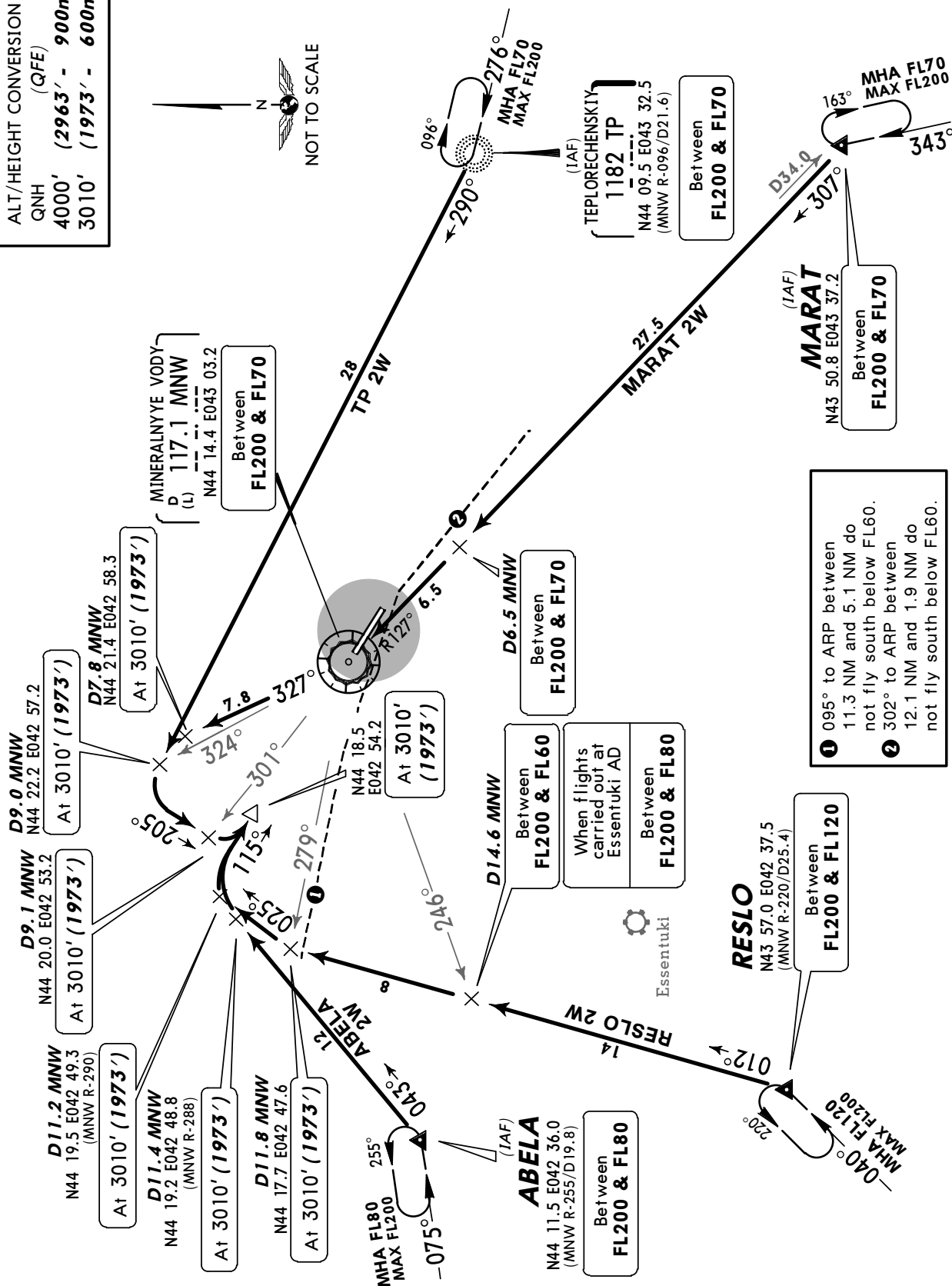
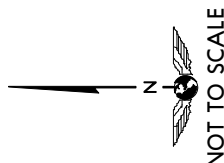
Apt Elev
1047'



ABELA 2W [ABEL2W], MARAT 2W [MARA2W]
RESLO 2W [RESL2W], TP 2W
RWY 12 ARRIVALS
UNDER RADAR CONTROL

SPEEDS MAX 250 KT BELOW FL100

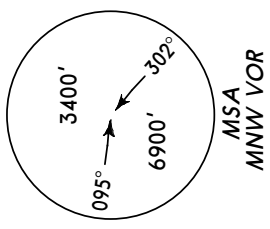
ALT/HEIGHT CONVERSION
(QFE)
QNH 4000' (2963' - 900m)
3010' (1973' - 600m)



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')

ATIS
125.25 (Russian 127.4)

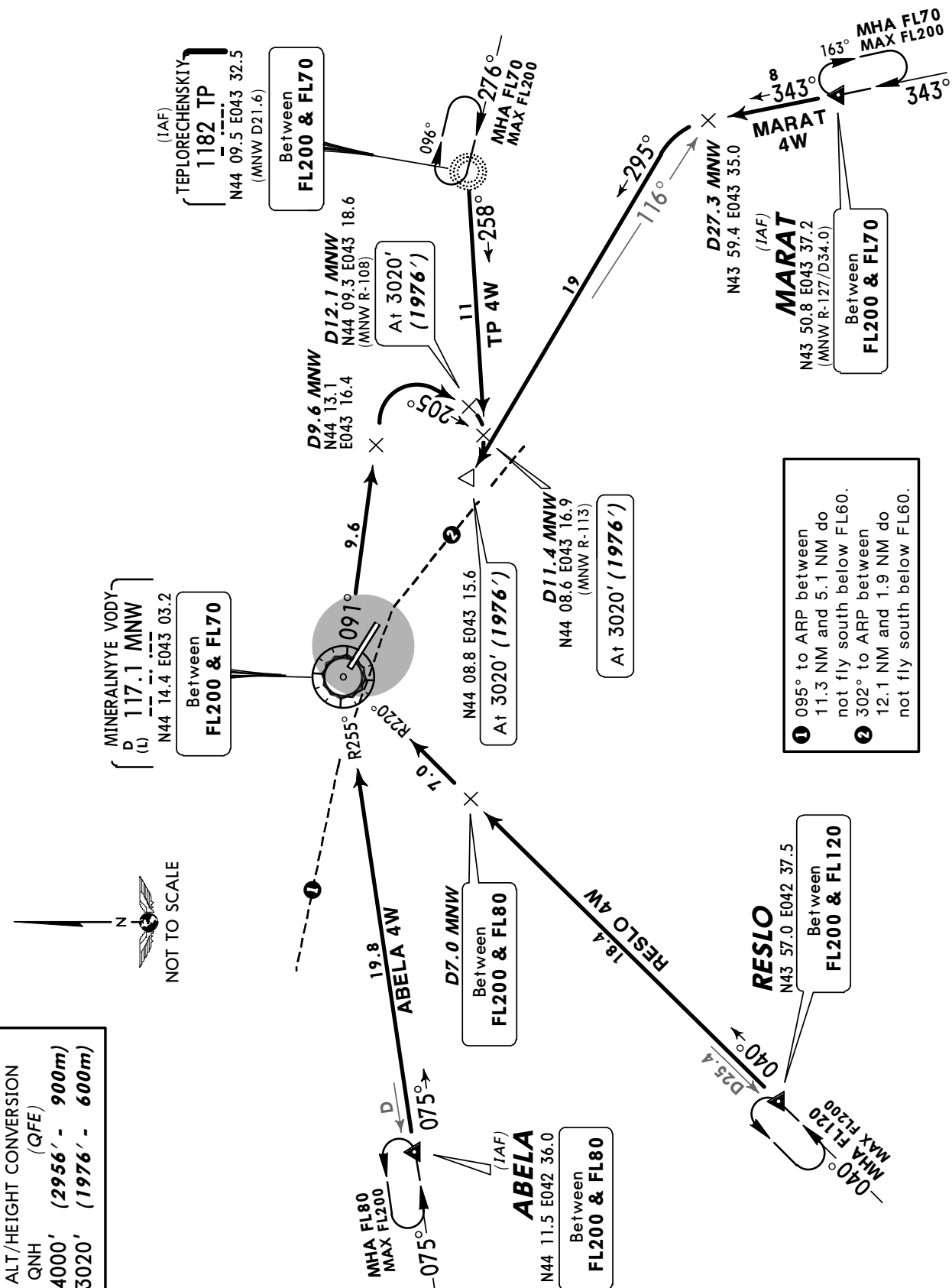
Apt Elev
1047'



ABELA 4W [ABEL4W], MARAT 4W [MARA4W]
RESLO 4W [RESL4W], TP 4W
RWY 30 ARRIVALS

UNDER RADAR CONTROL

SPEED MAX 250 KT BELOW FL100



MINERALNYYE
VODY
Krug
120.7

Apt Elev
1047'

QNH on request (QFE)

Trans level: FL60

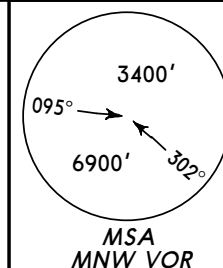
FL70 if pressure is less than 704 mm (938.6 hPa)

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.

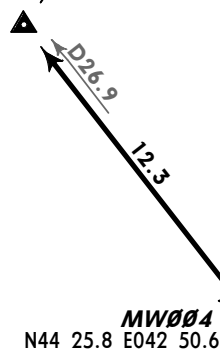
**BADKO 1R [BADK1R]
SULOD 1R [SULO1R]
RWY 12 RNAV DEPARTURES**
RNAV (GNSS)



SULOD

N44 35.5 E042 39.9

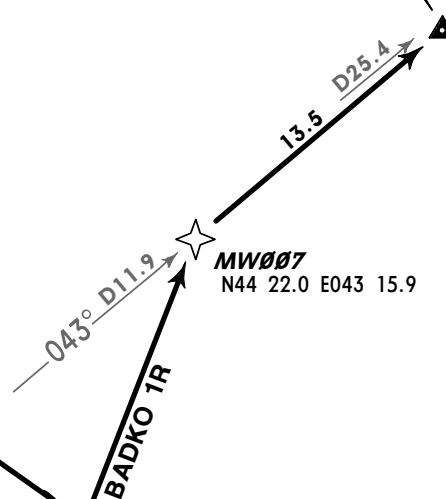
Between
FL70 & FL200



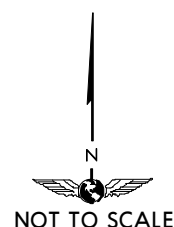
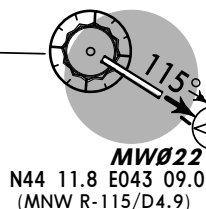
BADKO

N44 30.7 E043 30.4

Between
FL70 & FL200



MINERALNYYE VODY
D (L) 117.1 MNW
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 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)

MINERALNYYE
VODY
Krug
120.7

Apt Elev
1047'

QNH on request (QFE)

Trans level: FL60

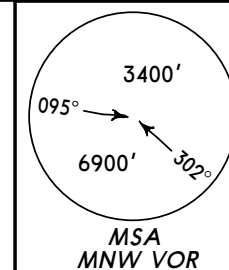
FL70 if pressure is less than 704 mm (938.6 hPa)

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



SULOD

N44 35.5 E042 39.9

Between
FL70 & FL200

D26.9
12.3
MW004
N44 25.8 E042 50.6

BADKO

N44 30.7 E043 30.4

Between
FL70 & FL200

D25.4
10.8
MW012
N44 23.7 E043 18.8



468 MD
N44 15.6 E043 00.5
MW023
N44 15.6 E043 00.5
(MNW R-295/D2.3)

MINERALNYYE VODY
D 117.1 MNW
(L) 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)

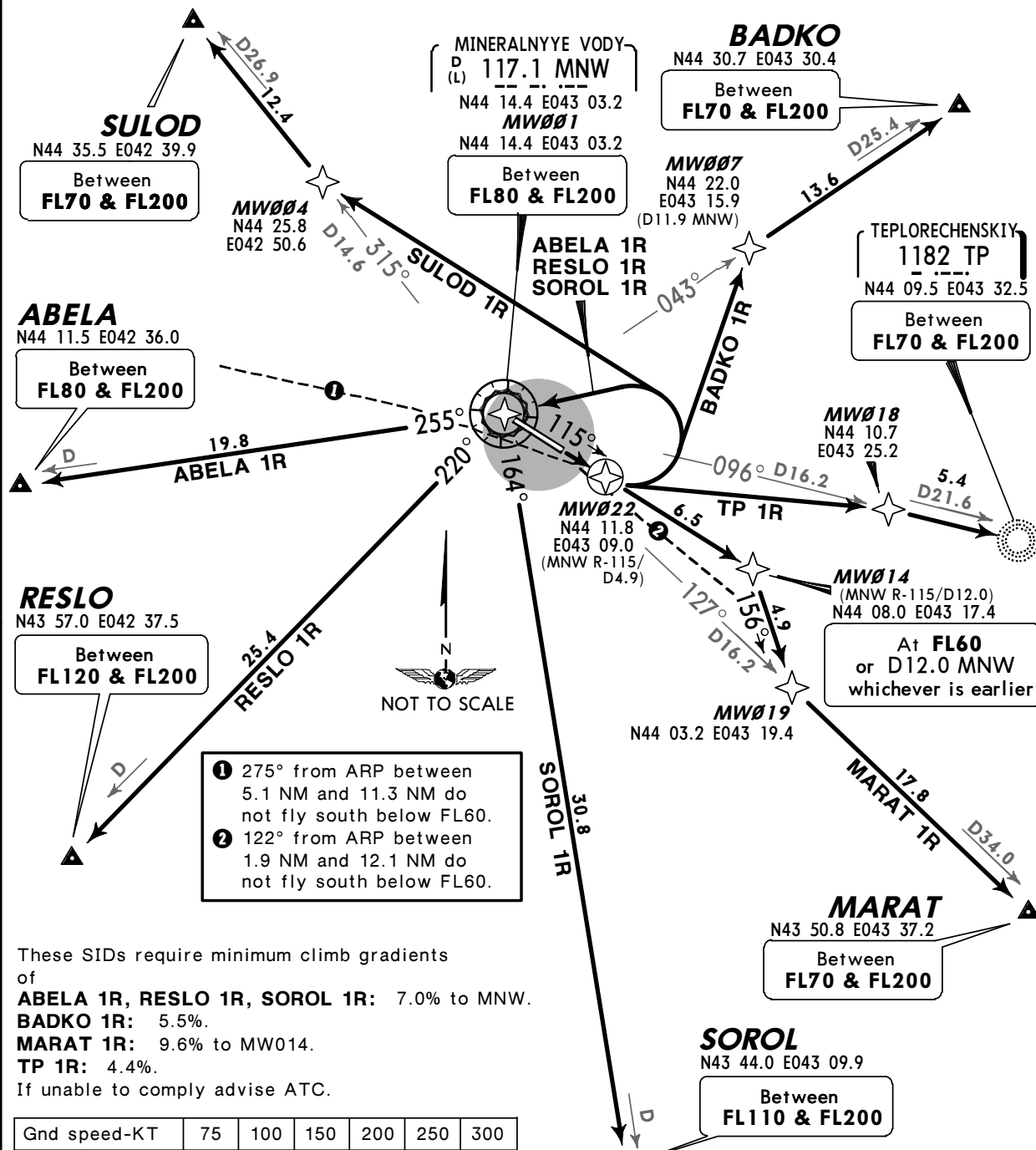
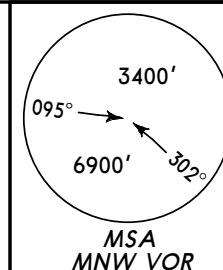
MINERALNYYE
VODY
Krug
120.7Apt Elev
1047'

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.ABELA 1R [ABEL1R], BADKO 1R [BADK1R],
MARAT 1R [MARA1R], RESLO 1R [RESL1R],
SOROL 1R [SORO1R], SULOD 1R [SULO1R], TP 1R
RWY 12 RNAV DEPARTURES
RNAV (GNSS)These SIDs require minimum climb gradients
of

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

BADKO 1R: 5.5%.

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
5.5% (V/V fpm)	418	557	835	1114	1392	1671
4.4% (V/V fpm)	334	446	668	891	1114	1337

ALT/HEIGHT CONVERSION

QNH (QFE)

1440' (403' - 120m)

4000' (2963' - 900m)

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

MINERALNYYE
VODY
Krug
120.7

Apt Elev
1047'

QNH on request (QFE)

Trans level: FL60

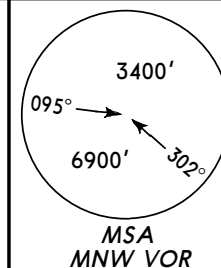
FL70 if pressure is less than 704 mm (938.6 hPa)

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 1V [BADK1V]
SULOD 1V [SULO1V]
RWY 12 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
13.5
D11.9 MNW
N44 22.0 E043 15.9

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

4.9 DME

NOT TO SCALE

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)

MINERALNYYE
VODY
Krug
120.7

Apt Elev
1047'

QNH on request (QFE)

Trans level: FL60

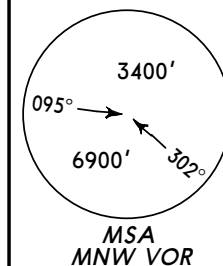
FL70 if pressure is less than 704 mm (938.6 hPa)

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.

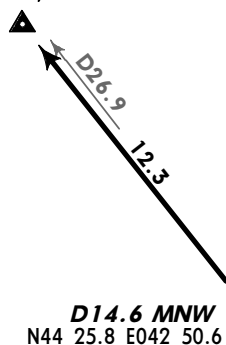
**BADKO 3V [BADK3V]
SULOD 3V [SULO3V]
RWY 30 DEPARTURES**



SULOD

N44 35.5 E042 39.9

Between
FL70 & FL200



BADKO

N44 30.7 E043 30.4

Between
FL70 & FL200

BADKO 3V
N44 23.7 E043 18.8

Direct distance from
Mineralnyye Vody Apt to:
MD 4 NM

BADKO 3V
043°

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)

QNH on request (QFE)

Trans level: FL60

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

Trans alt: 4000' (2963')

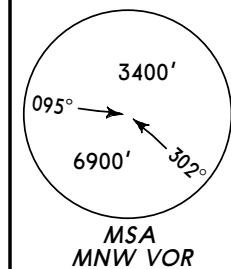
1. Contact MINERALNYYE VODY Krug immediately after crossing 1440' (403').

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**



ABELA

N44 11.5 E042 36.0

Between
FL80 & FL200



RESLO

N43 57.0 E042 37.5

Between
FL120 & FL200

- 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 1V, RESLO 1V, SOROL 1V: 7.0% to MNW.

MARAT 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

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

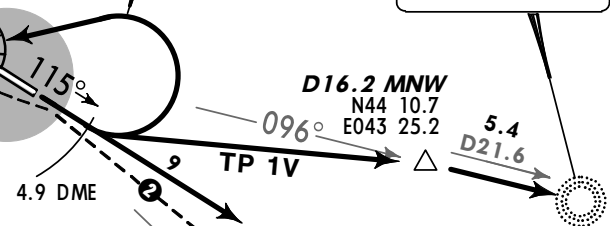
Between
FL80 & FL200

**ABELA 1V
RESLO 1V
SOROL 1V**

TEPLORECHENSKIY
1182 TP

N44 09.5 E043 32.5

Between
FL70 & FL200



D11.3 MNW

N44 08.0 E043 17.4

At FL60
or D11.3 MNW
whichever is earlier

D16.2 MNW
N44 03.2 E043 19.4

MARAT 1V
N43 50.8 E043 37.2

Between
FL70 & FL200

SOROL

N43 44.0 E043 09.9

Between
FL110 & FL200

ALT/HEIGHT CONVERSION

QNH (QFE)

1440' (403' - 120m)

4000' (2963' - 900m)

QNH on request (QFE)

Trans level: FL60

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

Trans alt: 4000' (2956')

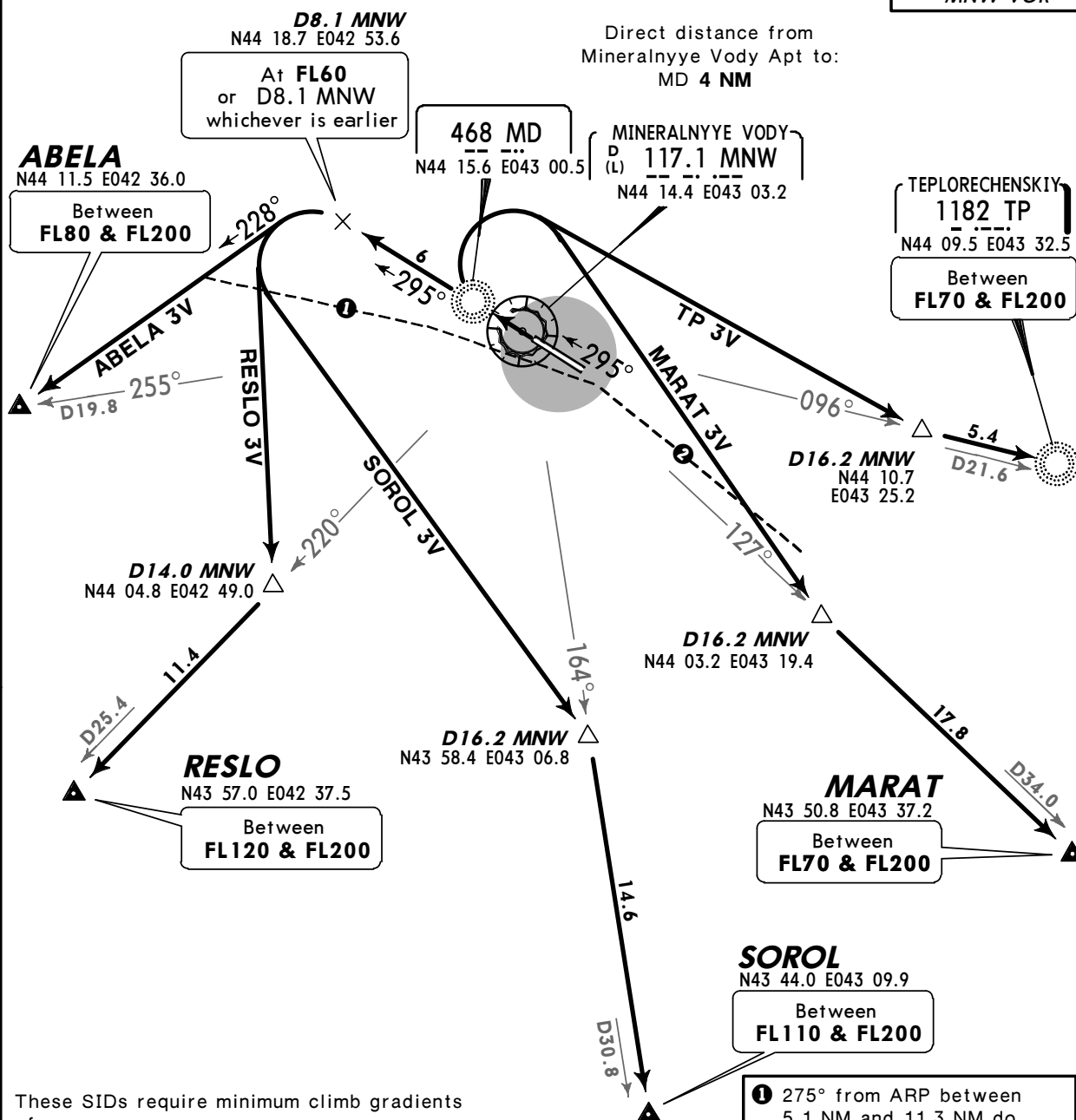
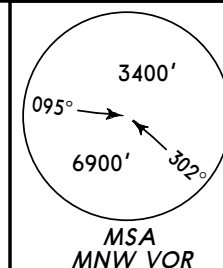
1. Contact MINERALNYYE VODY Krug immediately after crossing 1440' (396').

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 3V [ABEL3V], MARAT 3V [MARA3V]
RESLO 3V [RESL3V], SOROL 3V [SORO3V]
TP 3V
RWY 30 DEPARTURES**



These SIDs require minimum climb gradients of

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

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

SOROL 3V: 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)



MINERALNYYE
VODY
Krug
120.7

Apt Elev
1047'

QNH on request (**QFE**)

Trans level: FL60

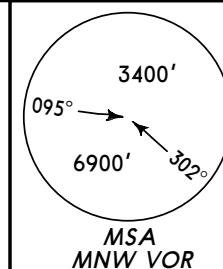
FL70 if pressure is less than 704 mm (938.6 hPa)

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.

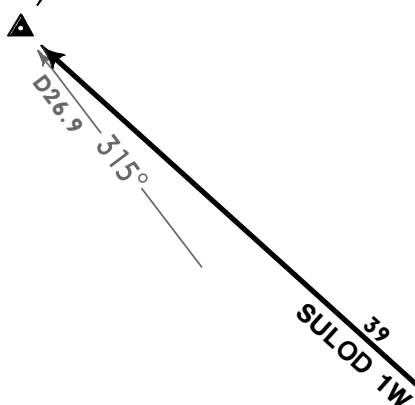
BADKO 1W [BADK1W]
SULOD 1W [SULO1W]
RWY 12 DEPARTURES
UNDER RADAR CONTROL



SULOD

N44 35.5 E042 39.9

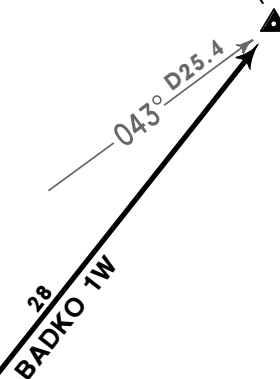
Between
FL70 & FL200



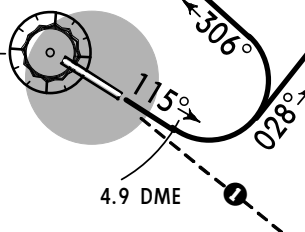
BADKO

N44 30.7 E043 30.4

Between
FL70 & FL200



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



❶ 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**)

MINERALNYYE
VODY
Krug
120.7

Apt Elev
1047'

QNH on request (QFE)

Trans level: FL60

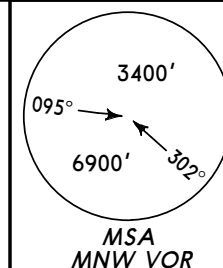
FL70 if pressure is less than 704 mm (938.6 hPa)

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

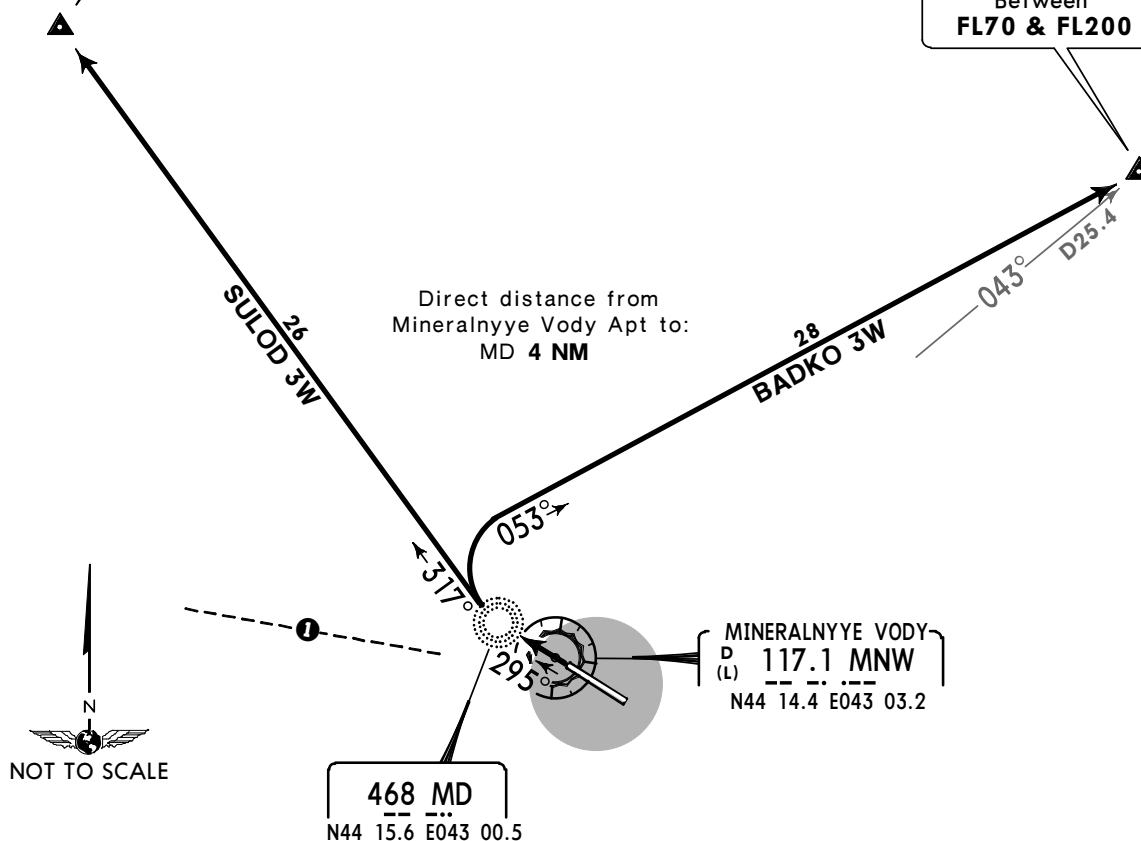
N44 35.5 E042 39.9
(MNW R-315/D26.9)

Between
FL70 & FL200

BADKO

N44 30.7 E043 30.4

Between
FL70 & FL200



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)

QNH on request (QFE)

Trans level: FL60

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

Trans alt: 4000' (2963')

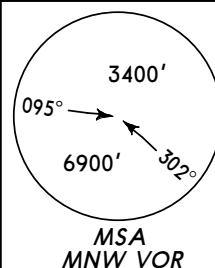
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2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

MINERALNYYE
VODY
Krug
120.7

Apt Elev
1047'

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



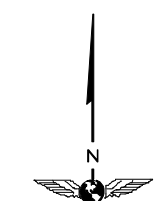
ABELA

N44 11.5 E042 36.0

Between
FL80 & FL200



19.8
ABELA 1W



NOT TO SCALE

RESLO

N43 57.0 E042 37.5

Between
FL120 & FL200



25.4
RESLO 1W

30.8
SOROL 1W

D11.3 MNW

N44 08.0 E043 17.4

At FL60
or D11.3 MNW
whichever is earlier

17
TP 1W

MARAT

N43 50.8 E043 37.2
(MNW R-127/D34.0)

Between
FL70 & FL200

23
MARAT 1W

SOROL

N43 44.0 E043 09.9

Between
FL110 & FL200

25
SOROL 11W

- 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

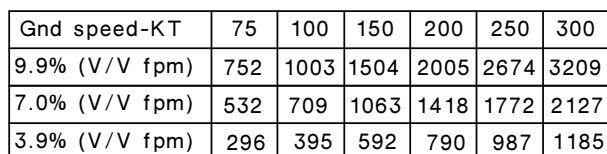
ALT/HEIGHT CONVERSION

QNH (QFE)

1440' (403' - 120m)

4000' (2963' - 900m)

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



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

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.

NOISE ABATEMENT

DEPARTURES**I 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:

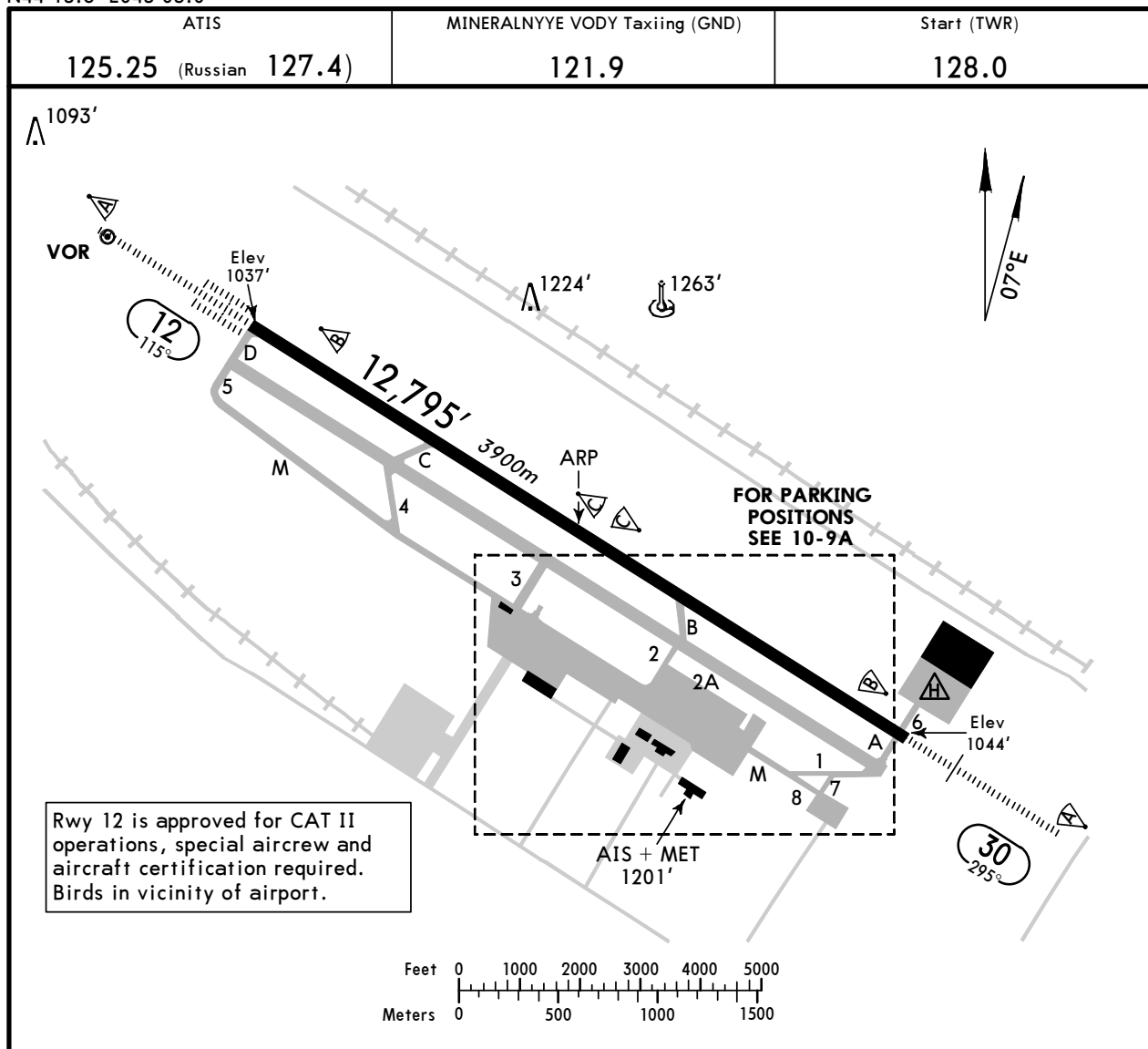
- reaching 2040' (993' - 300m)
- the established standard power mode enables to maintain the established climb gradient of not less than 4% at the above specified speed and with maximum certified take-off mass
- take-off flight path provides overflying of all obstacles located under the flight path with 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.



ADDITIONAL RUNWAY INFORMATION

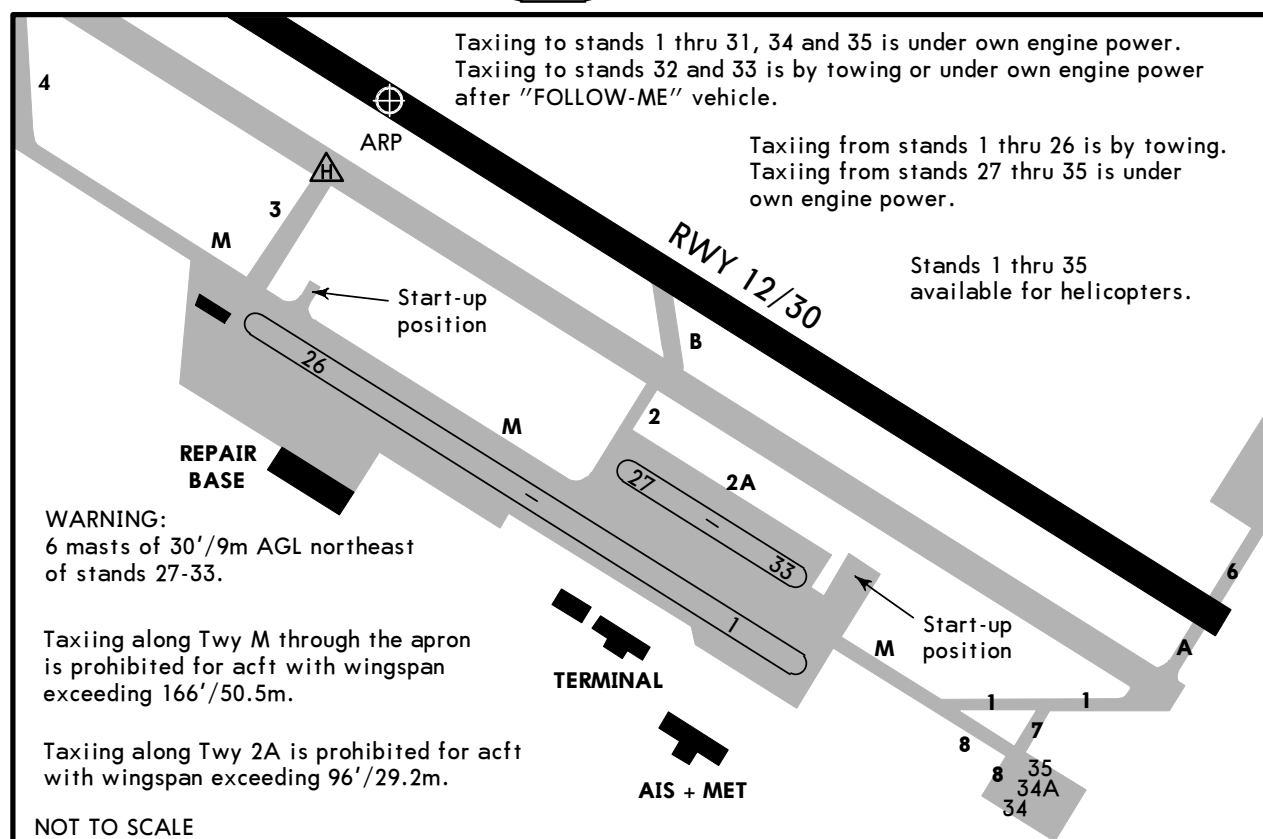
RWY		USABLE LENGTHS		TAKE-OFF	WIDTH
		Threshold	Landing Beyond Glide Slope		
12	HIRL (60m) CL (15m) HIALS-II TDZ PAPI-L (3.00°) RVR		11,762' 3585m		197'
30	HIRL (60m) CL (15m) HIALS PAPI-L (3.00°) RVR		11,823' 3604m		60m

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	



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.

STRAIGHT-IN RWY		A	B	C	D
12	CAT 2 ILS	1137'(100') RA115' R350m	1137'(100') RA115' R350m	1137'(100') RA115' R350m	1137'(100') RA115' R350m
	ILS	1237'(200') R550m	1237'(200') R550m	1237'(200') R550m	1237'(200') R550m
	FULL	R750m	R750m	R750m	R750m
	Limited	R1200m	R1200m	R1200m	R1200m
	ALS out				
	LOC ❶	1480'(443') R1400m	1480'(443') R1400m	1480'(443') R1400m	1480'(443') R1400m
	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
30	ILS	1244'(200') R550m	1244'(200') R550m	1244'(200') R550m	1244'(200') R550m
	FULL	R750m	R750m	R750m	R750m
	Limited	R1200m	R1200m	R1200m	R1200m
	ALS out				
	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
	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 ❺	1850'(806') C3300m	1850'(806') C3300m	1850'(806') C3500m	1850'(806') C3500m
	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		

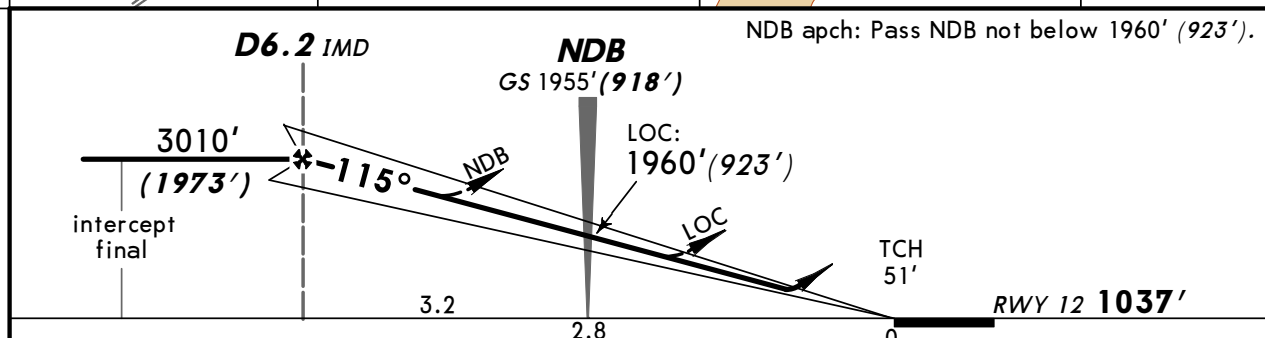
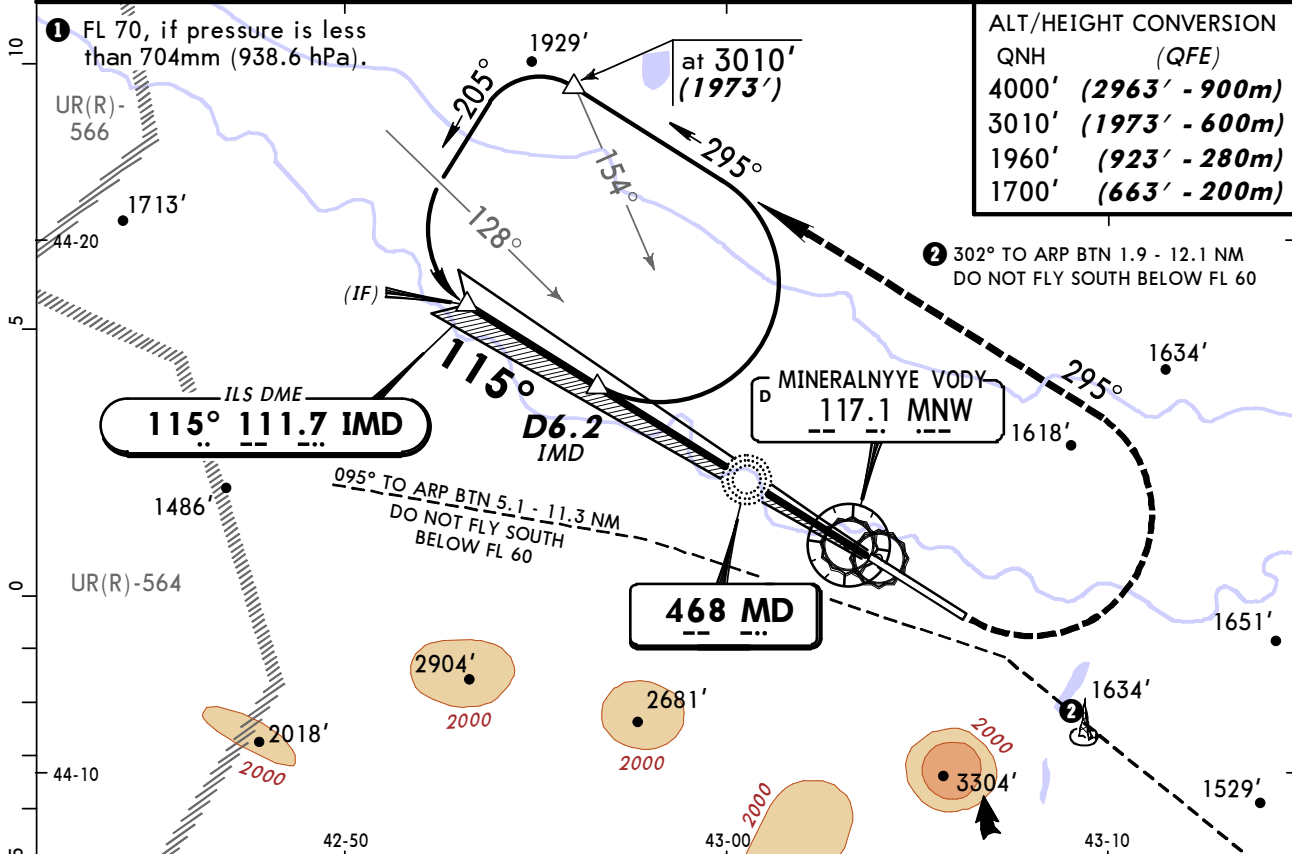
URMM/MRV MINERALNYYE VODY, RUSSIA

1 FEB 13 Eff 7 Feb (11-1) CAT I/II ILS DME or NDB Rwy 12

TM

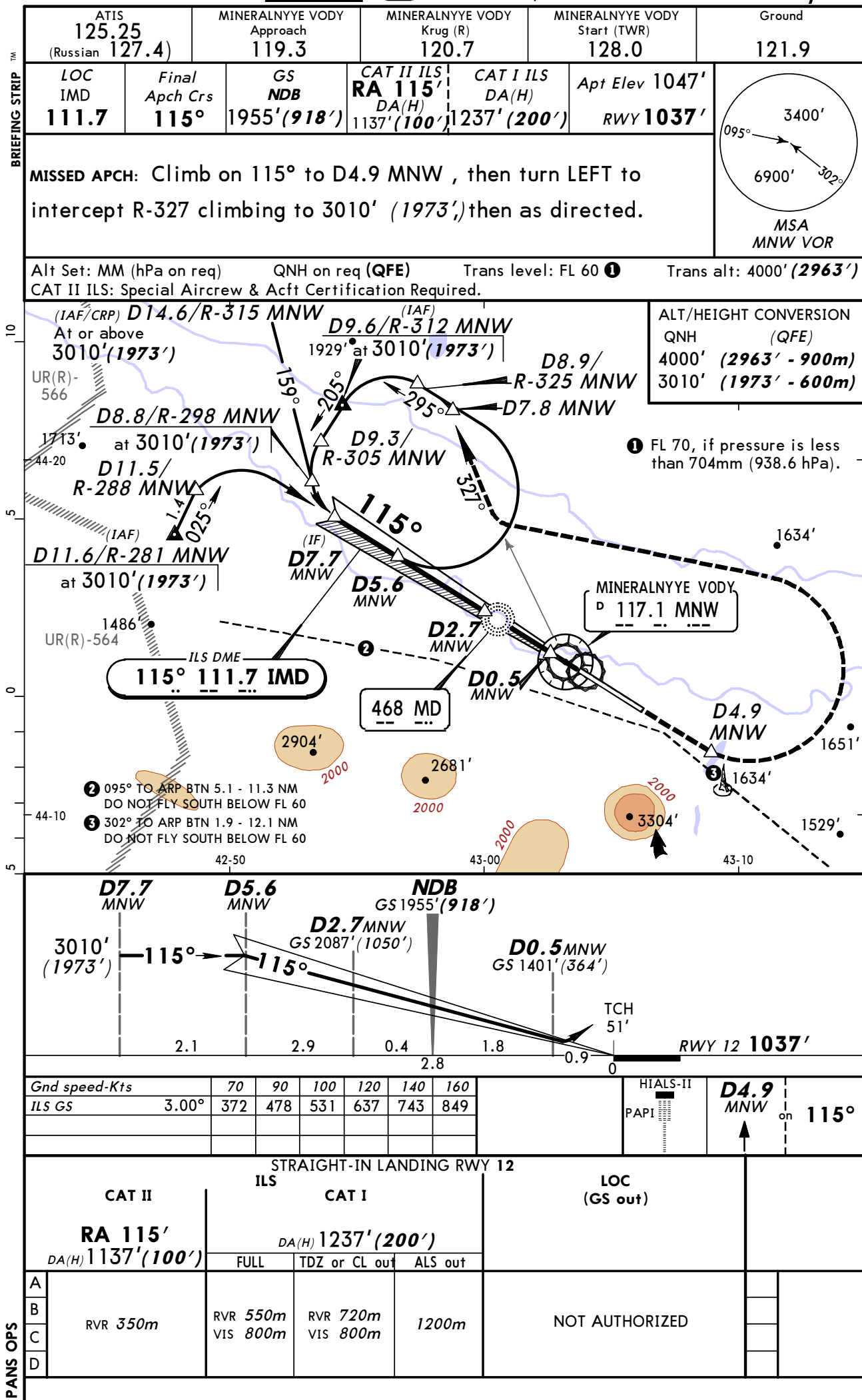
BRIEFING STRIP

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 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'				
NDB MD 468		Minimum Alt D6.2 IMD 3010' (1973')	NDB MDA(H) 2900' (1863')						
MISSED APCH: Climb on 115° to 1700' (663'), then turn LEFT onto 295° climbing to 3010' (1973') then as directed.								3400' 086° 6900' 301° MSA MD NDB	
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 PAPI	1700' (663') on 115°	
ILS GS or		372	478	531	637	743	849				
LOC or NDB Desc Angle 3.00°											
STRAIGHT-IN LANDING RWY 12											
CAT II ILS		CAT I			LOC (GS out)			NDB			
RA 115'		DA(H) 1237' (200')			MDA(H) 1480' (443')			MDA(H) 2900' (1863')			
DA(H) 1137' (100')		FULL		TDZ or CL out	ALS out	ALS out		ALS out			
PANS OPS	A	RVR 350m	RVR 550m VIS 800m	RVR 720m VIS 800m	1200m	RVR 720m VIS 800m	RVR 1500m VIS 1600m	3200m			
	B										
	C					1200m	RVR 1800m VIS 2000m	4400m	4800m		
	D					RVR 1500m VIS 1600m	2400m				

URMM/MRV MINERALNYYE VODY 1 FEB 13 Eff 7 Feb 11-2 CAT I/II VOR DME ILS Rwy 12



1 FEB 13

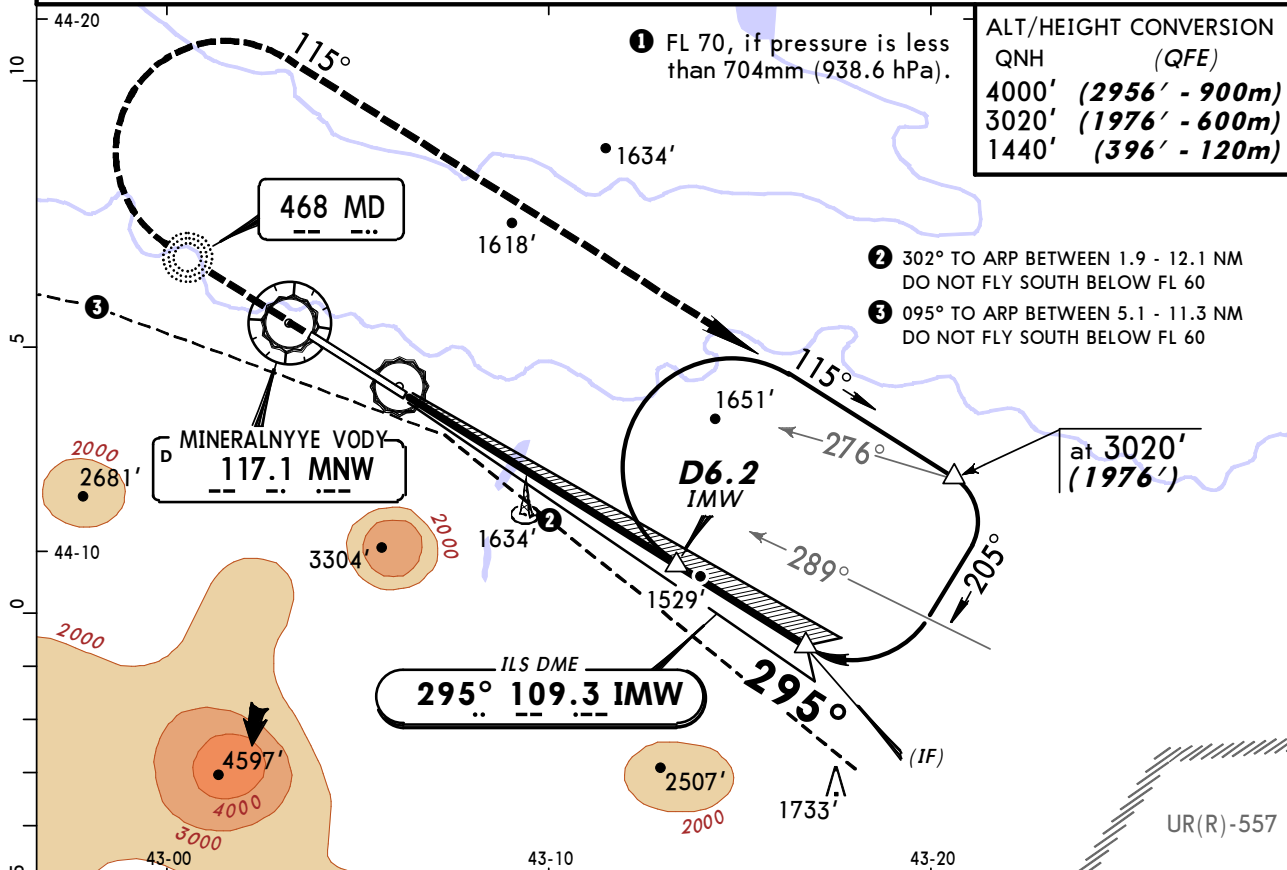
11-3

Eff 7 Feb

BRIEFING STRIP

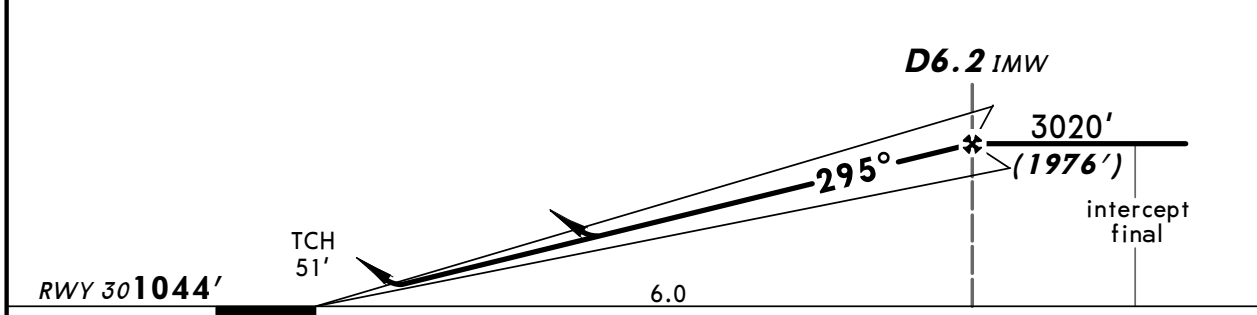
ATIS 125.25 (Russian 127.4)	MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
LOC IMW 109.3	Final Aptch Crs 295°	GS D6.2 IMW 3020' (1976')	ILS DA(H) 1244' (200')	Apt Elev 1047' RWY 1044'
MISSED APCH: Climb on 295° to NDB, then turn RIGHT onto 115° climbing to 3020' (1976') , then as directed.				

Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: FL 60 **1** Trans alt: **4000' (2956')**



ALT/HEIGHT CONVERSION
QNH (QFE)
4000' (2956' - 900m)
3020' (1976' - 600m)
1440' (396' - 120m)

- 1** FL 70, if pressure is less than 704mm (938.6 hPa).
- 2** 302° TO ARP BETWEEN 1.9 - 12.1 NM DO NOT FLY SOUTH BELOW FL 60
- 3** 095° TO ARP BETWEEN 5.1 - 11.3 NM DO NOT FLY SOUTH BELOW FL 60

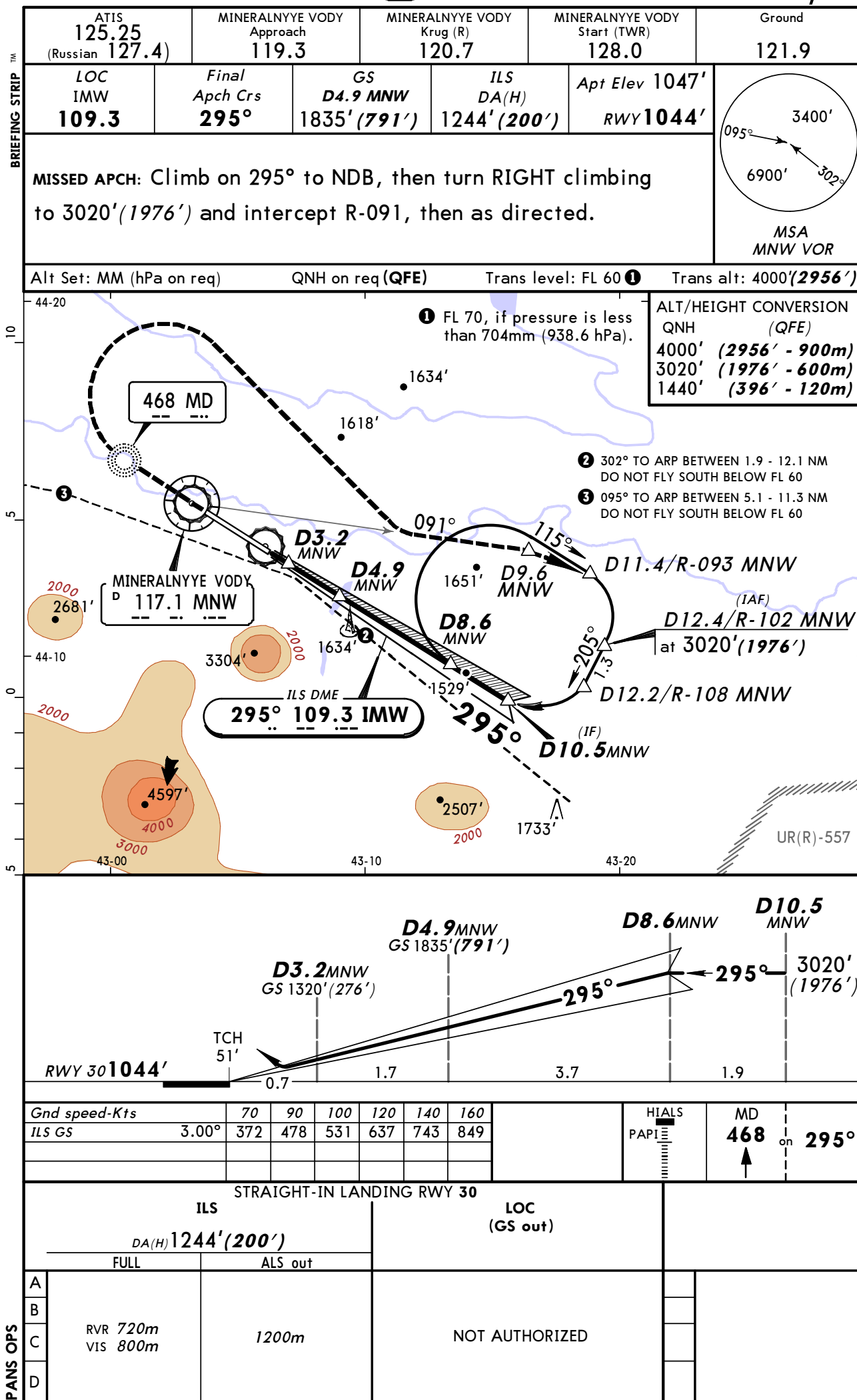


Gnd speed-Kts	70	90	100	120	140	160	HIALS	MD	on
ILS GS or LOC Desc Angle 3.00°	372	478	531	637	743	849	PAPI	468	295°

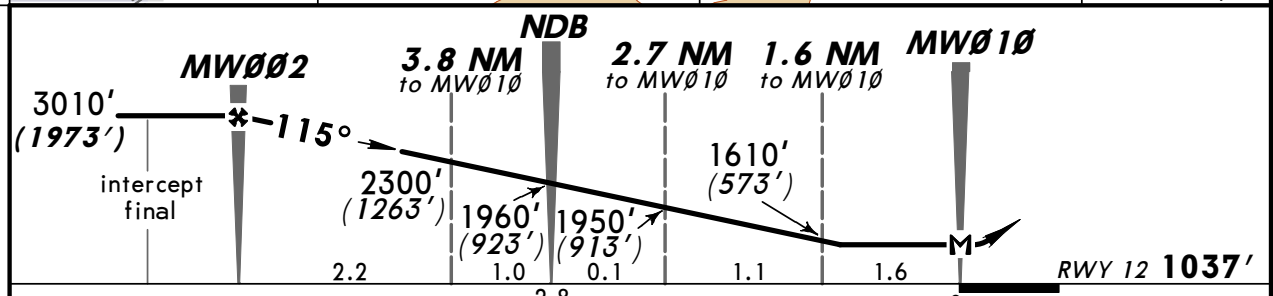
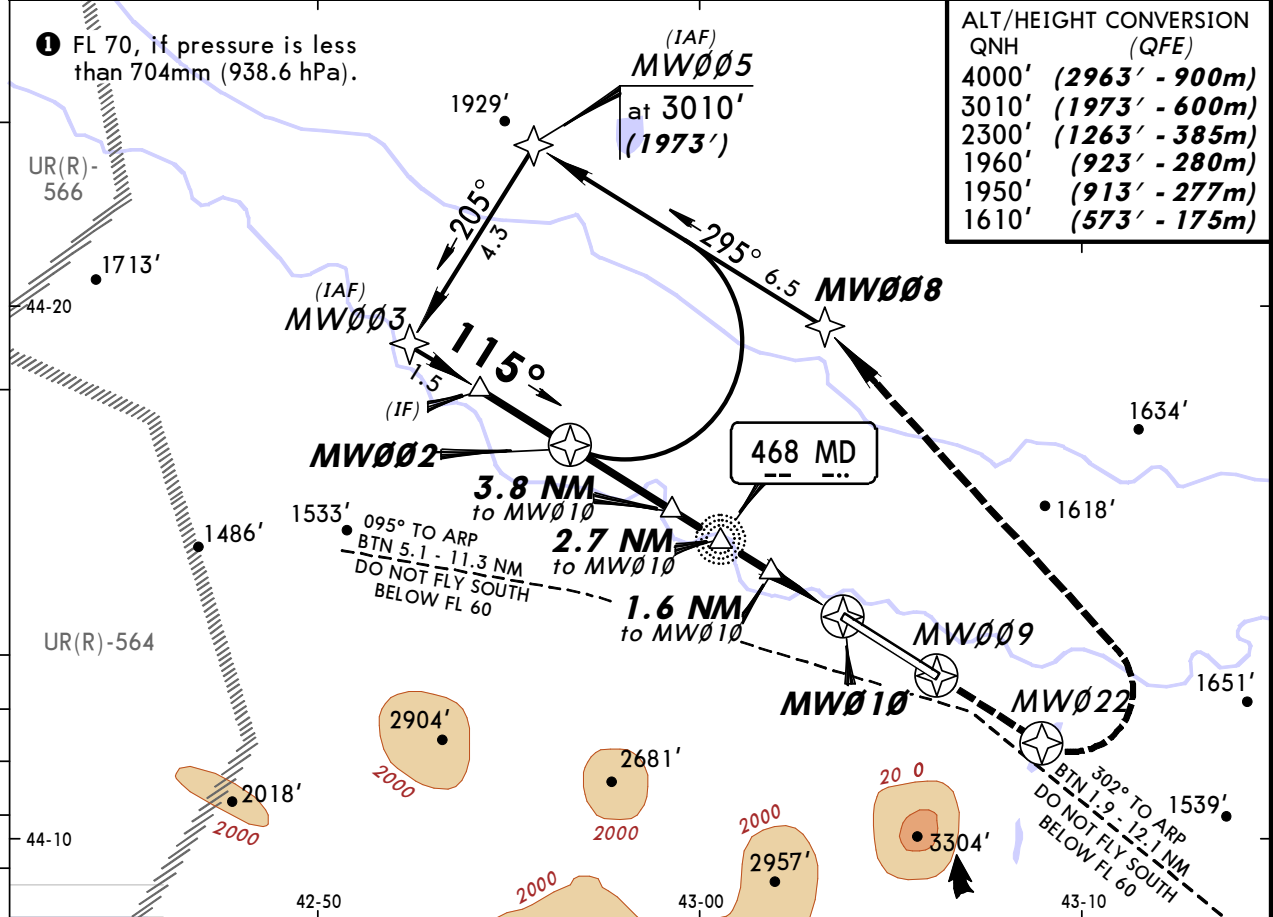
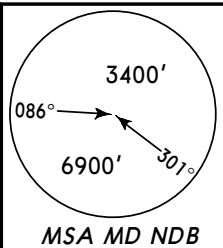
ILS		STRAIGHT-IN LANDING RWY 30		LOC (GS out)		w/o Radar	
DA(H) 1244' (200')		with Radar		MDA(H) 1560' (516')		MDA(H) 1850' (806')	
FULL	ALS out	ALS out		ALS out		ALS out	
A	RVR 720m VIS 800m	RVR 720m VIS 800m		RVR 720m VIS 800m		RVR 720m VIS 800m	
B		RVR 1500m VIS 1600m		RVR 1500m VIS 1600m		RVR 1500m VIS 1600m	
C		RVR 1500m VIS 1600m		RVR 1500m VIS 1600m		RVR 1500m VIS 1600m	
D		RVR 1800m VIS 2000m		RVR 1800m VIS 2000m		RVR 1800m VIS 2000m	

CHANGES: MSA. FAF added.

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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
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')				



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II	
Descent Angle 3.00°	372	478	531	637	743	849	PAPI	MW022 on 115°
MAP at MW010								

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

1 FEB 13

12-2

Eff 7 Feb

BRIEFING STRIP

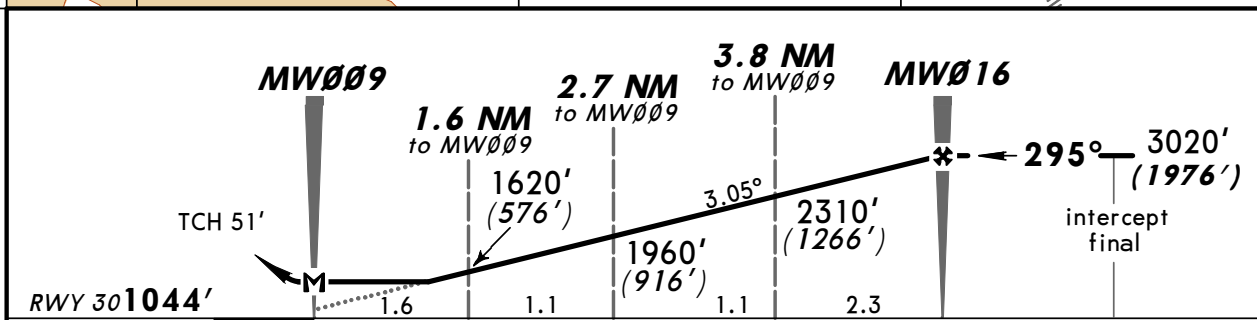
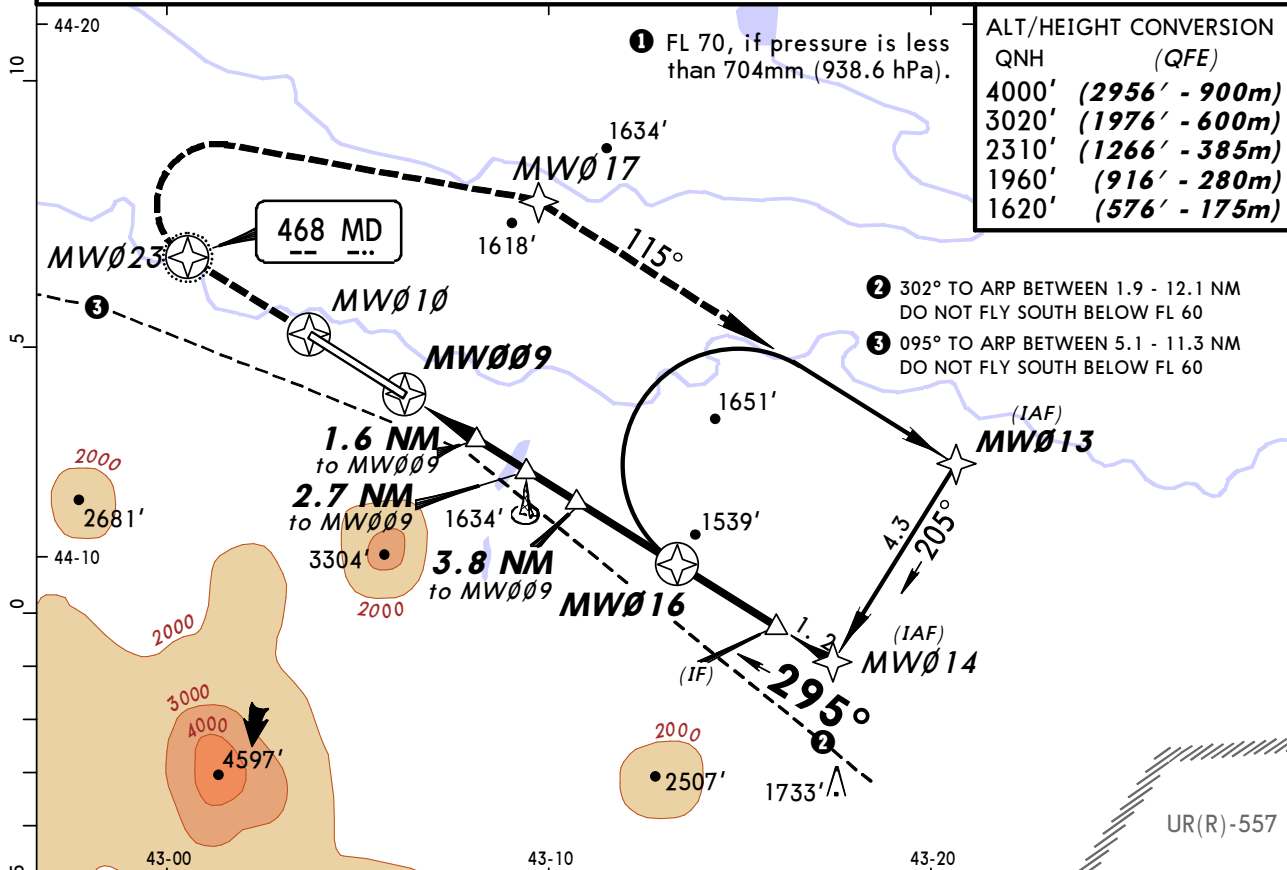
ATIS 125.25 (Russian 127.4)	MINERALNYYE VODY Approach 119.3	MINERALNYYE VODY Krug (R) 120.7	MINERALNYYE VODY Start (TWR) 128.0	Ground 121.9
RNAV	Final Apch Crs 295°	Minimum Alt MW016 3020' (1976')	MDA(H) 1460' (416')	Apt Elev 1047' RWY1044'
MISSED APCH: Climb on 295° to MW023, then turn RIGHT climbing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

Alt Set: MM (hPa on req)

QNH on req (QFE)

Trans level: FL 60

Trans alt: 4000' (2956')



Gnd speed-Kts	70	90	100	120	140	160	HIALS PAPI 	MW023 on 295°
Descent Angle 3.05°	378	486	540	648	755	863		
MAP at MW009								

STRAIGHT-IN LANDING RWY 30

MDA(H) 1460' (416')

ALS out

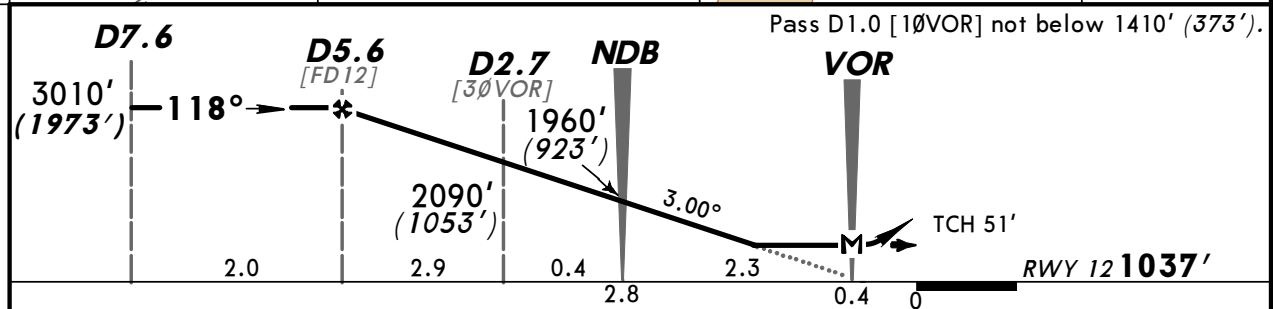
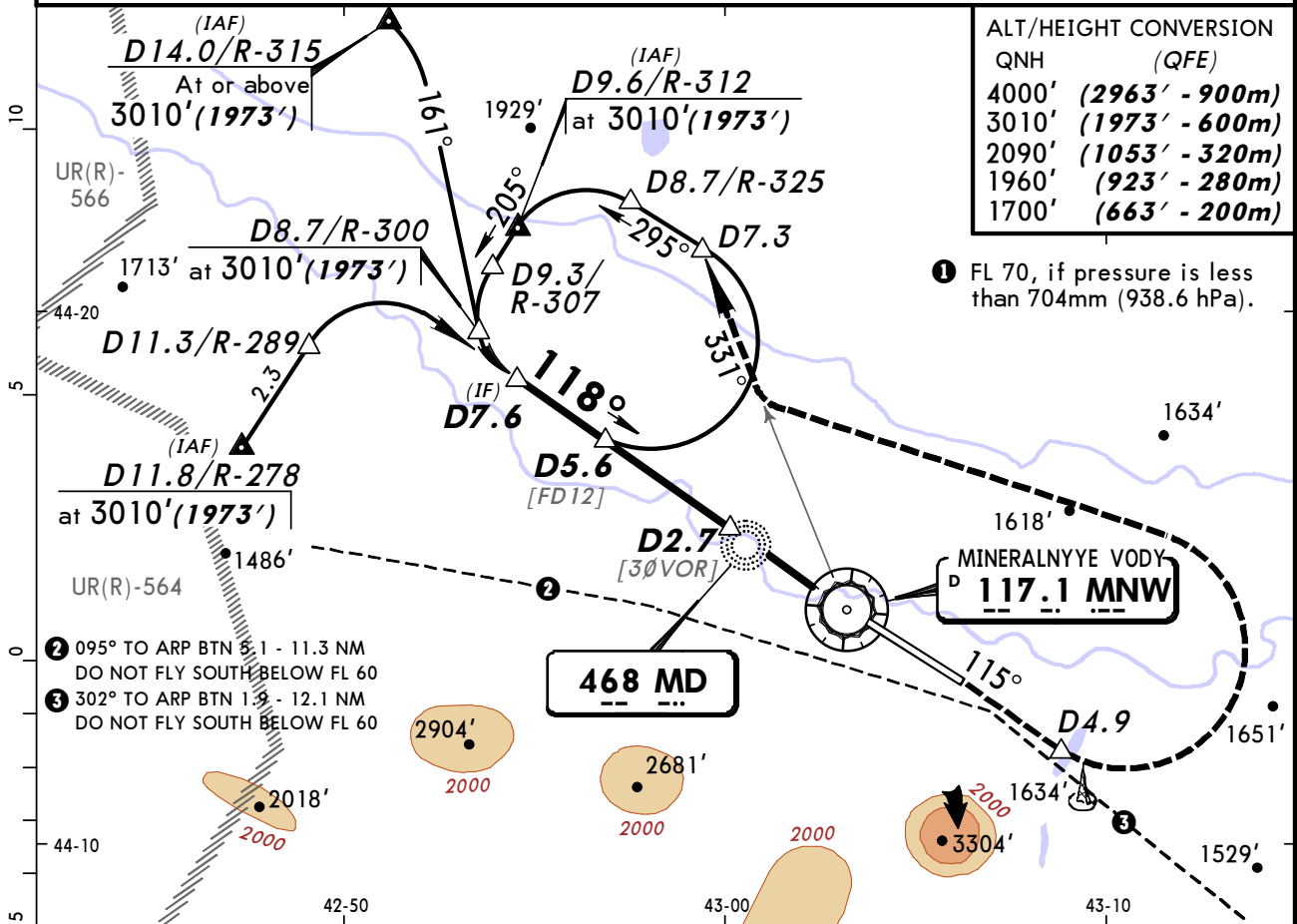
A	RVR 720m VIS 800m	RVR 1500m VIS 1600m	
B			
C	1200m	RVR 1800m VIS 2000m	
D	RVR 1500m VIS 1600m		

PANS OPS

CHANGES: MSA.

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

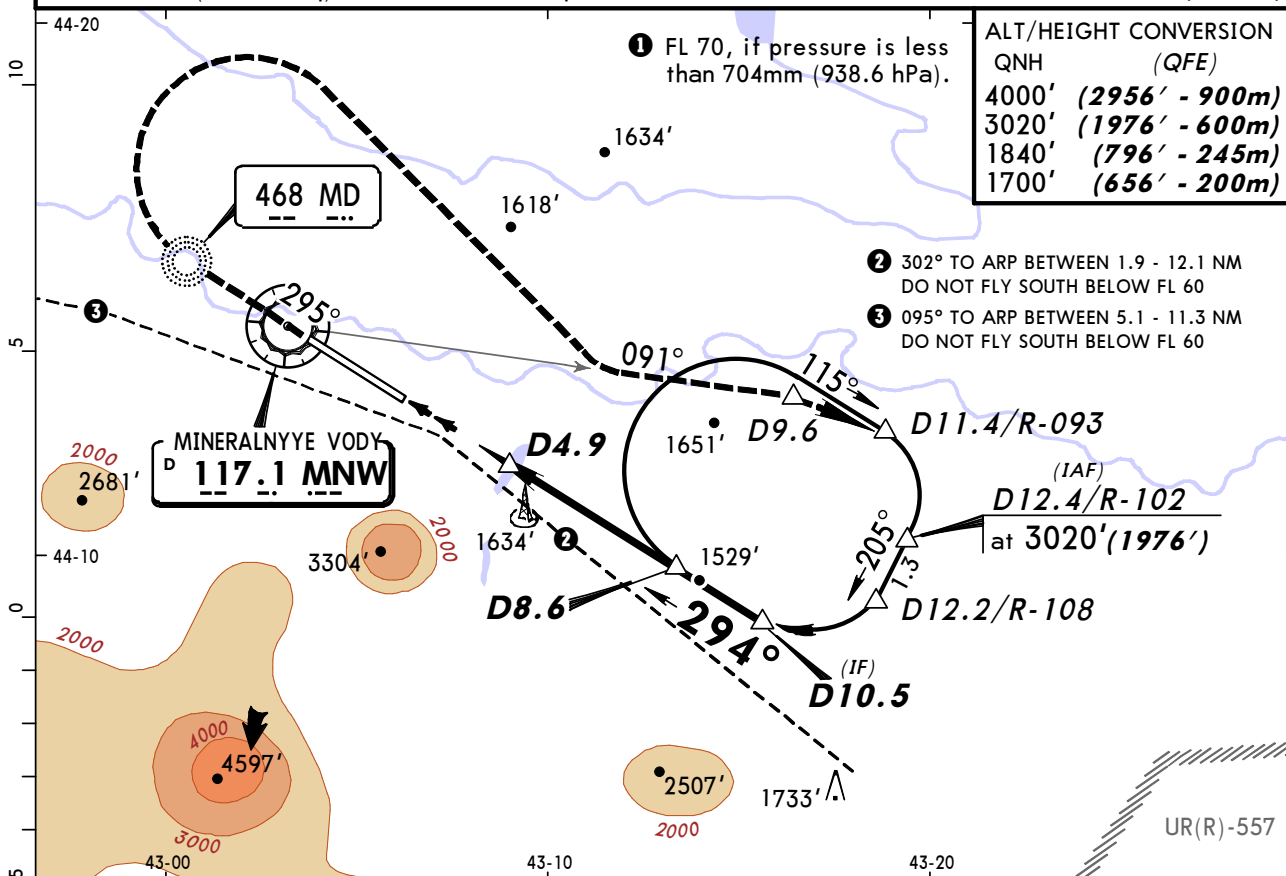


Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI	D4.9 on 115°
Descent angle 3.00°	372	478	531	637	743	849		
MAP at VOR								

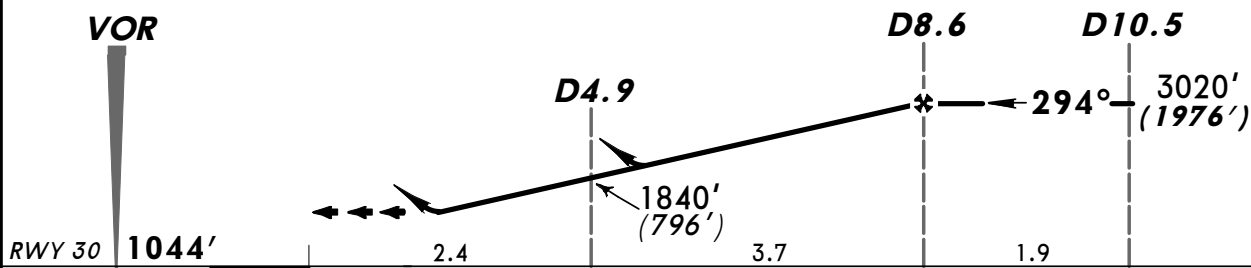
STRAIGHT-IN LANDING RWY 12				ALS out			
MDA(H) 1480' (443')							
A	RVR 720m VIS 800m			RVR 1500m VIS 1600m			
B							
C	1200m			RVR 1800m VIS 2000m			
D	RVR 1500m VIS 1600m			2400m			

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	MD	on
Descent angle 3.00°	372	478	531	637	743	849	PAPI	468	295°

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	3600m	
D	RVR 1800m VIS 2000m	2800m	3200m	4000m	



Chart changes since cycle 16-2013

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

ACT PROCEDURE IDENT

INDEX

REV DATE

EFF DATE

MINERALNYE VODY, (MINERALNYE VODY - URMM)

TERMINAL CHART CHANGE NOTICES

No Chart Change Notices for Airport URMM