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Airport Information For URMM

Terminal Charts For URMM

Revision Letter For Cycle 25-2012

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: 6.9°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: 0443 Z
Sunset: 1338 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)

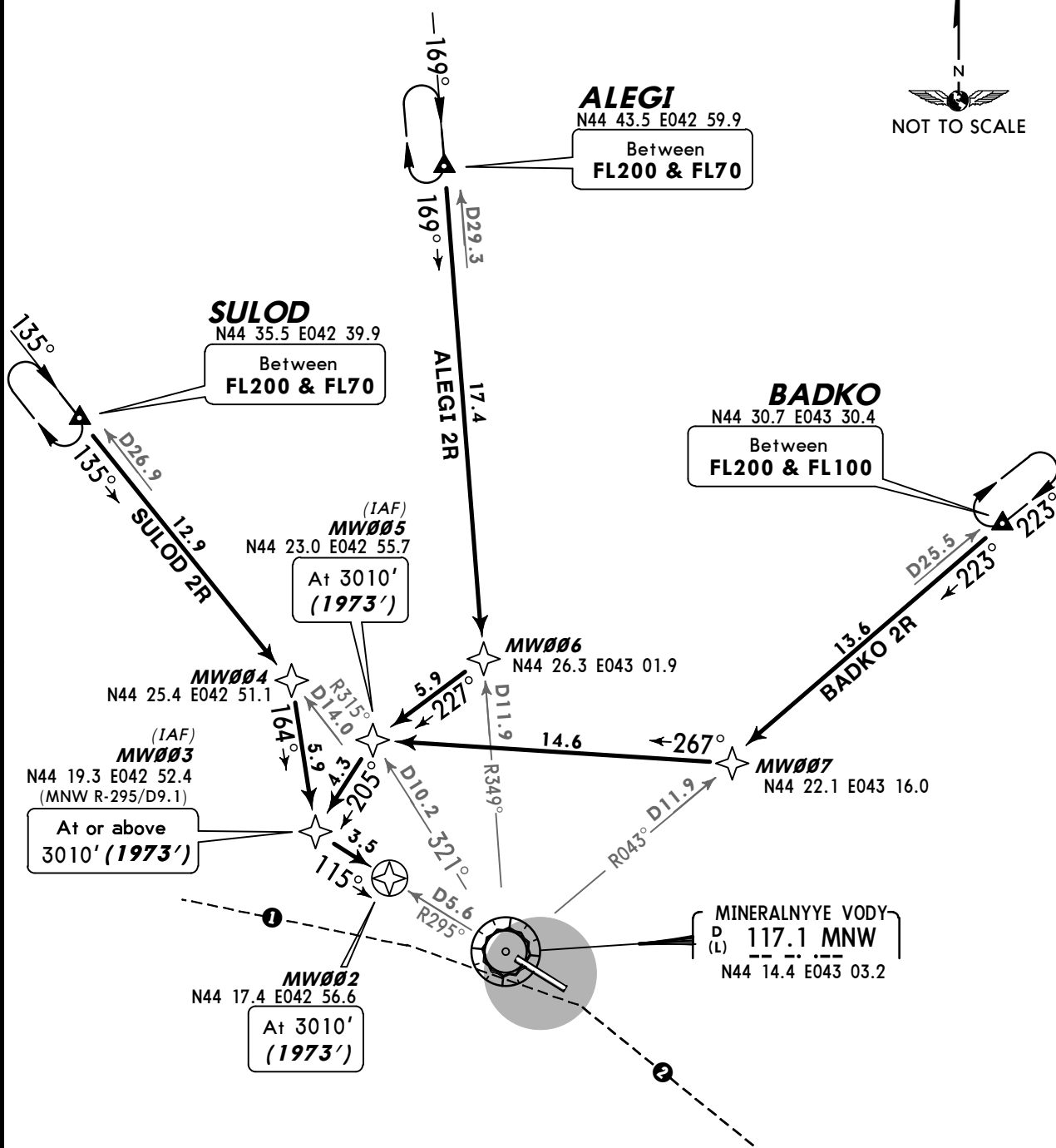
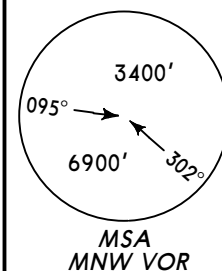
Apt Elev
1047'

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)

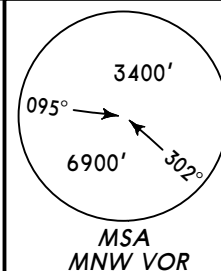
ATIS
125.25 (Russian 127.4)

Apt Elev
1047'

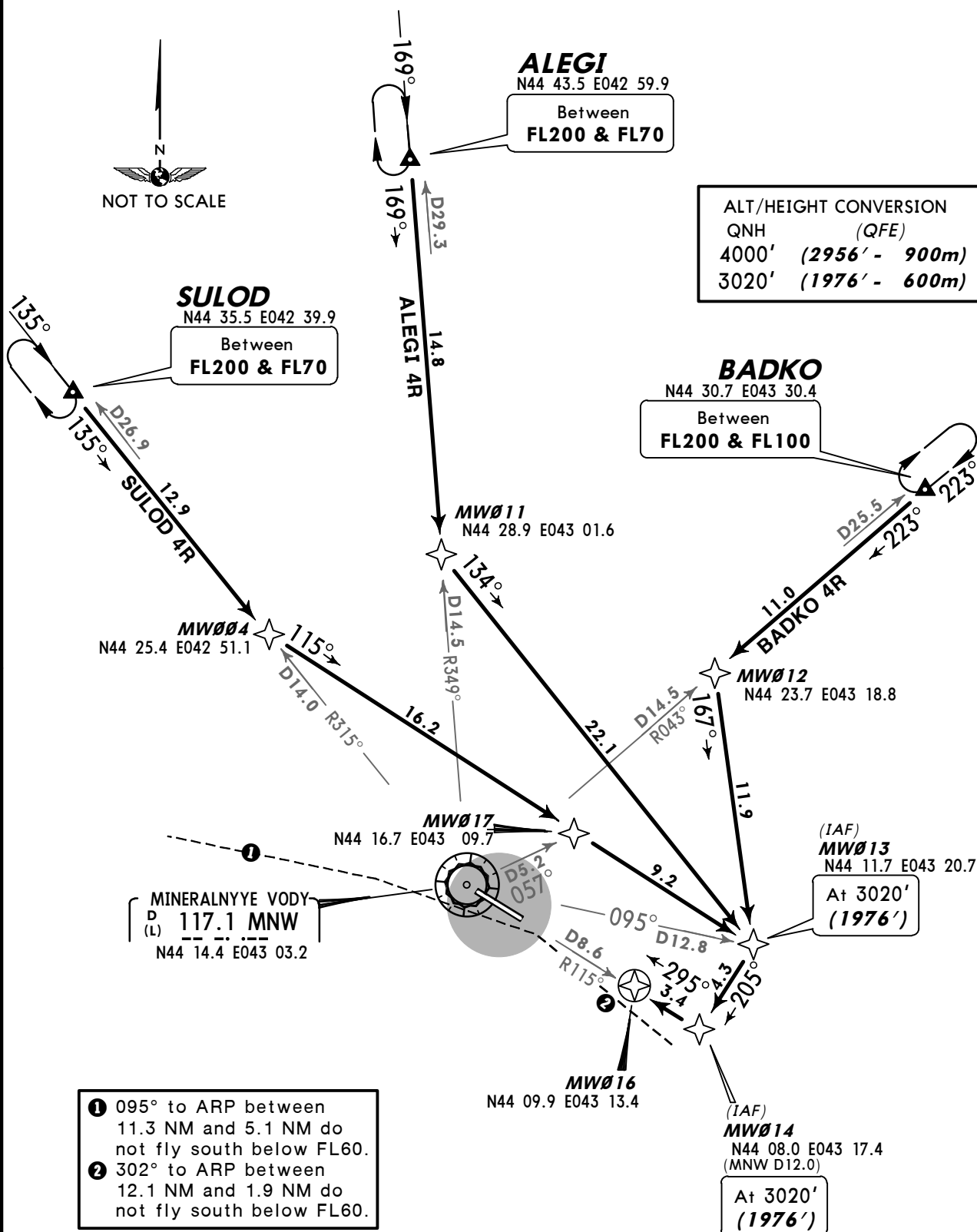
Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: FL60
FL70 if pressure is less than 704mm (938.6 hPa)
Trans alt: 4000' (2956')

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')**



(IAF)
MW005
N44 23.0 E042 55.7
At 3010' (1973')

(IAF)
MW003
N44 19.3 E042 52.4
(MNV R-295/D9.1)
At or above 3010' (1973')

MW002
N44 17.4 E042 56.6
At 3010' (1973')

ABELA 2R
N44 09.6 E042 55.8
Between FL200 & FL80

ABELA
N44 11.5 E042 36.0
Between FL200 & FL80

KISLOVODSK
995 KW
N43 57.0 E042 37.5
(MNV D24.9)
Between FL200 & FL120

MHA FL120
MAX FL200
-037°
+037°

MINERALNYE VODY
D 117.1 MNW
(L) N44 14.4 E043 03.2
MW001
N44 14.4 E043 03.2
Between FL200 & FL70

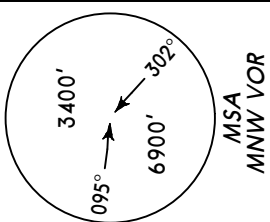
Legend:

- 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'

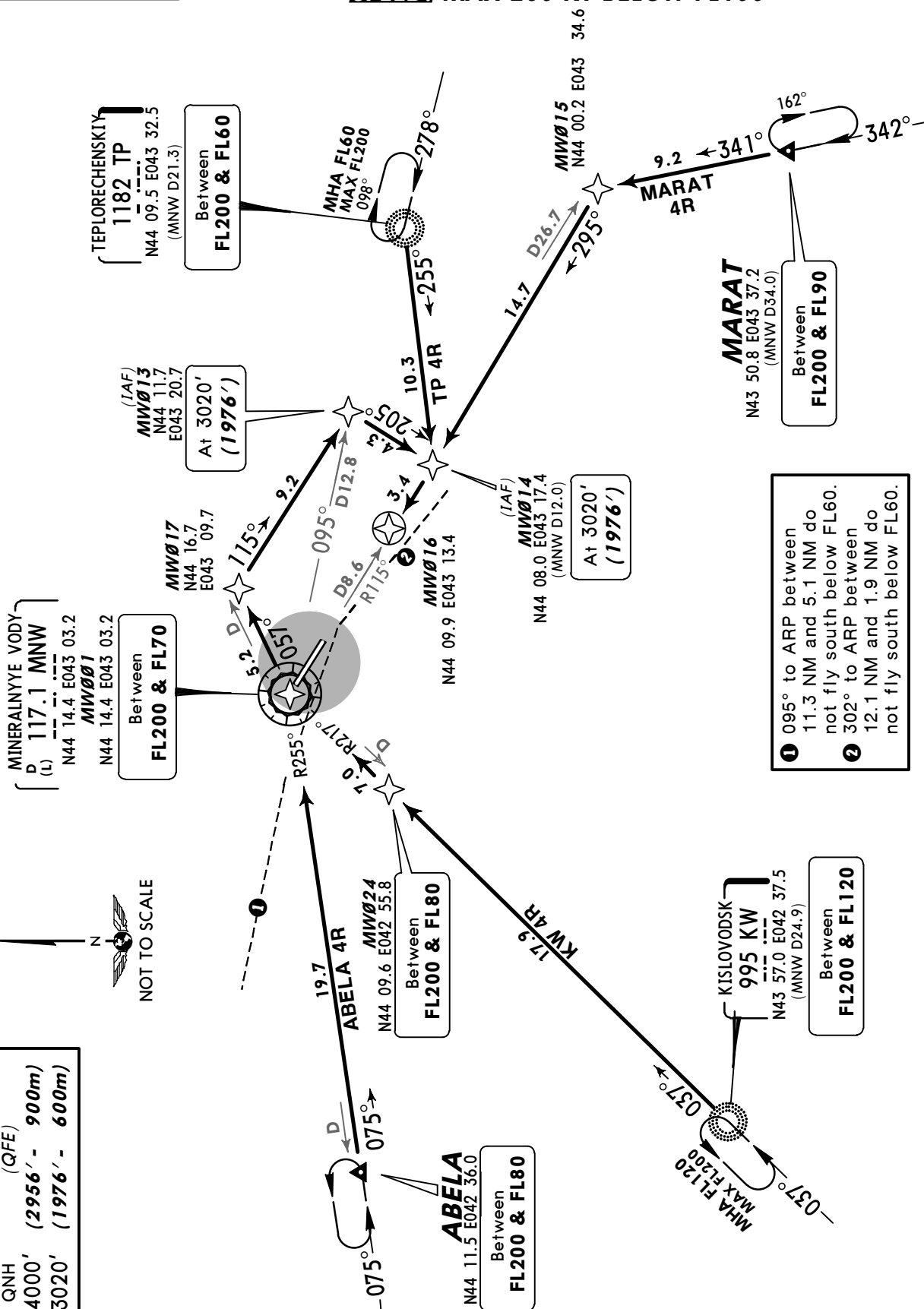
Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: FL60
FL70 if pressure is less than 704mm (938.6 hPa)
Trans alt: 4000' (2956')



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

RNAV (GNSS)

SPEED: MAX 250 KT BELOW FL100



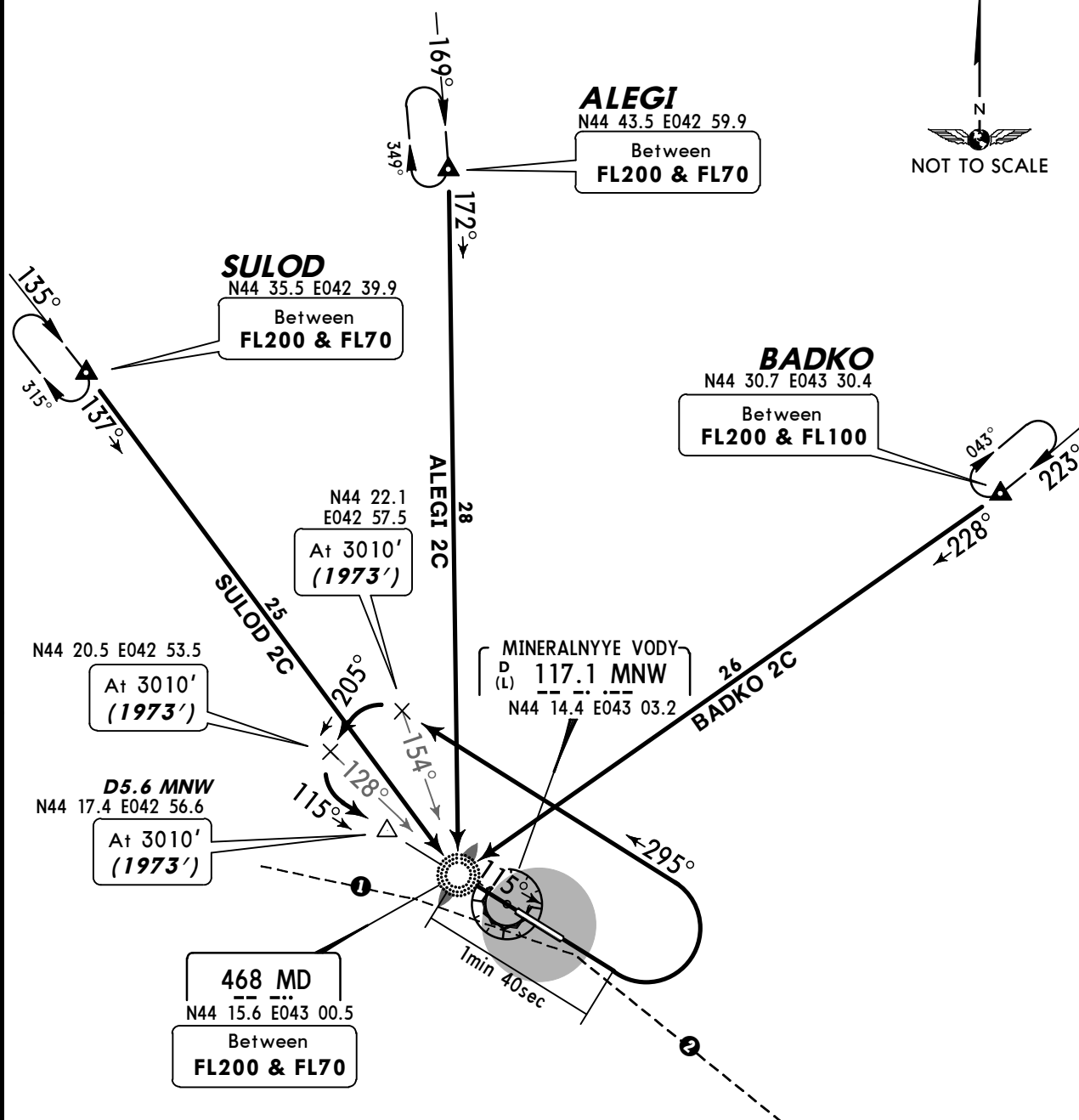
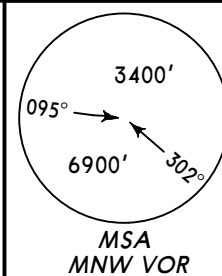
- 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
- 302° to ARP between 12.1 NM and 1.9 NM do not fly south below FL60.

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.

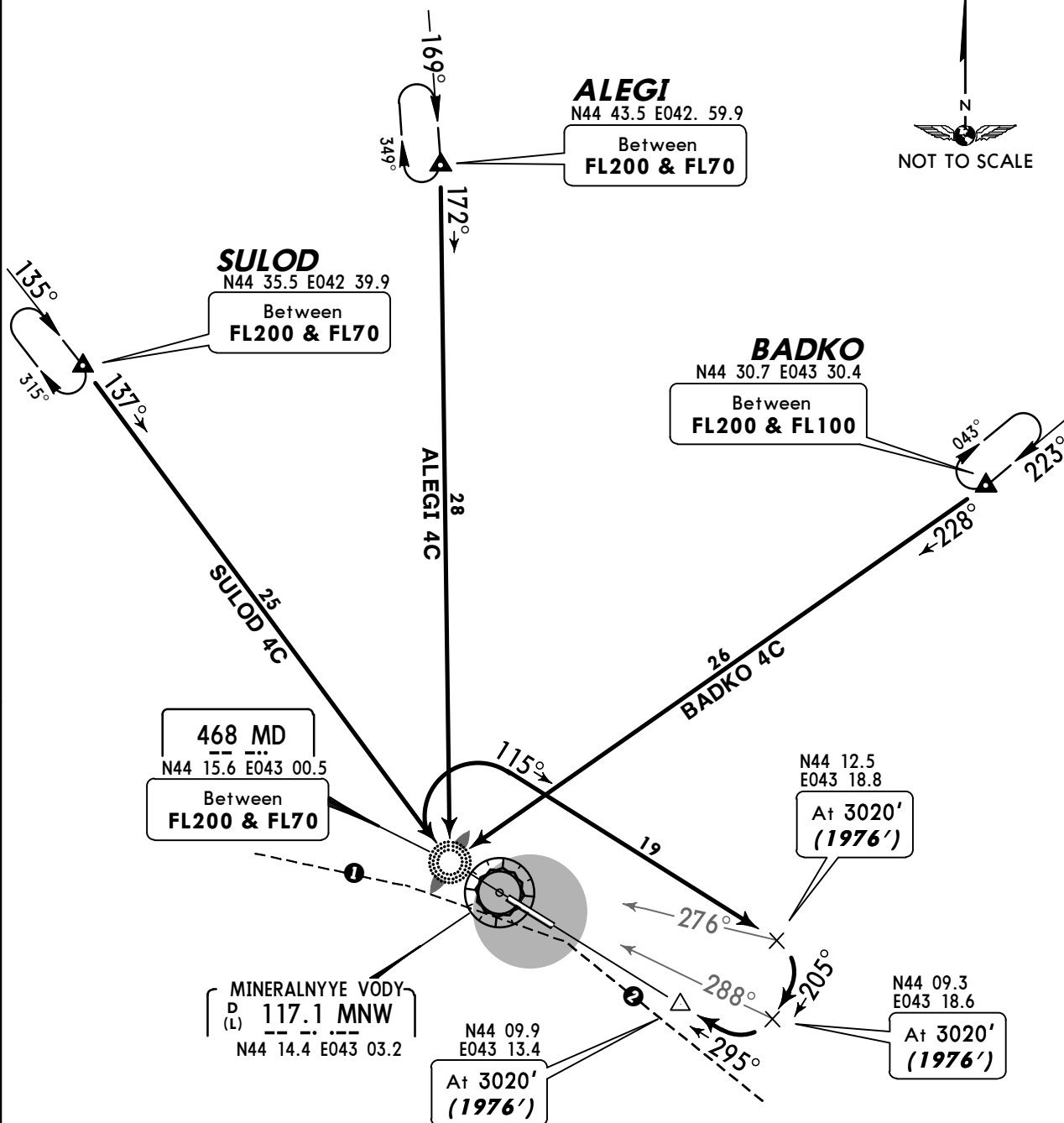
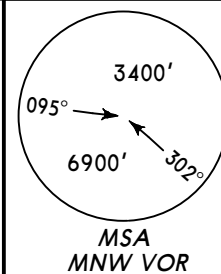
ALT/HEIGHT CONVERSION	
QNH	(QFE)
4000'	(2963' - 900m)
3010'	(1973' - 600m)

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

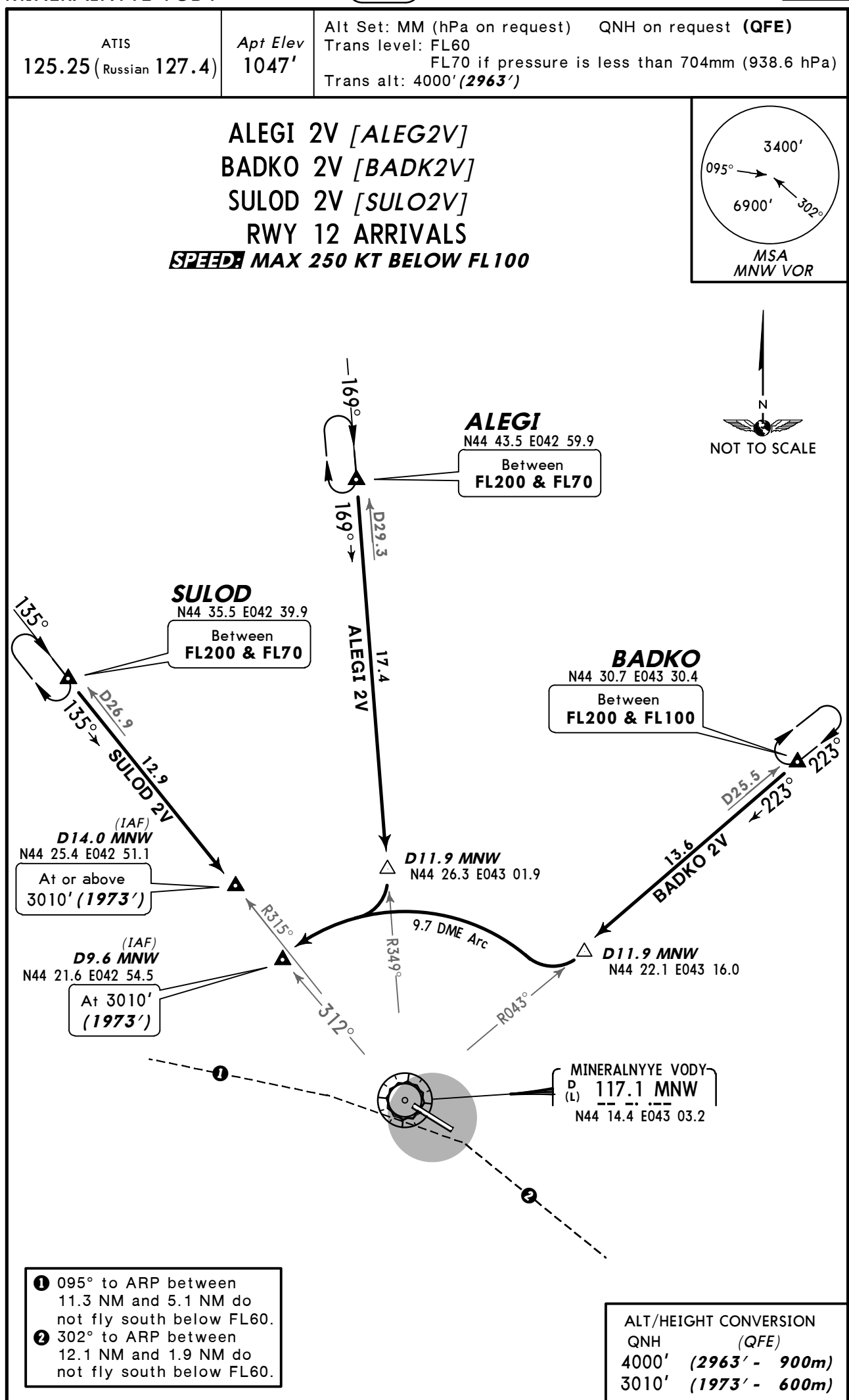


- ① 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
- ② 302° to ARP between 12.1 NM and 1.9 NM do not fly south below FL60.

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

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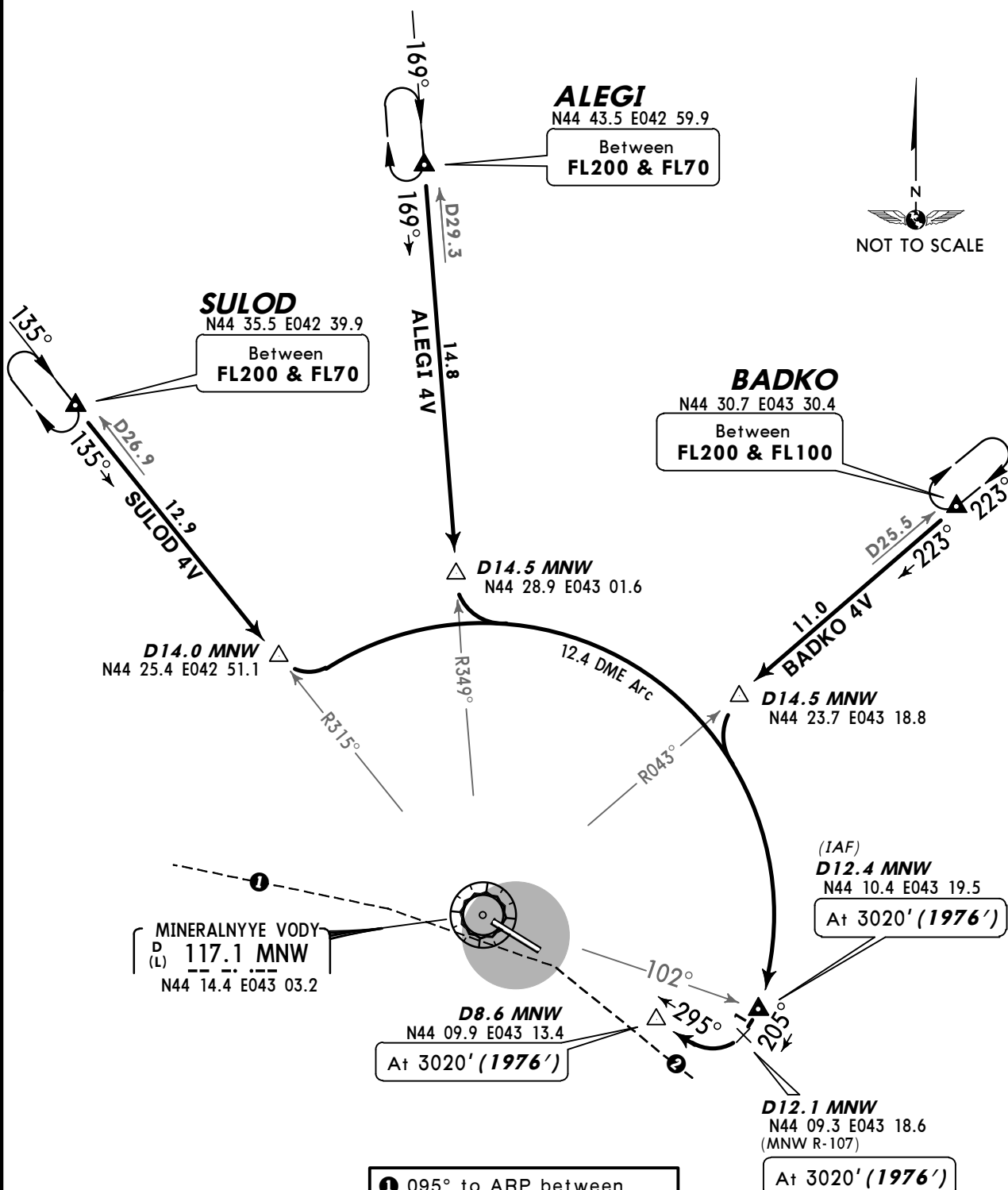
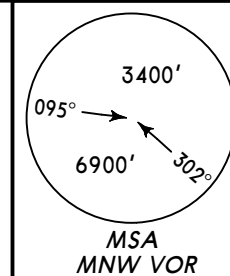


ATIS
 125.25 (Russian 127.4)

Apt Elev
 1047'

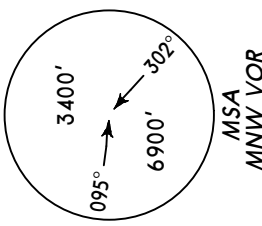
Alt Set: MM (hPa on request) QNH on request (QFE)
 Trans level: FL60
 FL70 if pressure is less than 704mm (938.6 hPa)
 Trans alt: 4000' (2956')

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



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

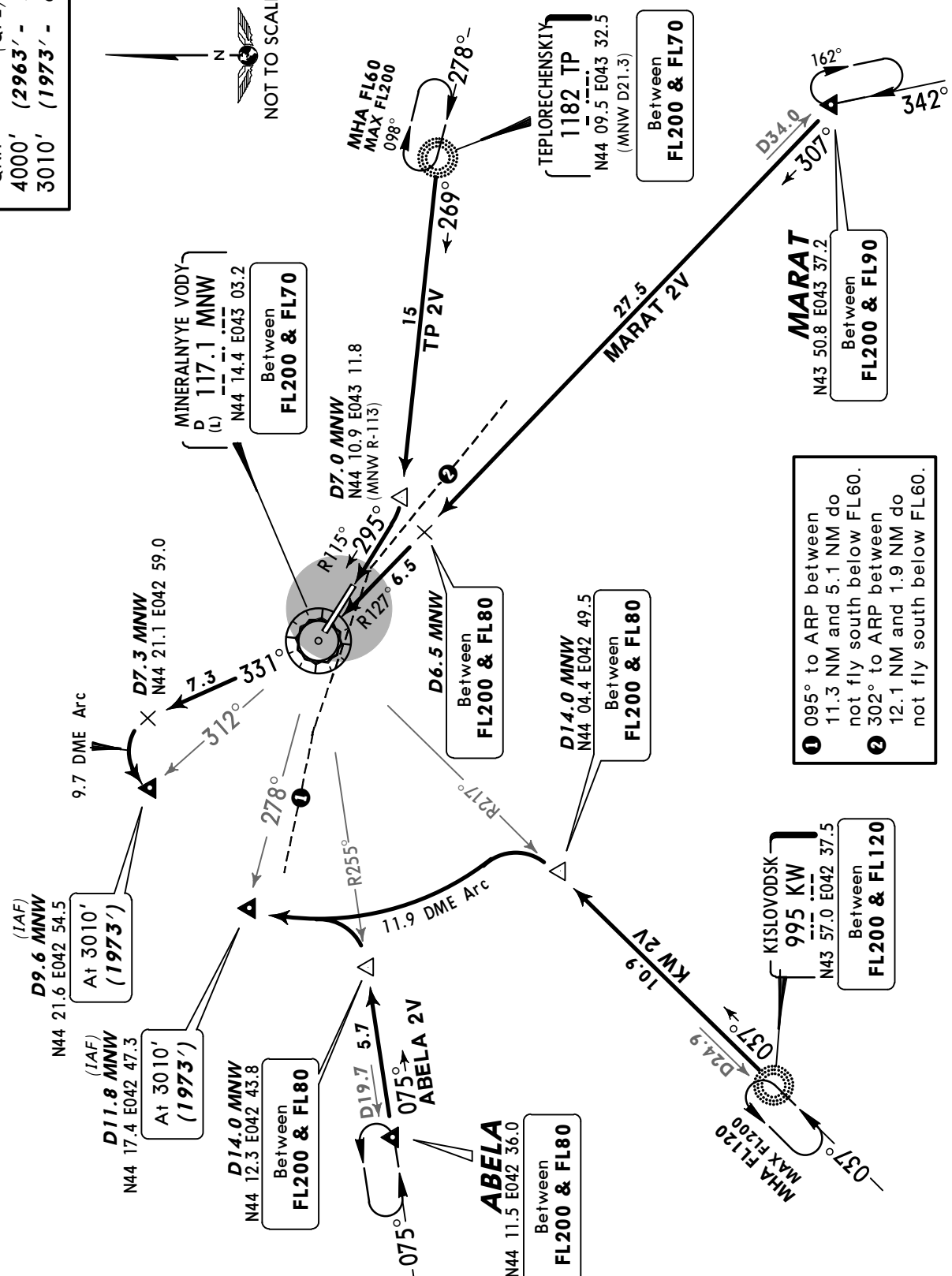
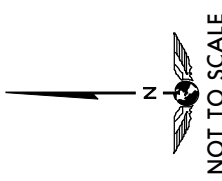
Alt Set: MM (hPa on request) QNH on request (QFE)
 Trans level: FL60
 FL70 if pressure is less than 704mm (938.6 hPa)
 Trans alt: 4000' (2963')



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

SPEED: MAX 250 KT BELOW FL100

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

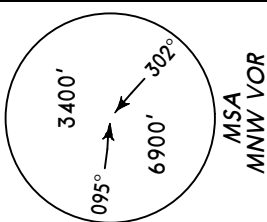


① 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
 ② 302° to ARP between 12.1 NM and 1.9 NM do not fly south below FL60.

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' (2956')



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

SPEED: MAX 250 KT BELOW FL100

③ D12.1 MNW
N44 09.3 E043 18.6
(MNW R-107)
A+ 3020' (1976')

(IAF) TEPLORCHENSKIY
1182 TP
N44 09.5 E043 32.5
(MNW D21.3)
Between
FL200 & FL60

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

D9.6 MNW
N44 13.1 E043 16.4

MINERALNYYE VODY
P 117.1 MNW
(L) N44 14.4 E043 03.2
Between
FL200 & FL70

D8.6 MNW
N44 09.9 E043 13.4
A+ 3020' (1976')

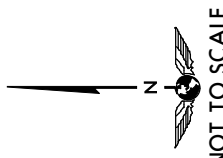
D11.2 MNW
N44 08.5 E043 16.7
(MNW R-113)
A+ 3020' (1976')

D27.3 MNW
N43 59.4 E043 34.9

MARAT
N43 50.8 E043 37.2
(MNW D34.0)
Between
FL200 & FL90

- 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

KISLOVODSK
995 KW
N43 57.0 E042 37.5
(MNW D24.9)
Between
FL200 & FL120

MHA FL120
MAX FL200

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]

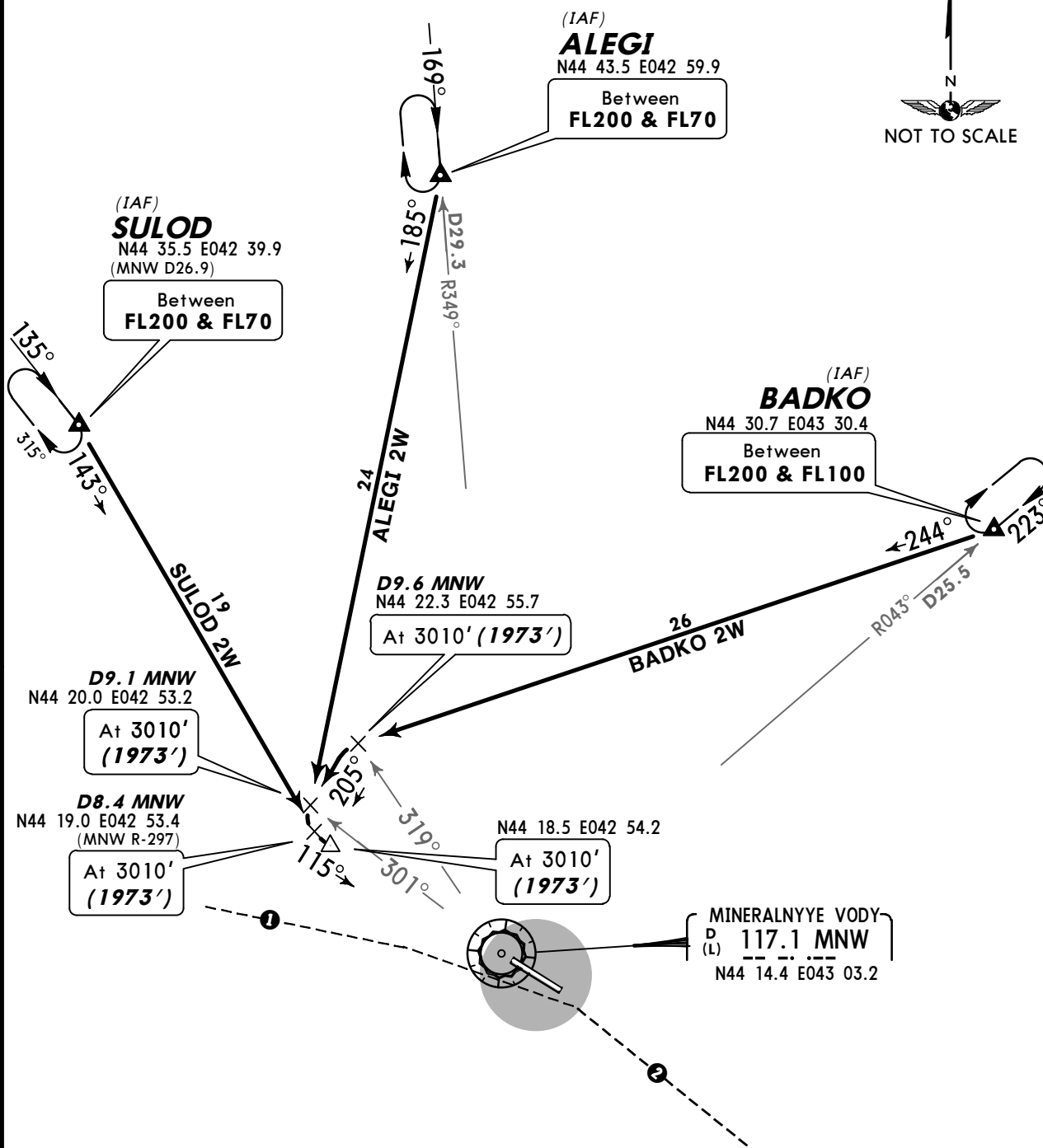
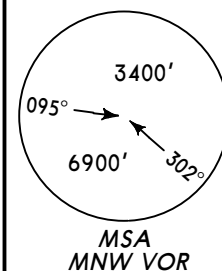
BADKO 2W [BADK2W]

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)

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 4W [ALEG4W]

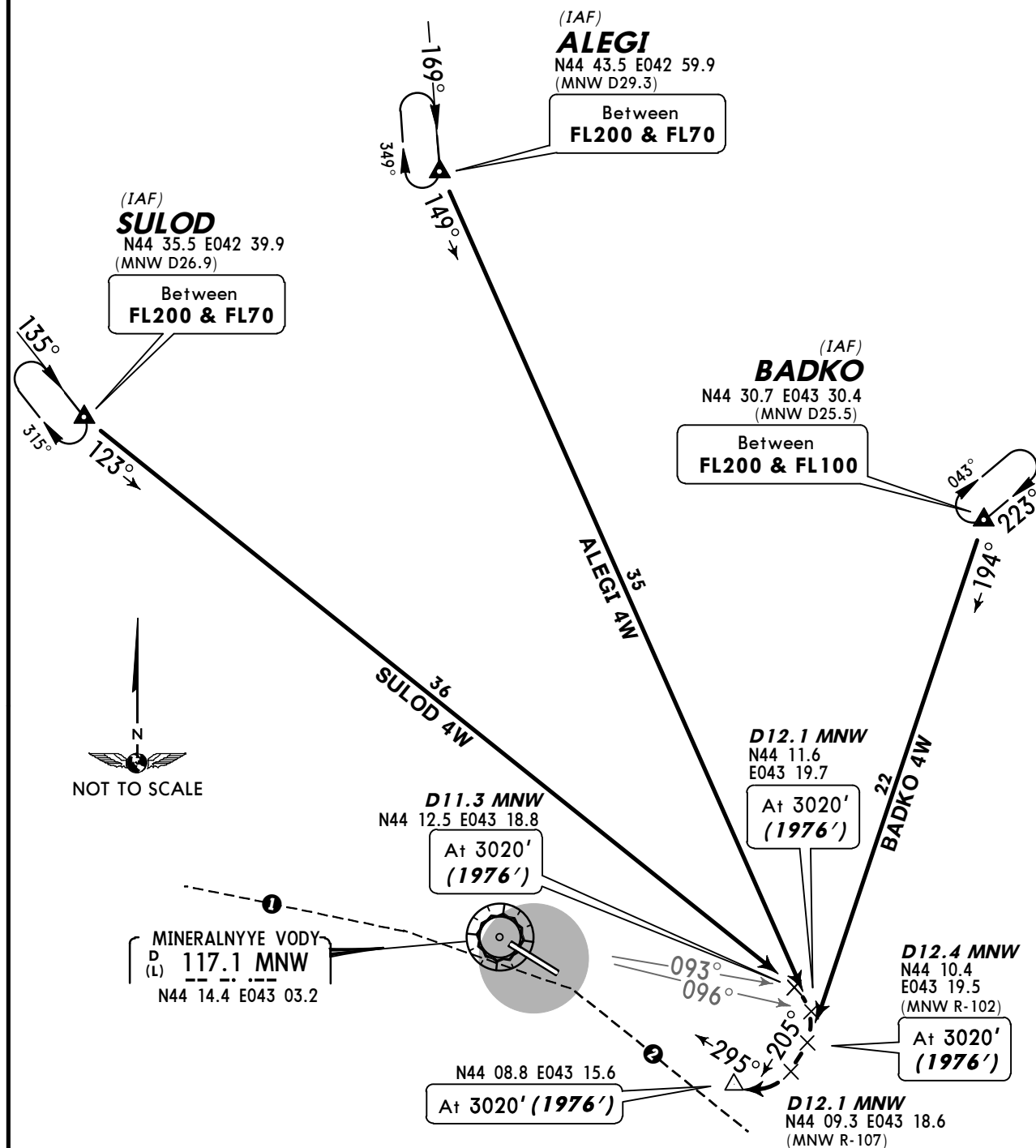
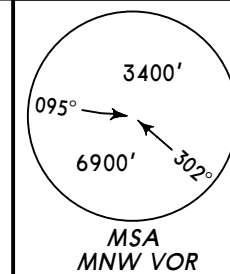
BADKO 4W [BADK4W]

SULOD 4W [SULO4W]

RWY 30 ARRIVALS

UNDER RADAR CONTROL

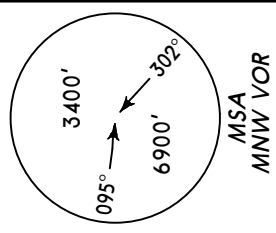
SPEED: MAX 250 KT BELOW FL100



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

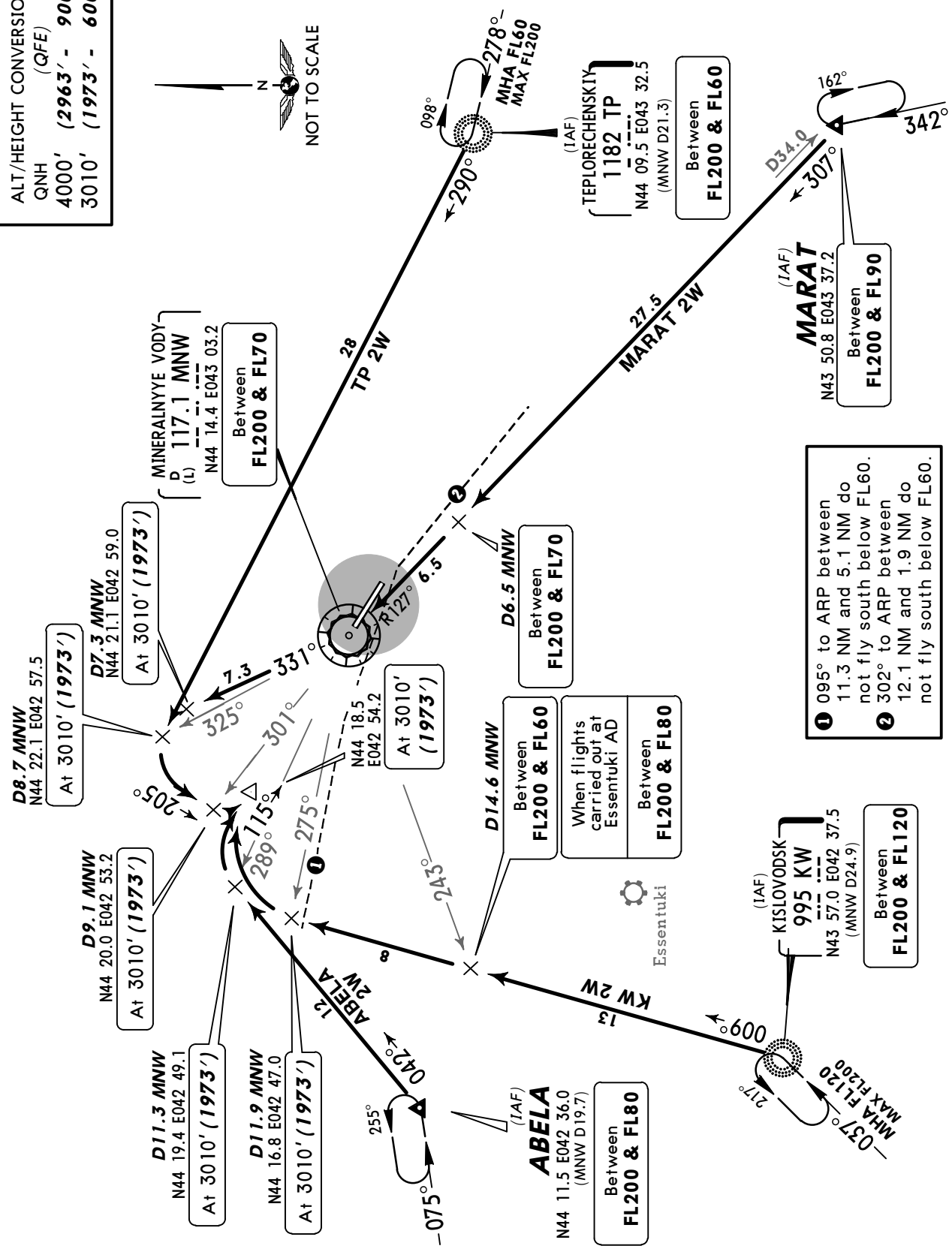
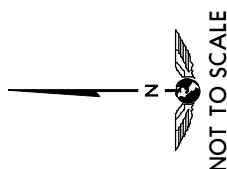
- 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
- 302° to ARP between 12.1 NM and 1.9 NM do not fly south below FL60.

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], KW 2W
MARAT 2W [MARA2W], TP 2W
RWY 12 ARRIVALS
UNDER RADAR CONTROL
SPEEDS MAX 250 KT BELOW FL100

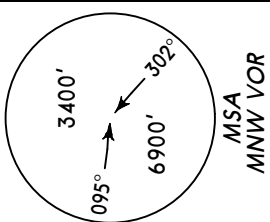
ALT/HEIGHT CONVERSION
QNH (QFE)
4000' (2963') - 900m
3010' (1973') - 600m



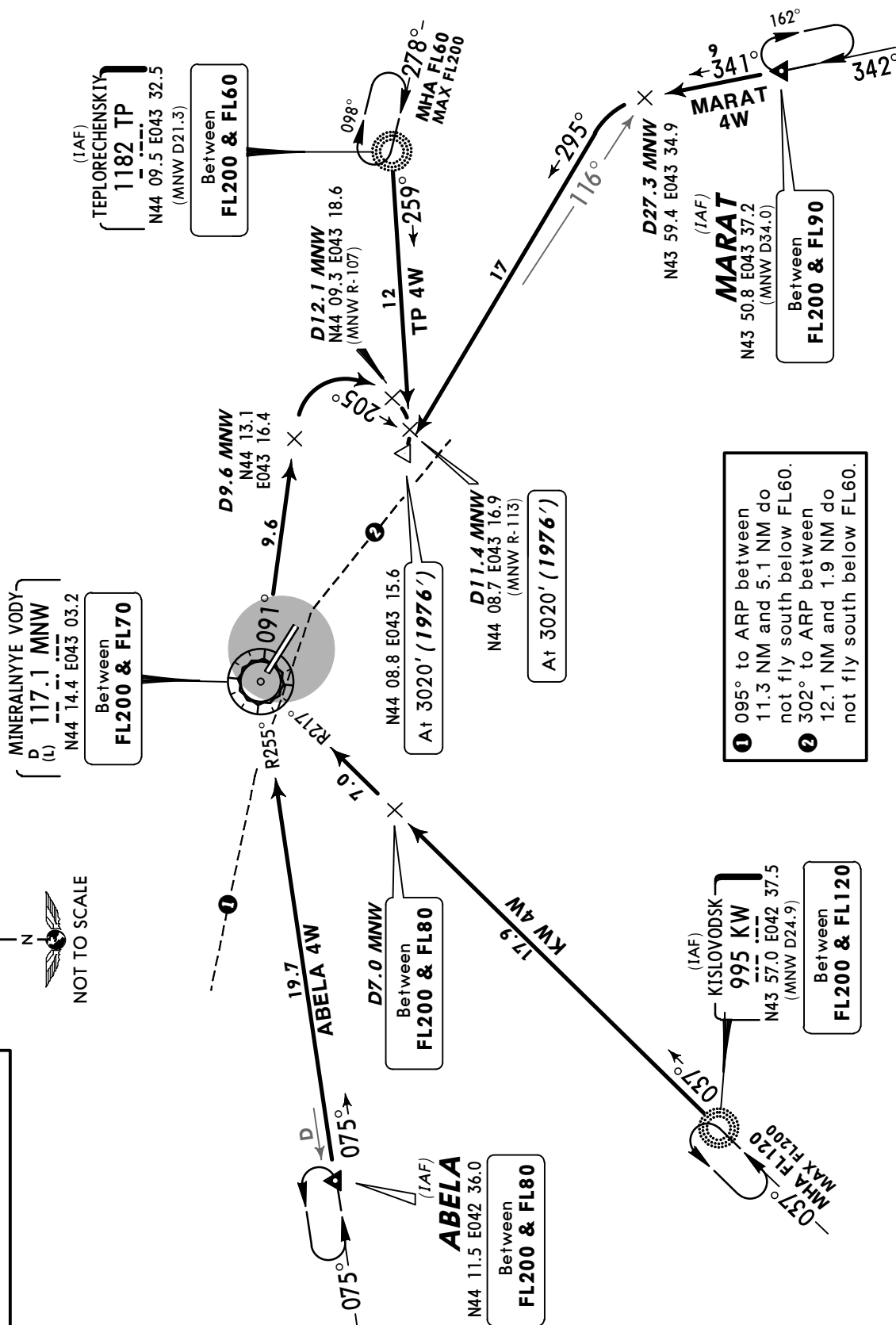
ATIS
125.25 (Russian 127.4)

Apt Elev
1047'

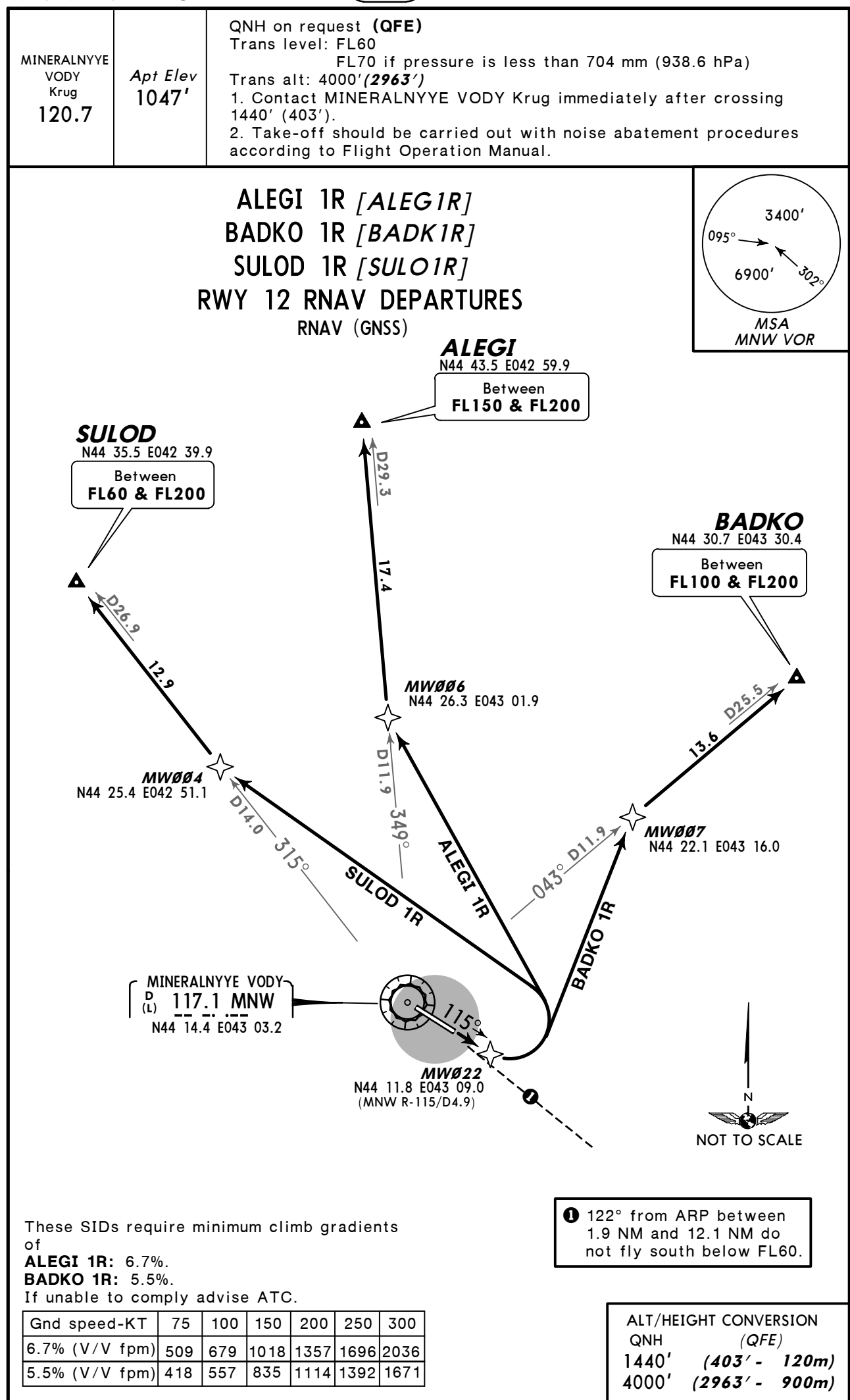
Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: FL60
FL70 if pressure is less than 704mm (938.6 hPa)
Trans alt: 4000' (2956')



ABELA 4W [ABEL4W], KW 4W
MARAT 4W [MARA4W], 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



MINERALNYYE
VODY
Krug
120.7

Apt Elev
1047'

QNH on request (QFE)

Trans level: FL60

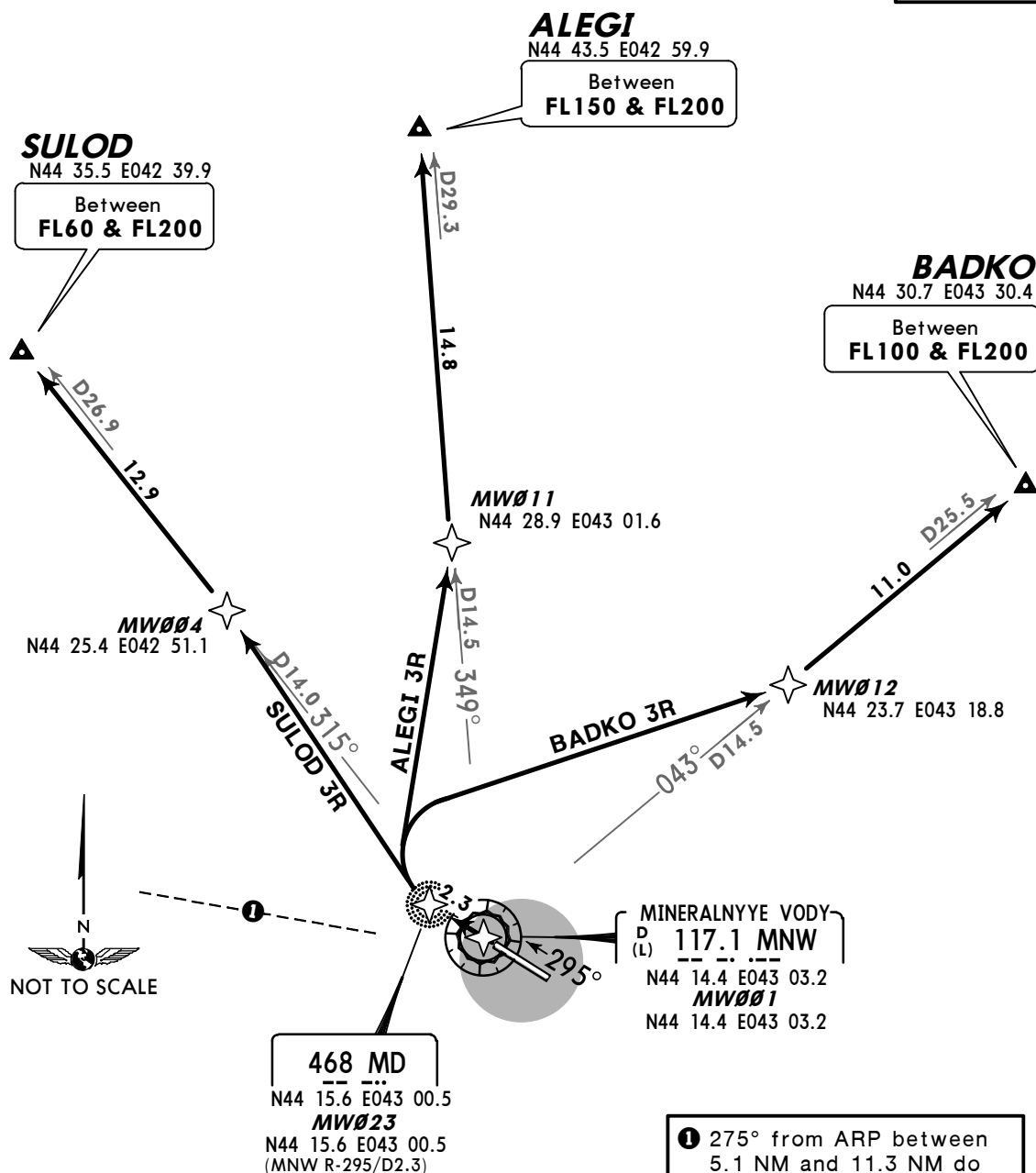
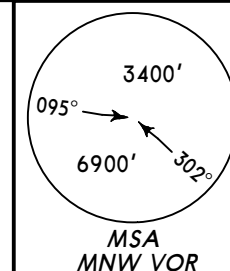
FL70 if pressure is less than 704 mm (938.6 hPa)

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.

ALEGI 3R [ALEG3R] BADKO 3R [BADK3R] SULOD 3R [SULO3R] RWY 30 RNAV DEPARTURES RNAV (GNSS)



These SIDs require minimum climb gradients of

ALEGI 3R: 7.7%.

BADKO 3R: 5.2%.

If unable to comply advise ATC.

Gnd speed-KT	75	100	150	200	250	300
7.7% (V/V fpm)	585	780	1170	1560	1949	2339
5.2% (V/V fpm)	395	527	790	1053	1317	1549

ALT/HEIGHT CONVERSION

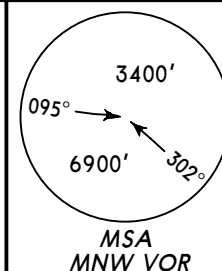
QNH	(QFE)
1440'	(396' - 120m)
4000'	(2956' - 900m)

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], KW 1R
MARAT 1R [MARA1R], SOROL 1R [SORO1R]
TP 1R
RWY 12 RNAV DEPARTURES
RNAV (GNSS)

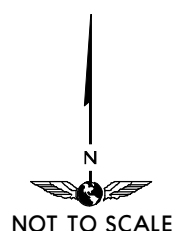


ABELA

N44 11.5 E042 36.0

Between
FL100 & FL200

19.7
ABELA 1R



**KISLOVODSK
995 KW**

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 1R, KW 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

MINERALNYE VODY
D 117.1 MNW
(L)

N44 14.4 E043 03.2

MW001

N44 14.4 E043 03.2

Between
FL80 & FL200

ABELA 1R
KW 1R
SOROL 1R

**TEPLORECHENSKIY
1182 TP**

N44 09.5 E043 32.5

Between
FL60 & FL200

MW018
N44 10.5 E043 25.1

098° D16.2

5.1
D21.3

MW014
(MNW R-115/D12.0)
N44 08.0 E043 17.4

At FL60
or D12.0 MNW
whichever is earlier

MW019
N44 03.2 E043 19.6

17.8
D34.0

MARAT 1R

Between
FL90 & FL200

MARAT
N43 50.8 E043 37.2

Between
FL90 & FL200

SOROL

N43 44.0 E043 09.9

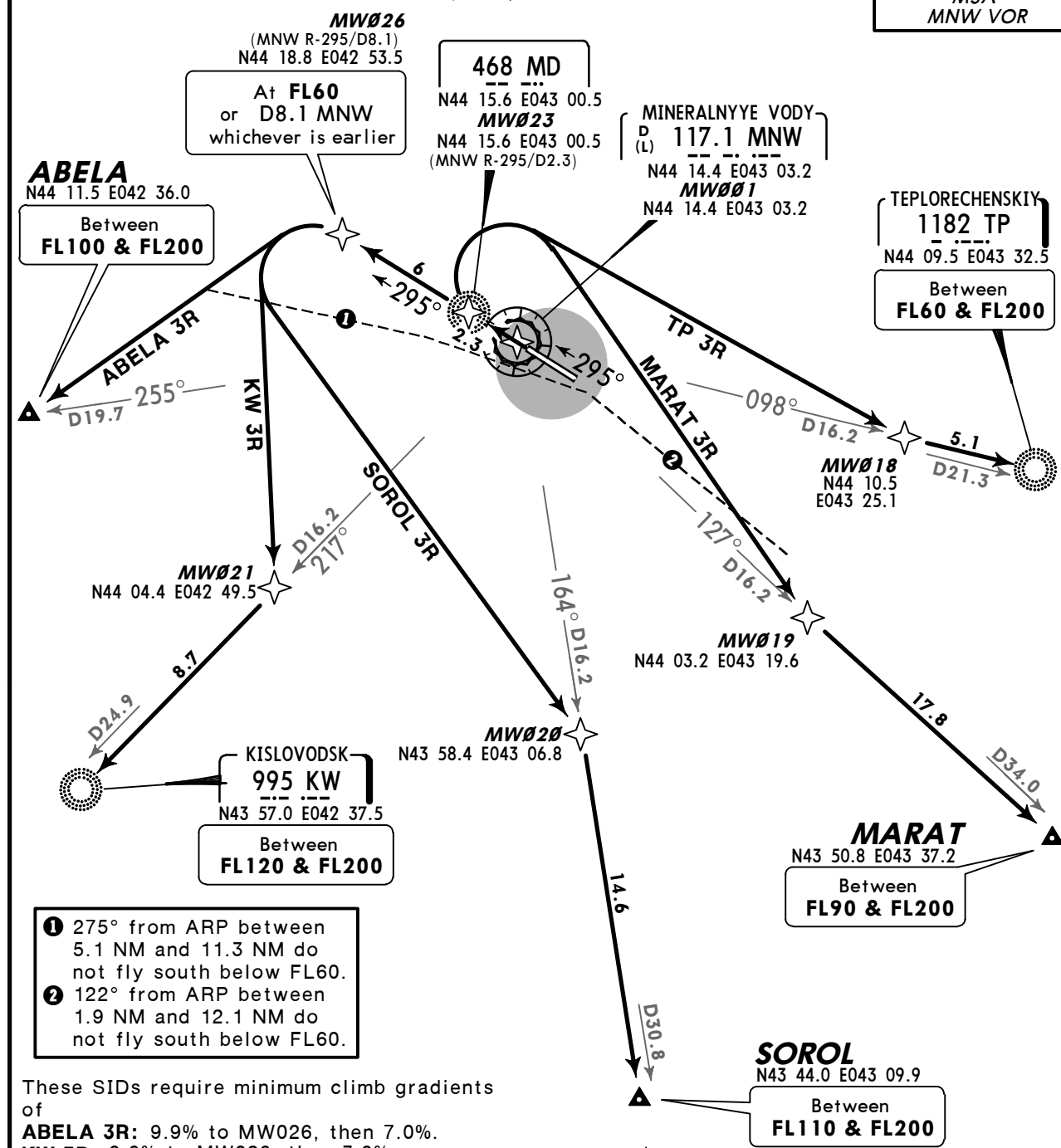
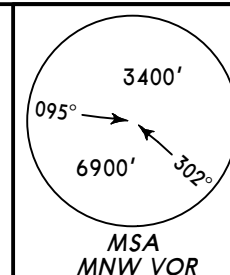
Between
FL110 & FL200

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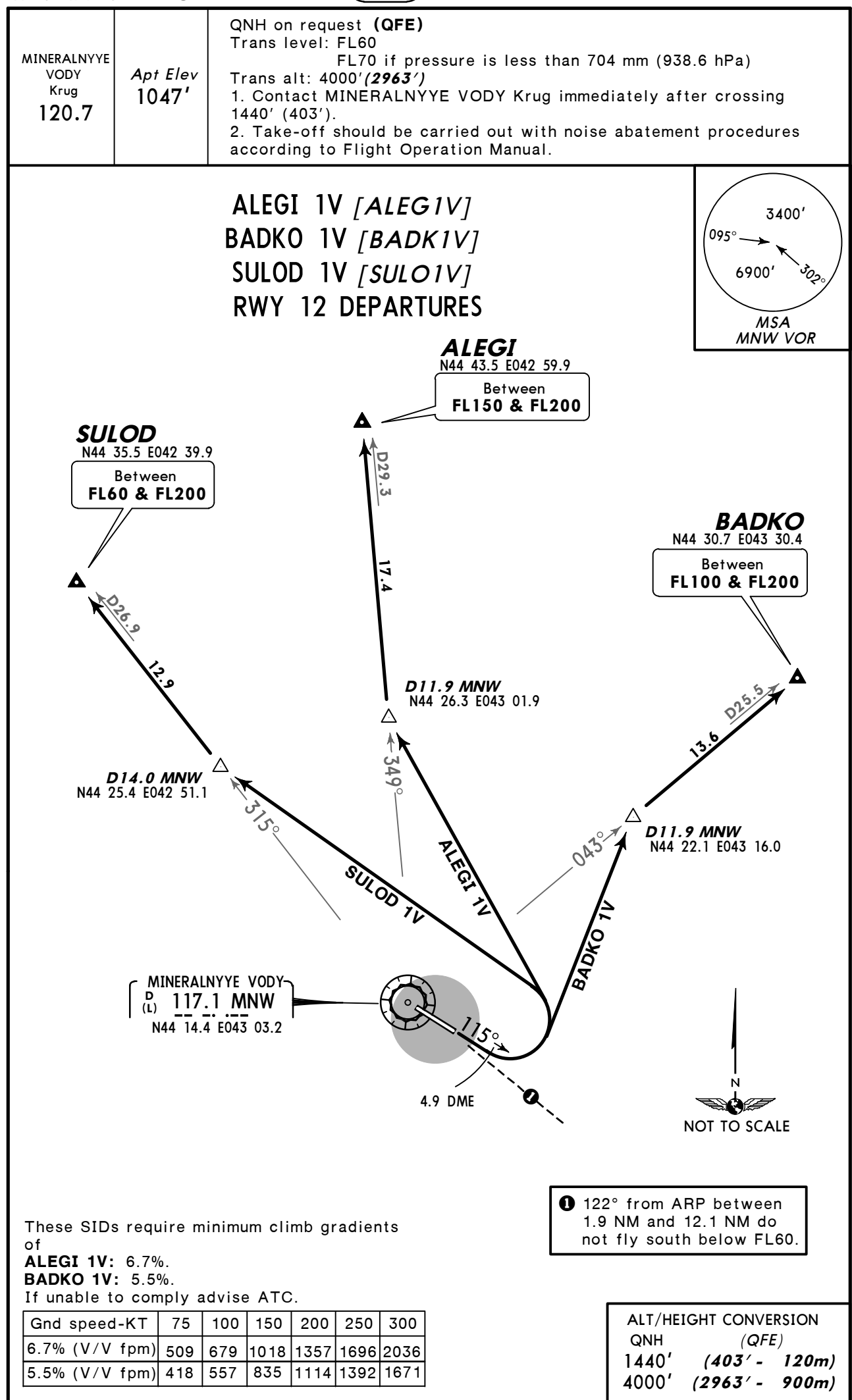
ABELA 3R [ABEL3R], KW 3R
MARAT 3R [MARA3R], SOROL 3R [SORO3R]
TP 3R
RWY 30 RNAV DEPARTURES
RNAV (GNSS)



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)

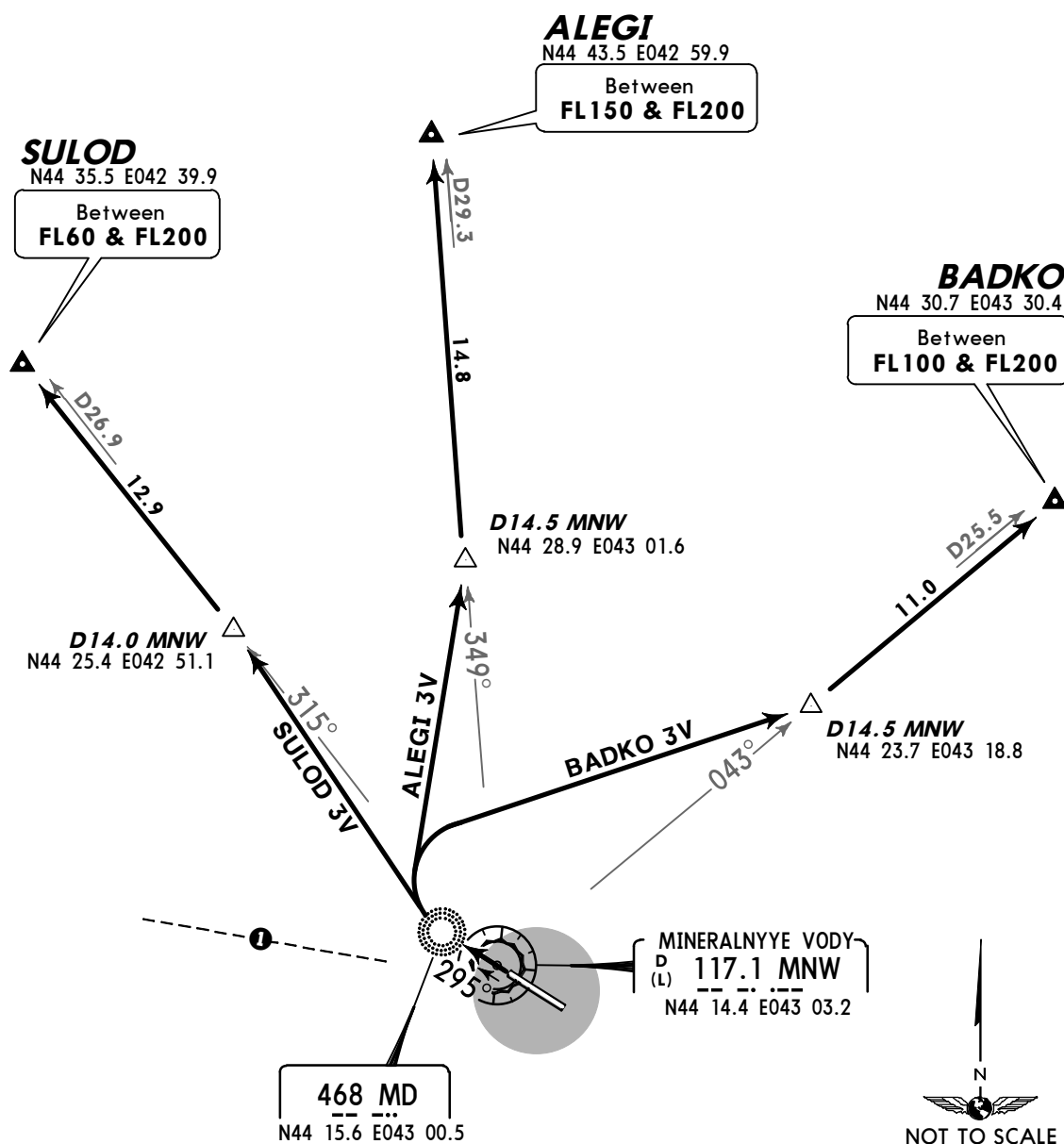
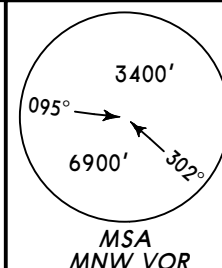


MINERALNYYE
VODY
Krug
120.7

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.

ALEGI 3V [ALEG3V]
BADKO 3V [BADK3V]
SULOD 3V [SULO3V]
RWY 30 DEPARTURES



These SIDs require minimum climb gradients of
ALEGI 3V: 7.7%.
BADKO 3V: 5.2%.
If unable to comply advise ATC.

Gnd speed-KT	75	100	150	200	250	300
7.7% (V/V fpm)	585	780	1170	1560	1949	2339
5.2% (V/V fpm)	395	527	790	1053	1317	1549

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

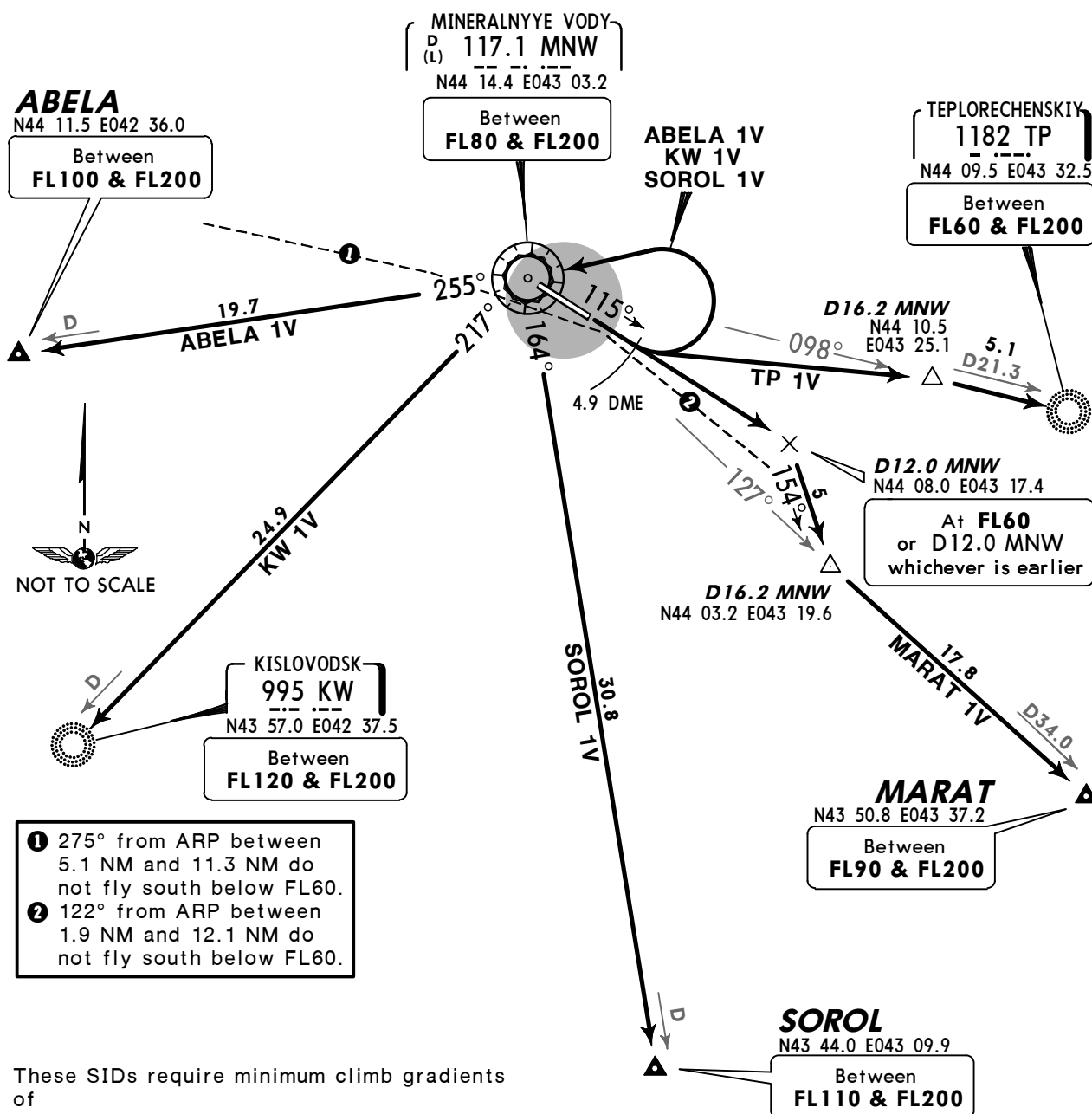
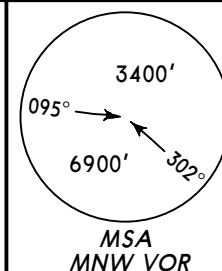
ALT/HEIGHT CONVERSION	
QNH	(QFE)
1440'	(396' - 120m)
4000'	(2956' - 900m)

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.

ABELA 1V [ABEL1V], KW 1V
MARAT 1V [MARA1V], 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.

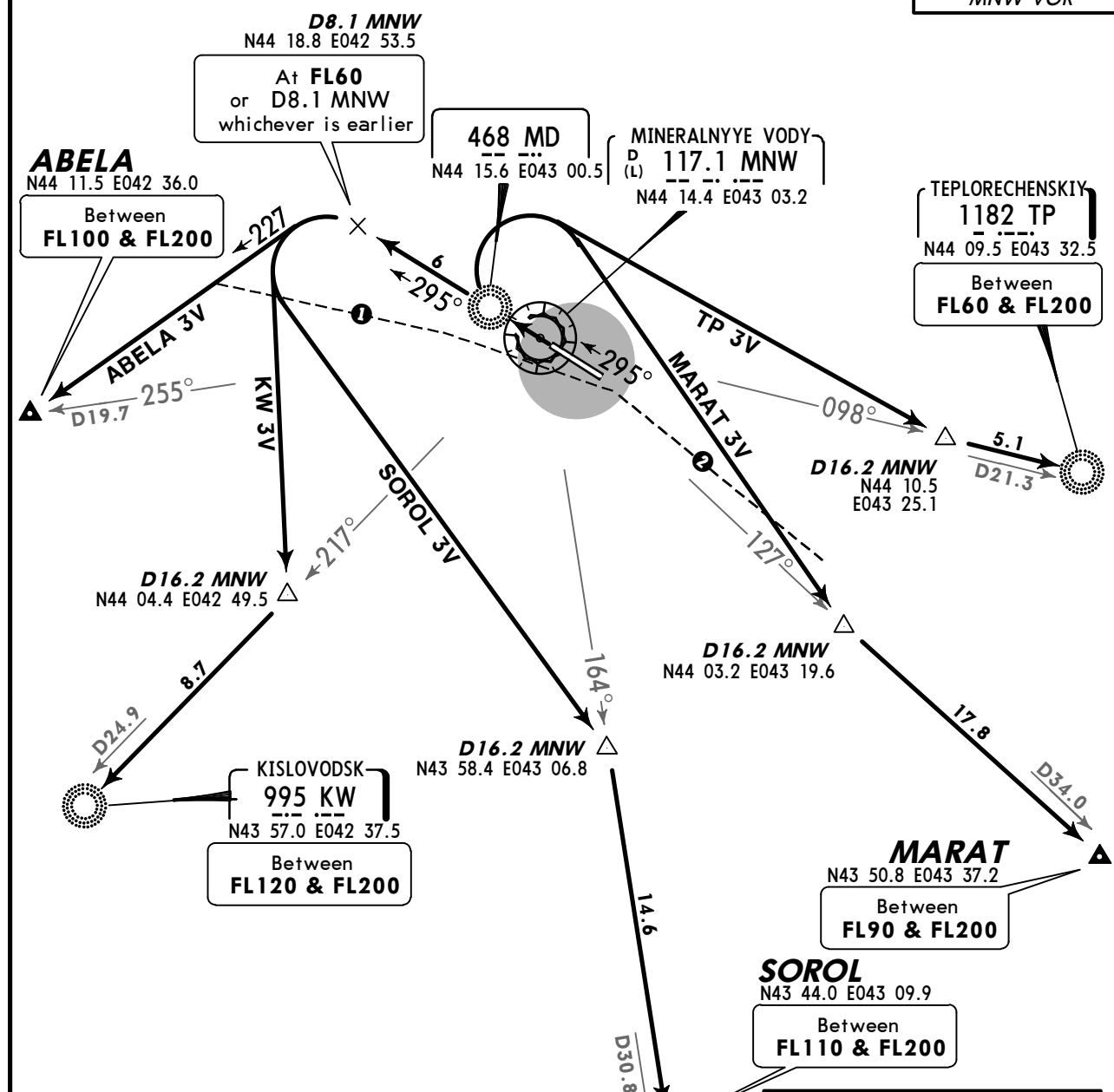
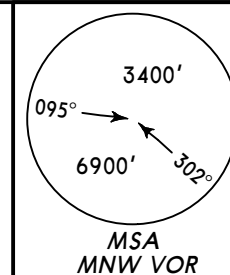
These SIDs require minimum climb gradients of
ABELA 1V, KW 1V, SOROL 1V: 7.0% to MNW.
MARAT 1V: 9.6% to D12.0 MNW.
TP 1V: 4.4%.
 If unable to comply advise ATC.

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)

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.
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**ABELA 3V [ABEL3V], KW 3V
MARAT 3V [MARA3V], SOROL 3V [SORO3V]
TP 3V
RWY 30 DEPARTURES**



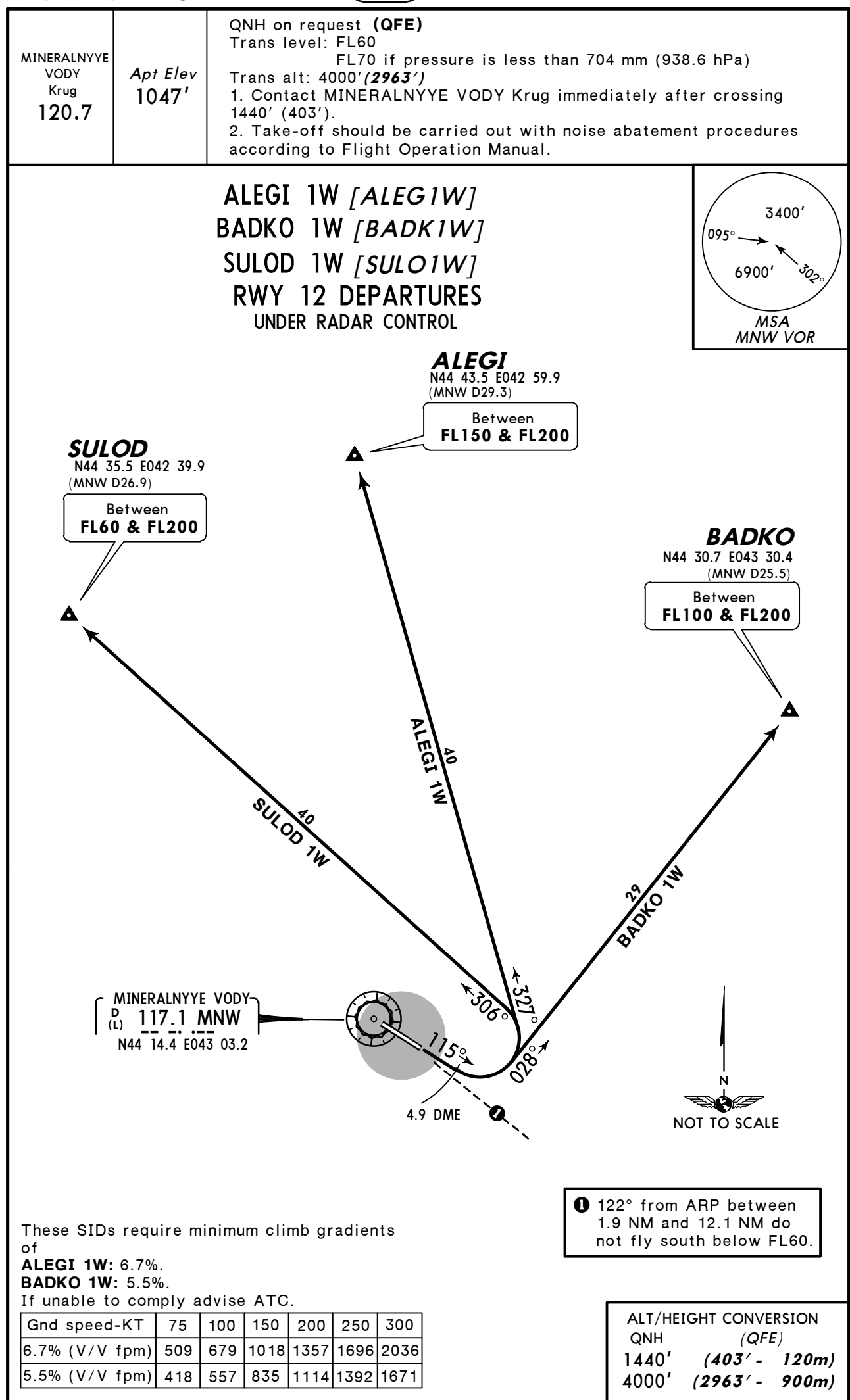
These SIDs require minimum climb gradients of
ABELA 3V: 9.9% to D8.1 MNW, then 7.0%.
KW 3V: 9.9% to D8.1 MNW, then 3.9%.
SOROL 3V: 9.9% to D8.1 MNW.
 If unable to comply advise ATC.

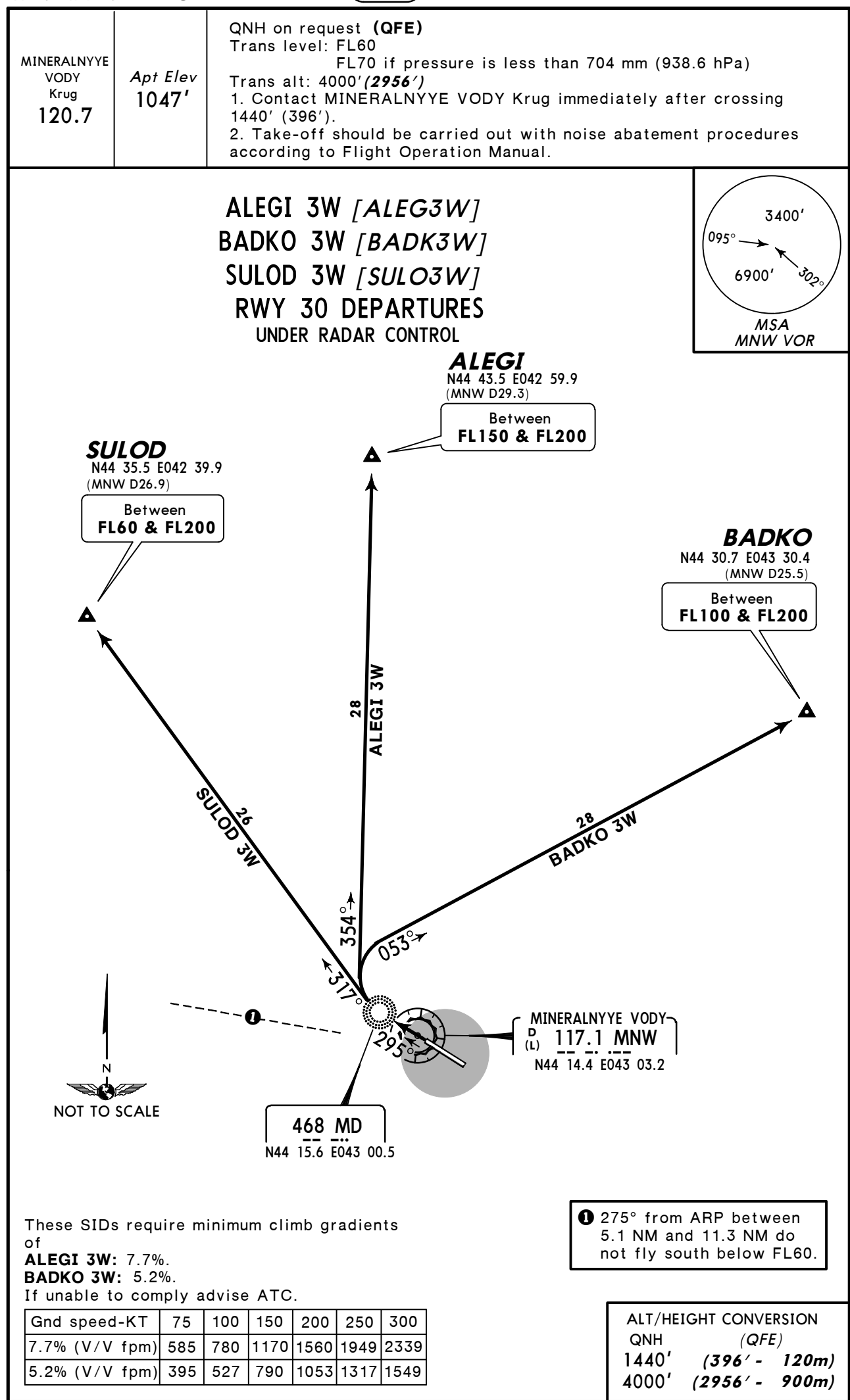
Gnd speed-KT	75	100	150	200	250	300
9.9% (V/V fpm)	752	1003	1504	2005	2674	3209
7.0% (V/V fpm)	532	709	1063	1418	1772	2127
3.9% (V/V fpm)	296	395	592	790	987	1185

- 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)

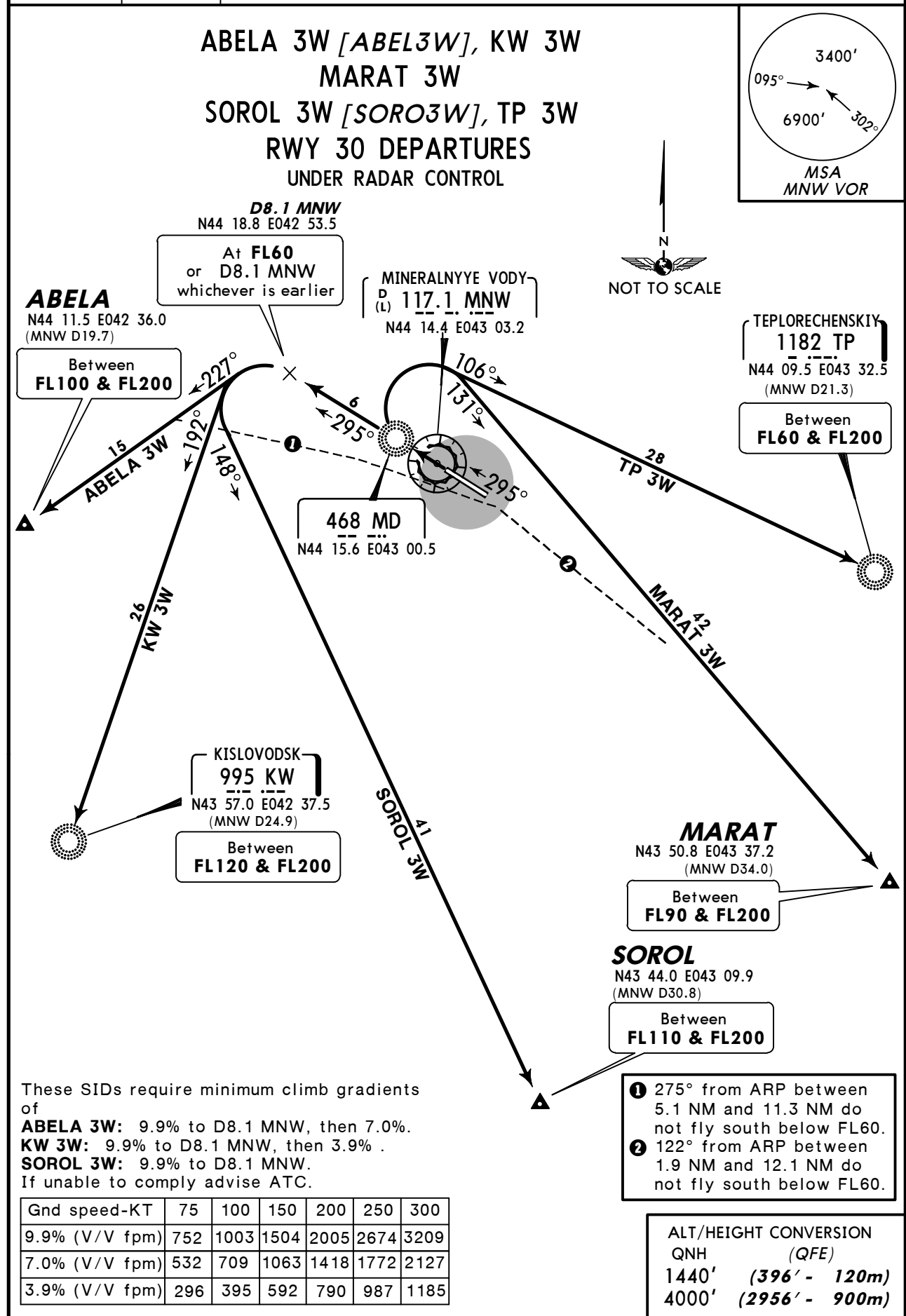






2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

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.
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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**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:

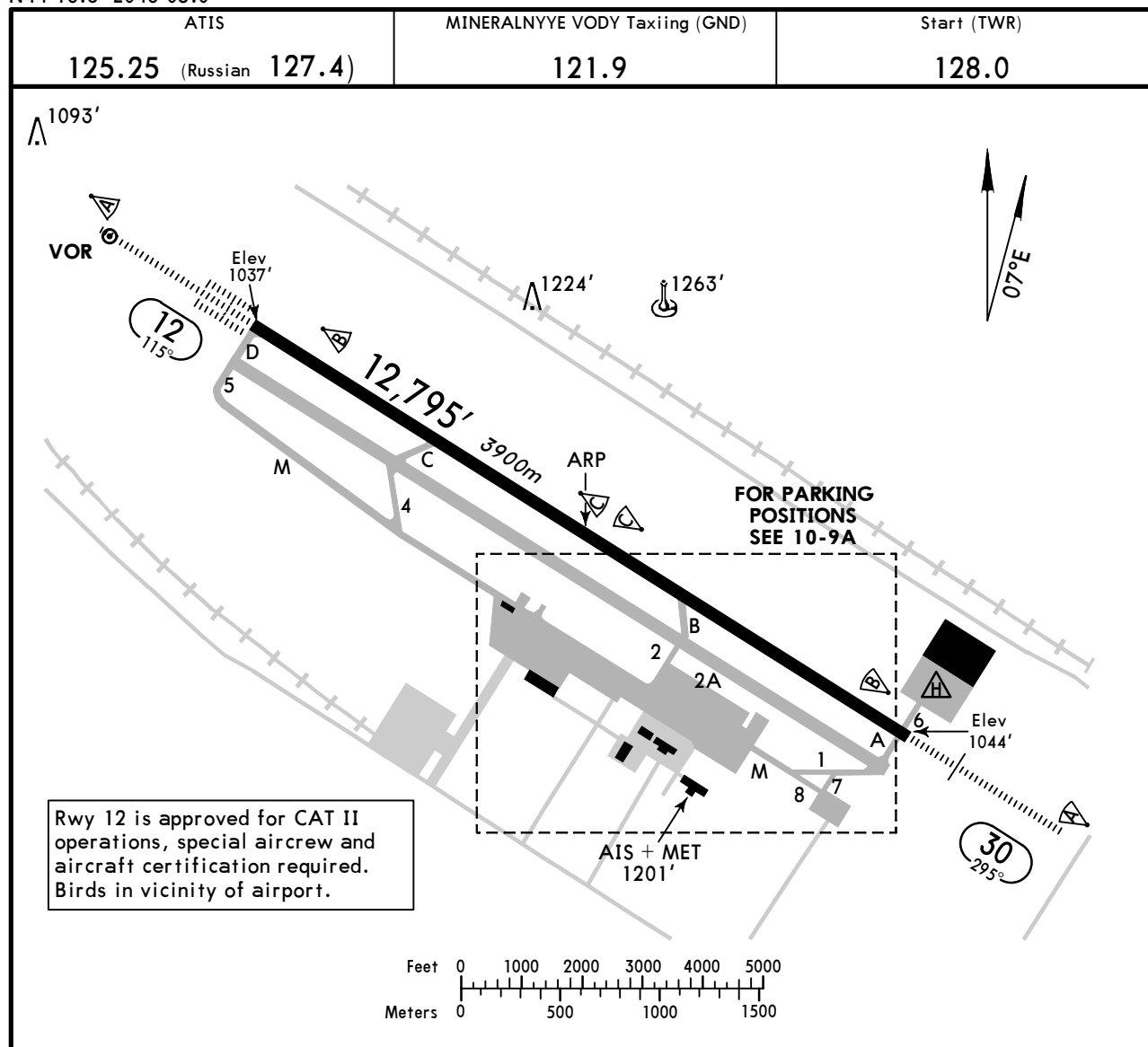
- reaching 2040' (993' - 300m)
- the established standard power mode enables to maintain the established climb gradient of not less than 4% at the above specified speed and with maximum certified take-off mass
- take-off flight path provides overflying of all obstacles located under the flight path with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

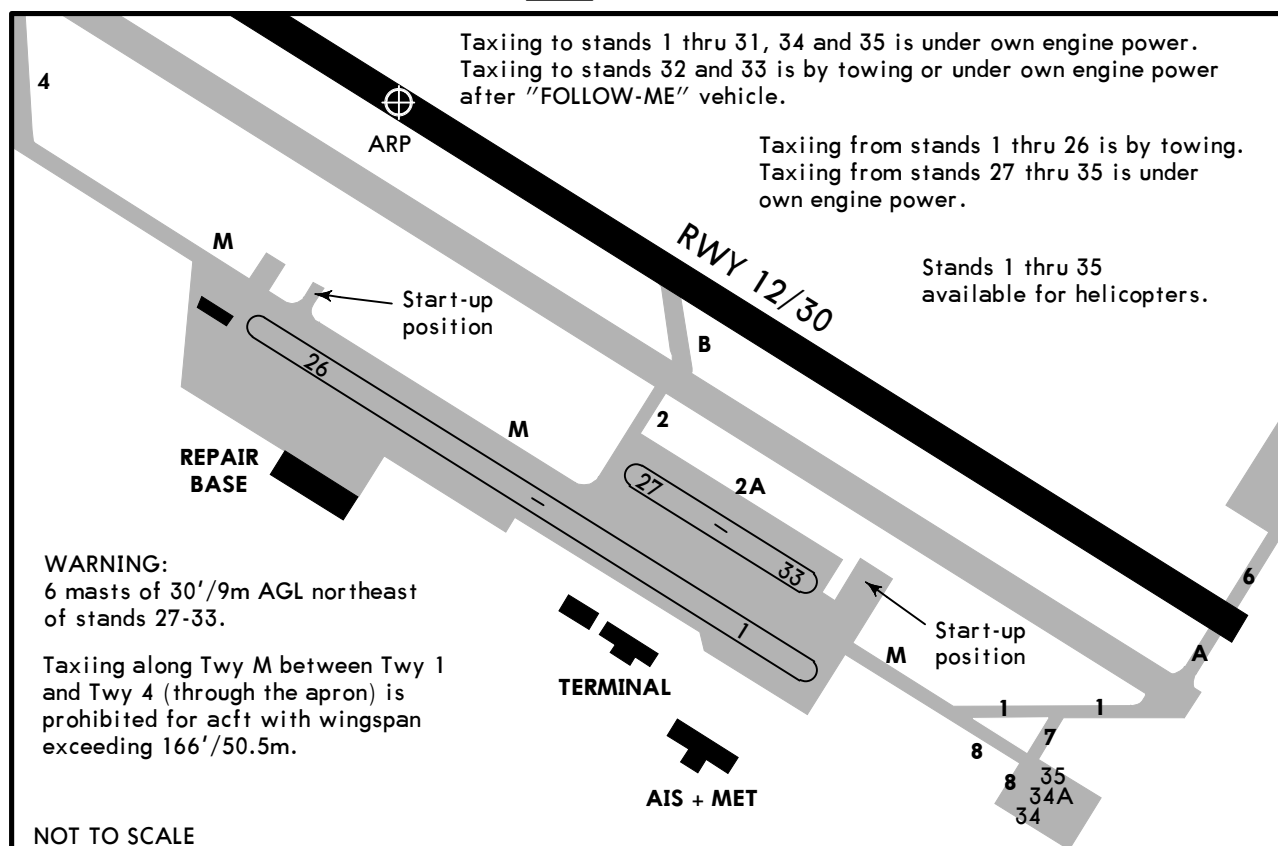
RWY				USABLE LENGTHS		TAKE-OFF	WIDTH
				Threshold	Landing Beyond		
12	HIRL (60m) CL (15m) HIALS-II TDZ PAPI-L (3.00°)	RVR			11,762' 3585m		197'
30	HIRL (60m) CL (15m) HIALS PAPI-L (3.00°)	RVR			11,823' 3604m		60m

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')	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
	ALS out	C2100m	C2100m	C2100m	C2100m
30	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
	NDB	2900'(1863') C5000m	2900'(1863') C5000m	2900'(1863') C5000m	2900'(1863') C5000m
	ILS	1244'(200')	1244'(200')	1244'(200')	1244'(200')
	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
	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		

STRAIGHT-IN RWY		A	B	C	D
12	CAT 2 ILS	1137' (100')	1137' (100')	1137' (100')	1137' (100')
		RA115' R350m	RA115' R350m	RA115' R350m	RA115' 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

	Approved Operators HIRL, CL & mult. RVR req	LVP must be in Force			RCLM (DAY only) or RL	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			

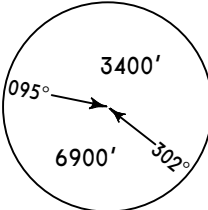
URMM/MRV MINERALNYYE VODY

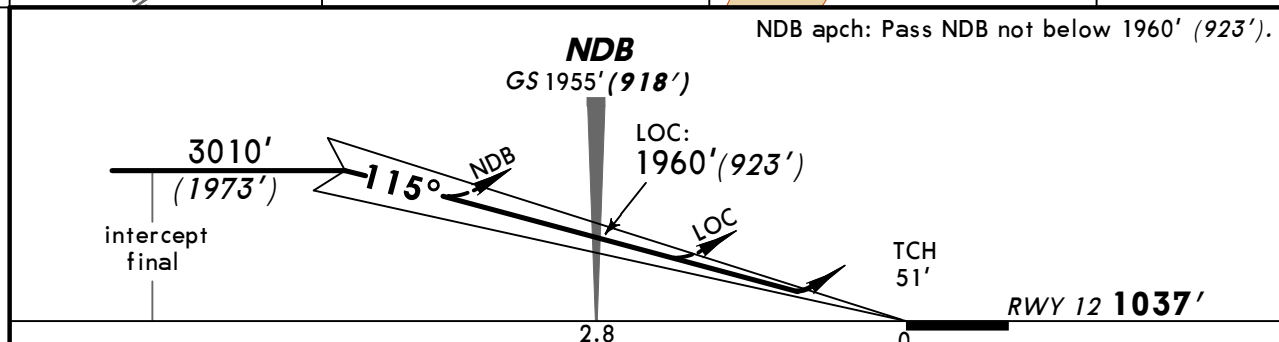
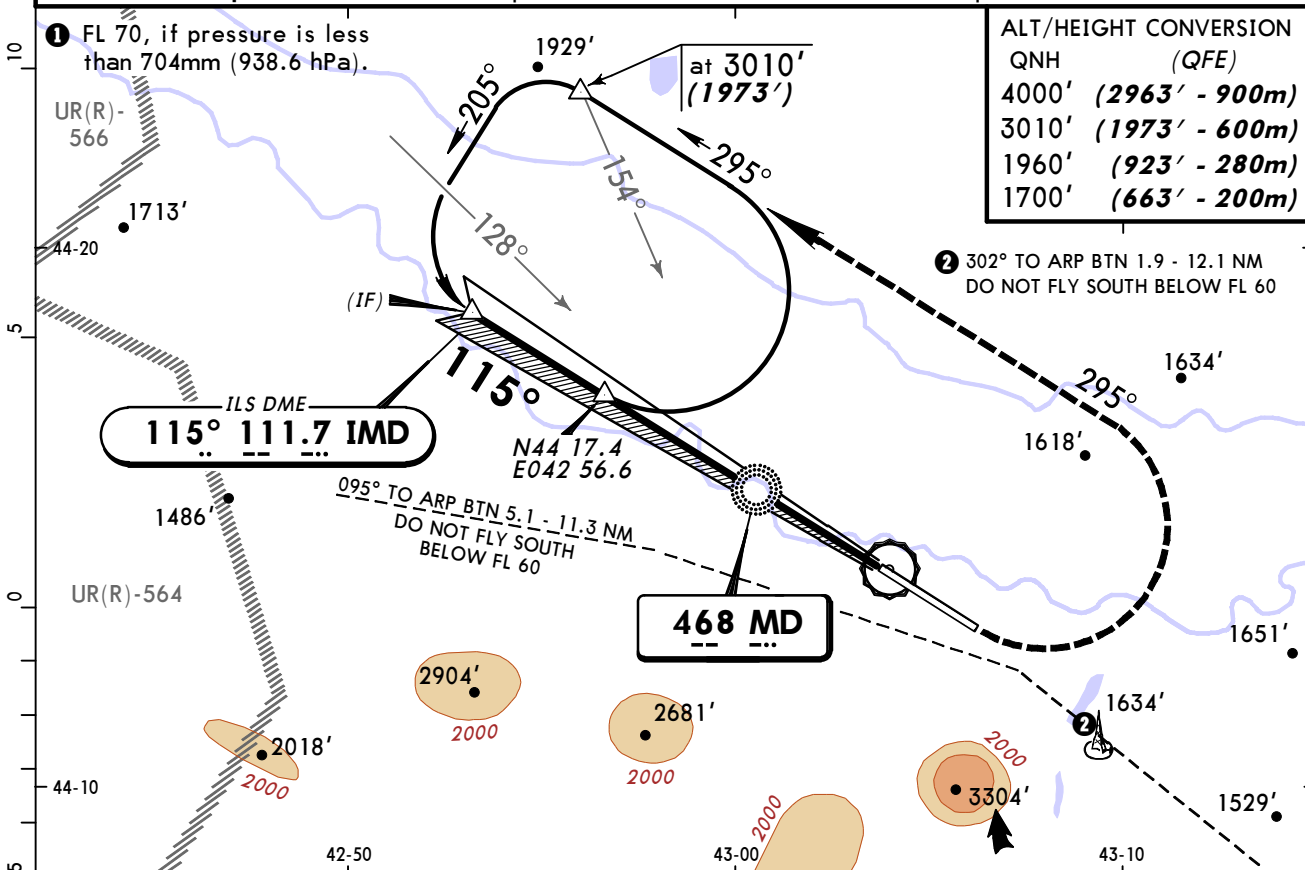
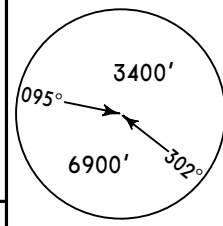
JEPPesen MINERALNYYE VODY, RUSSIA

30 DEC 11
Eff 12 Jan 11-1 CAT I/II ILS DME or NDB Rwy 12

BRIEFING STRIP

TM

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 NDB 1960' (923')	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.									
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.									



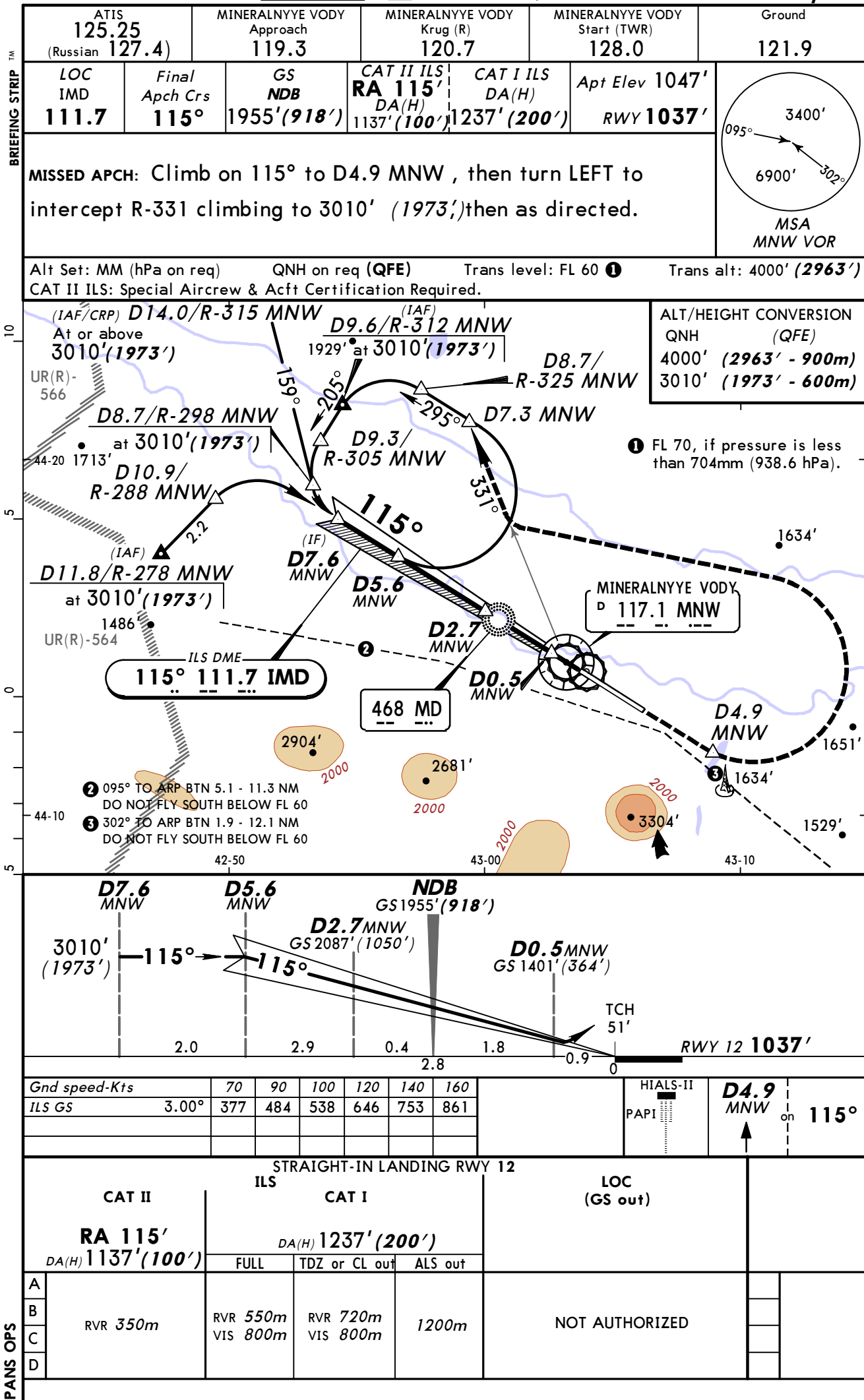
Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI	1700' (663') on 115°
ILS GS or	377	484	538	646	753	861		
LOC or NDB Desc Angle 3.00°								

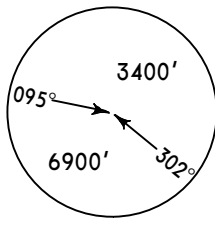
PANS OPS	CAT II ILS		CAT I		LOC (GS out)		NDB	
	RA 115'		1237' (200')		1480' (443')		2900' (1863')	
	DA(H) 1137' (100')		DA(H) 1237' (200')		MDA(H) 1480' (443')		MDA(H) 2900' (1863')	
	FULL		TDZ or CL out		ALS out		ALS out	
A								
B	RVR 350m		RVR 550m	RVR 720m	1200m	RVR 720m	RVR 1500m	3200m
C			VIS 800m	VIS 800m		VIS 800m	VIS 1600m	
D						1200m	RVR 1800m	
							VIS 2000m	
						RVR 1500m	2400m	4400m
						VIS 1600m		4800m

CHANGES: NDB & LOC procedure added. Missed approach.

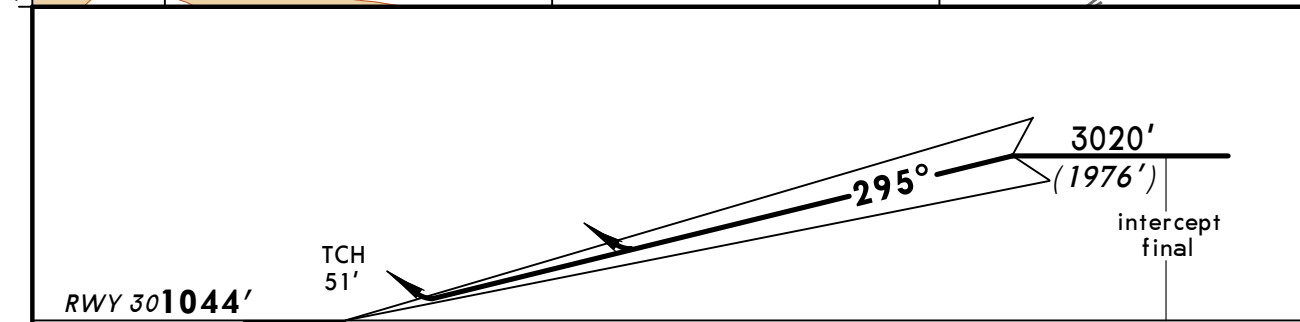
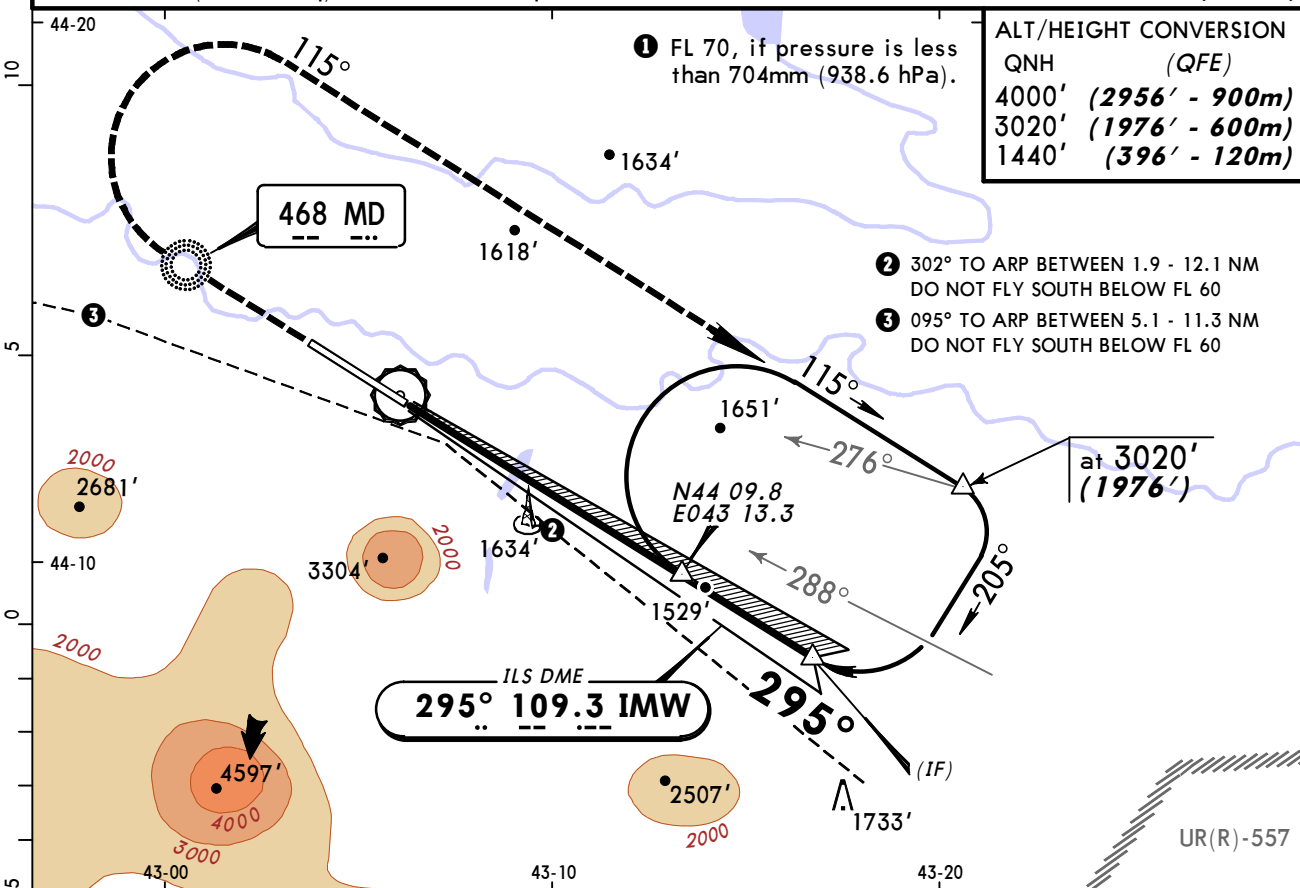
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URMM/MRV MINERALNYYE VODY 30 DEC 11 Eff 12 Jan 11-2 CAT I/II VOR DME ILS Rwy 12



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.					

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

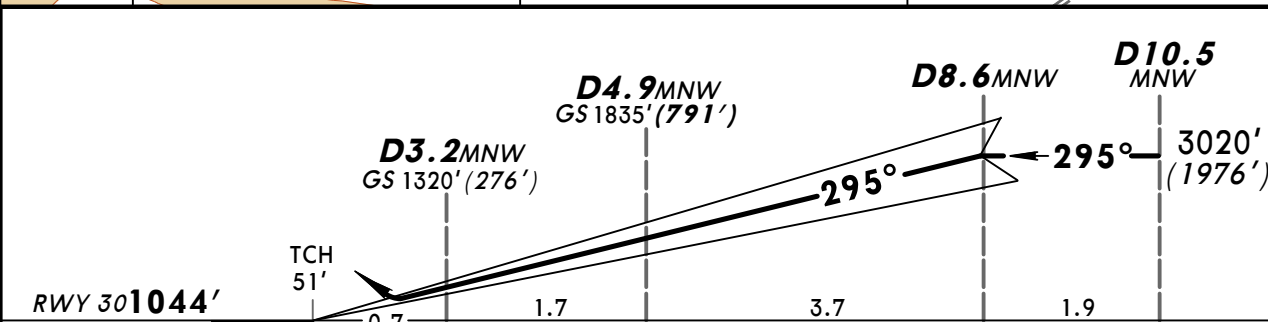
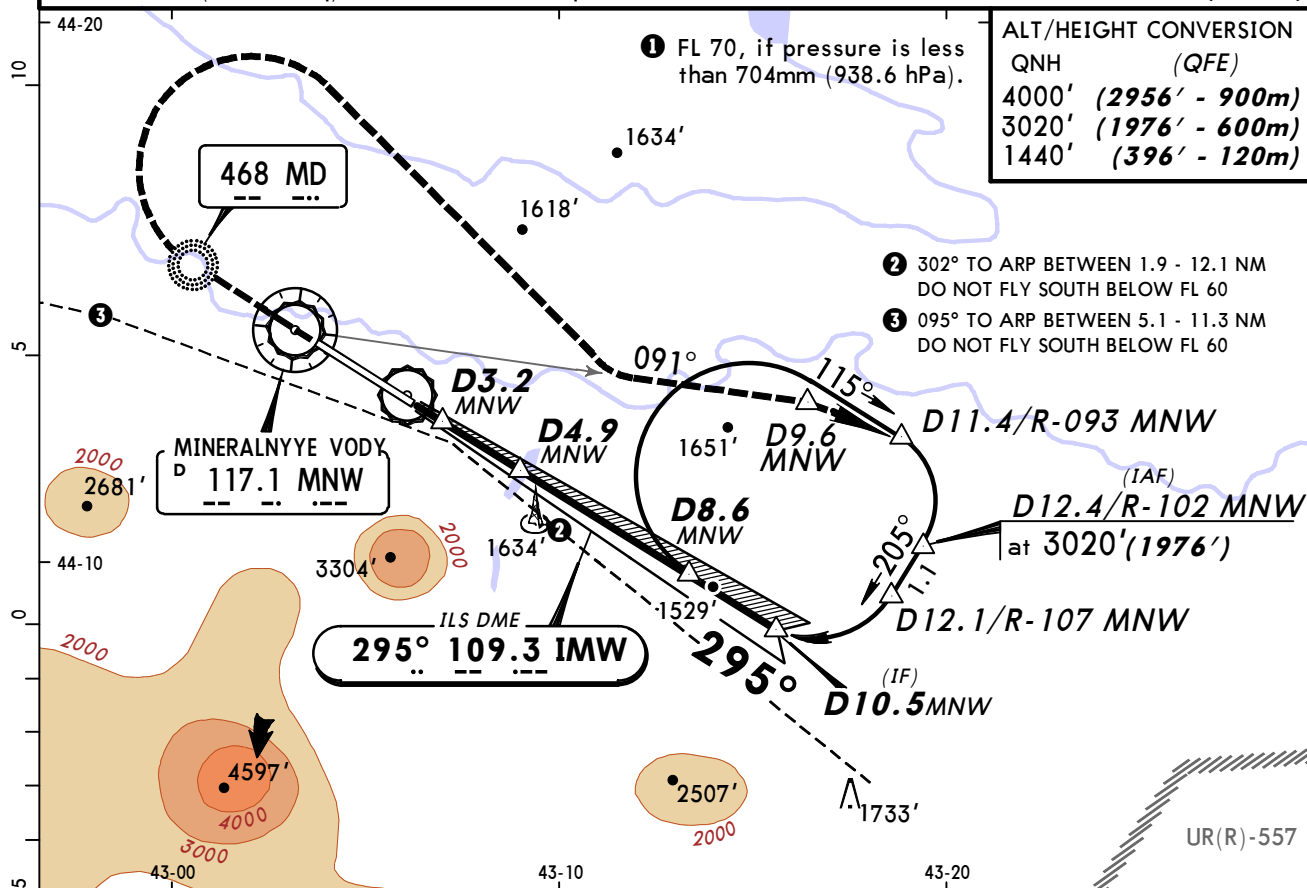


Gnd speed-Kts	70	90	100	120	140	160	HIALS PAPI	MD 468 on 295°
ILS GS or	377	484	538	646	753	861		
LOC Desc Angle 3.00°								

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			
A	RVR 720m VIS 800m	1200m	RVR 720m VIS 800m	RVR 1500m VIS 1600m	RVR 720m VIS 800m	RVR 1500m VIS 1600m	
B					1200m	2000m	
C			RVR 1500m VIS 1600m	2400m	2800m	3600m	
D			RVR 1800m VIS 2000m	2800m	3200m	4000m	

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 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')

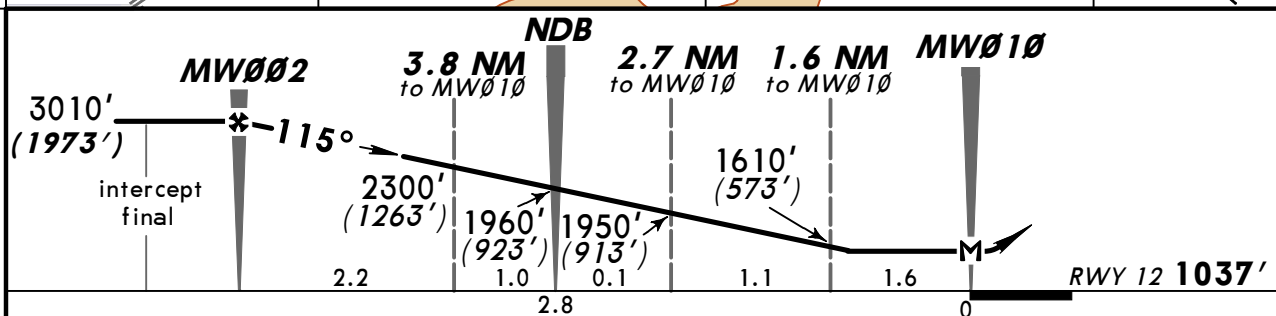
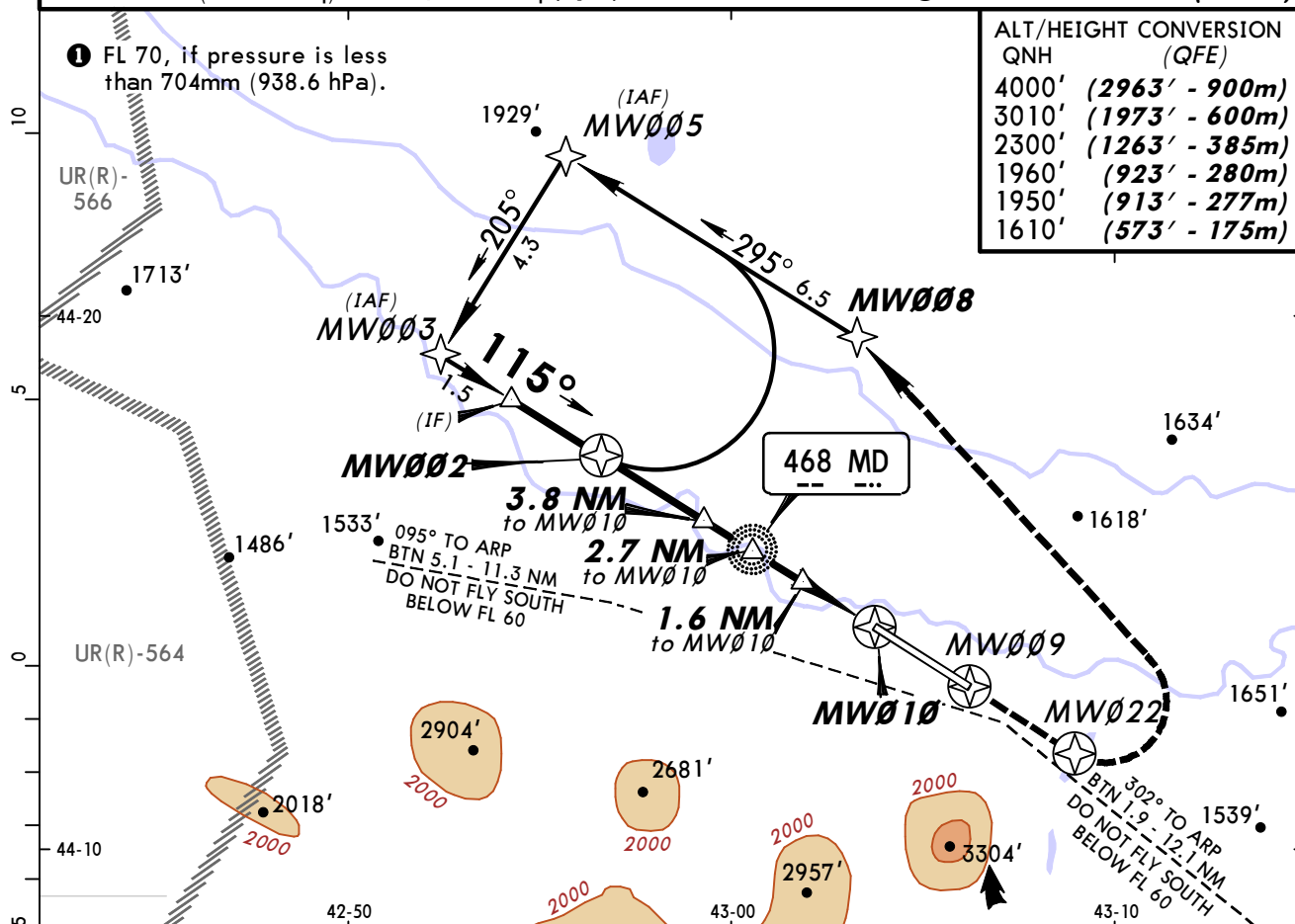


0.7							HIALS		MD	
Gnd speed-Kts	70	90	100	120	140	160	PAPI		468	on 295°
ILS GS 3.00°	377	484	538	646	753	861				

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

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.				 MSA Airport

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 PAPI	MW022 on 115°
Descent Angle 3.00°	372	478	531	637	743	849		
MAP at MW010								

STRAIGHT-IN LANDING RWY 12

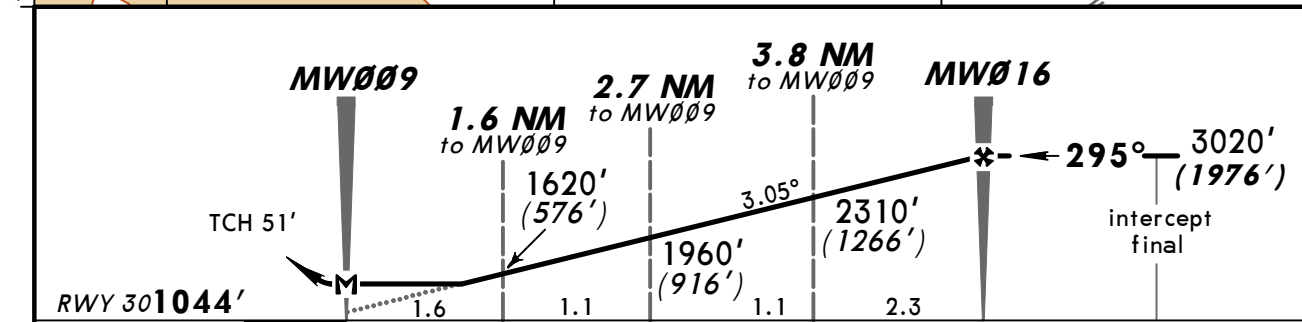
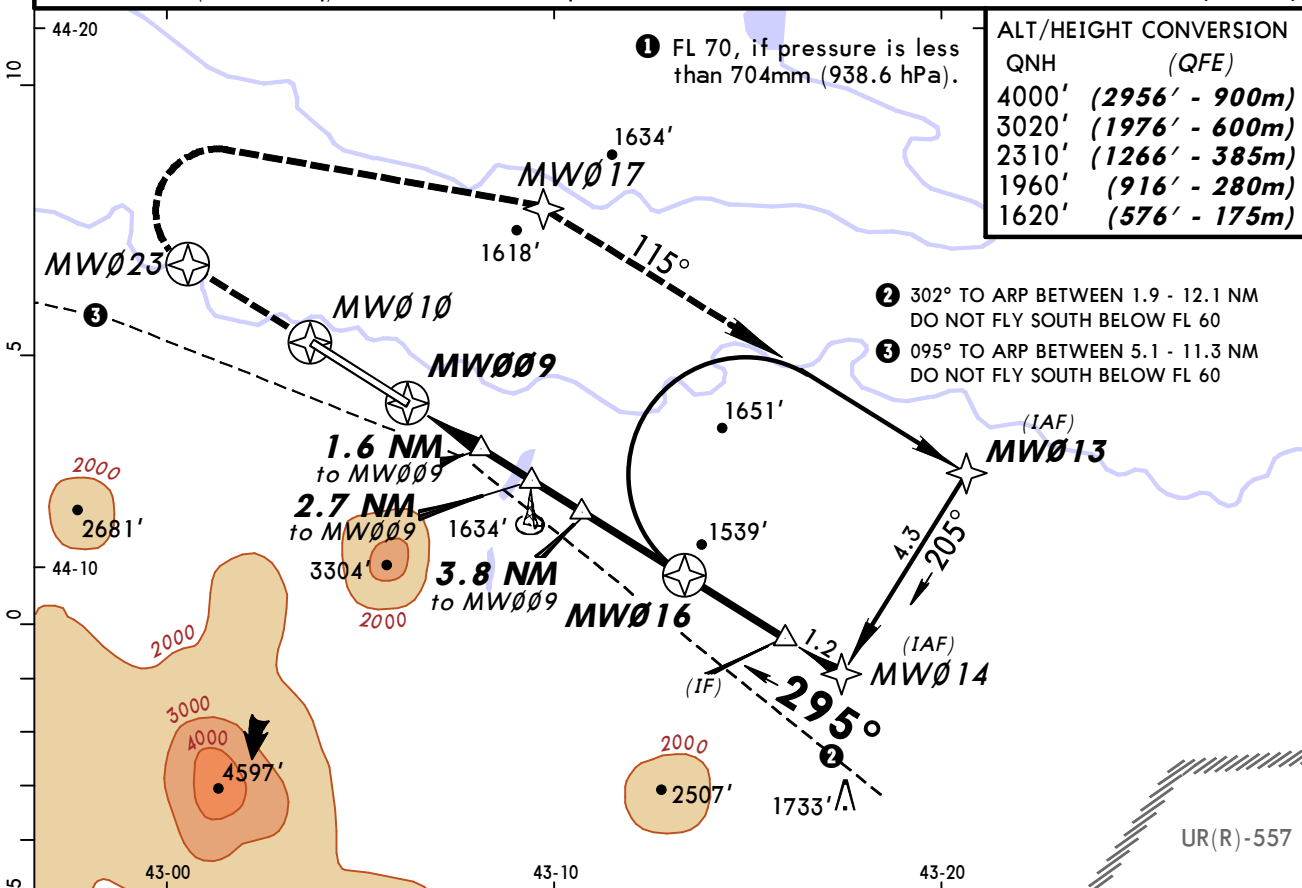
MDA(H) 1480' (443')

ALS out

A	RVR 720m VIS 800m	RVR 1500m VIS 1600m
B		
C	1200m	RVR 1800m VIS 2000m
D	RVR 1500m VIS 1600m	2400m

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' RWY 1044'
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		ALS out	
MDA(H) 1460' (416')			
A	RVR 720m VIS 800m	RVR 1500m VIS 1600m	
B			
C	1200m	RVR 1800m VIS 2000m	
D	RVR 1500m VIS 1600m		

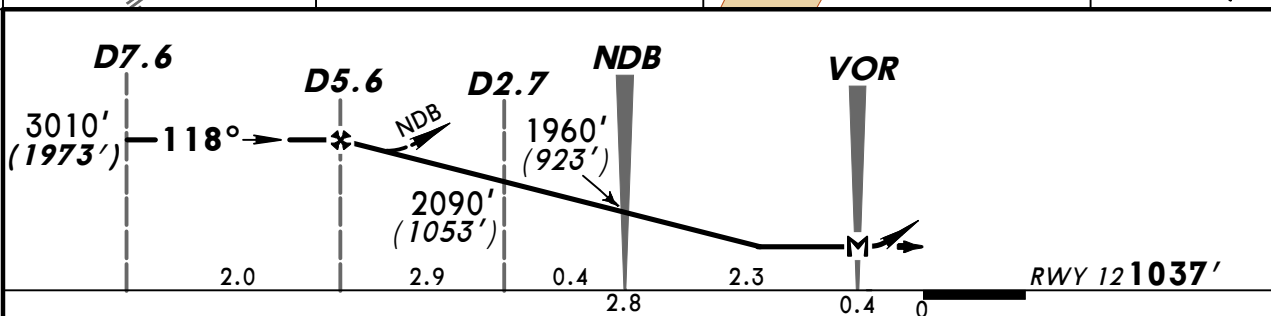
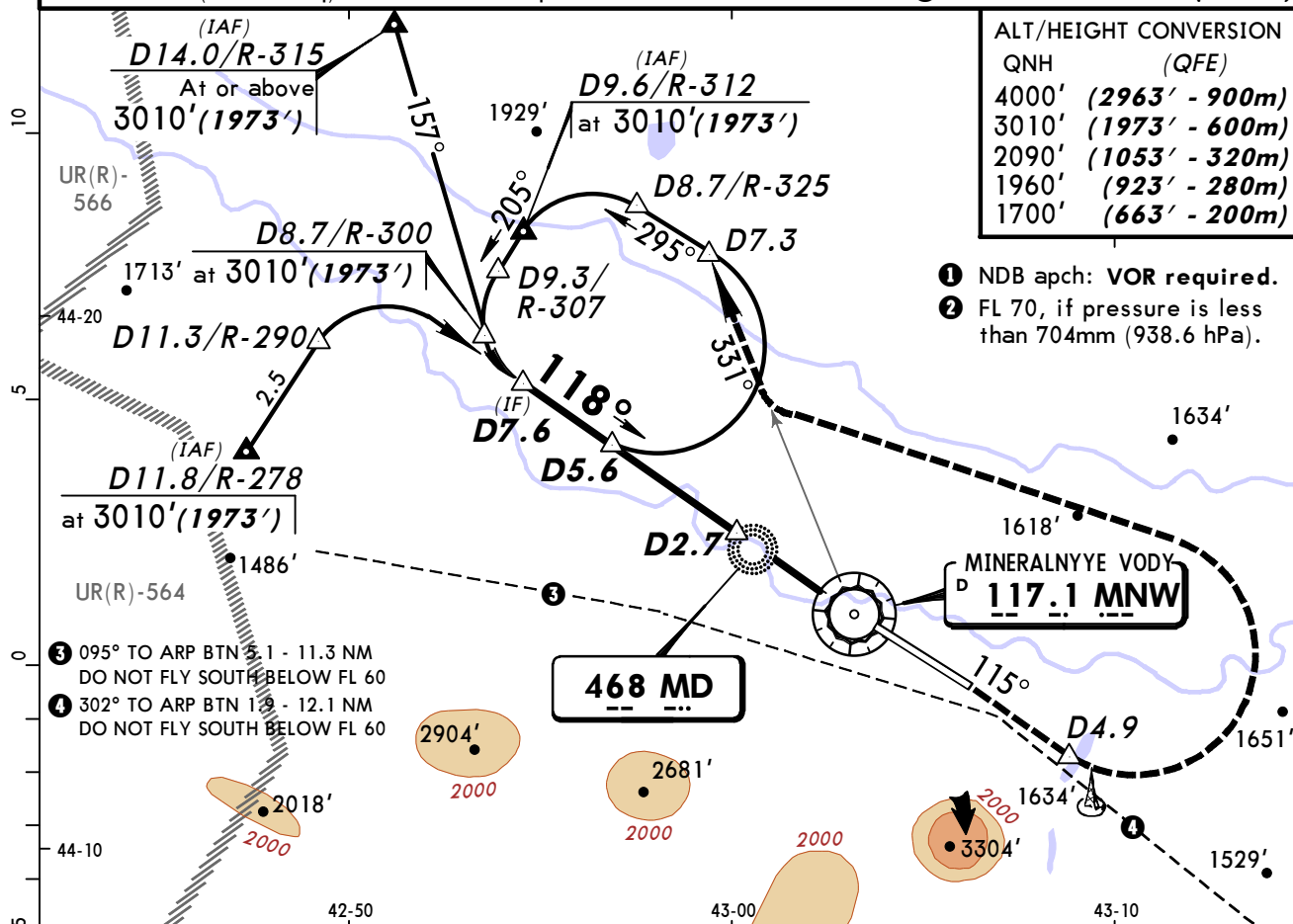
URMM/MRV JEPPESEN MINERALNYYE VODY, RUSSIA

MINERALNYYE VODY 30 DEC 11 13-1 Eff 12 Jan VOR DME or NDB Rwy 12

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 Aptch Crs 118°	Minimum Alt D5.6 3010' (1973')	VOR MDA(H) 1480' (443') Apt Elev 1047' NDB MDA(H) 2900' (1863') RWY 1037'	
NDB MD 468				MSA MNW VOR

MISSED APCH: Climb on 115° to D4.9, then turn LEFT to intercept R-331 climbing to 3010' (1973'), then as directed.

Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: FL 60 ② Trans alt: 4000' (2963')



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

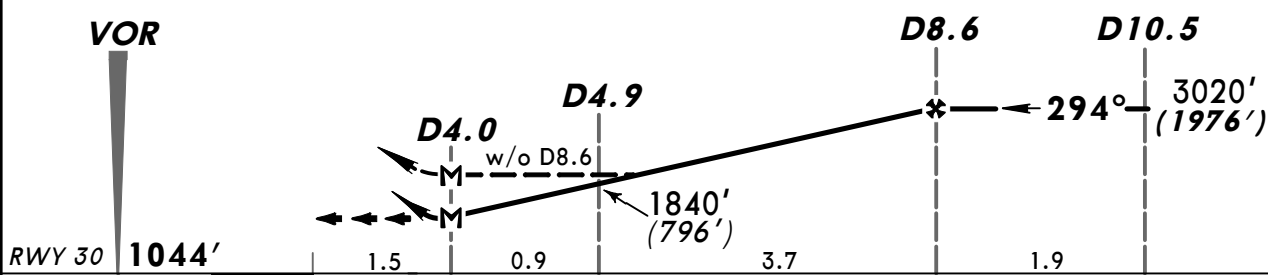
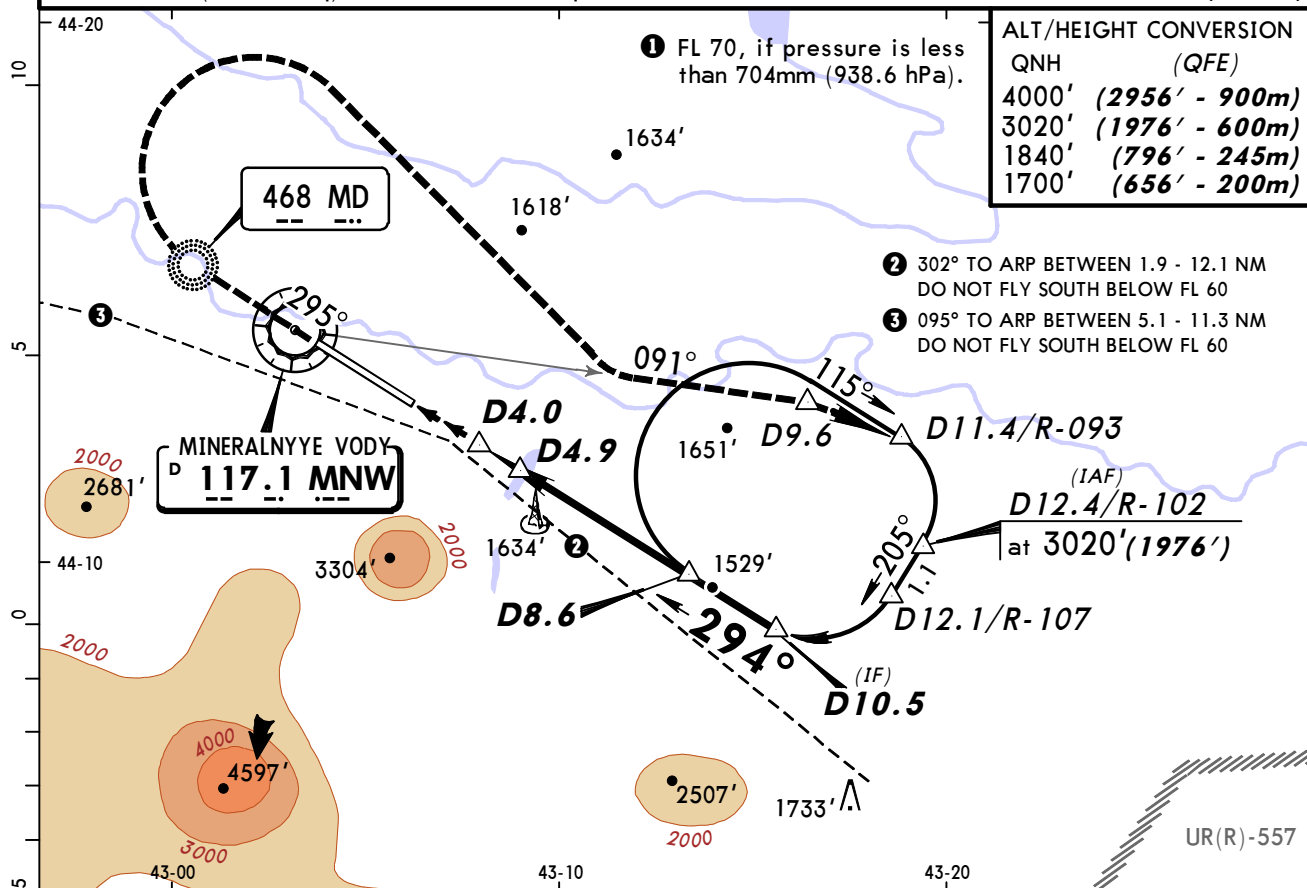
STRAIGHT-IN LANDING RWY 12			
VOR		NDB	
MDA(H) 1480' (443')		MDA(H) 2900' (1863')	
ALS out		ALS out	
A	RVR 720m VIS 800m	RVR 1500m VIS 1600m	3200m
B			
C	1200m	RVR 1800m VIS 2000m	4400m 4800m
D	RVR 1500m VIS 1600m	2400m	

CHANGES: NDB approach added. Missed approach.

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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 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')



Gnd speed-Kts	70	90	100	120	140	160	HIALS PAPI
Descent angle 3.00°	372	478	531	637	743	849	
MAP at D4.0							

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	

MINERALNYYE VODY, (MINERALNYYE VODY - URMM)

TERMINAL CHART CHANGE NOTICES

No Chart Change Notices for Airport URMM