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Airport Information For URMM
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Revision Letter For Cycle 08-2012
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Notebook

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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: 0217 Z
Sunset: 1557 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

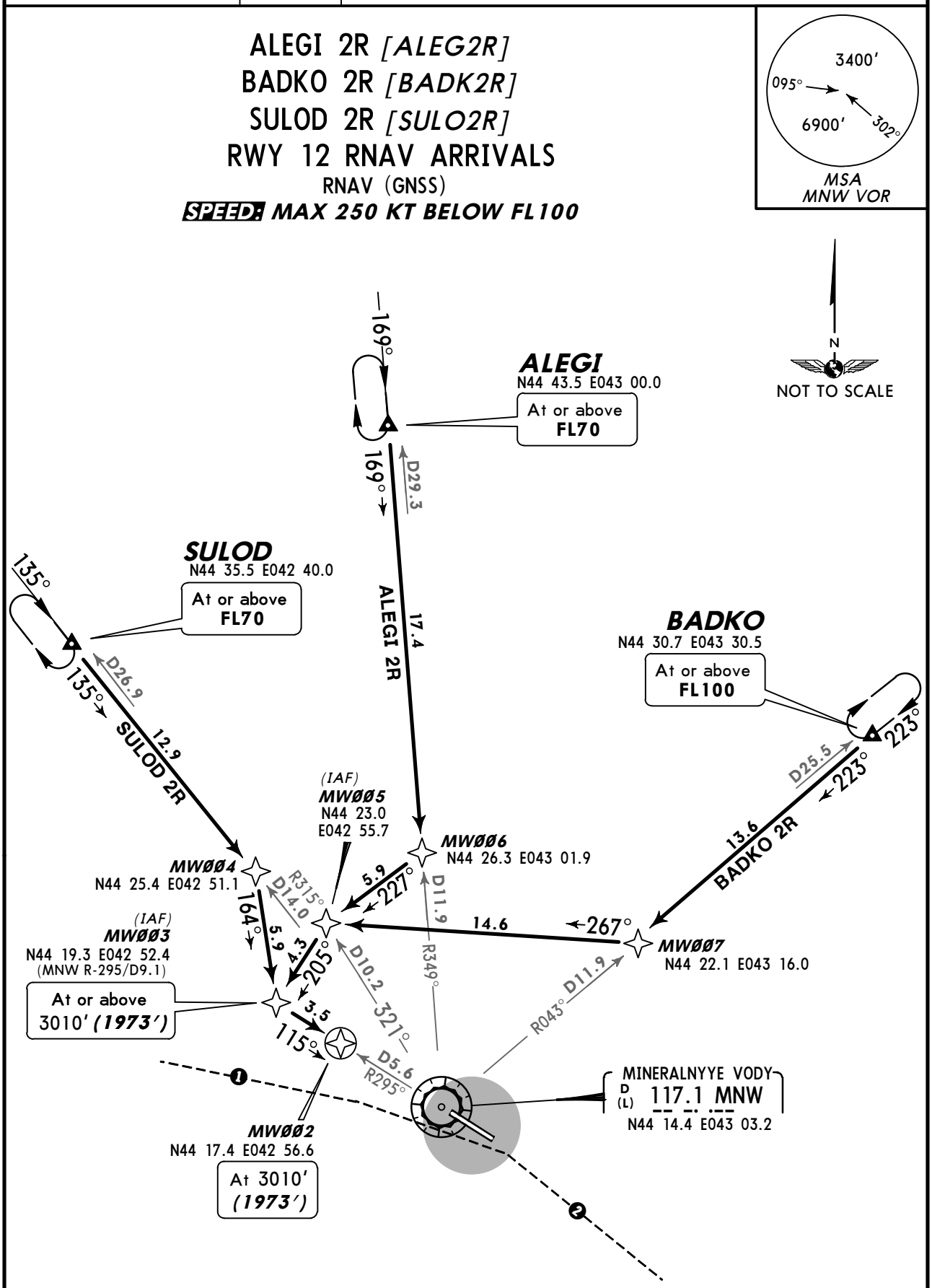
ATIS 127.4 Non-English
ATIS 125.25
Mineralnyye Vody Start Tower 128.0
Mineralnyye Vody Taxiing Ground Control 121.9
Mineralnyye Vody Approach Control 119.3
Mineralnyye Vody Krug Radar 120.7
Mineralnyye Vody Transit Operations 118.0

ATIS	Apt Elev	
125.25 (Russian 127.4)	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



❶ 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
❷ 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)***

CHANGES: RNAV STARs established; STARS transferred.

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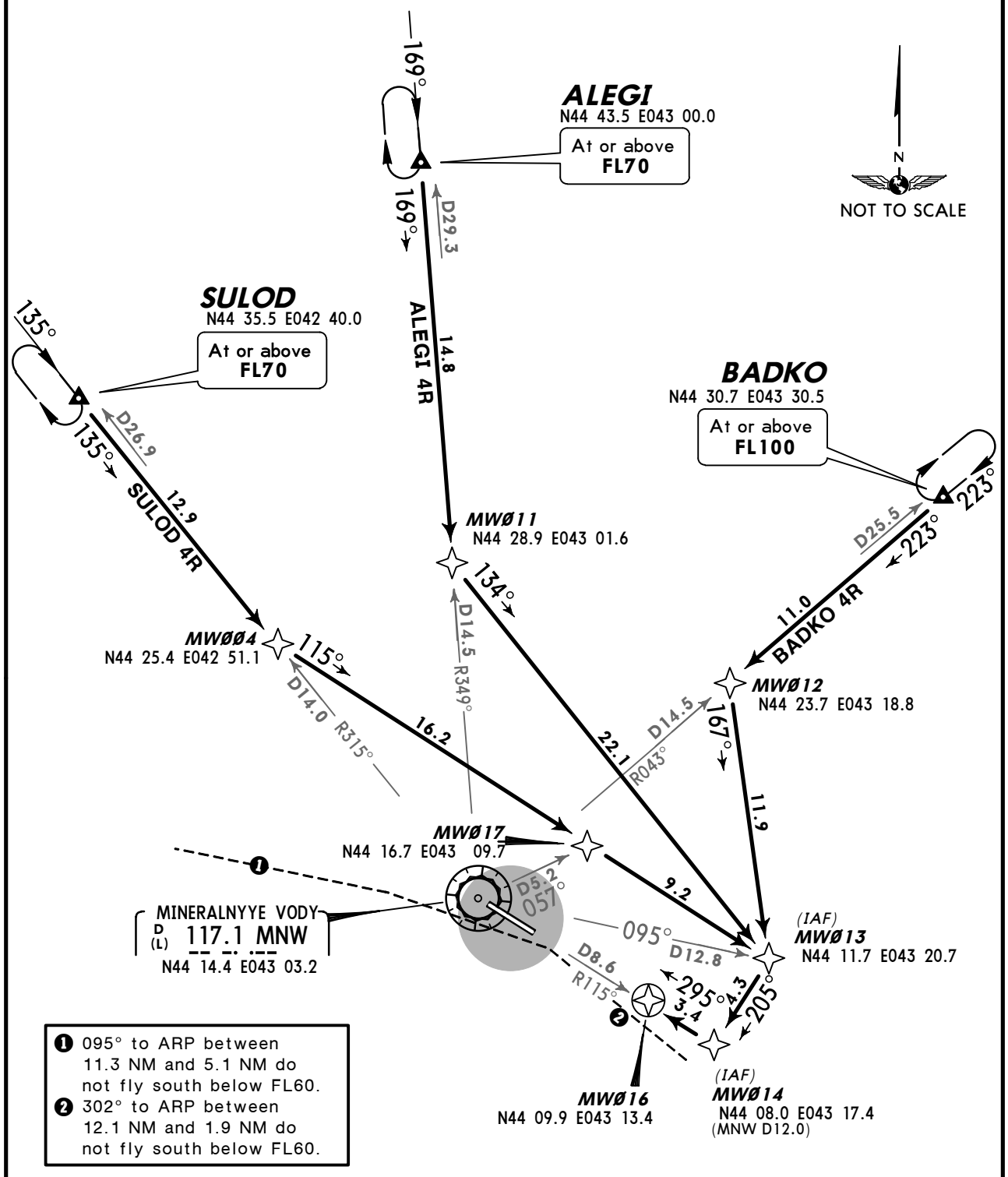
ATIS	Apt Elev	
125.25 (Russian 127.4)	1047′	Alt Set: MM (hPa on request) QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704mm (938.6 hPa) Trans alt: 4000′ ***(2956′)***

ALEGI 4R *[ALEG4R]*
BADKO 4R *[BADK4R]*
SULOD 4R *[SULO4R]*
RWY 30 RNAV ARRIVALS

RNAV (GNSS)

SPEED: MAX 250 KT BELOW FL100



❶ 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
❷ 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)***

CHANGES: RNAV STARs established; STARS transferred.

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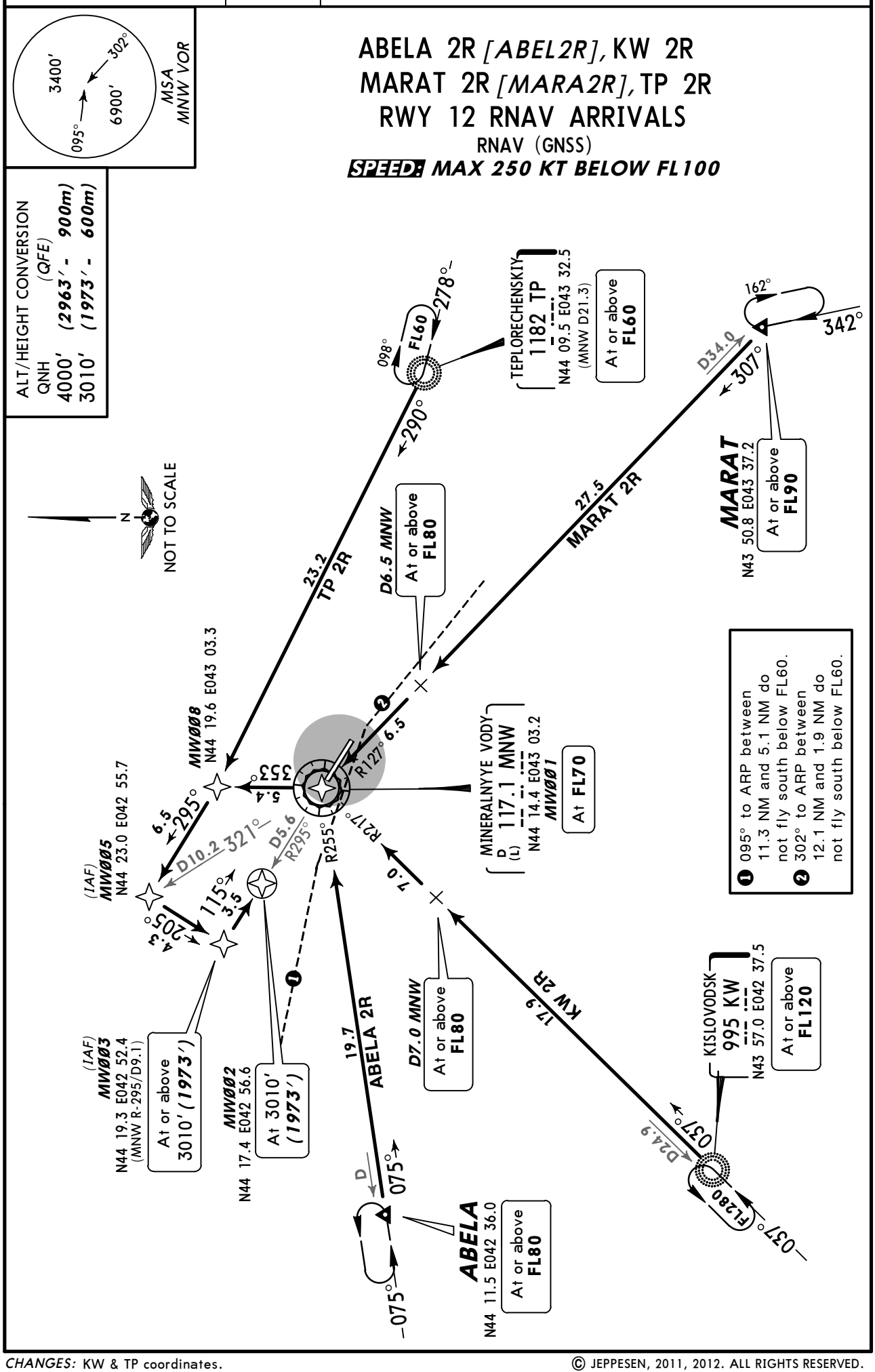
ATIS	Apt Elev	
125.25 (Russian 127.4)	1047′	Alt Set: MM (hPa on request) QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704mm (938.6 hPa) Trans alt: 4000′ ***(2963′)***

ABELA 2R *[ABEL2R]*, KW 2R
MARAT 2R *[MARA2R]*, TP 2R
RWY 12 RNAV ARRIVALS

RNAV (GNSS)

SPEED: *MAX 250 KT BELOW FL100*



CHANGES: KW & TP coordinates.

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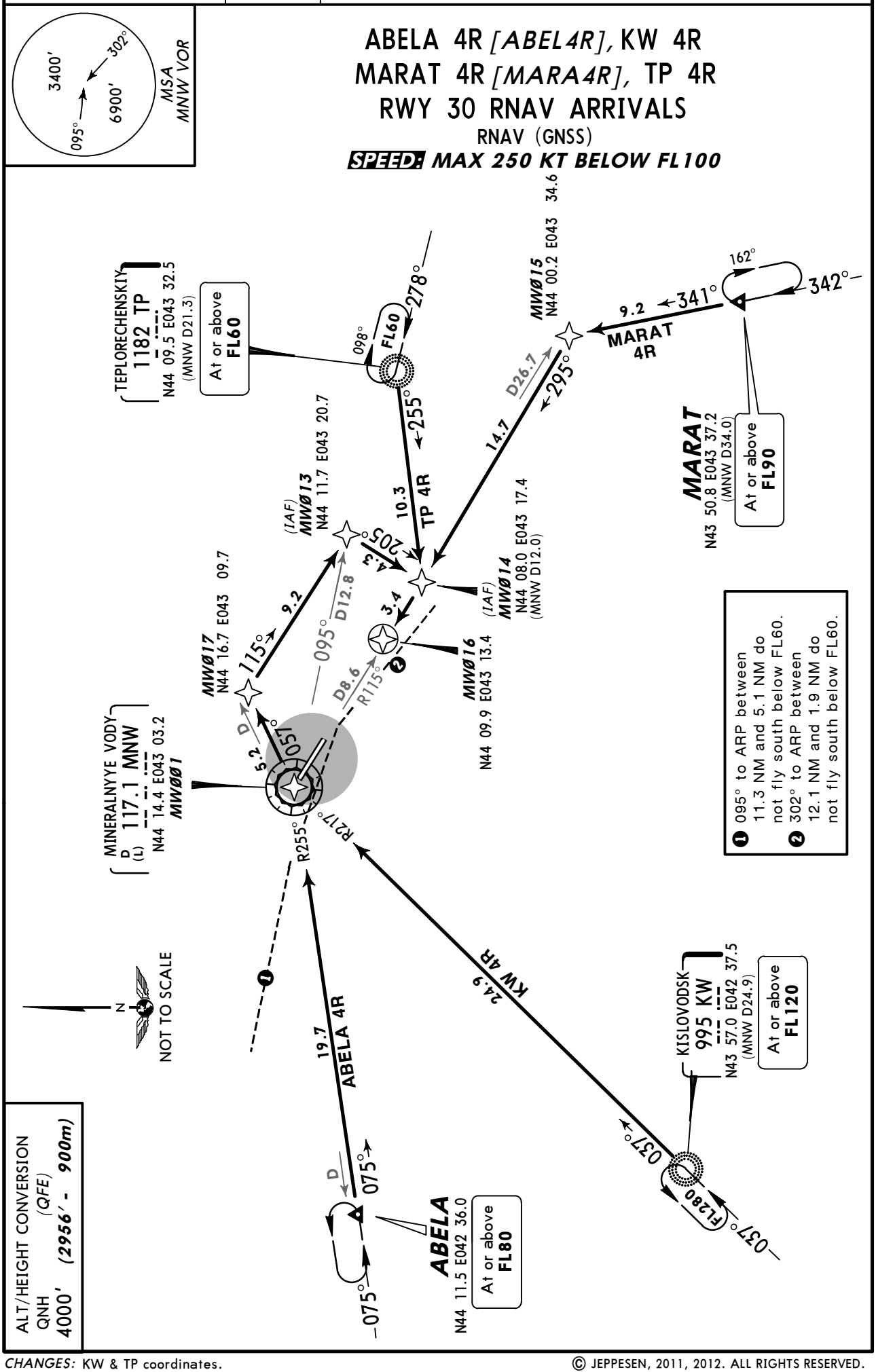
ATIS	Apt Elev	
125.25 (Russian 127.4)	1047′	Alt Set: MM (hPa on request) QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704mm (938.6 hPa) Trans alt: 4000′ ***(2956′)***

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

RNAV (GNSS)

SPEED: MAX 250 KT BELOW FL100



CHANGES: KW & TP coordinates.

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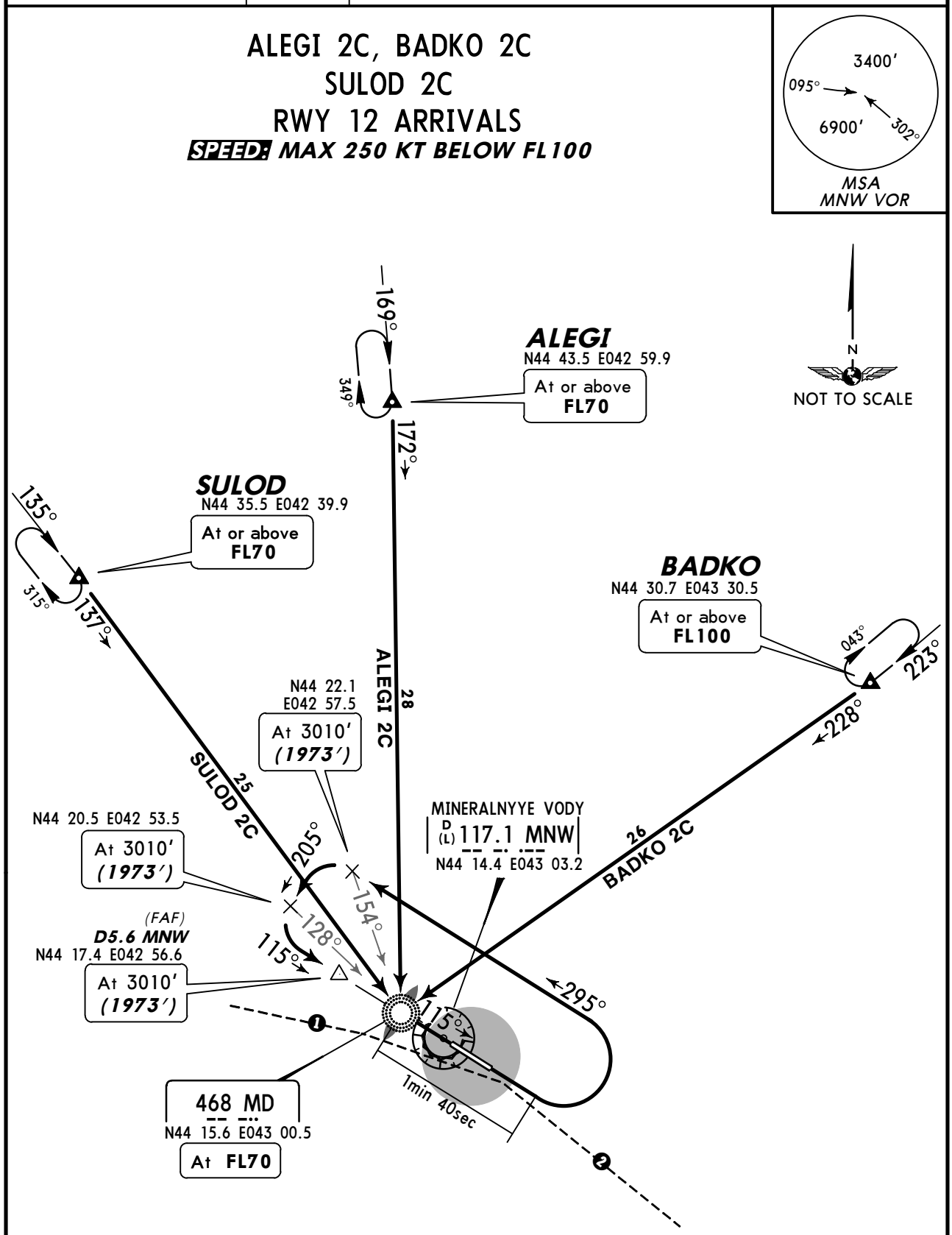
ATIS	Apt Elev	
125.25 (Russian 127.4)	1047′	Alt Set: MM (hPa on request) QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704mm (938.6 hPa) Trans alt: 4000′ ***(2963′)***

ALEGI 2C, BADKO 2C
SULOD 2C
RWY 12 ARRIVALS

SPEED: MAX 250 KT BELOW FL100



❶ 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
❷ 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)***

CHANGES: New chart.

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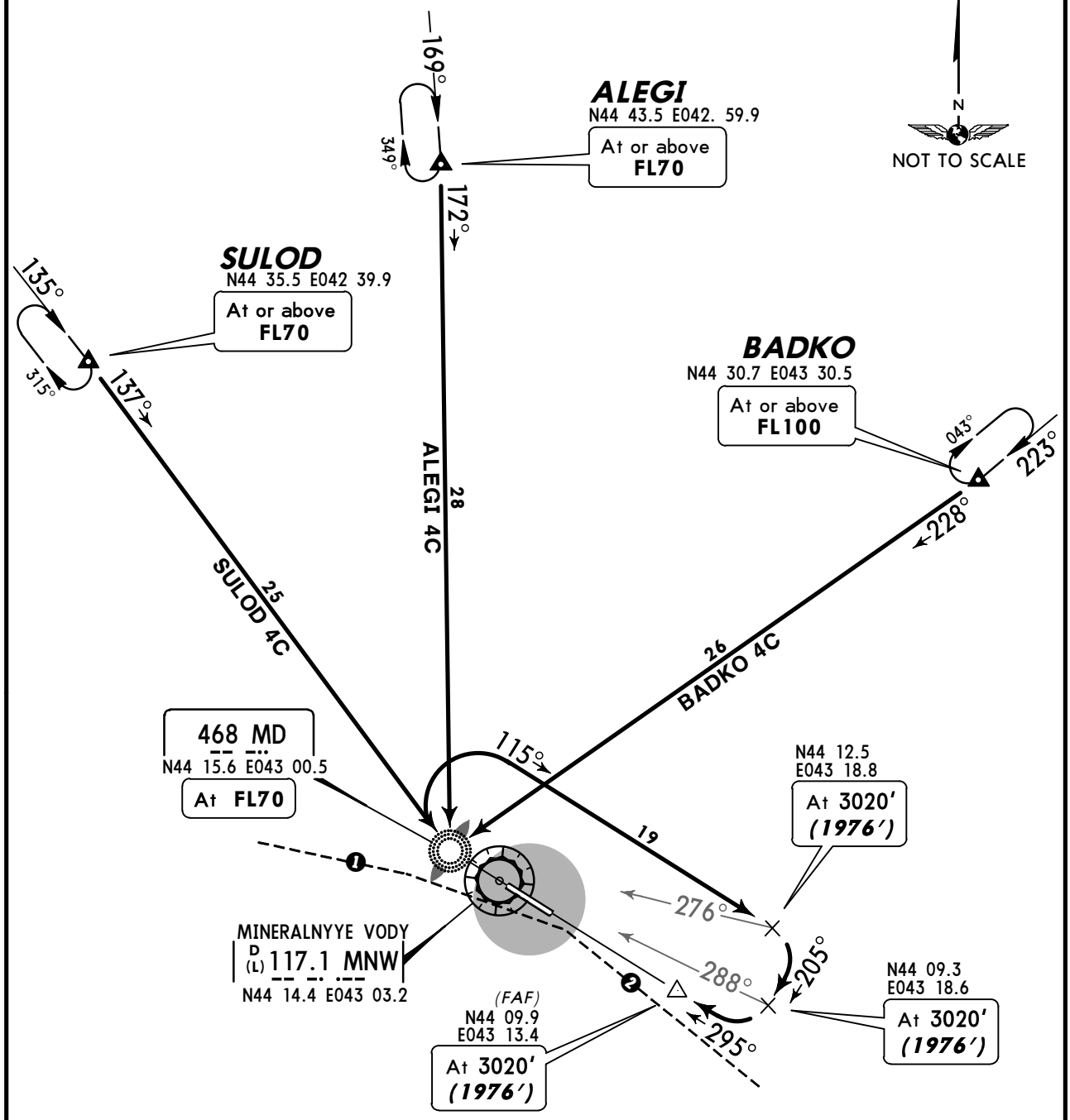
ATIS	Apt Elev	
125.25 (Russian 127.4)	1047′	Alt Set: MM (hPa on request) QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704mm (938.6 hPa) Trans alt: 4000′ ***(2956′)***

ALEGI 4C, BADKO 4C
SULOD 4C
RWY 30 ARRIVALS

SPEED: MAX 250 KT BELOW FL100



❶ 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
❷ 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)***

CHANGES: New chart.

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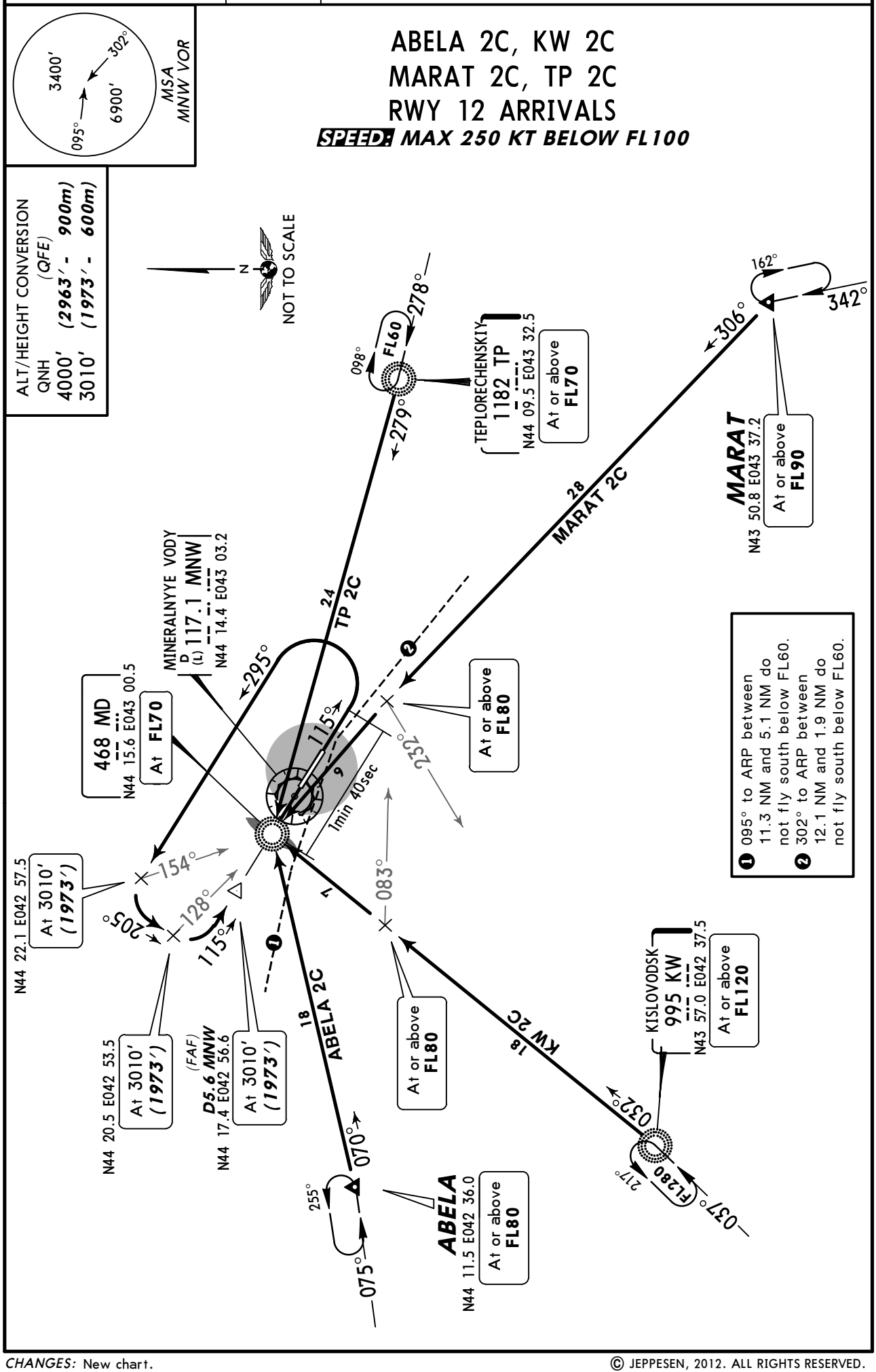
ATIS	Apt Elev	
125.25 (Russian 127.4)	1047′	Alt Set: MM (hPa on request) QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704mm (938.6 hPa) Trans alt: 4000′ ***(2963′)***

ABELA 2C, KW 2C
MARAT 2C, TP 2C
RWY 12 ARRIVALS

SPEED: MAX 250 KT BELOW FL100



CHANGES: New chart.

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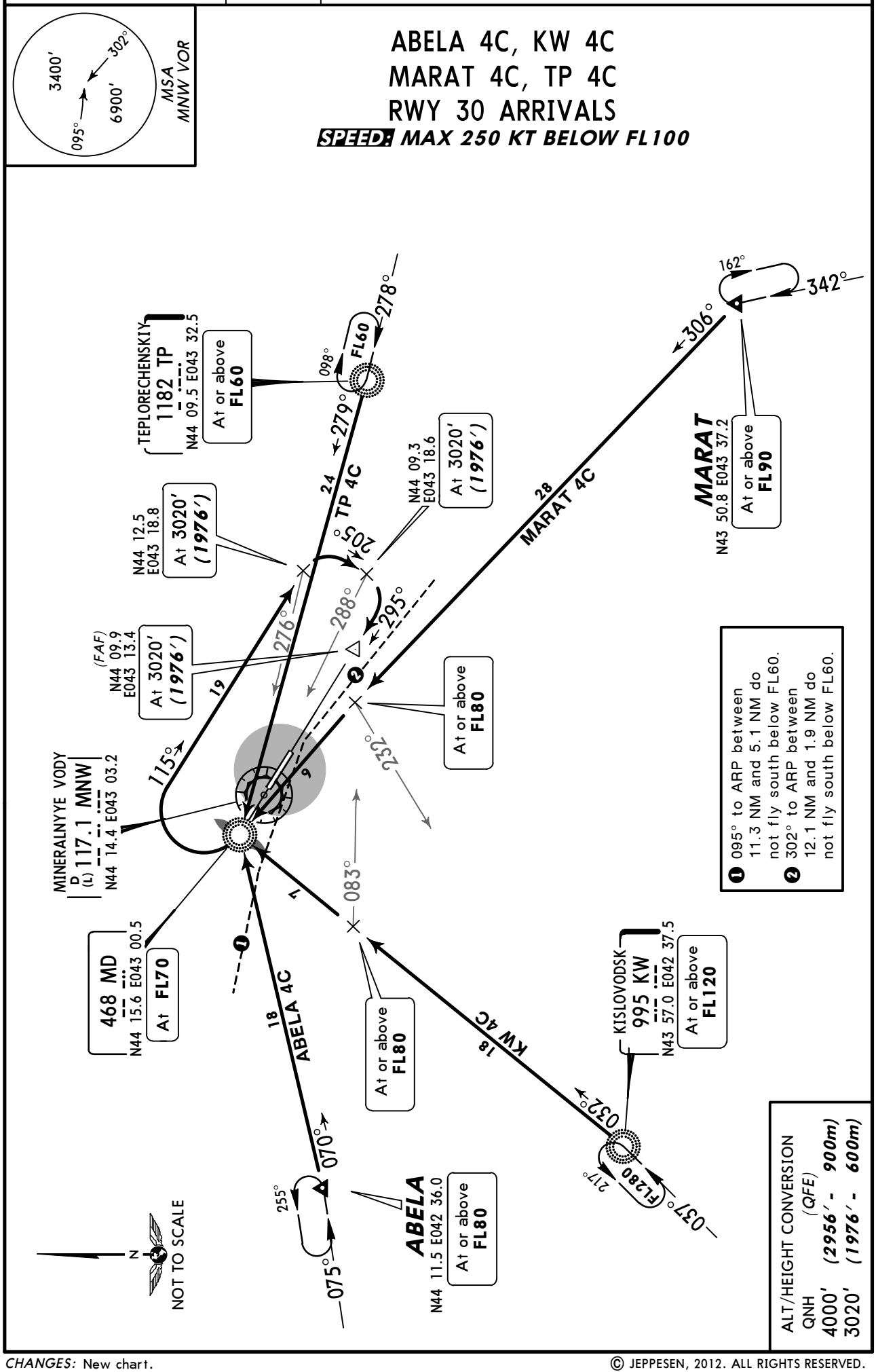
ATIS	Apt Elev	
125.25 (Russian 127.4)	1047′	Alt Set: MM (hPa on request) QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704mm (938.6 hPa) Trans alt: 4000′ ***(2956′)***



CHANGES: New chart.

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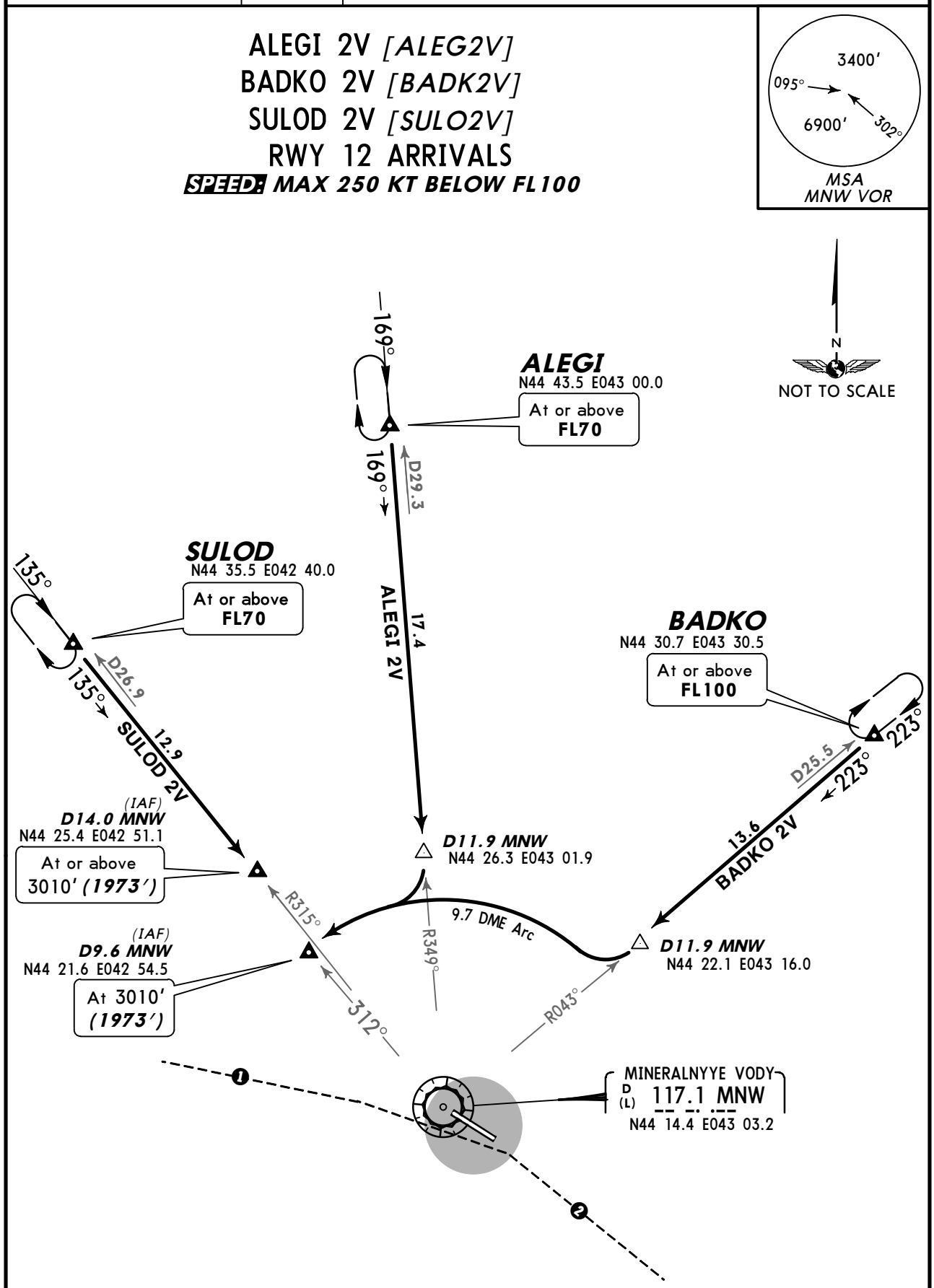
ATIS	Apt Elev	
125.25 (Russian 127.4)	1047′	Alt Set: MM (hPa on request) QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704mm (938.6 hPa) Trans alt: 4000′ ***(2963′)***

ALEGI 2V *[ALEG2V]*
BADKO 2V *[BADK2V]*
SULOD 2V *[SULO2V]*
RWY 12 ARRIVALS

SPEED: MAX 250 KT BELOW FL100



❶ 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
❷ 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)***

CHANGES: New chart.

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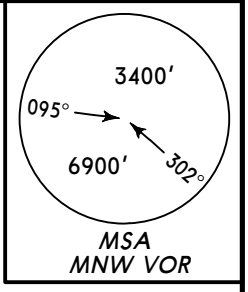
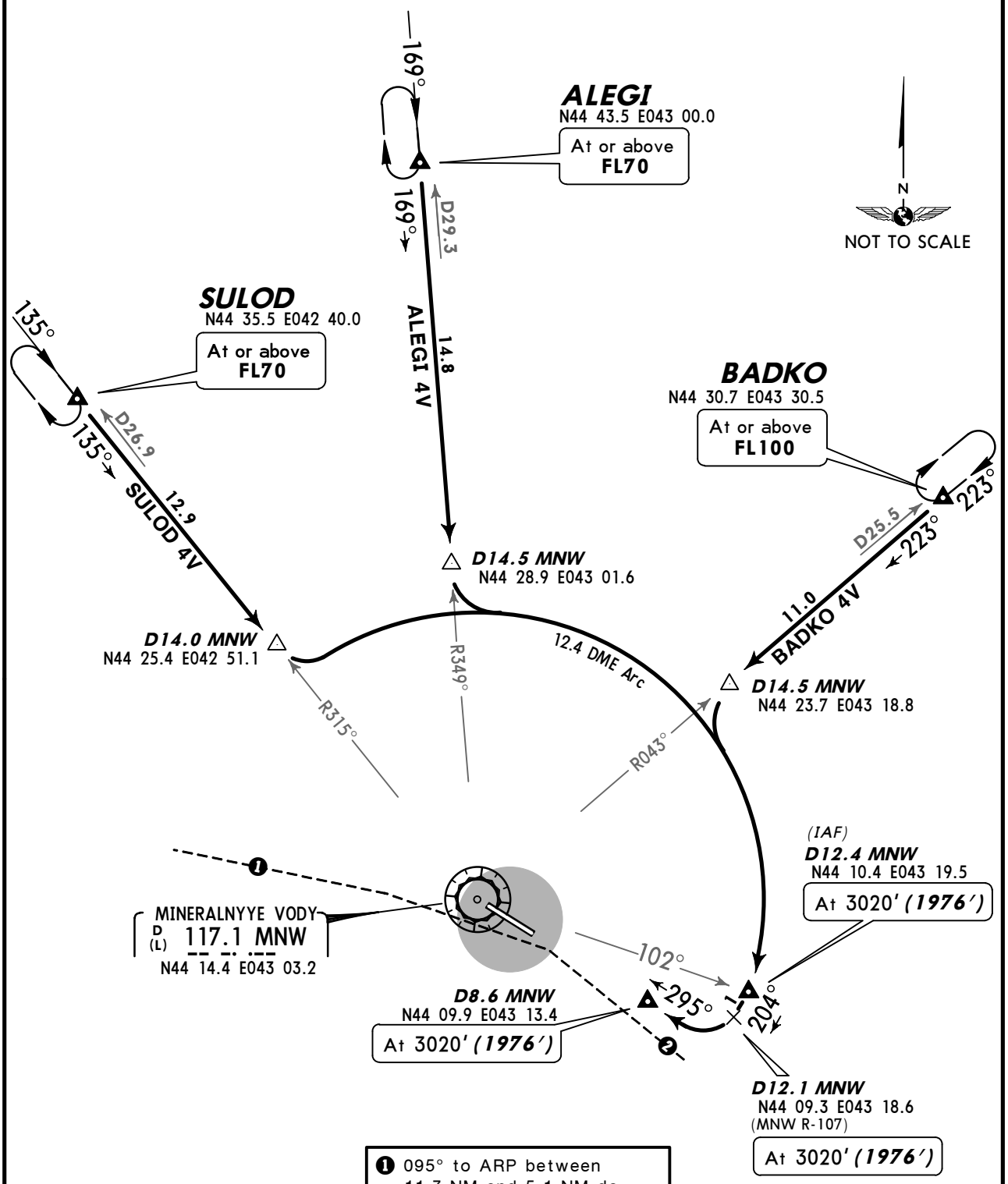
ATIS	Apt Elev	
125.25 (Russian 127.4)	1047′	Alt Set: MM (hPa on request) QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704mm (938.6 hPa) Trans alt: 4000′ ***(2956′)***

ALEGI 4V *[ALEG4V]*
BADKO 4V *[BADK4V]*
SULOD 4V *[SULO4V]*
RWY 30 ARRIVALS

SPEED: MAX 250 KT BELOW FL100





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❷ 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)***

CHANGES: New chart.

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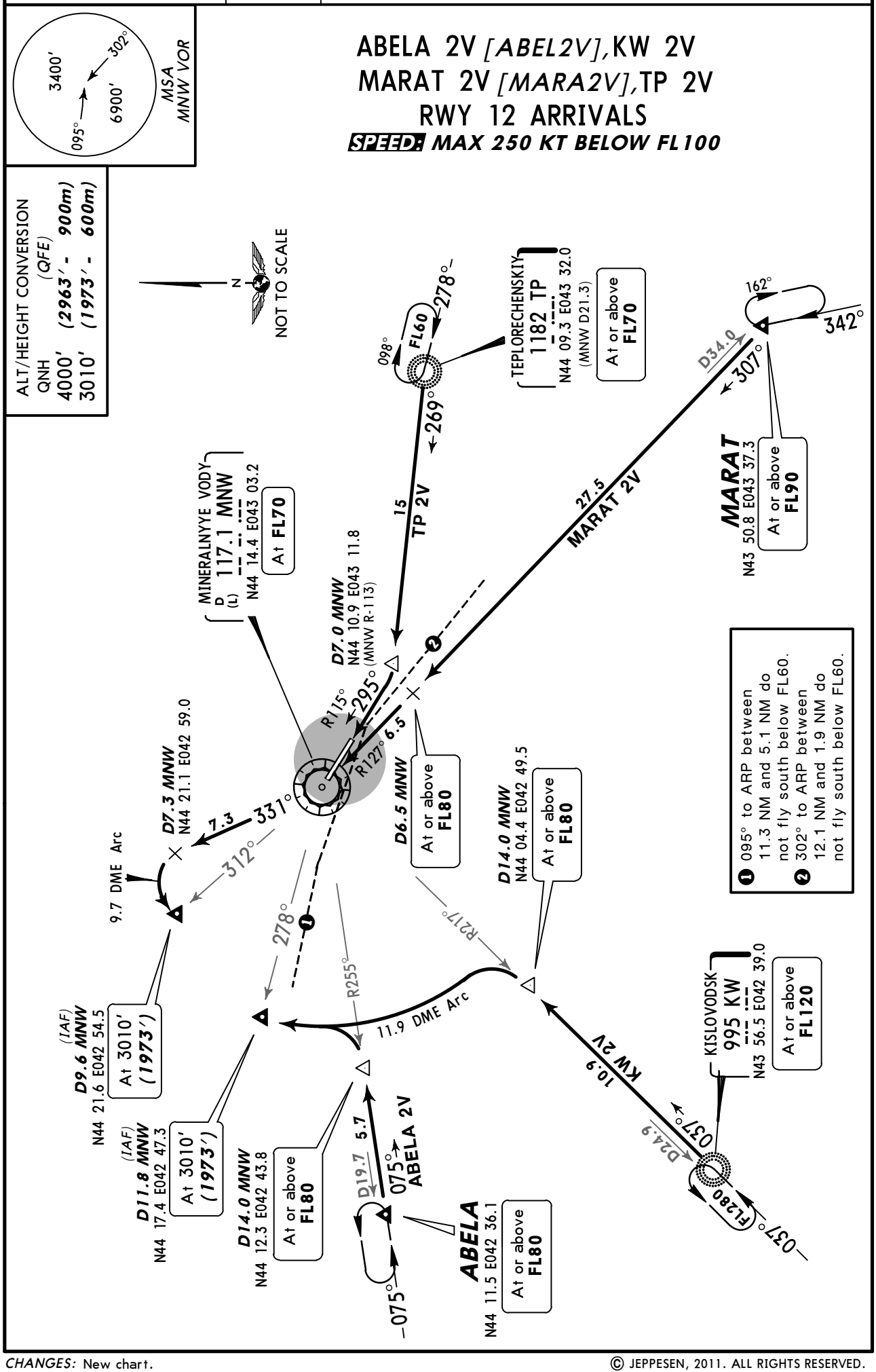
ATIS	Apt Elev	
125.25 (Russian 127.4)	1047′	Alt Set: MM (hPa on request) QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704mm (938.6 hPa) Trans alt: 4000′ ***(2963′)***

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

SPEED: MAX 250 KT BELOW FL100



CHANGES: New chart.

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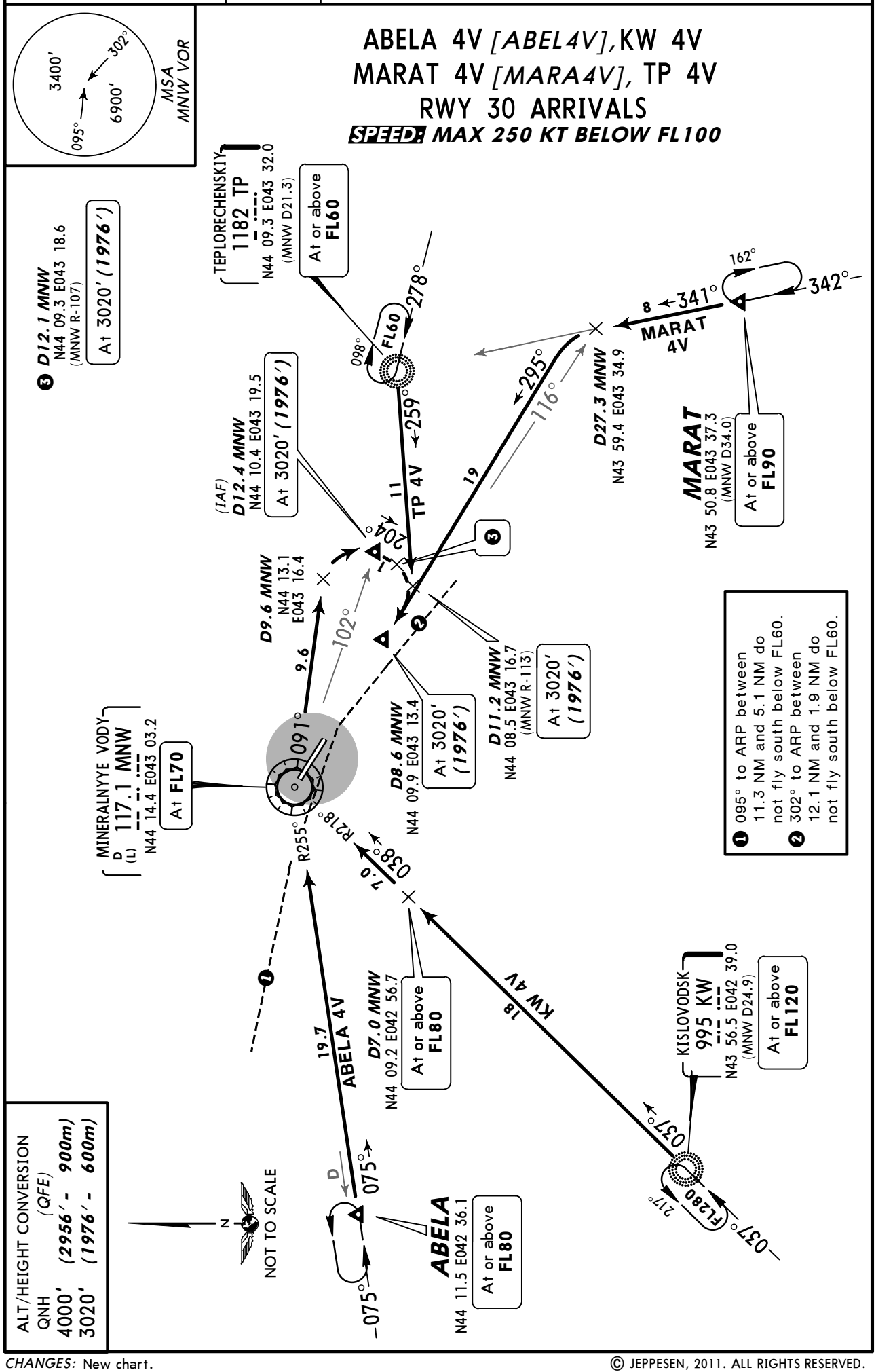
ATIS	Apt Elev	
125.25 (Russian 127.4)	1047′	Alt Set: MM (hPa on request) QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704mm (938.6 hPa) Trans alt: 4000′ ***(2956′)***

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

SPEED: MAX 250 KT BELOW FL100



CHANGES: New chart.

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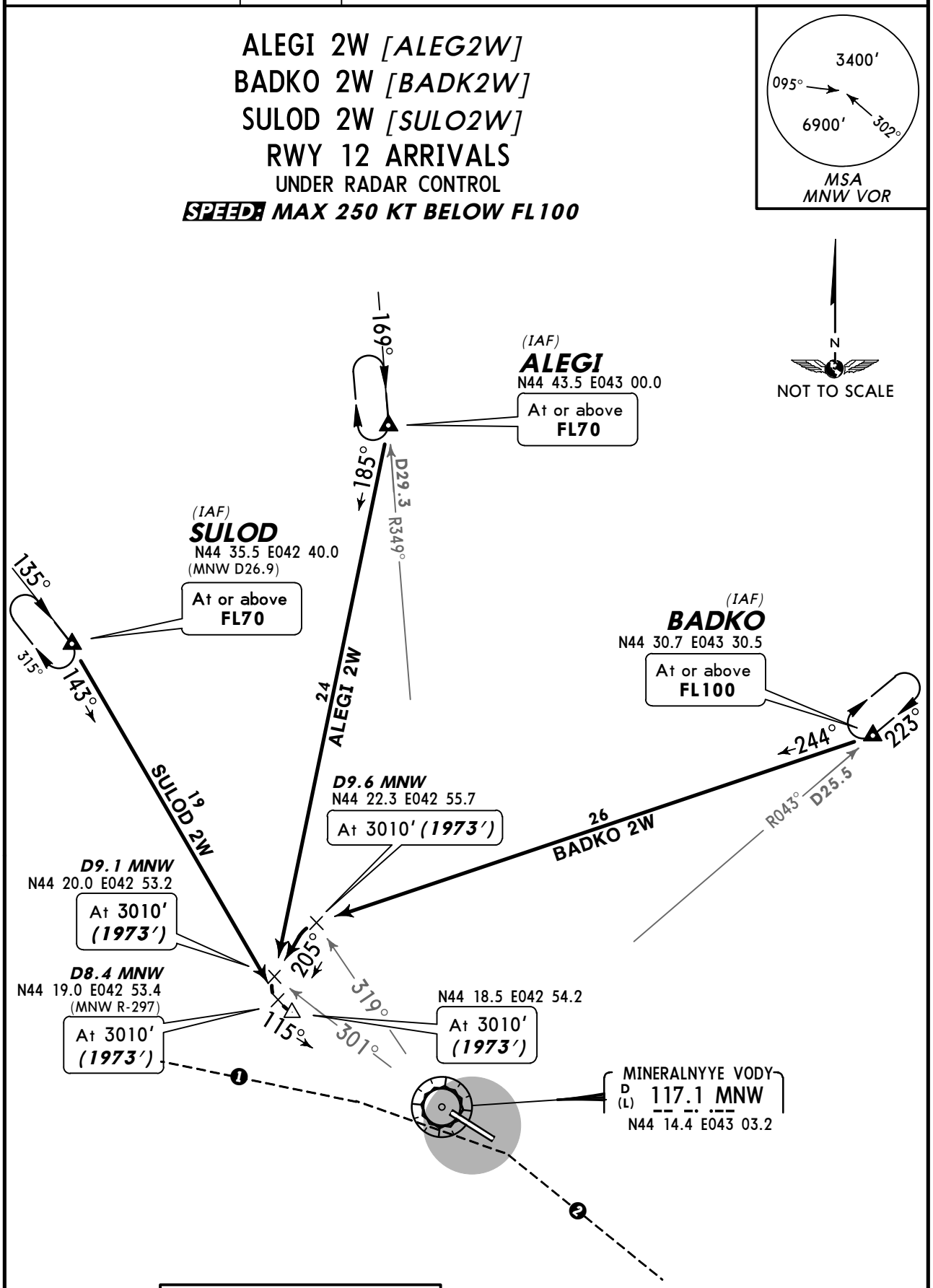
ATIS	Apt Elev	
125.25 (Russian 127.4)	1047′	Alt Set: MM (hPa on request) QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704mm (938.6 hPa) Trans alt: 4000′ ***(2963′)***

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)***

CHANGES: New chart.

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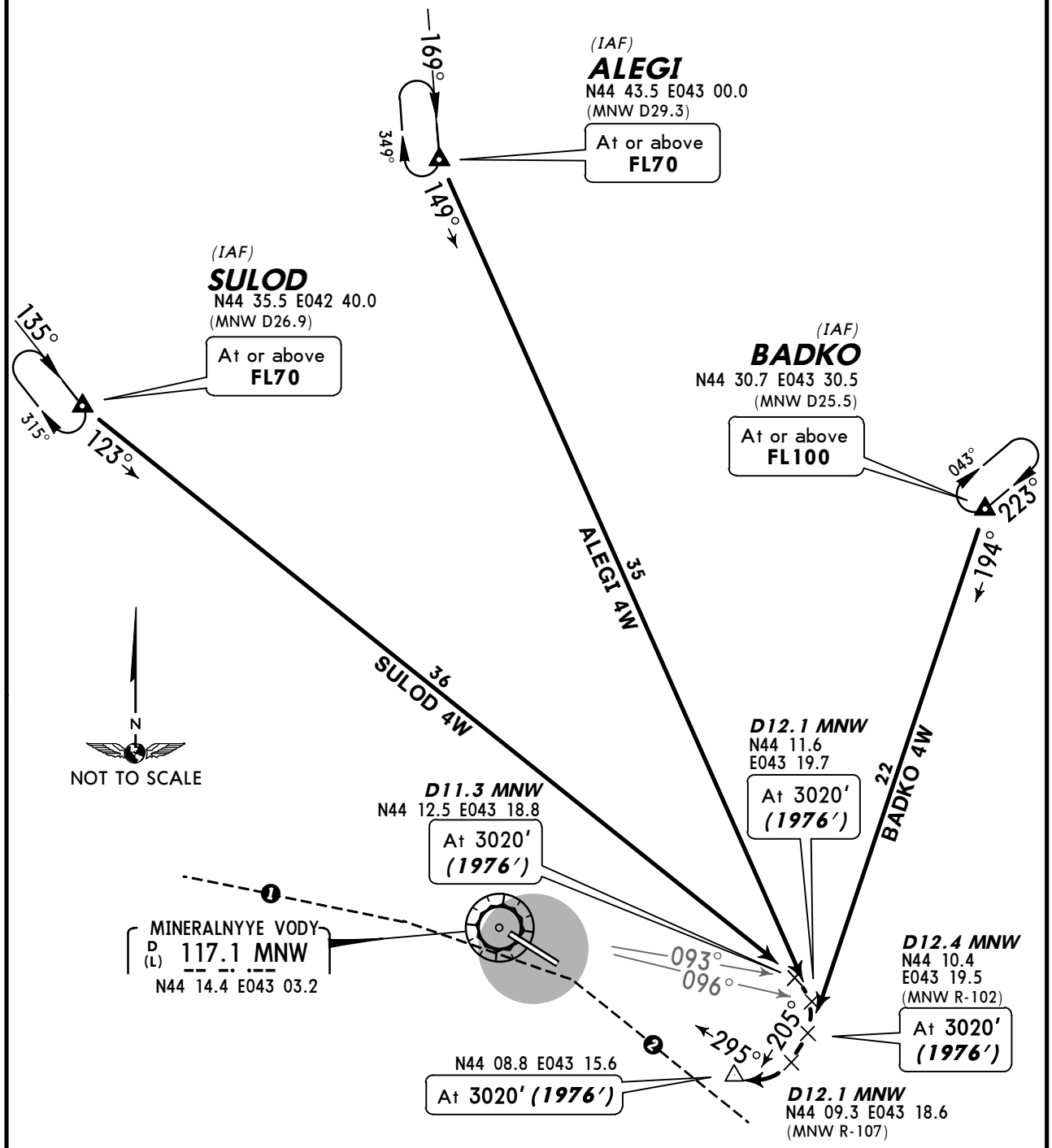
ATIS	Apt Elev	
125.25 (Russian 127.4)	1047′	Alt Set: MM (hPa on request) QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704mm (938.6 hPa) Trans alt: 4000′ ***(2956′)***

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



❶ 095° to ARP between 11.3 NM and 5.1 NM do not fly south below FL60.
❷ 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)***

CHANGES: New chart.

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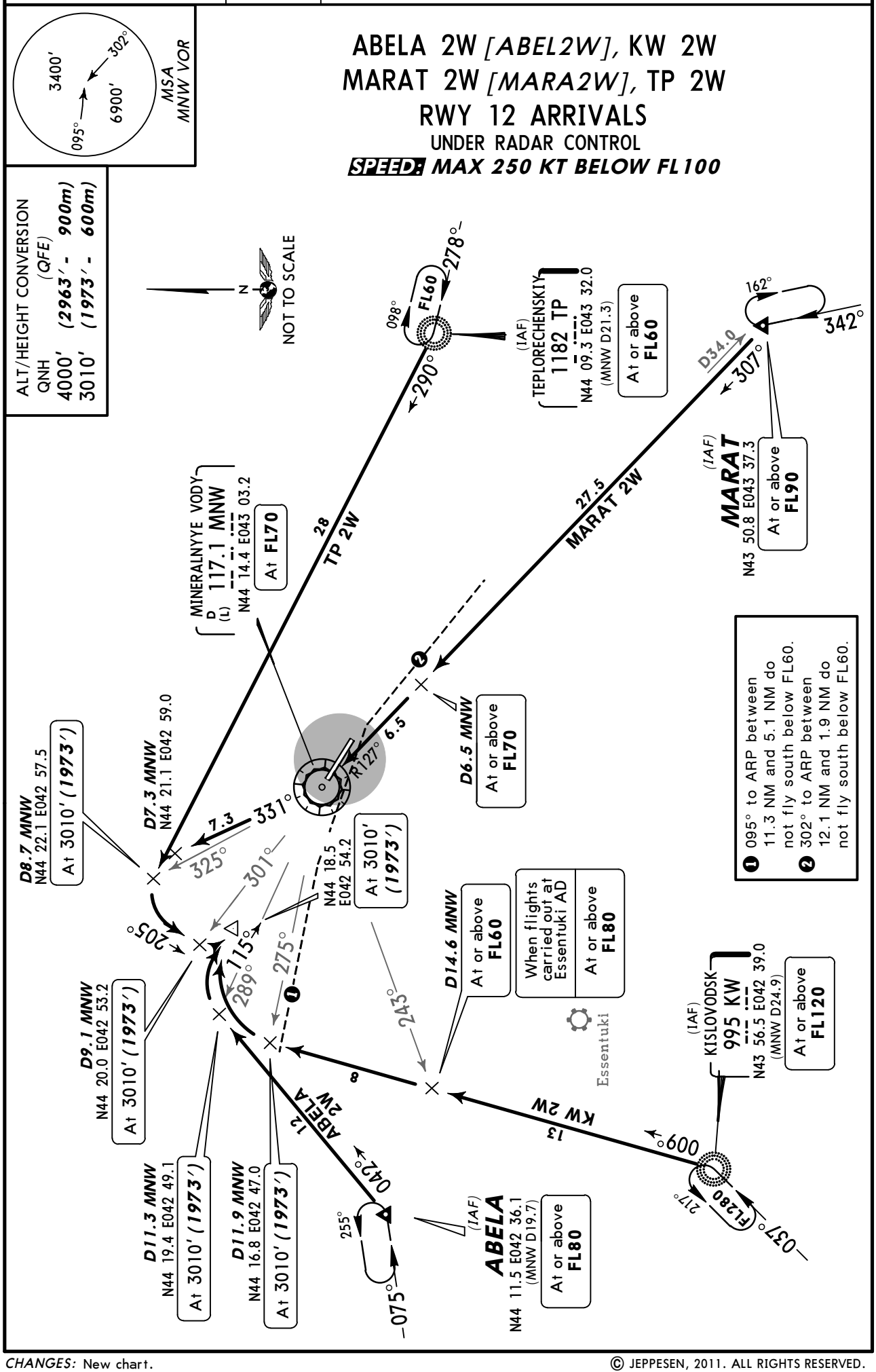
ATIS	Apt Elev	
125.25 (Russian 127.4)	1047′	Alt Set: MM (hPa on request) QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704mm (938.6 hPa) Trans alt: 4000′ ***(2963′)***

ABELA 2W *[ABEL2W]*, KW 2W
MARAT 2W *[MARA2W]*, TP 2W
RWY 12 ARRIVALS

UNDER RADAR CONTROL

SPEED: *MAX 250 KT BELOW FL100*



CHANGES: New chart.

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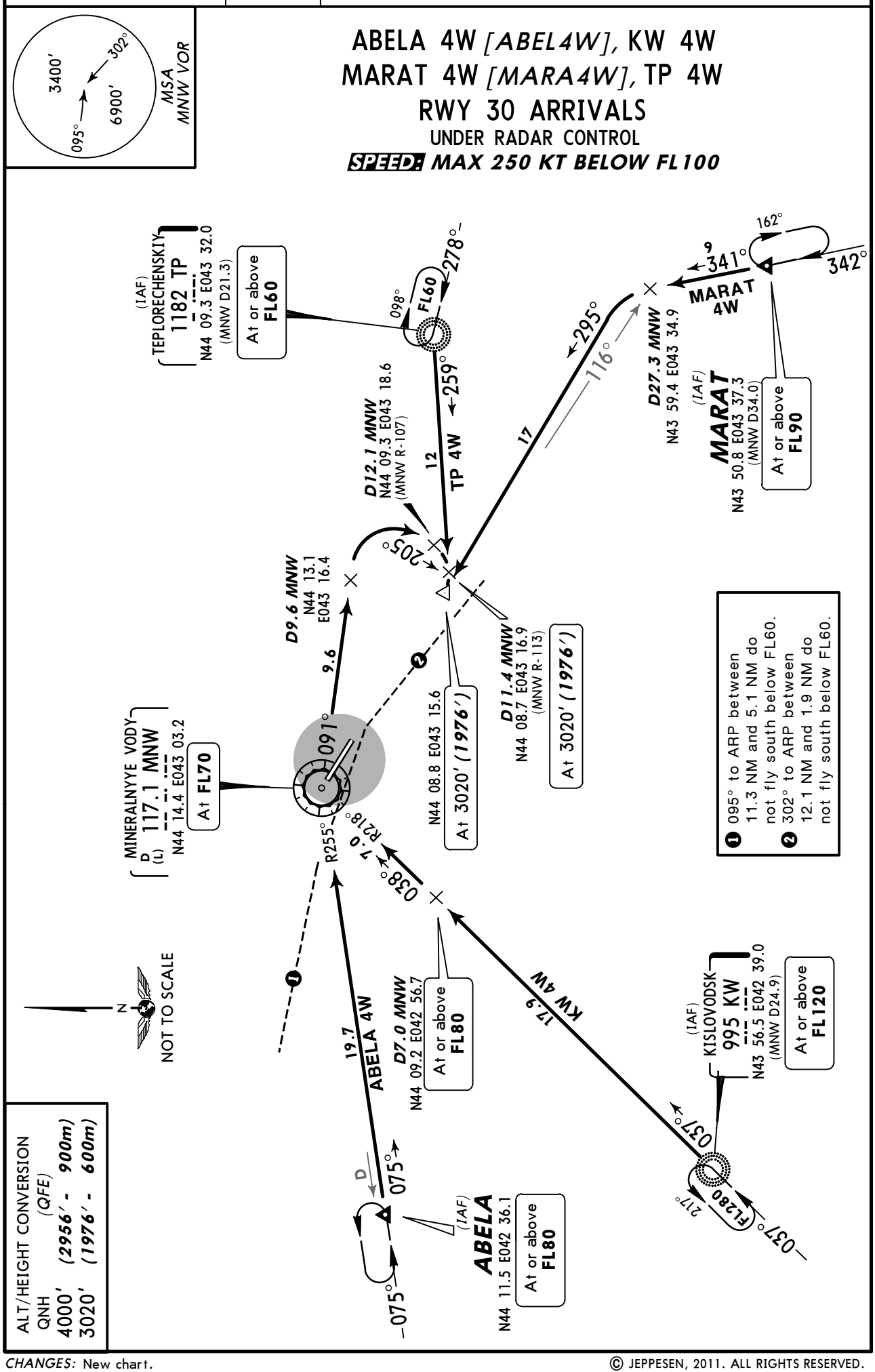
ATIS	Apt Elev	
125.25 (Russian 127.4)	1047′	Alt Set: MM (hPa on request) QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704mm (938.6 hPa) Trans alt: 4000′ ***(2956′)***

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 (QFE)

QNH	
4000′	***(2956′ - 900m)***
3020′	***(1976′ - 600m)***

CHANGES: New chart.

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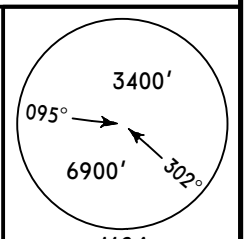
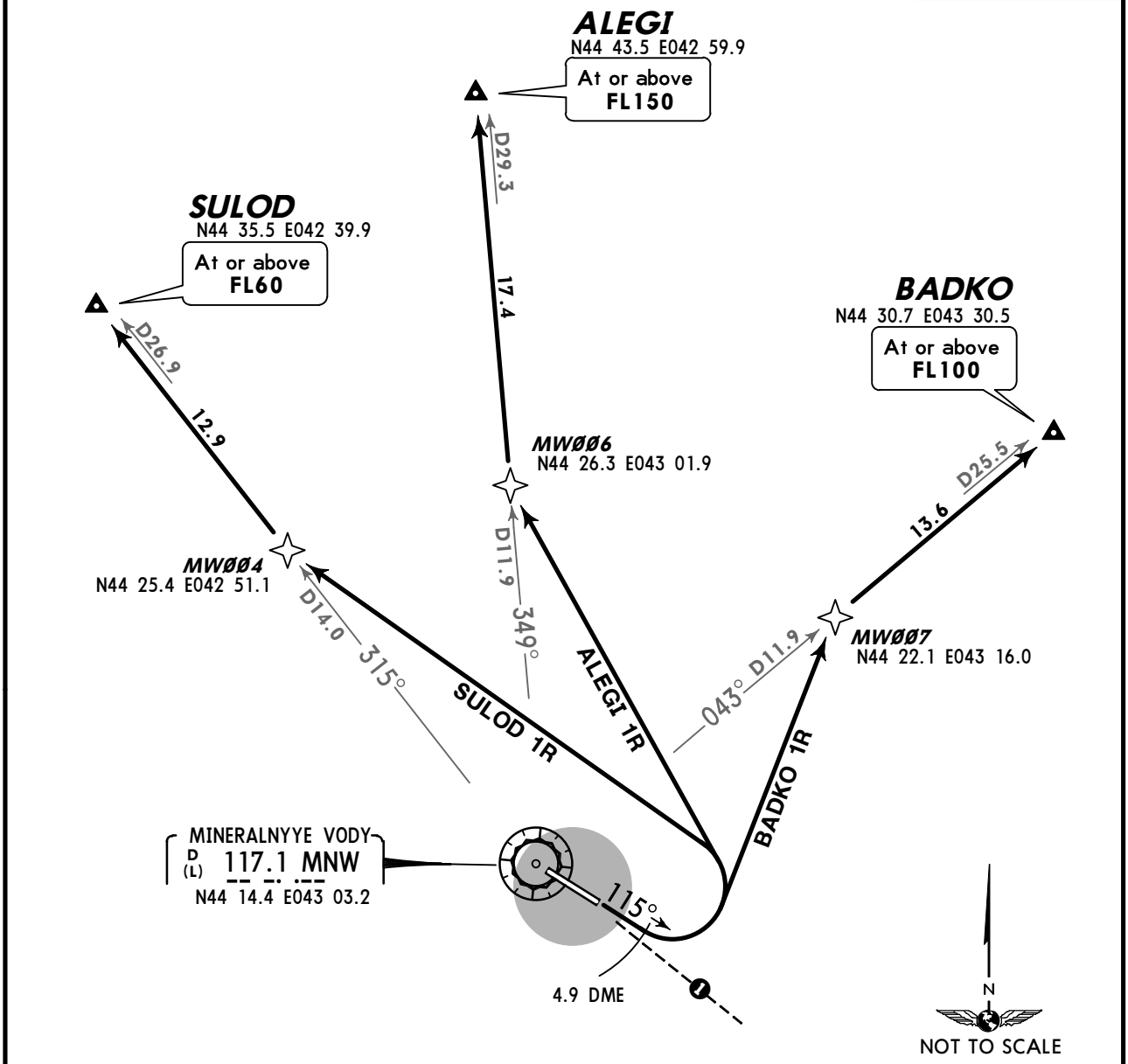
MINERALNYYE VODY Krug 120.7	Apt Elev 1047′	QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704 mm (938.6 hPa) Trans alt: 4000′ ***(2963′)*** 1. Contact MINERALNYYE VODY Krug immediately after crossing 1440′ (403′). 2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

ALEGI 1R
BADKO 1R
SULOD 1R
RWY 12 RNAV DEPARTURES
RNAV (GNSS)



MSA
MNW VOR



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

These SIDs require minimum climb gradients of
ALEGI 1R: 6.7%.
BADKO 1R: 5.5%.
If unable to comply advise ATC.

Gnd speed-KT	75	100	150	200	250	300
6.7% (V/V fpm)	509	679	1018	1357	1696	2036
5.5% (V/V fpm)	418	557	835	1114	1392	1671

ALT/HEIGHT CONVERSION

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

CHANGES: RNAV SIDs completely revised.

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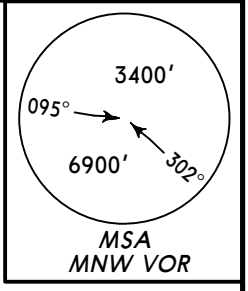
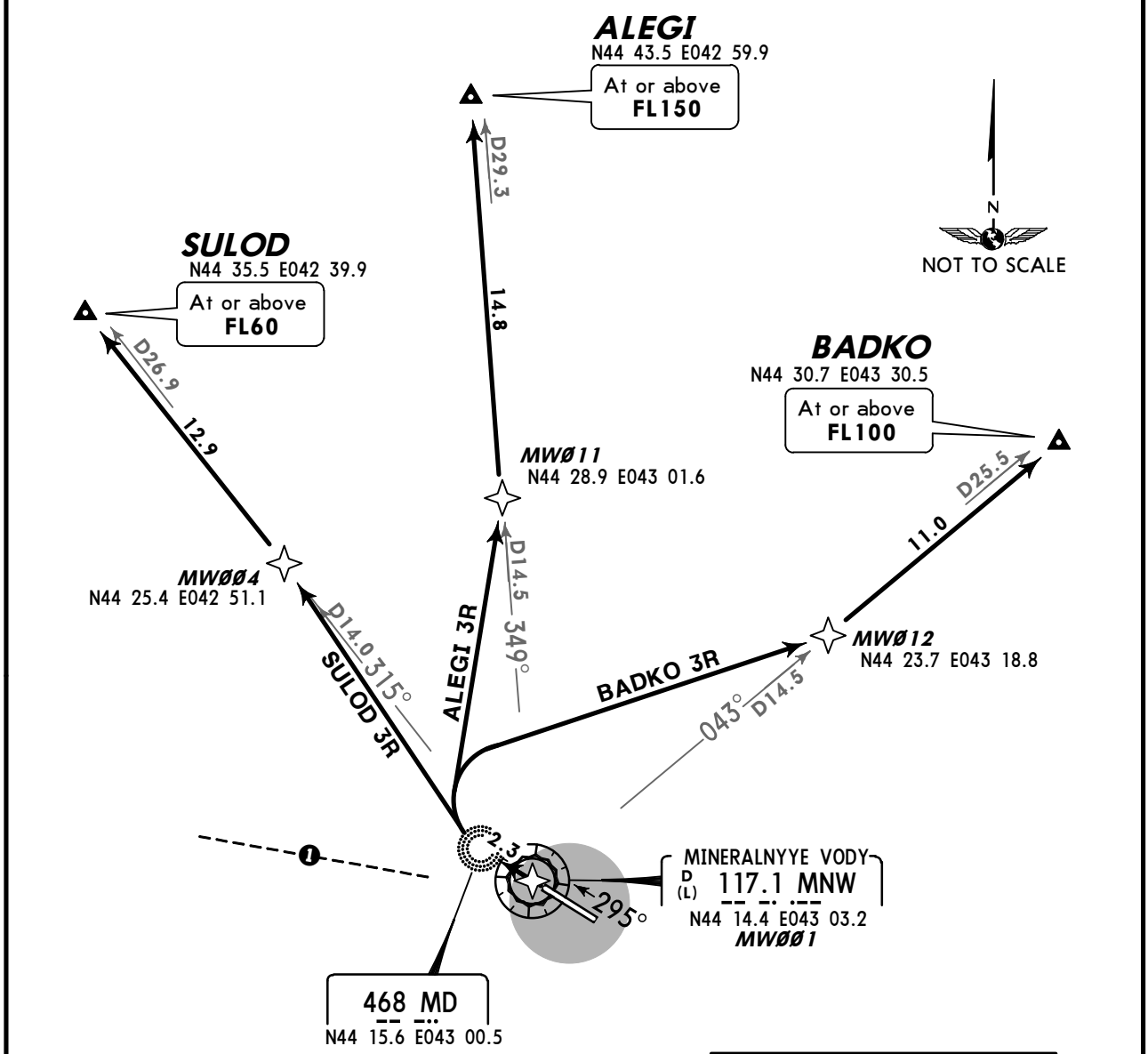
MINERALNYYE VODY Krug 120.7	Apt Elev 1047′	QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704 mm (938.6 hPa) Trans alt: 4000′ ***(2956′)*** 1. Contact MINERALNYYE VODY Krug immediately after crossing 1440′ (396′). 2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

ALEGI 3R
BADKO 3R
SULOD 3R
RWY 30 RNAV DEPARTURES
RNAV (GNSS)





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

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)***

CHANGES: RNAV SIDs completely revised.

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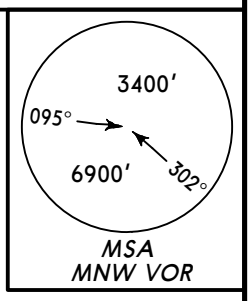
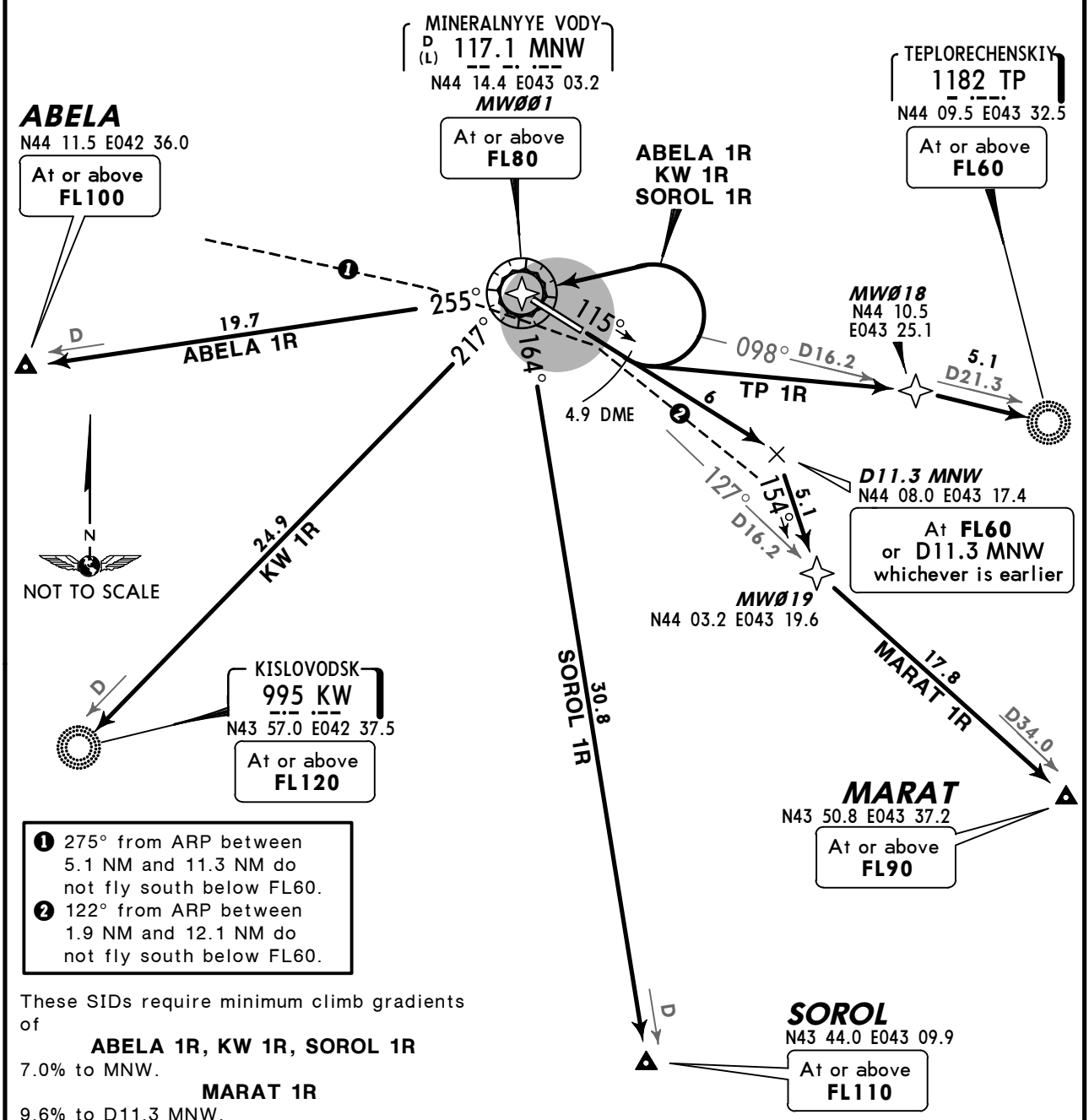
MINERALNYYE VODY Krug 120.7	Apt Elev 1047′	QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704 mm (938.6 hPa) Trans alt: 4000′ ***(2963′)*** 1. Contact MINERALNYYE VODY Krug immediately after crossing 1440′ (403′). 2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

ABELA 1R, KW 1R
MARAT 1R, SOROL 1R
TP 1R
RWY 12 RNAV DEPARTURES
RNAV (GNSS)





❶ 275° from ARP between 5.1 NM and 11.3 NM do not fly south below FL60.
❷ 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 D11.3 MNW.

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)***

CHANGES: KW & TP coords.

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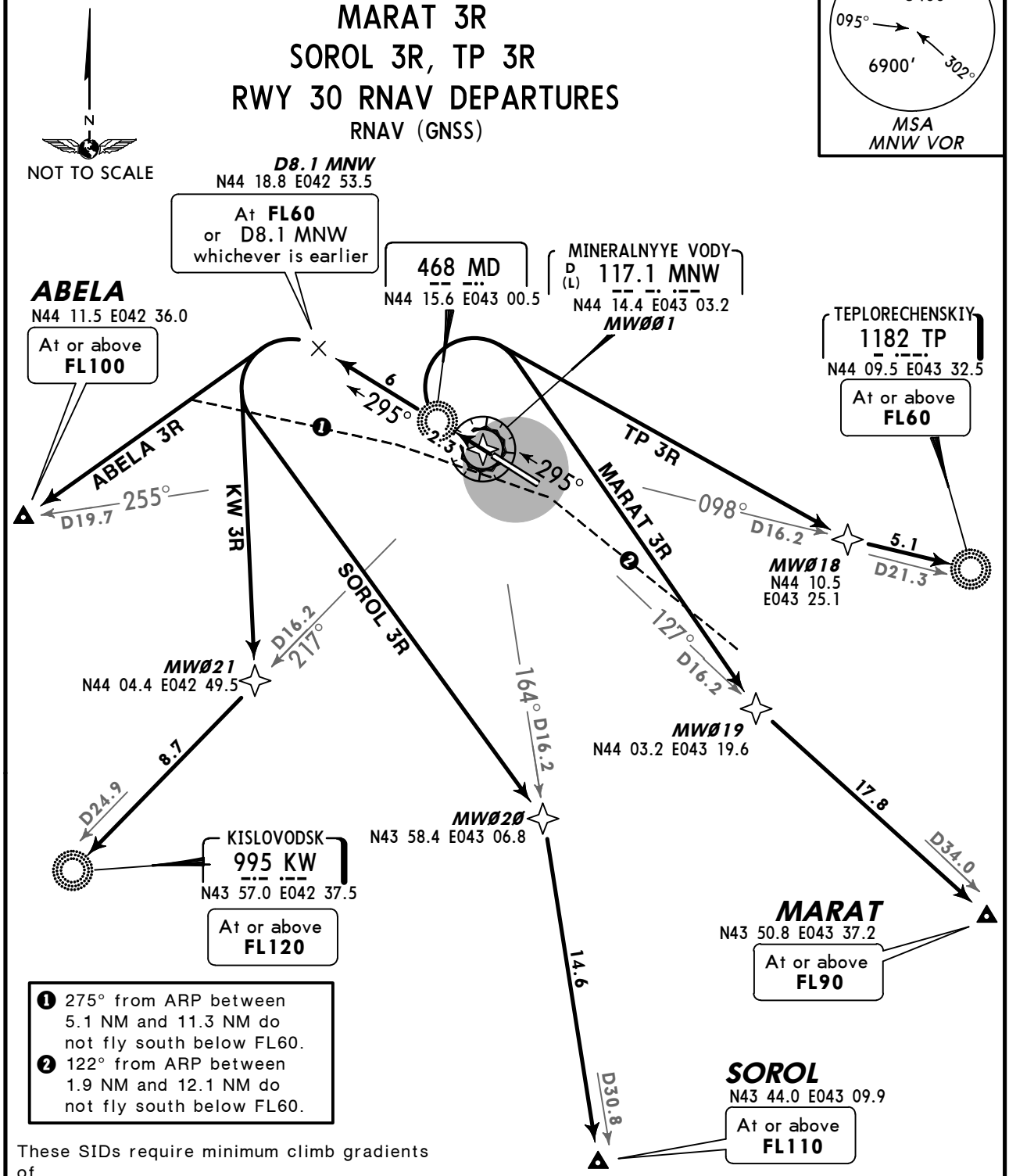
MINERALNYYE VODY Krug 120.7	Apt Elev 1047′	QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704 mm (938.6 hPa) Trans alt: 4000′ ***(2956′)*** 1. Contact MINERALNYYE VODY Krug immediately after crossing 1440′ (396′). 2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

ABELA 3R, KW 3R
MARAT 3R
SOROL 3R, TP 3R
RWY 30 RNAV DEPARTURES
RNAV (GNSS)



❶ 275° from ARP between 5.1 NM and 11.3 NM do not fly south below FL60.
❷ 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 3R: 9.9% to D8.1 MNW, then 7.0%.
KW 3R: 9.9% to D8.1 MNW, then 3.9%.
SOROL 3R: 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

ALT/HEIGHT CONVERSION

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

CHANGES: RNAV SIDs MARAT & TP 3R revised; KW & TP coords.

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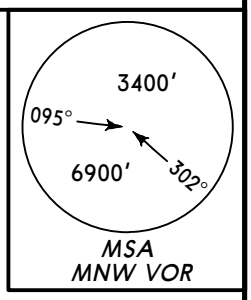
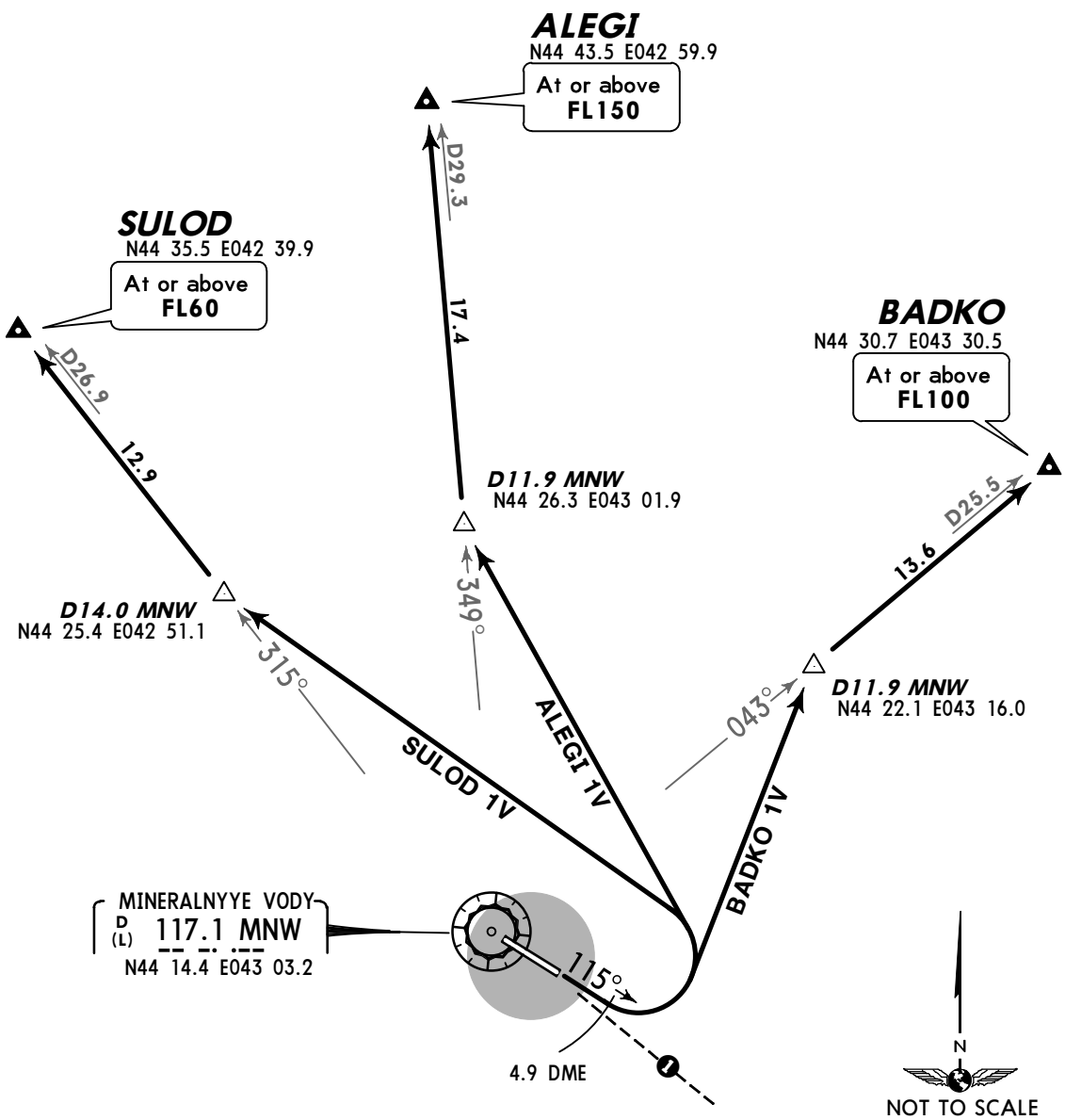
MINERALNYYE VODY Krug 120.7	Apt Elev 1047′	QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704 mm (938.6 hPa) Trans alt: 4000′ ***(2963′)*** 1. Contact MINERALNYYE VODY Krug immediately after crossing 1440′ (403′). 2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

ALEGI 1V
BADKO 1V
SULOD 1V
RWY 12 DEPARTURES





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

These SIDs require minimum climb gradients of
ALEGI 1V: 6.7%.
BADKO 1V: 5.5%.
If unable to comply advise ATC.

Gnd speed-KT	75	100	150	200	250	300
6.7% (V/V fpm)	509	679	1018	1357	1696	2036
5.5% (V/V fpm)	418	557	835	1114	1392	1671

ALT/HEIGHT CONVERSION

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

CHANGES: SIDs completely revised.

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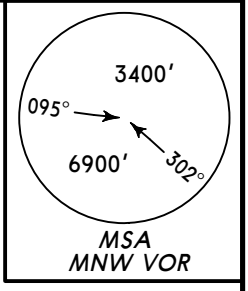
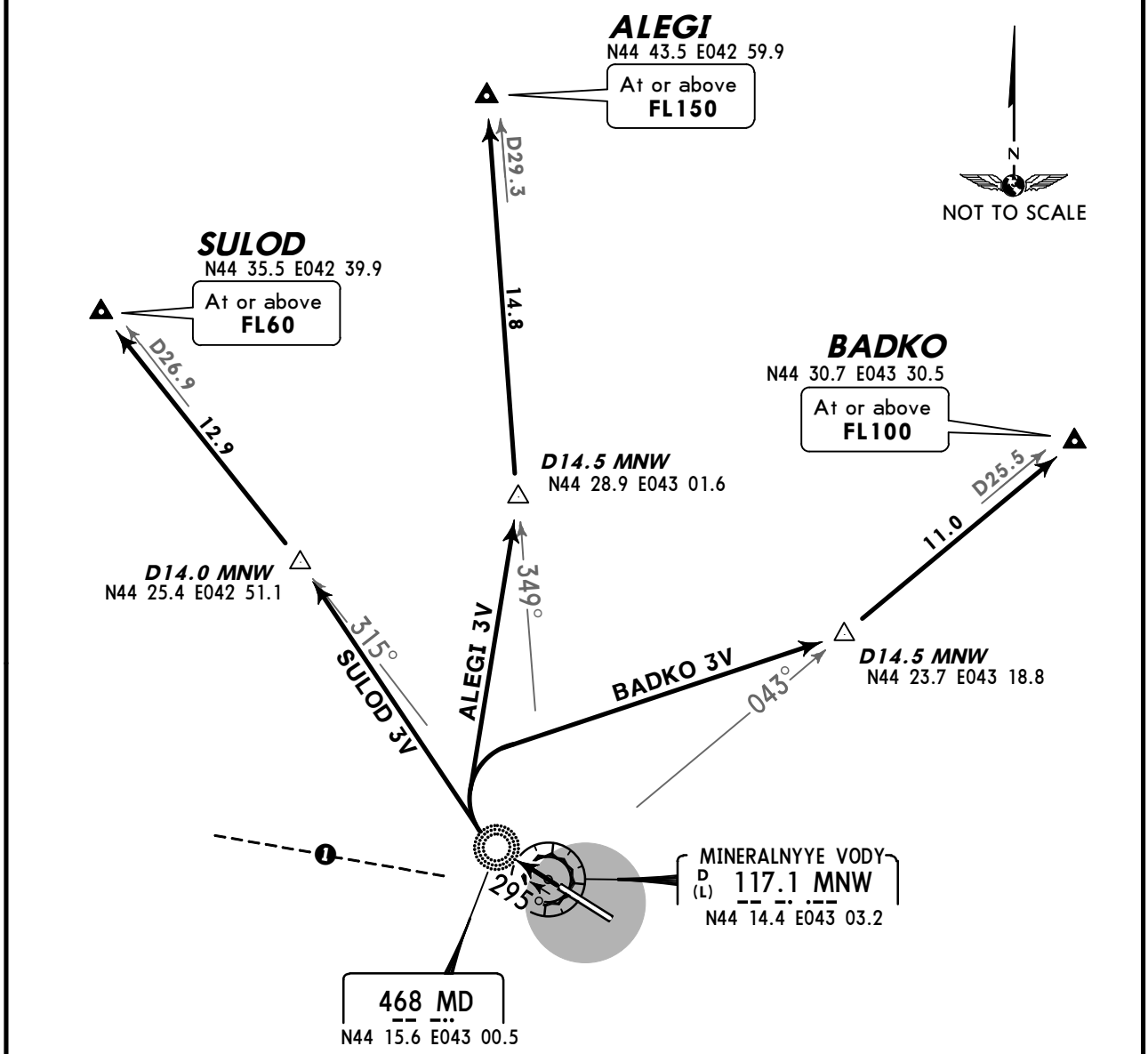
MINERALNYYE VODY Krug 120.7	Apt Elev 1047′	QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704 mm (938.6 hPa) Trans alt: 4000′ ***(2956′)*** 1. Contact MINERALNYYE VODY Krug immediately after crossing 1440′ (396′). 2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

ALEGI 3V
BADKO 3V
SULOD 3V
RWY 30 DEPARTURES





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

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

ALT/HEIGHT CONVERSION

QNH	(QFE)
1440′	***(396′ - 120m)***
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CHANGES: SIDs completely revised.

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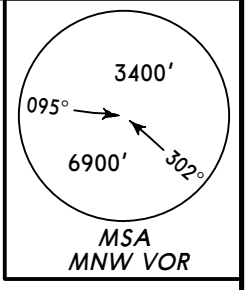
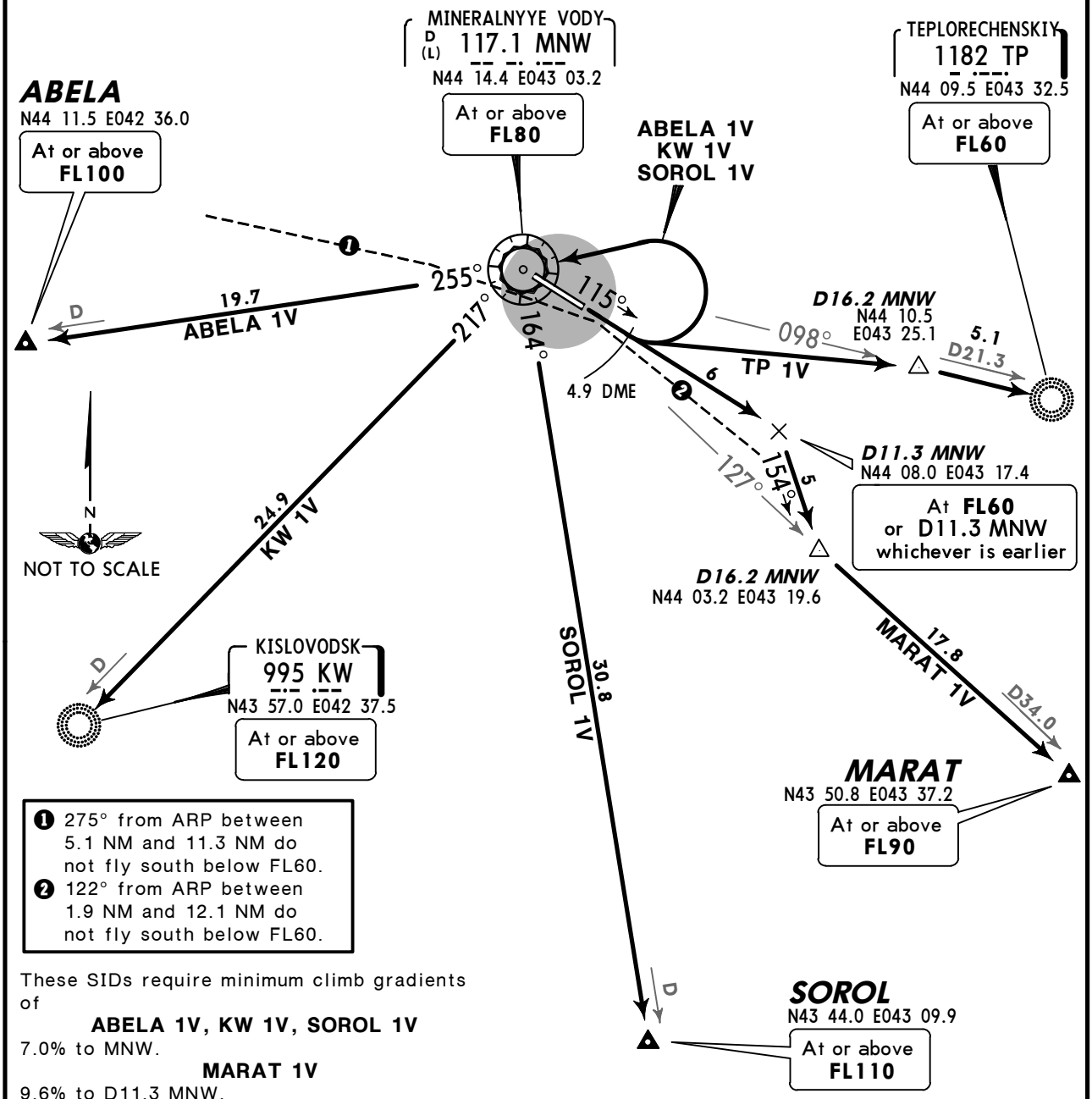
MINERALNYYE VODY Krug 120.7	Apt Elev 1047′	QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704 mm (938.6 hPa) Trans alt: 4000′ ***(2963′)*** 1. Contact MINERALNYYE VODY Krug immediately after crossing 1440′ (403′). 2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

ABELA 1V, KW 1V
MARAT 1V, SOROL 1V
TP 1V
RWY 12 DEPARTURES





❶ 275° from ARP between 5.1 NM and 11.3 NM do not fly south below FL60.
❷ 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 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)
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CHANGES: KW & TP coords.

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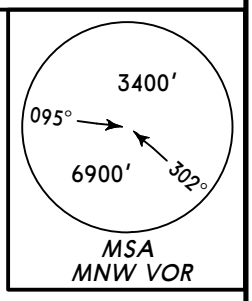
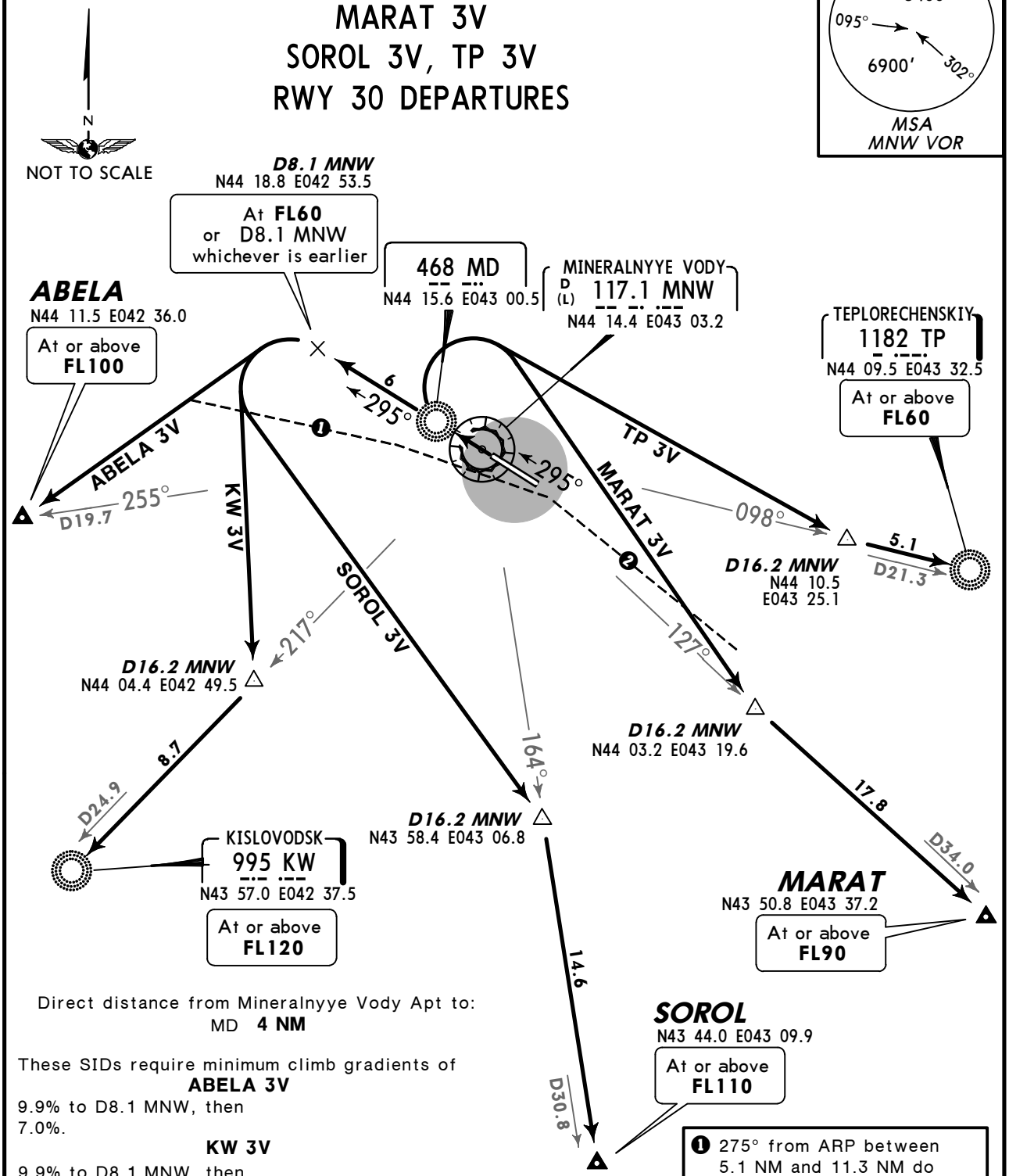
MINERALNYYE VODY Krug 120.7	Apt Elev 1047′	QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704 mm (938.6 hPa) Trans alt: 4000′ ***(2956′)*** 1. Contact MINERALNYYE VODY Krug immediately after crossing 1440′ (396′). 2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

ABELA 3V, KW 3V
MARAT 3V
SOROL 3V, TP 3V
RWY 30 DEPARTURES





Direct distance from Mineralnyye Vody Apt to:
MD **4 NM**

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
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❶ 275° from ARP between 5.1 NM and 11.3 NM do not fly south below FL60.
❷ 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)***

CHANGES: SIDs MARAT & TP 3V revised; KW coordinates.

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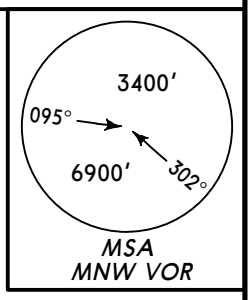
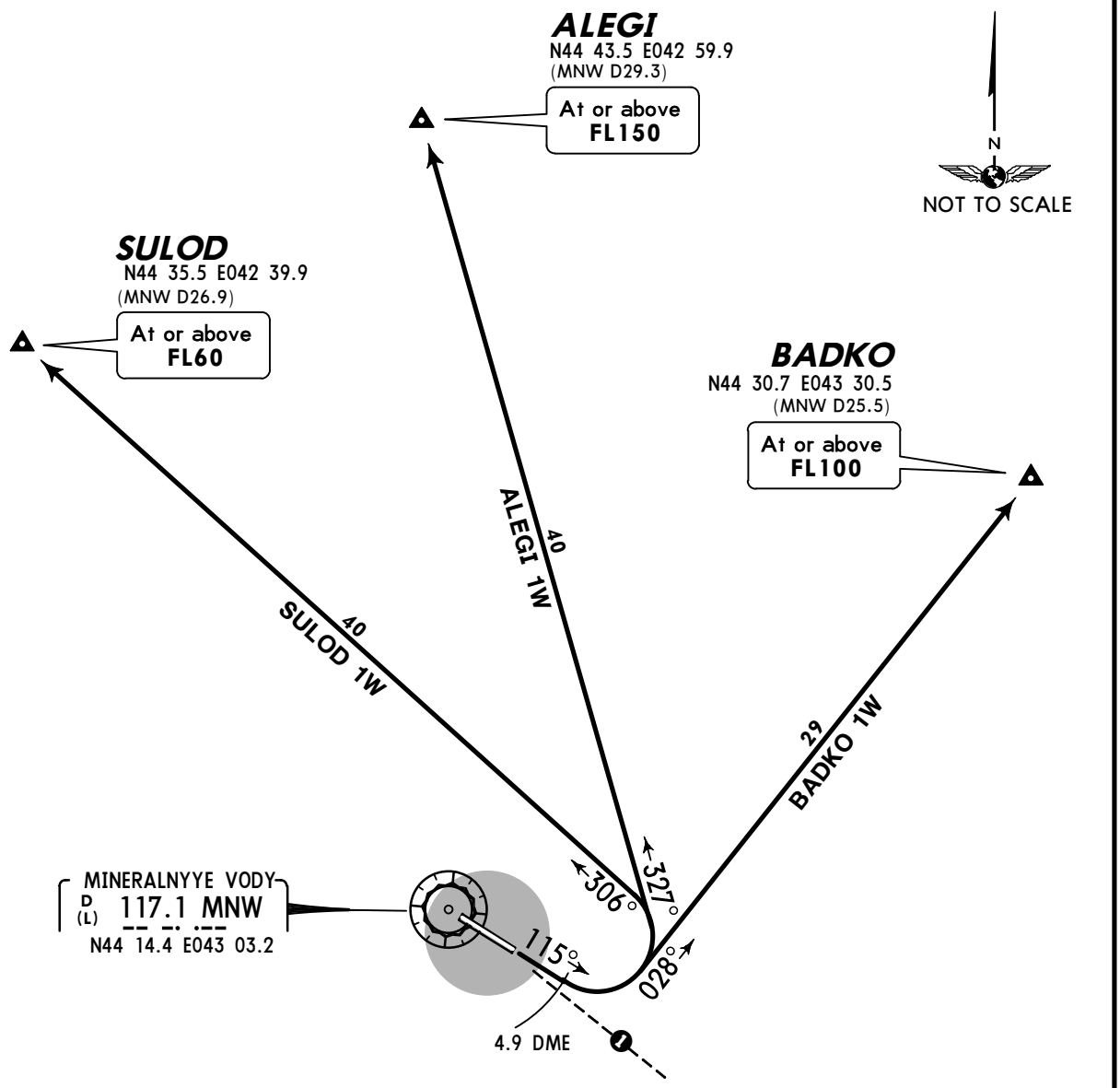
MINERALNYYE VODY Krug 120.7	Apt Elev 1047′	QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704 mm (938.6 hPa) Trans alt: 4000′ ***(2963′)*** 1. Contact MINERALNYYE VODY Krug immediately after crossing 1440′ (403′). 2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

ALEGI 1W *[ALEG1W]*
BADKO 1W *[BADK1W]*
SULOD 1W *[SULO1W]*
RWY 12 DEPARTURES
UNDER RADAR CONTROL





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

These SIDs require minimum climb gradients of
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BADKO 1W: 5.5%.
If unable to comply advise ATC.

Gnd speed-KT	75	100	150	200	250	300
6.7% (V/V fpm)	509	679	1018	1357	1696	2036
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ALT/HEIGHT CONVERSION

QNH	(QFE)
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CHANGES: SIDs completely revised.

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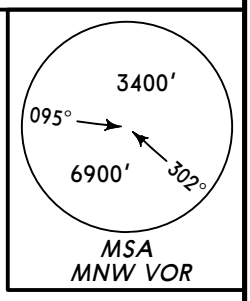
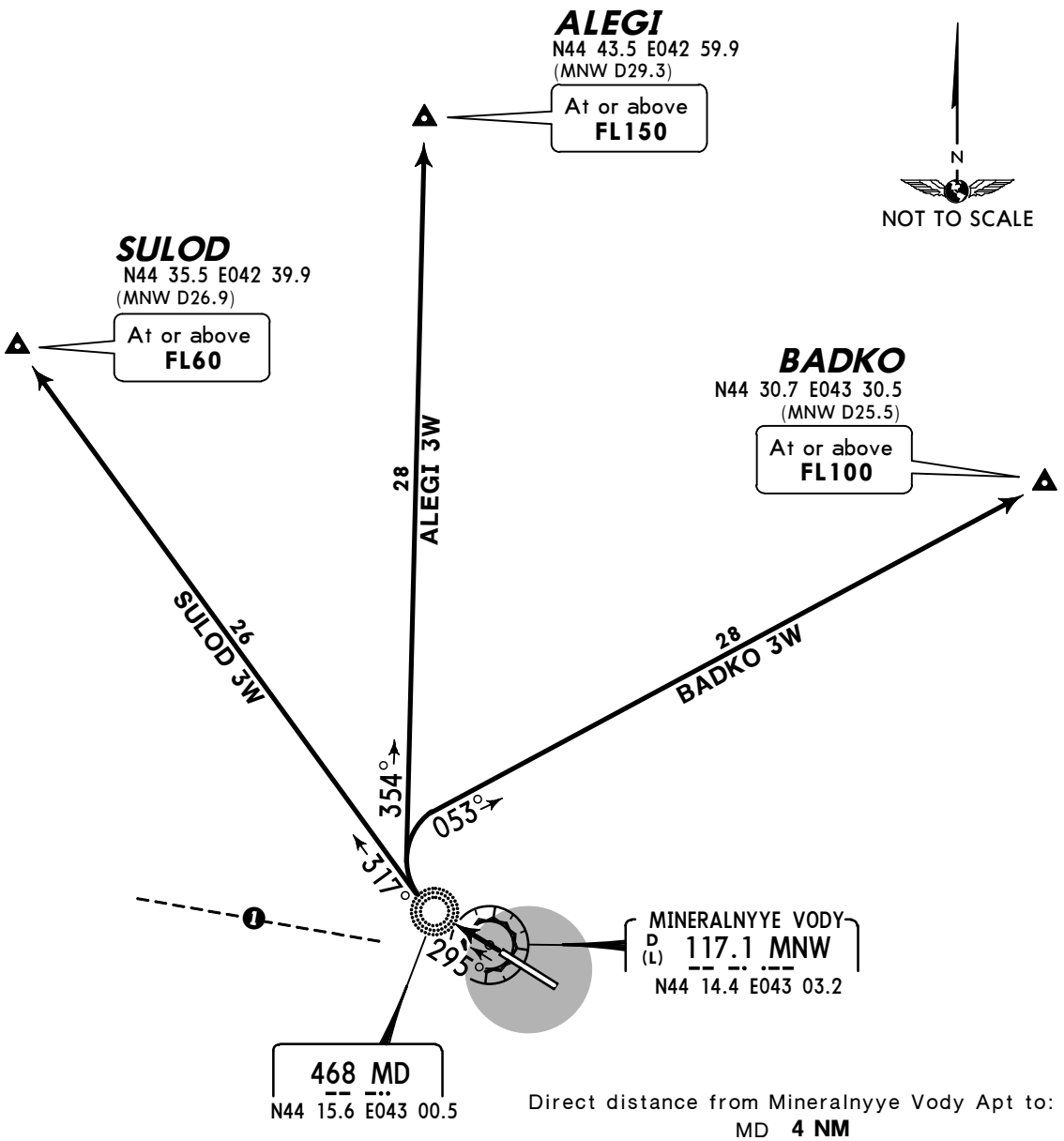
MINERALNYYE VODY Krug 120.7	Apt Elev 1047′	QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704 mm (938.6 hPa) Trans alt: 4000′ ***(2956′)*** 1. Contact MINERALNYYE VODY Krug immediately after crossing 1440′ (396′). 2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

ALEGI 3W *[ALEG3W]*
BADKO 3W *[BADK3W]*
SULOD 3W *[SULO3W]*
RWY 30 DEPARTURES
UNDER RADAR CONTROL





Direct distance from Mineralnyye Vody Apt to:
MD **4 NM**

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

These SIDs require minimum climb gradients of
ALEGI 3W: 7.7%.
BADKO 3W: 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
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ALT/HEIGHT CONVERSION

QNH	(QFE)
1440′	***(396′ - 120m)***
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CHANGES: SIDs completely revised.

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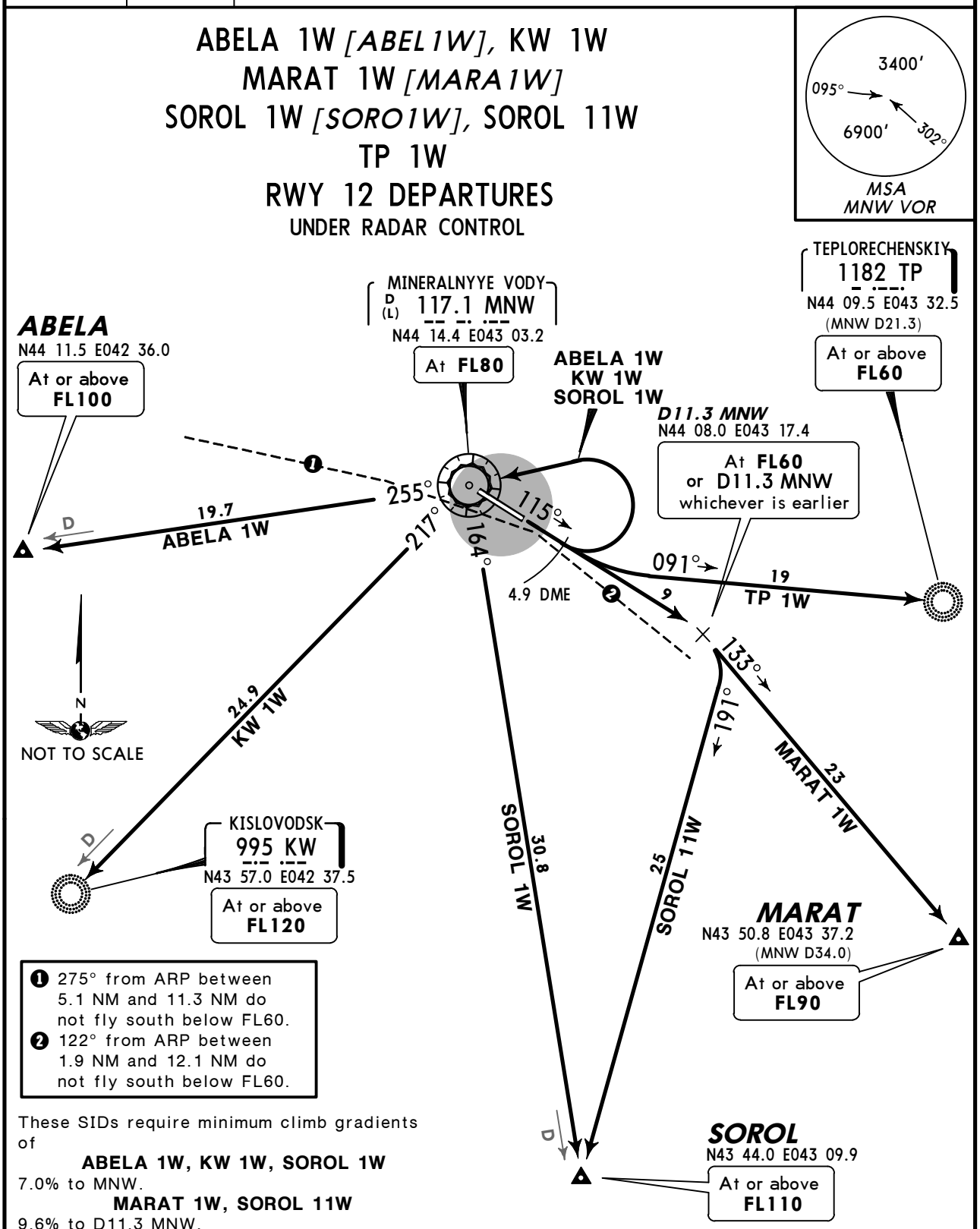
MINERALNYYE VODY Krug 120.7	Apt Elev 1047′	QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704 mm (938.6 hPa) Trans alt: 4000′ ***(2963′)*** 1. Contact MINERALNYYE VODY Krug immediately after crossing 1440′ (403′). 2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

ABELA 1W *[ABEL1W]*, KW 1W
MARAT 1W *[MARA1W]*
SOROL 1W *[SORO1W]*, SOROL 11W
TP 1W
RWY 12 DEPARTURES
UNDER RADAR CONTROL



❶ 275° from ARP between 5.1 NM and 11.3 NM do not fly south below FL60.
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These SIDs require minimum climb gradients of

ABELA 1W, KW 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
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4.4% (V/V fpm)	334	446	668	891	1114	1337

ALT/HEIGHT CONVERSION

QNH	(QFE)
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4000′	***(2963′ - 900m)***

CHANGES: SID TP 1W revised; KW & TP coords.

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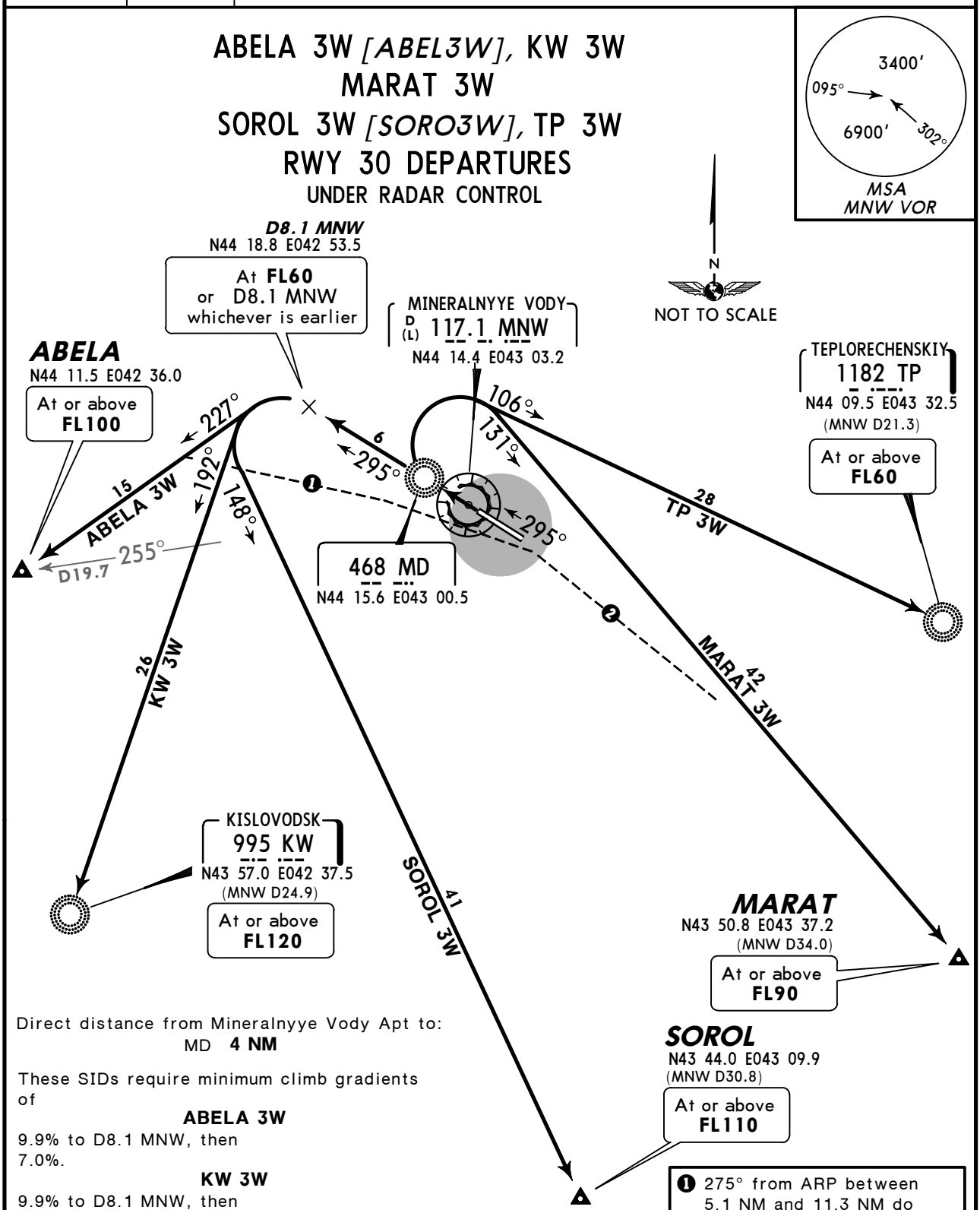
MINERALNYYE VODY Krug 120.7	Apt Elev 1047′	QNH on request **(QFE)** Trans level: FL60 FL70 if pressure is less than 704 mm (938.6 hPa) Trans alt: 4000′ ***(2956′)*** 1. Contact MINERALNYYE VODY Krug immediately after crossing 1440′ (396′). 2. Take-off should be carried out with noise abatement procedures according to Flight Operation Manual.

ABELA 3W *[ABEL3W]*, KW 3W
MARAT 3W
SOROL 3W *[SORO3W]*, TP 3W
RWY 30 DEPARTURES
UNDER RADAR CONTROL



Direct distance from Mineralnyye Vody Apt to:
MD **4 NM**

These SIDs require minimum climb gradients of

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

KW 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
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❷ 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)***

CHANGES: SIDs MARAT & TP 3W revised; KW coordinates.

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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.

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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.

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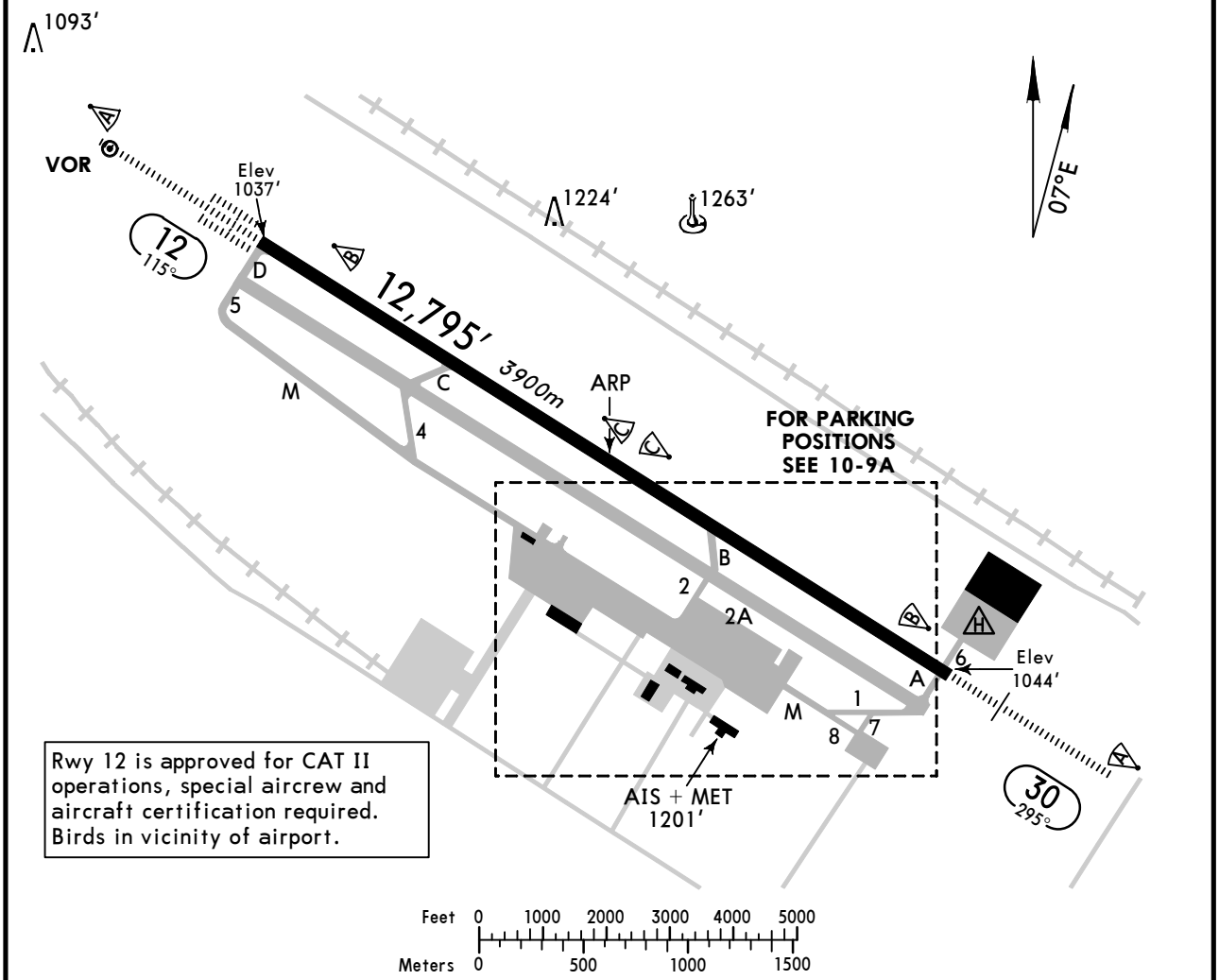
ATIS	MINERALNYYE VODY Taxiing (GND)	Start (TWR)
125.25 (Russian 127.4)	121.9	128.0



Rwy 12 is approved for CAT II operations, special aircrew and aircraft certification required. Birds in vicinity of airport.

ADDITIONAL RUNWAY INFORMATION

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

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	200m (150m)	250m	400m
B			
C			
D	250m (200m)	300m	

CHANGES: VAR. Apt elev. Rwy. Twys. Usable lengths. Notes.

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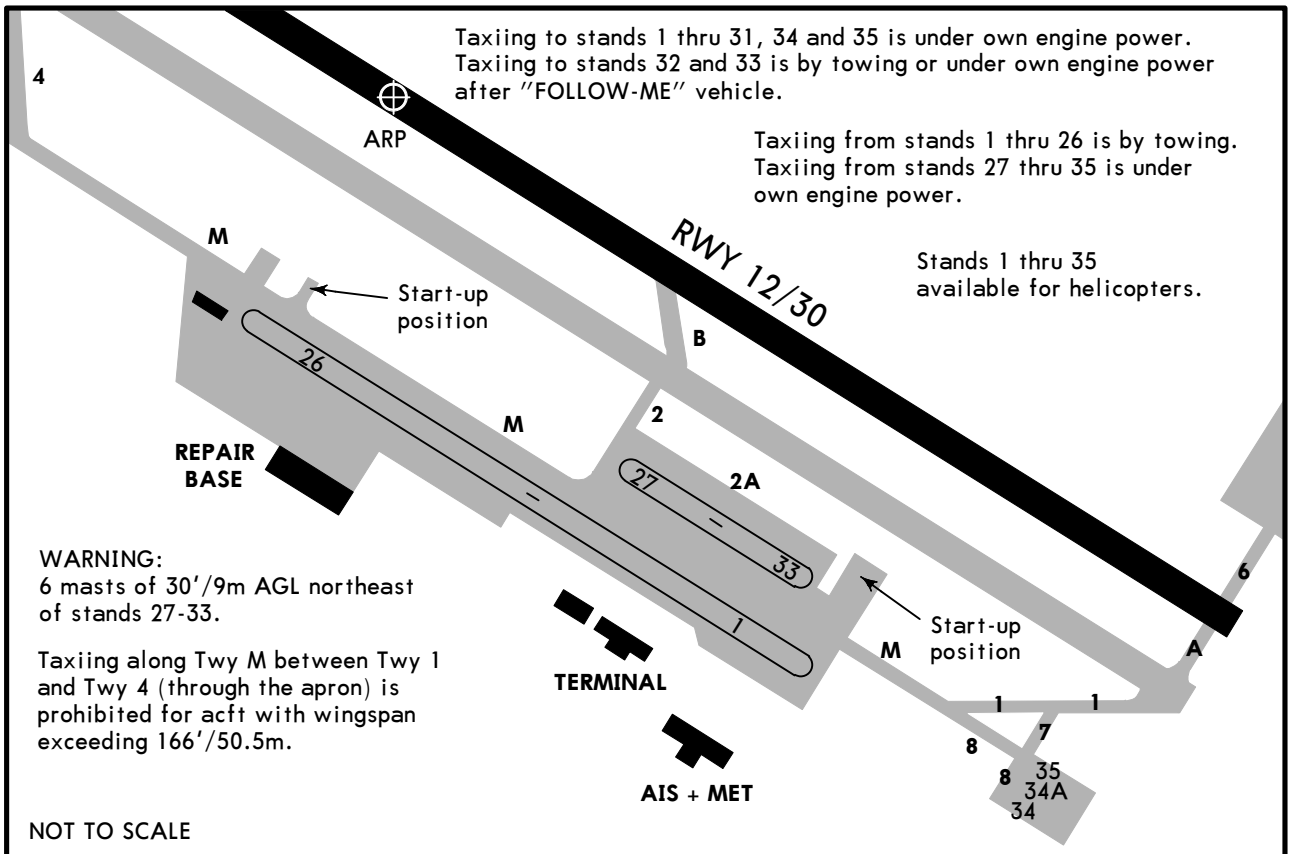

INS COORDINATES

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.

CHANGES: Rwy. Twys.

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MINERALNYYE VODY, RUSSIA

MINERALNYYE VODY

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 *FULL* *Limited* *ALS out*	**1237′**(200′) **R550m** R750m R1200m	**1237′**(200′) **R550m** R750m R1200m	**1237′**(200′) **R550m** R750m R1200m	**1237′**(200′) **R550m** R750m R1200m
	LOC ❶ *ALS out*	**1480′**(443′) **R1400m** C2100m	**1480′**(443′) **R1400m** C2100m	**1480′**(443′) **R1400m** C2100m	**1480′**(443′) **R1400m** C2100m
	RNAV ❶ *ALS out*	**1480′**(443′) **R1400m** R1500m	**1480′**(443′) **R1400m** R1500m	**1480′**(443′) **R1400m** C2100m	**1480′**(443′) **R1400m** C2100m
	VOR ❶ *ALS out*	**1480′**(443′) **R1400m** R1500m	**1480′**(443′) **R1400m** R1500m	**1480′**(443′) **R1400m** C2100m	**1480′**(443′) **R1400m** C2100m
	NDB	**2900′**(1863′) **C5000m**	**2900′**(1863′) **C5000m**	**2900′**(1863′) **C5000m**	**2900′**(1863′) **C5000m**
30	ILS *FULL* *Limited* *ALS out*	**1244′**(200′) **R550m** R750m R1200m	**1244′**(200′) **R550m** R750m R1200m	**1244′**(200′) **R550m** R750m R1200m	**1244′**(200′) **R550m** R750m R1200m
	LOC ❷ *ALS out*	**1560′**(516) **R1800m** C2600m	**1560′**(516) **R1800m** C2600m	**1560′**(516) **R2000m** C2800m	**1560′**(516) **R2000m** C2800m
	LOC ❸ *ALS out*	**1850′**(806′) **C3300m** C4000m	**1850′**(806′) **C3300m** C4000m	**1850′**(806′) **C3500m** C4200m	**1850′**(806′) **C3500m** C4200m
	RNAV ❶ *ALS out*	**1460′**(416′) **R1200m** R1500m	**1460′**(416′) **R1200m** R1500m	**1460′**(416′) **R1200m** R1900m	**1460′**(416′) **R1200m** R1900m
	VOR ❶❹ *ALS out*	**1560′**(516′) **R1500m** R1500m	**1560′**(516′) **R1500m** R1500m	**1560′**(516′) **R1600m** C2400m	**1560′**(516′) **R1600m** C2400m
	VOR ❺ *ALS out*	**1850′**(806′) **C3300m** C4000m	**1850′**(806′) **C3300m** C4000m	**1850′**(806′) **C3500m** C4200m	**1850′**(806′) **C3500m** 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: RL, CL & mult. RVR req	LVP must be in Force: RL & CL	LVP must be in Force: RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A B C	125m	150m	200m	250m	400m	500m
D	150m	200m	250m	300m		

CHANGES: LOC & NDB added.

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MINERALNYYE VODY, RUSSIA

MINERALNYYE VODY

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**
	ALS out	R1500m	R1500m	R1800m	R2000m
	VOR	**1480′**(443′)	**1480′**(443′)	**1480′**(443′)	**1480′**(443′)
		R900m	**R1000m**	**R1000m**	**R1400m**
	ALS out	R1500m	R1500m	R1800m	R2000m
	NDB	**2900′**(1863′)	**2900′**(1863′)	**2900′**(1863′)	**2900′**(1863′)
		R1200m	**R1400m**	**R1400m**	**R1800m**
	ALS out	R1500m	R1500m	R2000m	R2000m
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′)
	with Radar	**R1000m**	**R1200m**	**R1200m**	**R1600m**
	ALS out	R1500m	R1500m	R2000m	R2000m
	LOC	**1850′**(806′)	**1850′**(806′)	**1850′**(806′)	**1850′**(806′)
	w/o Radar	**R1200m**	**R1400m**	**R1400m**	**R1800m**
	ALS out	R1500m	R1500m	R2000m	R2000m
	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′)
	with D8.6	**R1000m**	**R1200m**	**R1200m**	**R1600m**
	ALS out	R1500m	R1500m	R2000m	R2000m
	VOR	**1850′**(806′)	**1850′**(806′)	**1850′**(806′)	**1850′**(806′)
	w/o D8.6	**R1200m**	**R1400m**	**R1400m**	**R1800m**
	ALS out	R1500m	R1500m	R2000m	R2000m

TAKE-OFF RWY 12, 30

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

CHANGES: LOC & NDB added.

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URMM/MRV
MINERALNYYE VODY

30 DEC 11
Eff 12 Jan

JEPPESEN MINERALNYYE VODY, RUSSIA

(11-1) CAT I/II ILS DME or NDB Rwy 12

ATIS	MINERALNYYE VODY Approach	MINERALNYYE VODY Krug (R)	MINERALNYYE VODY Start (TWR)	Ground
125.25 (Russian 127.4)	119.3	120.7	128.0	121.9

BRIEFING STRIP ™

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′
NDB MD 468		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 Airport: 3400′ (095°), 6900′ (302°)

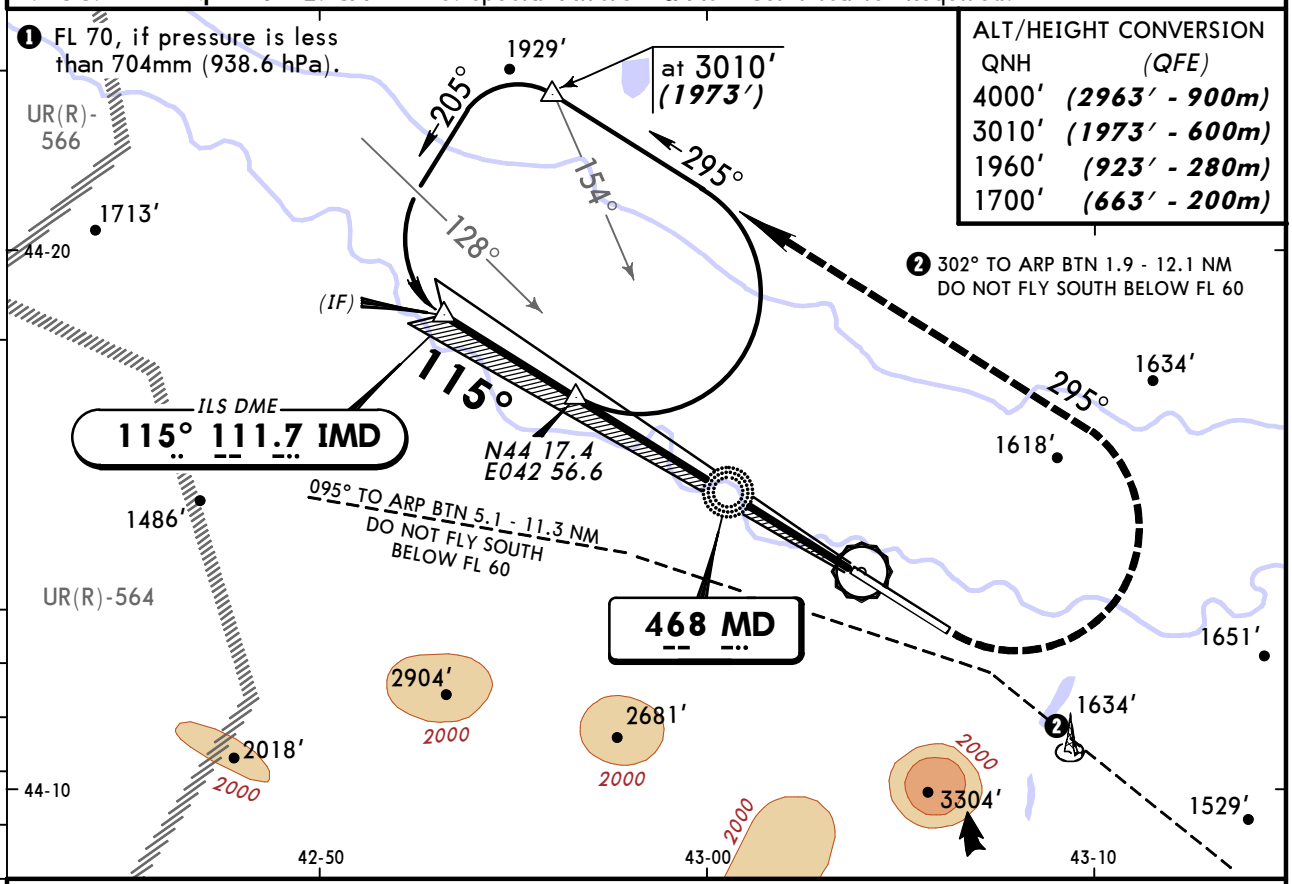
Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: FL 60 ❶ Trans alt: 4000′ (2963′)

1. LOC: **NDB required.** 2. CAT II ILS: Special Aircrew & Acft Certification Required.

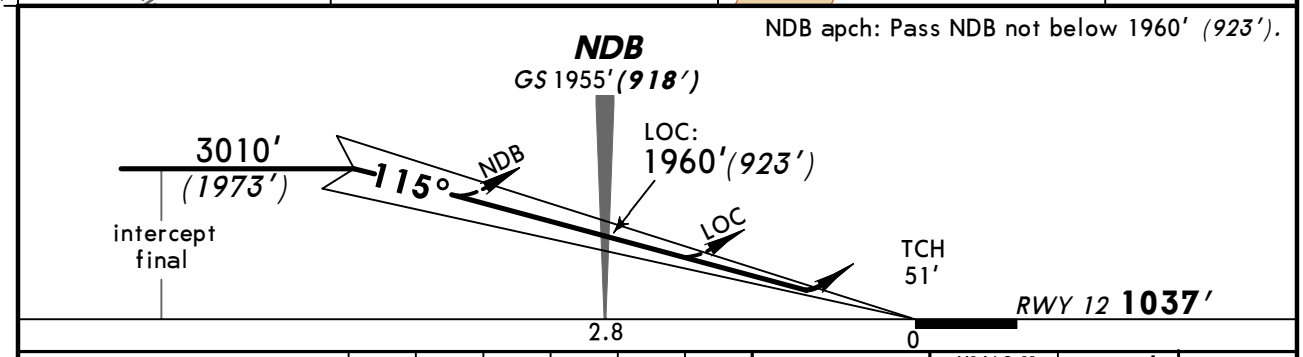
❶ FL 70, if pressure is less than 704mm (938.6 hPa).

ALT/HEIGHT CONVERSION

QNH	(QFE)
4000′	(2963′ - 900m)
3010′	(1973′ - 600m)
1960′	(923′ - 280m)
1700′	(663′ - 200m)



NDB apch: Pass NDB not below 1960′ (923′).



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

HIALS-II, PAPI — 1700′ (663′) on 115°

STRAIGHT-IN LANDING RWY 12

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

CHANGES: NDB & LOC procedure added. Missed approach.

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URMM/MRV
MINERALNYYE VODY

30 DEC 11
Eff 12 Jan
(11-2)

JEPPESEN

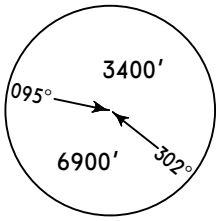
MINERALNYYE VODY, RUSSIA
CAT I/II VOR DME ILS Rwy 12

ATIS	MINERALNYYE VODY Approach	MINERALNYYE VODY Krug (R)	MINERALNYYE VODY Start (TWR)	Ground
125.25 (Russian 127.4)	119.3	120.7	128.0	121.9

BRIEFING STRIP ™

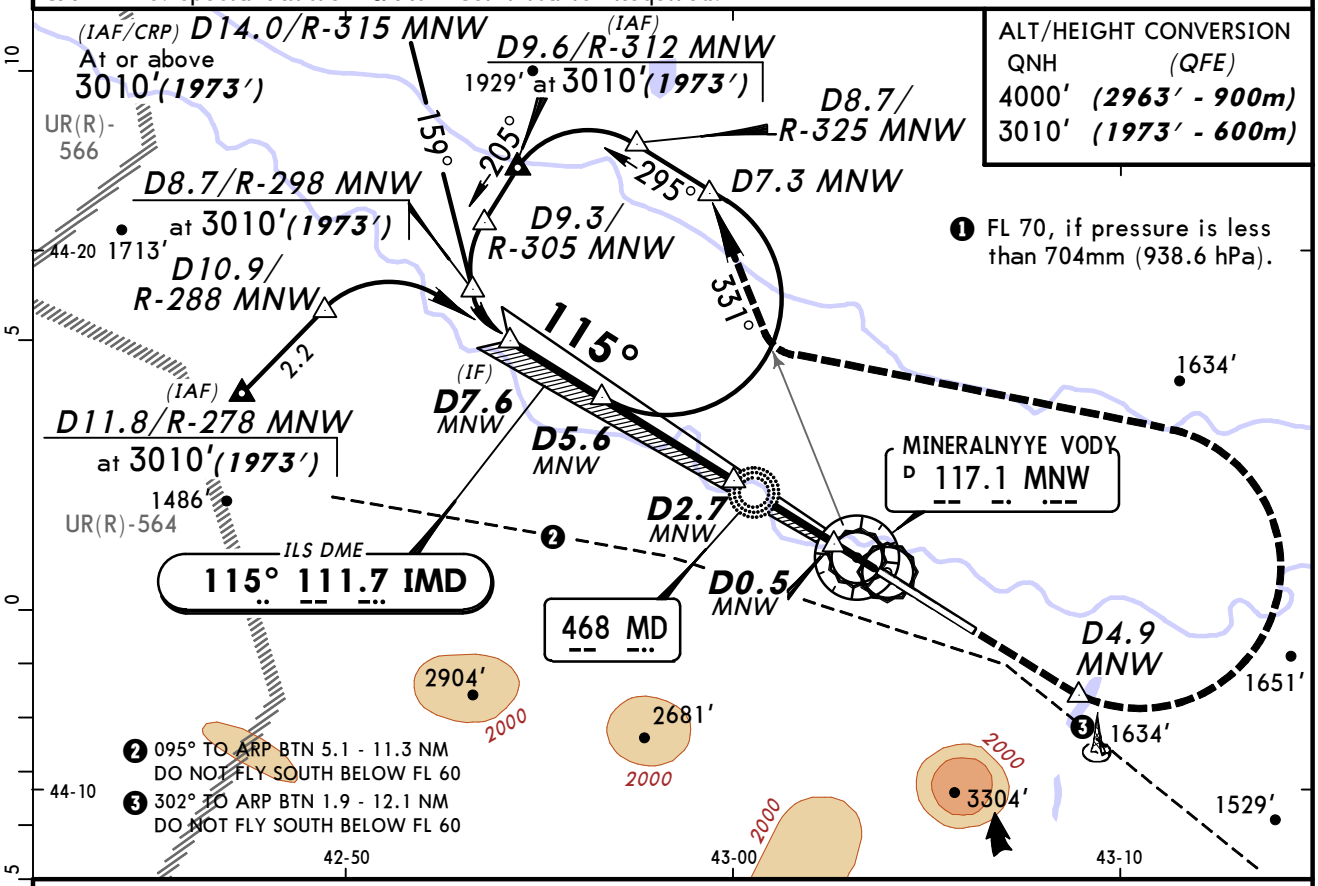
LOC IMD	Final Apch Crs	GS NDB	CAT II ILS	CAT I ILS	Apt Elev 1047′
111.7	115°	1955′(918′)	RA 115′ DA(H) 1137′(100′)	DA(H) 1237′(200′)	RWY 1037′

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



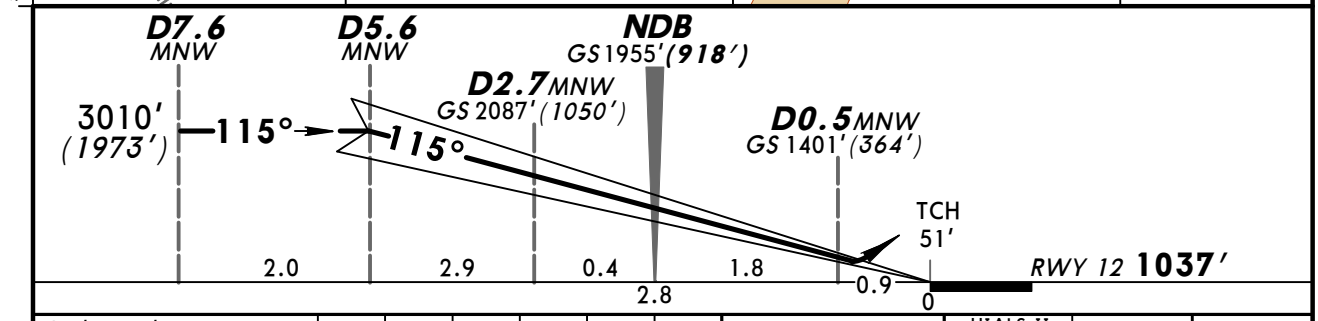
MSA MNW VOR

Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: FL 60 ❶ Trans alt: 4000′ (2963′)
CAT II ILS: Special Aircrew & Acft Certification Required.



ALT/HEIGHT CONVERSION

QNH	(QFE)
4000′	(2963′ - 900m)
3010′	(1973′ - 600m)



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

HIALS-II
PAPI
D4.9 MNW on 115°

STRAIGHT-IN LANDING RWY 12

PANS OPS	CAT II	ILS CAT I			LOC (GS out)
	RA 115′ DA(H) 1137′(100′)	DA(H) 1237′(200′)			
		FULL	TDZ or CL out	ALS out	
A	RVR 350m	RVR 550m VIS 800m	RVR 720m VIS 800m	1200m	NOT AUTHORIZED
B					
C					
D					

CHANGES: Missed approach.

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URMM/MRV
MINERALNYYE VODY

JEPPESEN 30 DEC 11 (11-3) Eff 12 Jan

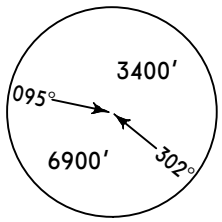
MINERALNYYE VODY, RUSSIA
ILS DME Rwy 30

BRIEFING STRIP ™

ATIS	MINERALNYYE VODY Approach	MINERALNYYE VODY Krug (R)	MINERALNYYE VODY Start (TWR)	Ground
125.25 (Russian 127.4)	119.3	120.7	128.0	121.9

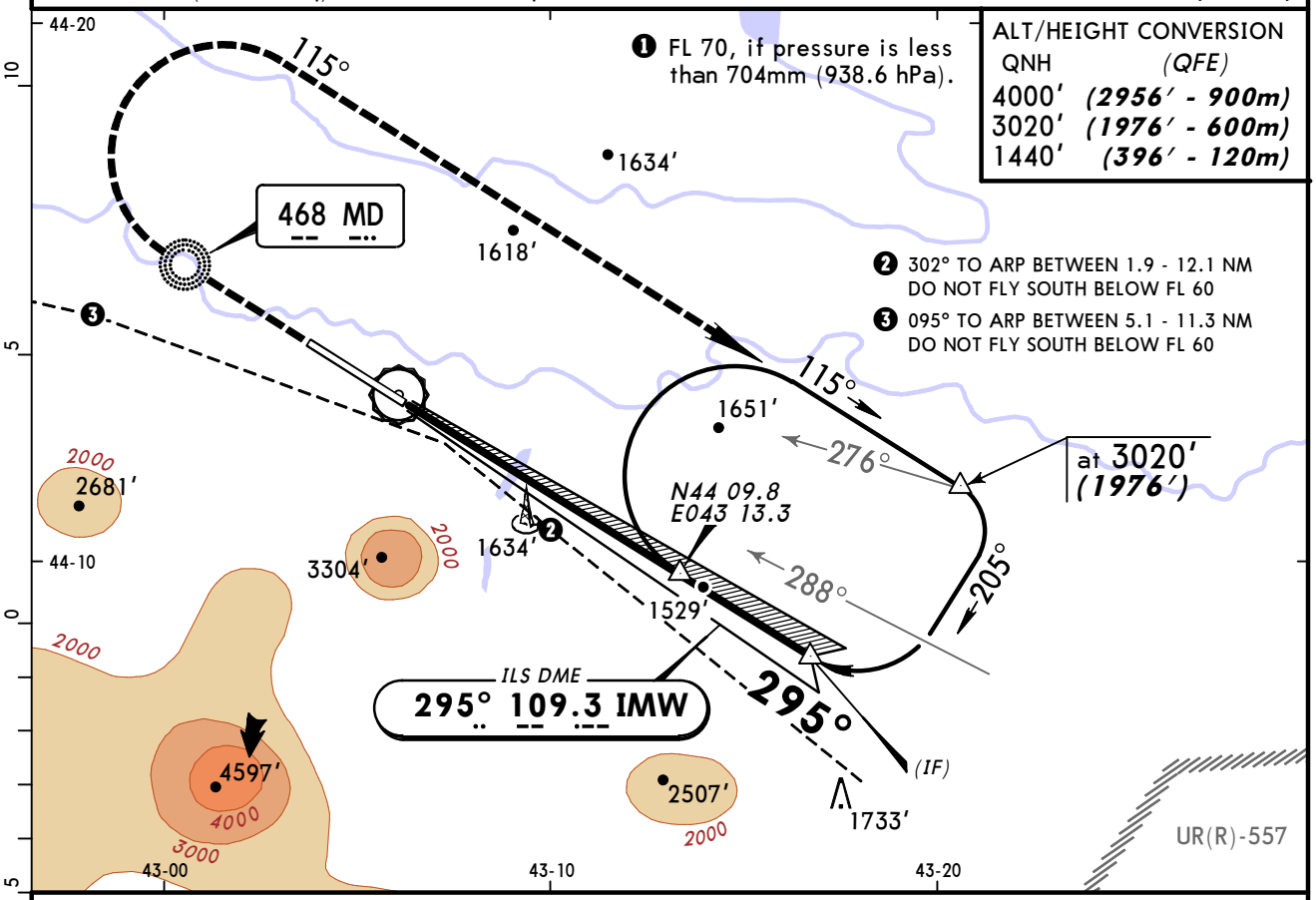
LOC	Final Apch Crs	GS	ILS DA(H)	Apt Elev 1047′
IMW 109.3	295°	No Altitude published	1244′ (200′)	RWY 1044′

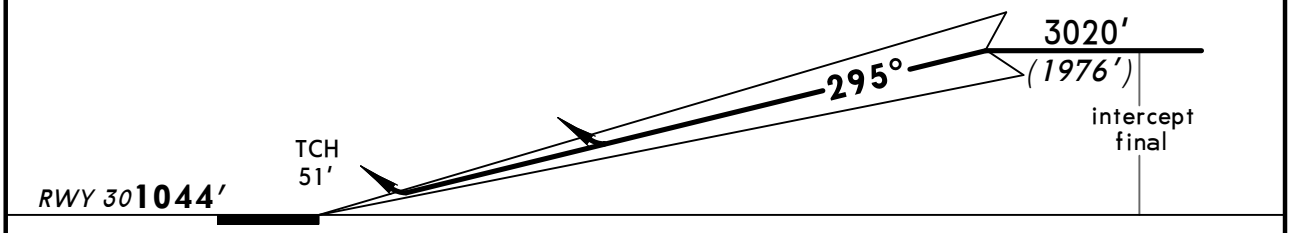
MISSED APCH: Climb on 295° to NDB, then turn RIGHT onto 115° climbing to 3020′ (1976′), then as directed.



MSA Airport

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





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

HIALS PAPI MD 468 on 295°

STRAIGHT-IN LANDING RWY 30

	ILS DA(H) 1244′ (200′) FULL	ILS DA(H) 1244′ (200′) ALS out	LOC (GS out) with Radar MDA(H) 1560′ (516′)	LOC (GS out) with Radar MDA(H) 1560′ (516′) ALS out	LOC (GS out) w/o Radar MDA(H) 1850′ (806′)	LOC (GS out) w/o Radar MDA(H) 1850′ (806′) 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

PANS OPS

CHANGES: LOC approach added. Missed approach.

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URMM/MRV
MINERALNYYE VODY

JEPPESEN 30 DEC 11 (11-4) Eff 12 Jan

MINERALNYYE VODY, RUSSIA
VOR DME ILS Rwy 30

BRIEFING STRIP ™

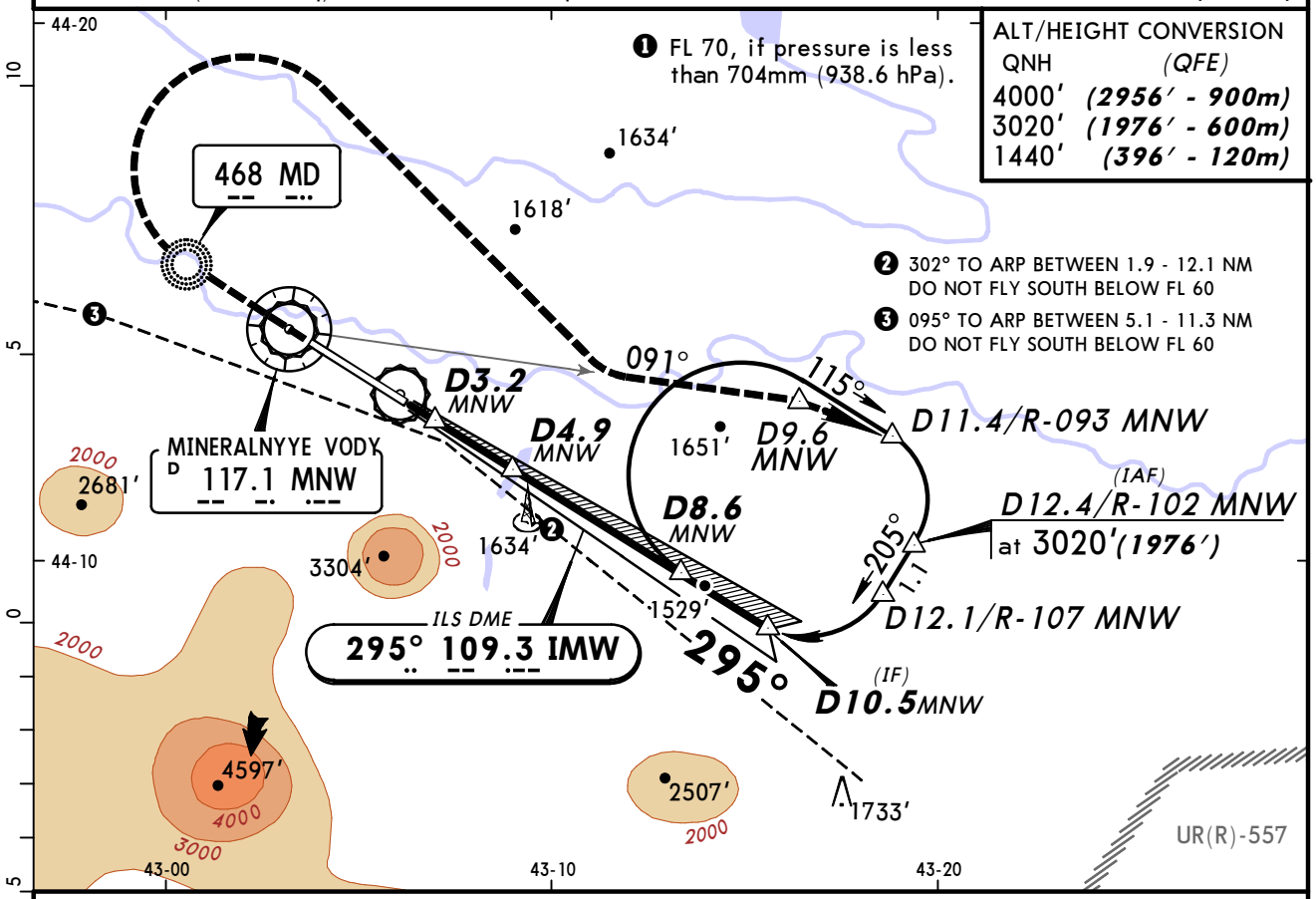
ATIS	MINERALNYYE VODY Approach	MINERALNYYE VODY Krug (R)	MINERALNYYE VODY Start (TWR)	Ground
125.25 (Russian 127.4)	119.3	120.7	128.0	121.9

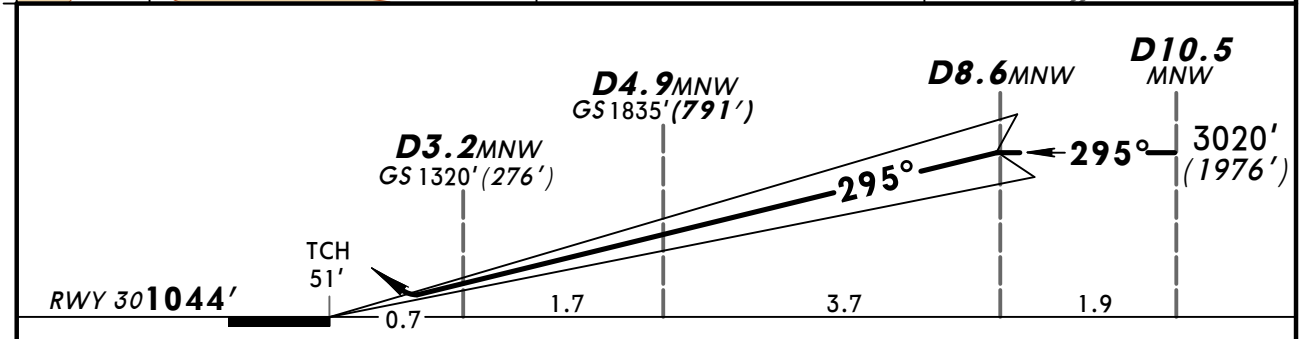
LOC	Final Apch Crs	GS	ILS DA(H)	Apt Elev 1047′
IMW 109.3	295°	D4.9 MNW 1835′(791′)	1244′(200′)	RWY 1044′

MISSED APCH: Climb on 295° to NDB, then turn RIGHT climbing to 3020′(1976′) and intercept R-091, then as directed.

MSA MNW VOR: 095° 3400′; 302° 6900′

Alt Set: MM (hPa on req) | QNH on req (QFE) | Trans level: FL 60 ❶ | Trans alt: 4000′(2956′)





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

HIALS PAPI | MD 468 on 295°

STRAIGHT-IN LANDING RWY 30

	ILS DA(H) 1244′(200′) FULL	ILS DA(H) 1244′(200′) ALS out	LOC (GS out)
A	RVR 720m VIS 800m	1200m	NOT AUTHORIZED
B			
C			
D			

PANS OPS

CHANGES: Missed approach.

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URMM/MRV
MINERALNYYE VODY

JEPPESEN 30 DEC 11 (12-1) Eff 12 Jan

MINERALNYYE VODY, RUSSIA
RNAV (GNSS) Rwy 12

BRIEFING STRIP TM

ATIS	MINERALNYYE VODY Approach	MINERALNYYE VODY Krug (R)	MINERALNYYE VODY Start (TWR)	Ground
125.25 (Russian 127.4)	119.3	120.7	128.0	121.9

RNAV	Final Apch Crs	Minimum Alt MWØØ2	MDA(H)	Apt Elev 1047′
	115°	3010′(1973′)	1480′(443′)	RWY 1037′

MISSED APCH: Climb on 115° to 1700′(663′), then turn LEFT climbing to 3010′(1973′) and proceed to MWØØ8, then as directed.

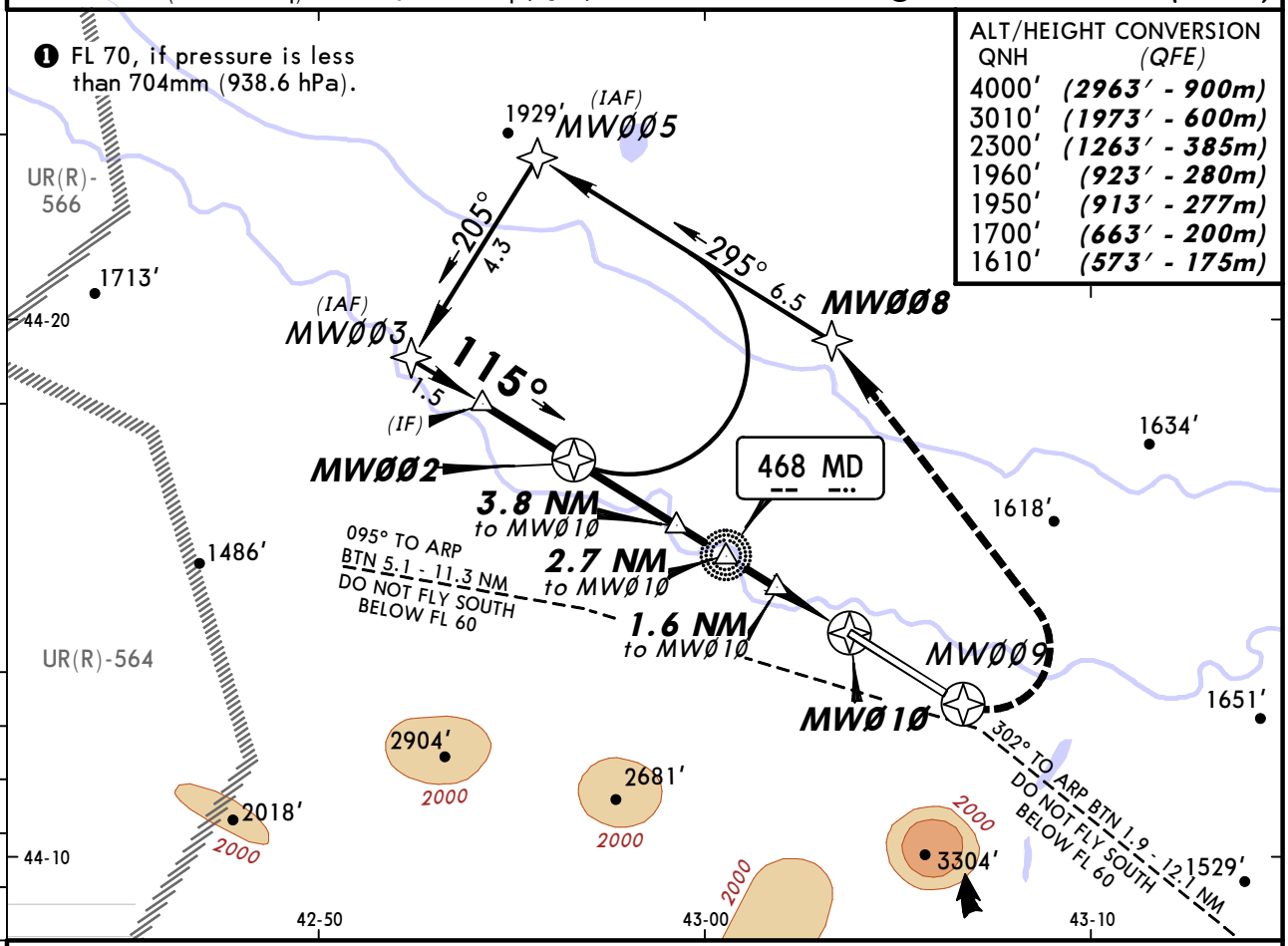
MSA Airport: 3400′ (095°–302°), 6900′

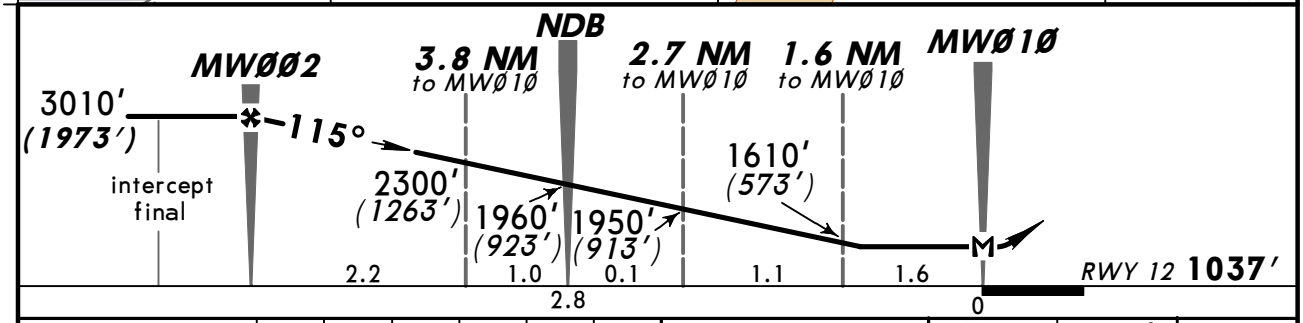
Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: FL 60 ❶ Trans alt: 4000′ (2963′)

❶ 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)
1700′	(663′ - 200m)
1610′	(573′ - 175m)





Gnd speed-Kts	70	90	100	120	140	160
Descent angle 3.00°	372	478	531	637	743	849
MAP at MWØ1Ø						

HIALS-II PAPI 1700′ (663′) on 115°

PANS OPS

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

CHANGES: Procedure.

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URMM/MRV
MINERALNYYE VODY

JEPPESEN 30 DEC 11 (12-2) Eff 12 Jan

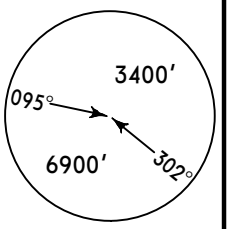
MINERALNYYE VODY, RUSSIA
RNAV (GNSS) Rwy 30

BRIEFING STRIP ™

ATIS	MINERALNYYE VODY Approach	MINERALNYYE VODY Krug (R)	MINERALNYYE VODY Start (TWR)	Ground
125.25 (Russian 127.4)	119.3	120.7	128.0	121.9

RNAV	Final Apch Crs	Minimum Alt	MDA(H)	Apt Elev 1047′
	295°	MWØ16 3020′(1976′)	1460′(416′)	RWY 1044′

MISSED APCH: Climb on 295° to NDB, then turn RIGHT climbing to 3020′(1976′) and proceed to MWØ17, then as directed.



Alt Set: MM (hPa on req) | QNH on req (QFE) | Trans level: FL 60 ❶ | Trans alt: 4000′(2956′)

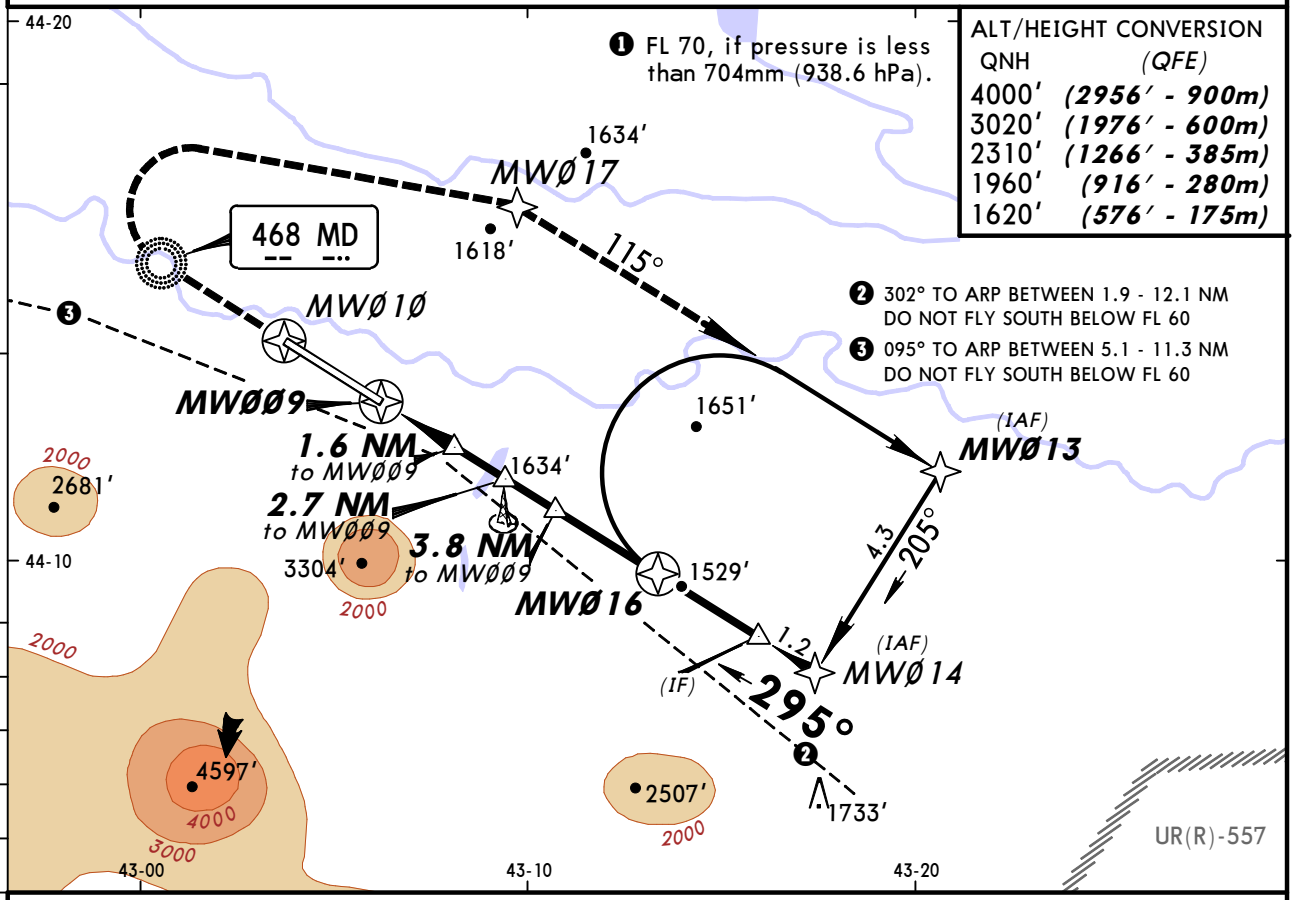
❶ FL 70, if pressure is less than 704mm (938.6 hPa).

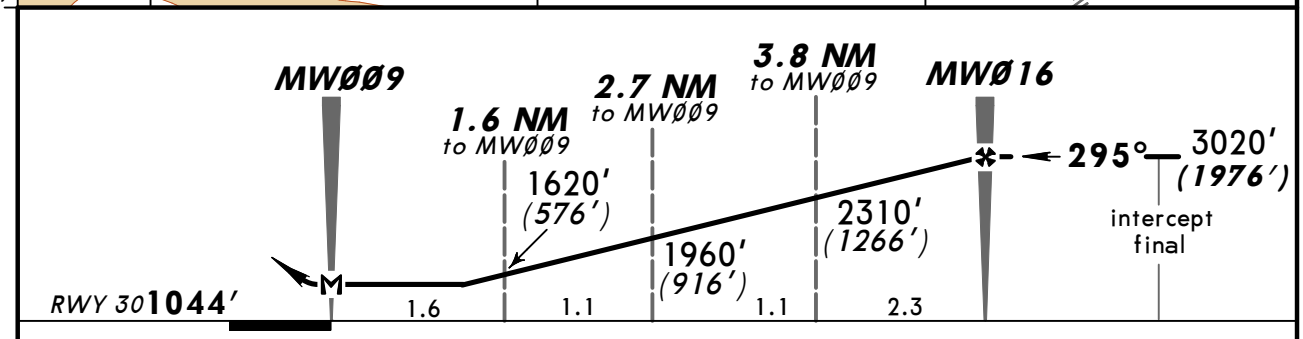
ALT/HEIGHT CONVERSION

QNH	(QFE)
4000′	(2956′ - 900m)
3020′	(1976′ - 600m)
2310′	(1266′ - 385m)
1960′	(916′ - 280m)
1620′	(576′ - 175m)

❷ 302° TO ARP BETWEEN 1.9 - 12.1 NM DO NOT FLY SOUTH BELOW FL 60

❸ 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
Descent angle 3.00°	372	478	531	637	743	849
MAP at MWØØ9						

HIALS
PAPI

MD 468 on 295°

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: Procedure.

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URMM/MRV
MINERALNYYE VODY

30 DEC 11 (13-1) Eff 12 Jan

JEPPESEN

MINERALNYYE VODY, RUSSIA
VOR DME or NDB ❶ Rwy 12

BRIEFING STRIP ™

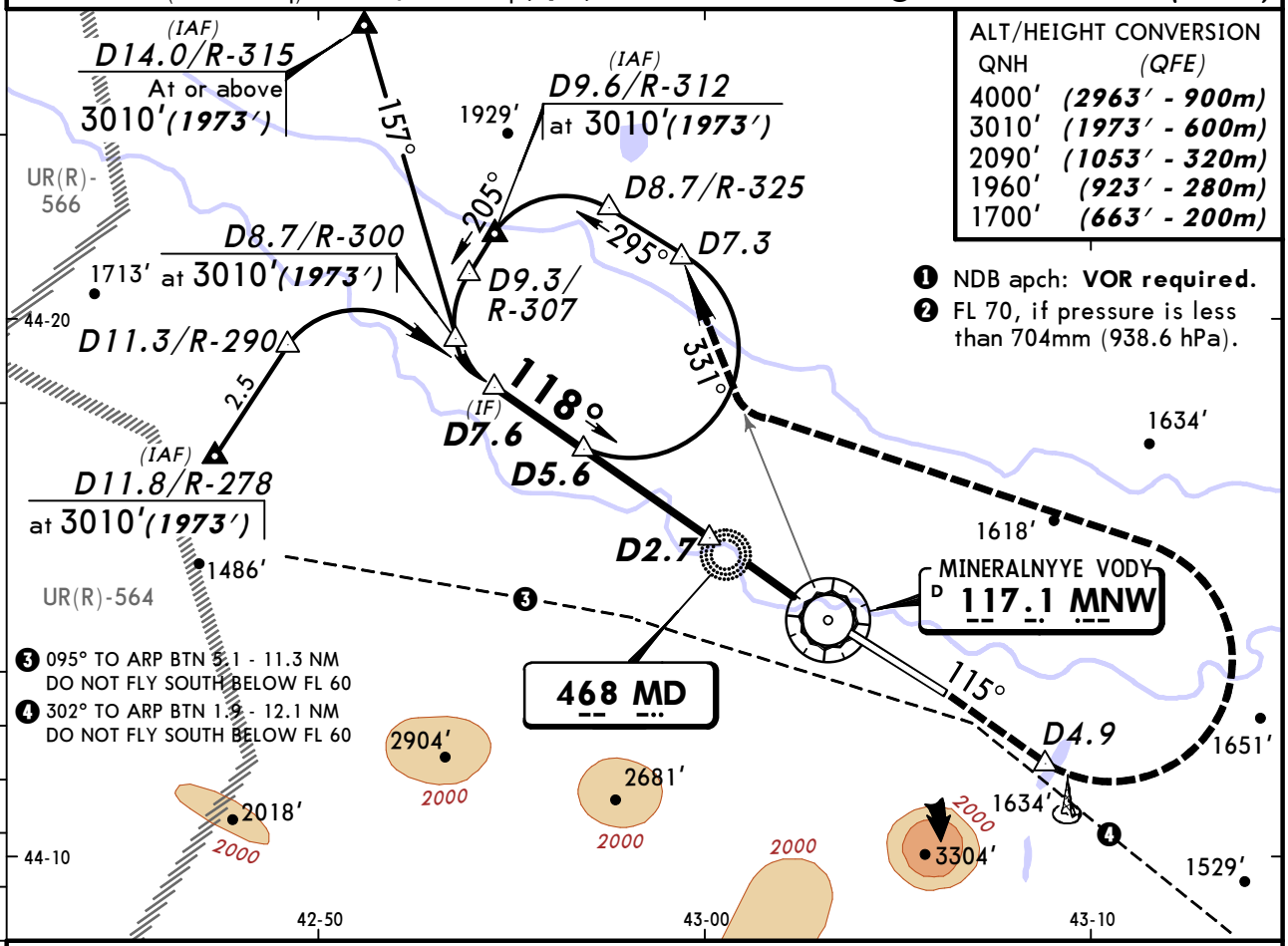
ATIS	MINERALNYYE VODY Approach	MINERALNYYE VODY Krug (R)	MINERALNYYE VODY Start (TWR)	Ground
125.25 (Russian 127.4)	119.3	120.7	128.0	121.9

VOR MNW 117.1	Final Apch Crs 118°	Minimum Alt D5.6 3010′(1973′)	VOR MDA(H) 1480′(443′)	Apt Elev 1047′
NDB MD 468			NDB MDA(H) 2900′(1863′)	RWY 1037′

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

MSA MNW VOR: 095° 3400′; 302° 6900′

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

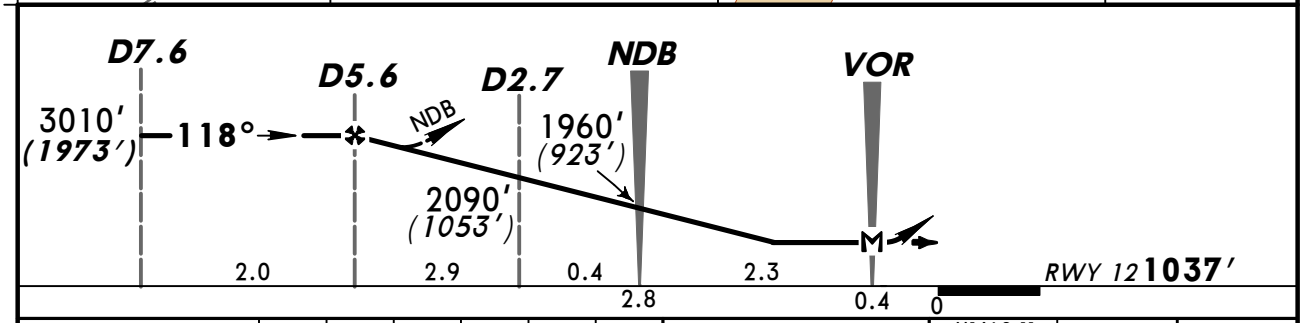


❶ NDB apch: **VOR required.**
❷ FL 70, if pressure is less than 704mm (938.6 hPa).

❸ 095° TO ARP BTN 5.1 - 11.3 NM DO NOT FLY SOUTH BELOW FL 60
❹ 302° TO ARP BTN 1.9 - 12.1 NM DO NOT FLY SOUTH BELOW FL 60

ALT/HEIGHT CONVERSION

QNH	(QFE)
4000′	(2963′ - 900m)
3010′	(1973′ - 600m)
2090′	(1053′ - 320m)
1960′	(923′ - 280m)
1700′	(663′ - 200m)



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

HIALS-II
PAPI
D4.9 on 115°

STRAIGHT-IN LANDING RWY 12

PANS OPS

	VOR MDA(H) 1480′(443′)		NDB 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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URMM/MRV
MINERALNYYE VODY

JEPPESEN 30 DEC 11 (13-2) Eff 12 Jan

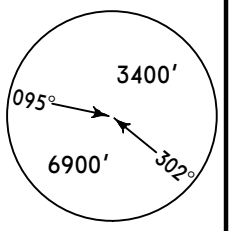
MINERALNYYE VODY, RUSSIA
VOR DME Rwy 30

BRIEFING STRIP

ATIS	MINERALNYYE VODY Approach	MINERALNYYE VODY Krug (R)	MINERALNYYE VODY Start (TWR)	Ground
125.25 (Russian 127.4)	119.3	120.7	128.0	121.9

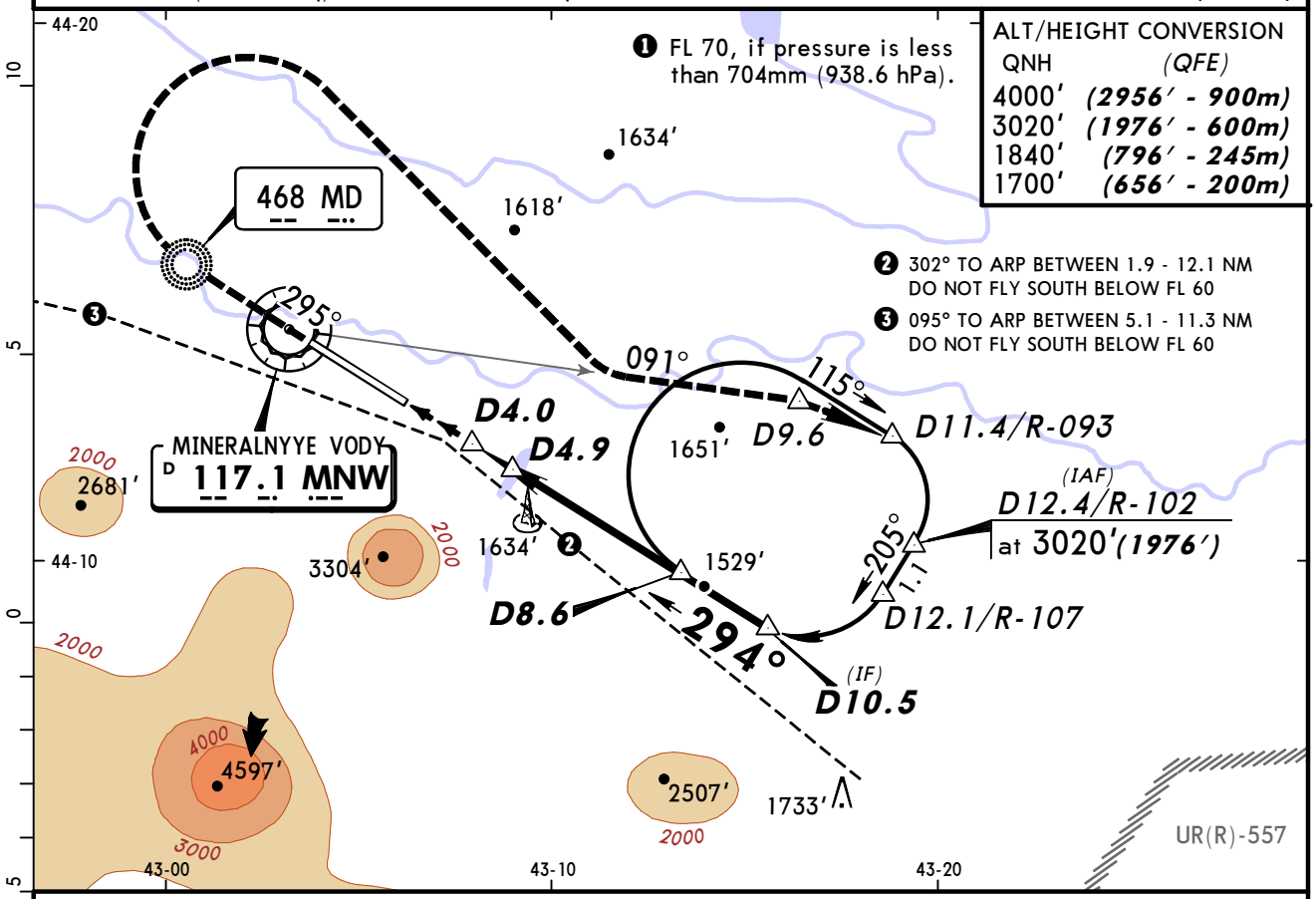
VOR	Final Apch Crs	Minimum Alt	MDA(H) (CONDITIONAL)	Apt Elev 1047′
MNW 117.1	294°	D8.6 3020′(1976′)	1560′(516′)	RWY 1044′

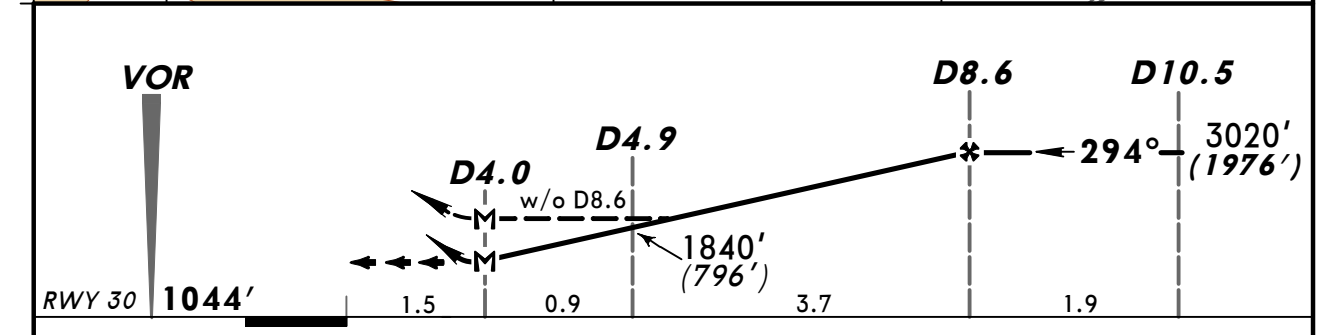
MISSED APCH: Climb on 295° to NDB, then turn RIGHT climbing to 3020′(1976′) and intercept R-091, then as directed.



MSA MNW VOR

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





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

HIALS PAPI MD 468 on 295°

STRAIGHT-IN LANDING RWY 30

	with D8.6 MDA(H) 1560′(516′)	ALS out	w/o D8.6 MDA(H) 1850′(806′)	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

PANS OPS

CHANGES: Procedure.

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Chart changes since cycle 07-2012

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

ACT	PROCEDURE IDENT	INDEX	REV DATE	EFF DATE

MINERALNYYE VODY, (MINERALNYYE VODY - URMM)

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TERMINAL CHART CHANGE NOTICES

No Chart Change Notices for Airport URMM

Chart Change Notices for Country RUS

Type: Gen Tmnl
Effectivity: Temporary
Begin Date: Immediately
End Date: Until Further Notice

The Russian CAA provided major changes for the AIRAC cycle effective 17 November 2011, including implementation of RVSM separation techniques and ICAO flight level system, airspace alignment and change of the existing coordinates standard to PZ-90.02. Also affected by the change are the countries of Afghanistan, Kazakhstan, Kyrgyzstan, Mongolia, Tajikistan, Turkmenistan, and Uzbekistan. We have also received late sources effective 17 November 2011.Please continue to refer to the notices published for the individual airports and our website. www.jeppesen.com/eurasiachange.