

## List of pages in this Trip Kit

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Terminal Charts For UMMG

Revision Letter For Cycle 01-2014

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Notebook

## General Information

Location: Hrodna Blr  
IATA Code: GNA  
Lat/Long: N53° 36.1' E024° 03.2'  
Elevation: 443 ft

Airport Use: Public  
Magnetic Variation: 6.2°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: 0639 Z  
Sunset: 1420 Z,

## Runway Information

Runway: 08  
Length x Width: 2185 ft x 92 ft  
Surface Type: asphalt  
TDZ-Elev: 443 ft

Runway: 17  
Length x Width: 8399 ft x 138 ft  
Surface Type: concrete  
TDZ-Elev: 443 ft  
Lighting: Edge, ALS

Runway: 26  
Length x Width: 2185 ft x 92 ft  
Surface Type: asphalt  
TDZ-Elev: 443 ft

Runway: 35  
Length x Width: 8399 ft x 138 ft  
Surface Type: concrete  
TDZ-Elev: 430 ft  
Lighting: Edge, ALS

## Communication Information

ATIS 135.025

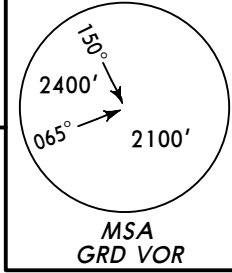
ATIS 126.175 Non-English

Hrodna Tower 134.5

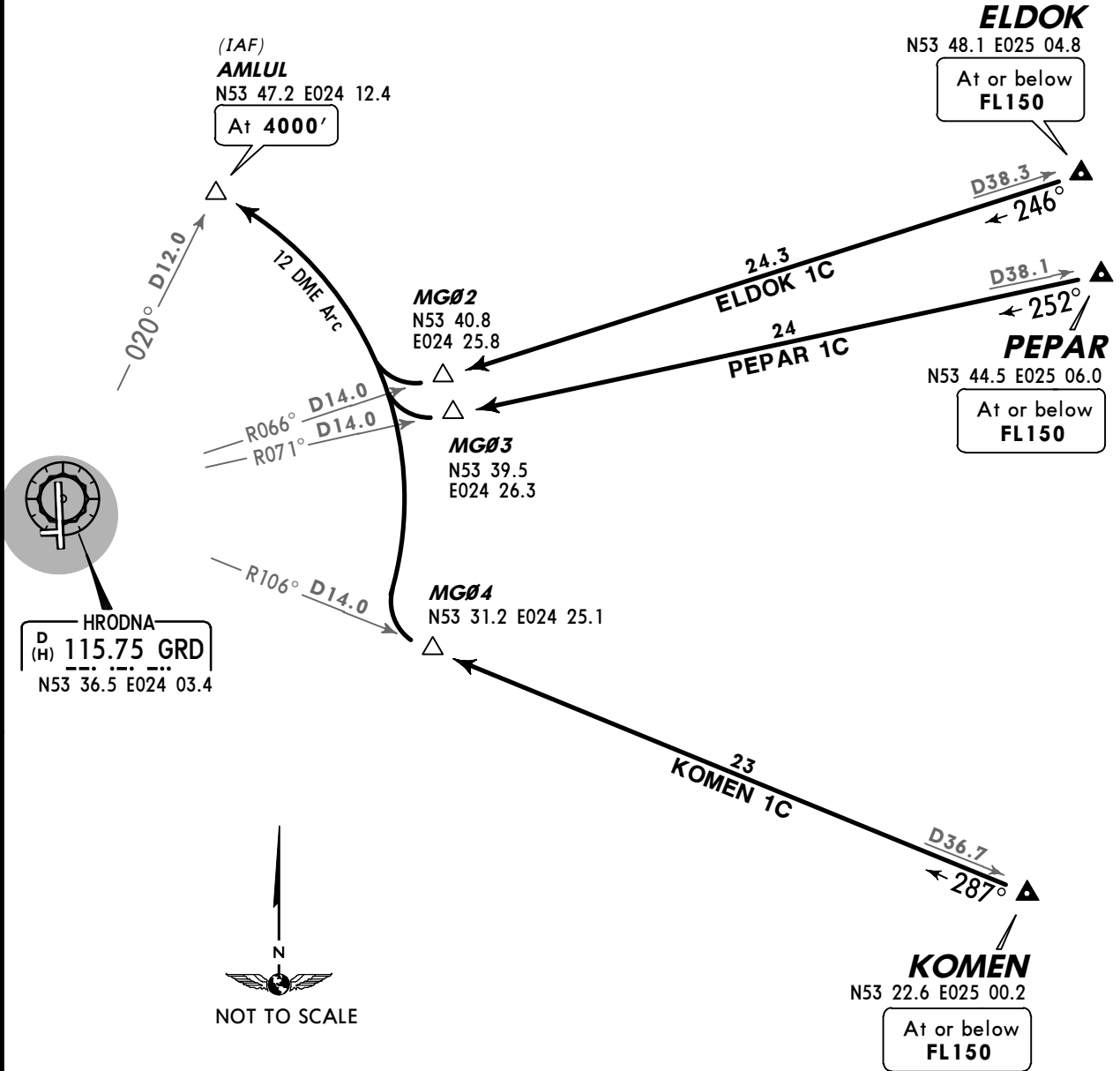
\*ATIS  
135.02  
(Russian 126.17)

Apt Elev  
443'

Alt Set: hPa  
Trans level: By ATC Trans alt: 6000'



ELDOK ONE CHARLIE (ELDOK 1C)  
KOMEN ONE CHARLIE (KOMEN 1C)  
PEPAR ONE CHARLIE (PEPAR 1C)  
RWY 17 ARRIVALS  
VOR DME REQUIRED

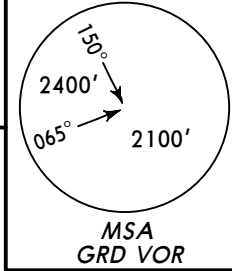


STAR	ROUTING
<b>ELDOK 1C</b>	Intercept GRD R-066 inbound to MG02, turn RIGHT, along GRD 12 DME arc to AMLUL.
<b>KOMEN 1C</b>	Intercept GRD R-106 inbound to MG04, turn RIGHT, along GRD 12 DME arc to AMLUL.
<b>PEPAR 1C</b>	Intercept GRD R-071 inbound to MG03, turn RIGHT, along GRD 12 DME arc to AMLUL.

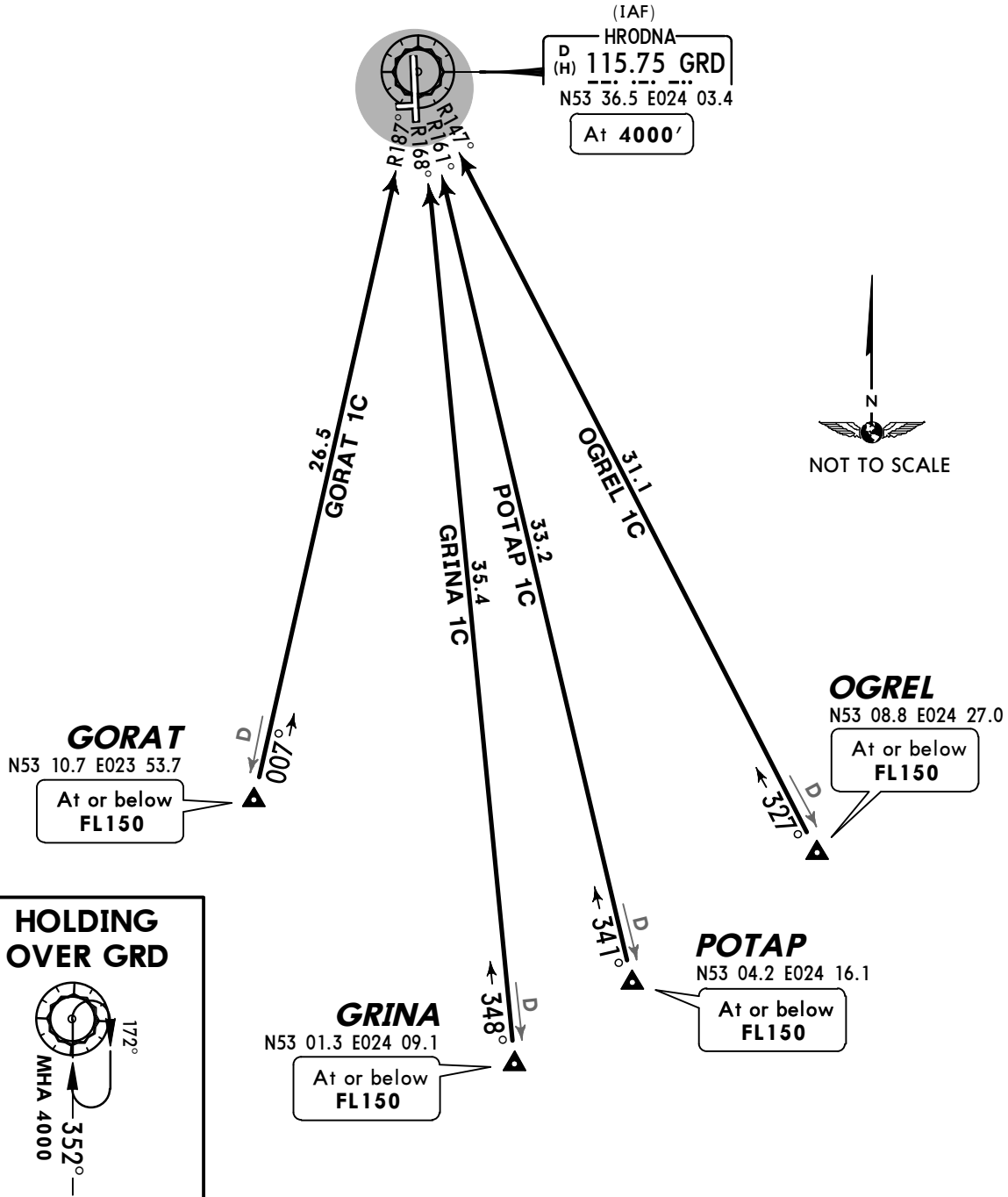
\*ATIS  
135.02  
(Russian 126.17)

Apt Elev  
443'

Alt Set: hPa  
Trans level: By ATC Trans alt: 6000'



GORAT ONE CHARLIE (GORAT 1C)  
GRINA ONE CHARLIE (GRINA 1C)  
OGREL ONE CHARLIE (OGREL 1C)  
POTAP ONE CHARLIE (POTAP 1C)  
RWY 17 ARRIVALS  
VOR DME REQUIRED



STAR

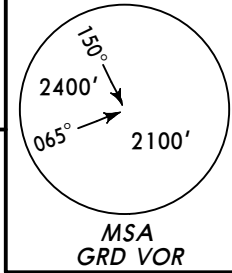
ROUTING

<b>GORAT 1C</b>	Intercept GRD R-187 inbound to GRD.
<b>GRINA 1C</b>	Intercept GRD R-168 inbound to GRD.
<b>OGREL 1C</b>	Intercept GRD R-147 inbound to GRD.
<b>POTAP 1C</b>	Intercept GRD R-161 inbound to GRD.

\*ATIS  
135.02  
(Russian 126.17)

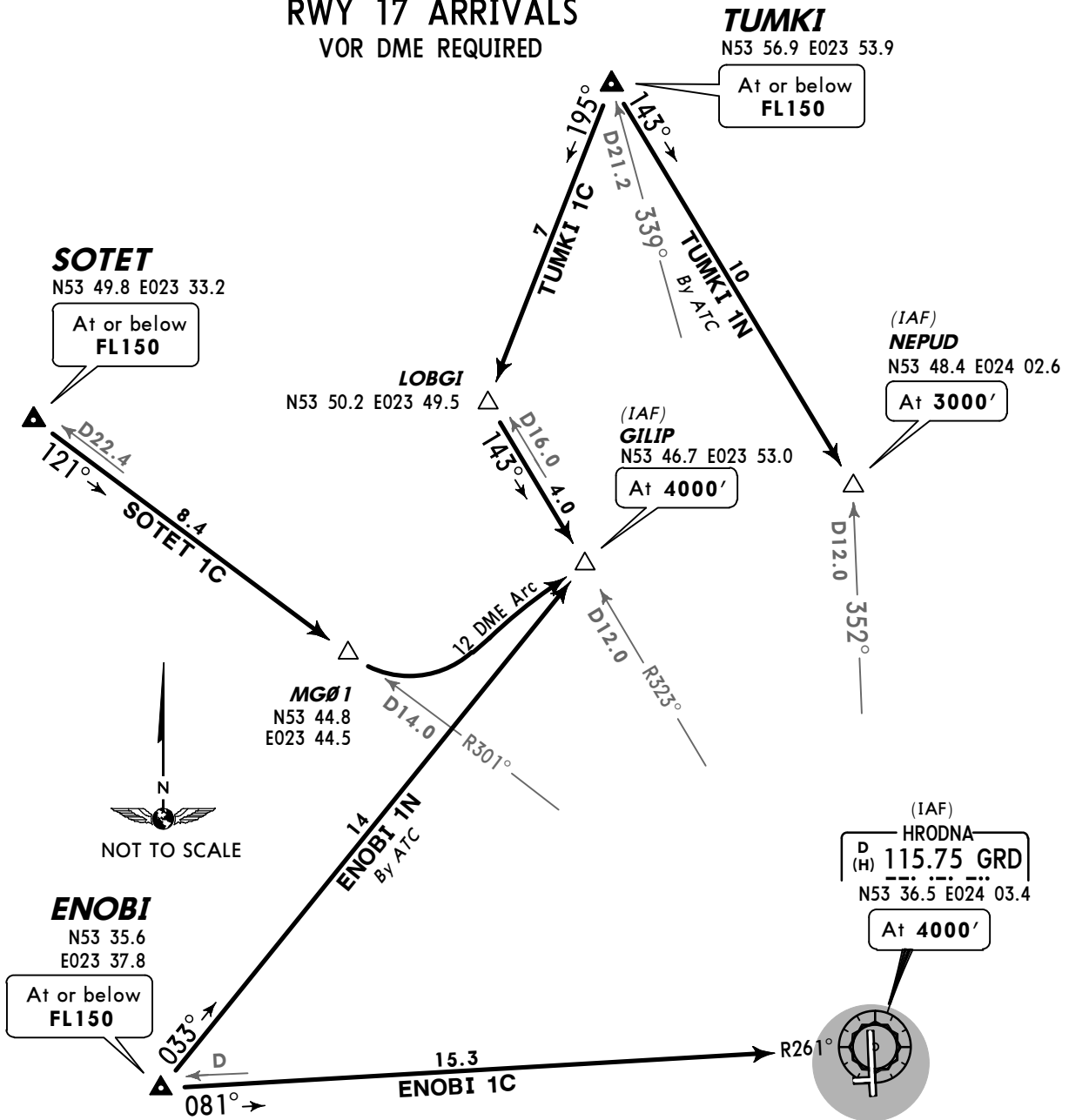
Apt Elev  
443'

Alt Set: hPa  
Trans level: By ATC Trans alt: 6000'



ENOBI ONE CHARLIE (ENOBI 1C)  
SOTET ONE CHARLIE (SOTET 1C)  
TUMKI ONE CHARLIE (TUMKI 1C)  
ENOBI ONE NOVEMBER (ENOBI 1N)  
TUMKI ONE NOVEMBER (TUMKI 1N)  
BY ATC

RWY 17 ARRIVALS  
VOR DME REQUIRED

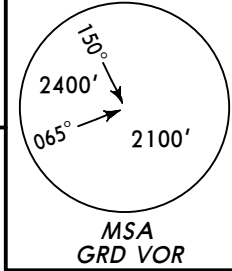


STAR	ROUTING
ENOBI 1C	Intercept GRD R-261 inbound to GRD.
ENOBI 1N By ATC	On 033° track to GILIP.
SOTET 1C	Intercept GRD R-301 inbound to MG01, turn LEFT, along GRD 12 DME arc to GILIP.
TUMKI 1C	On 195° track to LOBGI, turn LEFT, intercept GRD R-323 inbound to GILIP.
TUMKI 1N By ATC	On 143° track to NEPUD.

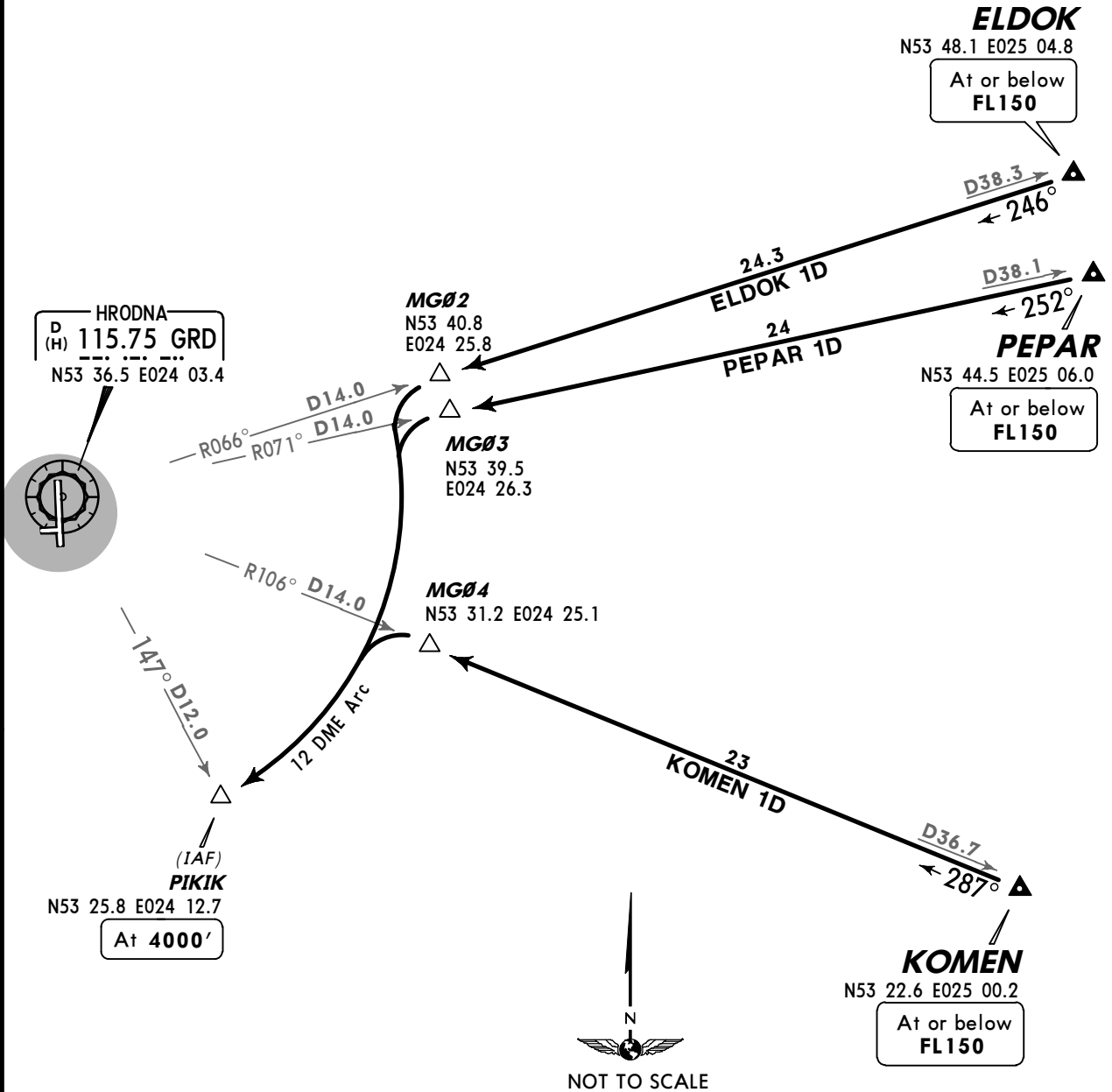
\*ATIS  
135.02  
(Russian 126.17)

Apt Elev  
443'

Alt Set: hPa  
Trans level: By ATC Trans alt: 6000'



ELDOK ONE DELTA (ELDOK 1D)  
KOMEN ONE DELTA (KOMEN 1D)  
PEPAR ONE DELTA (PEPAR 1D)  
RWY 35 ARRIVALS  
VOR DME REQUIRED

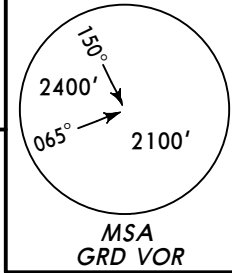


STAR	ROUTING
ELDOK 1D	Intercept GRD R-066 inbound to MG02, turn LEFT, along GRD 12 DME arc to PIKIK.
KOMEN 1D	Intercept GRD R-106 inbound to MG04, turn LEFT, along GRD 12 DME arc to PIKIK.
PEPAR 1D	Intercept GRD R-071 inbound to MG03, turn LEFT, along GRD 12 DME arc to PIKIK.

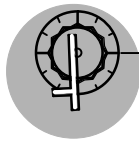
\*ATIS  
135.02  
(Russian 126.17)

Apt Elev  
443'

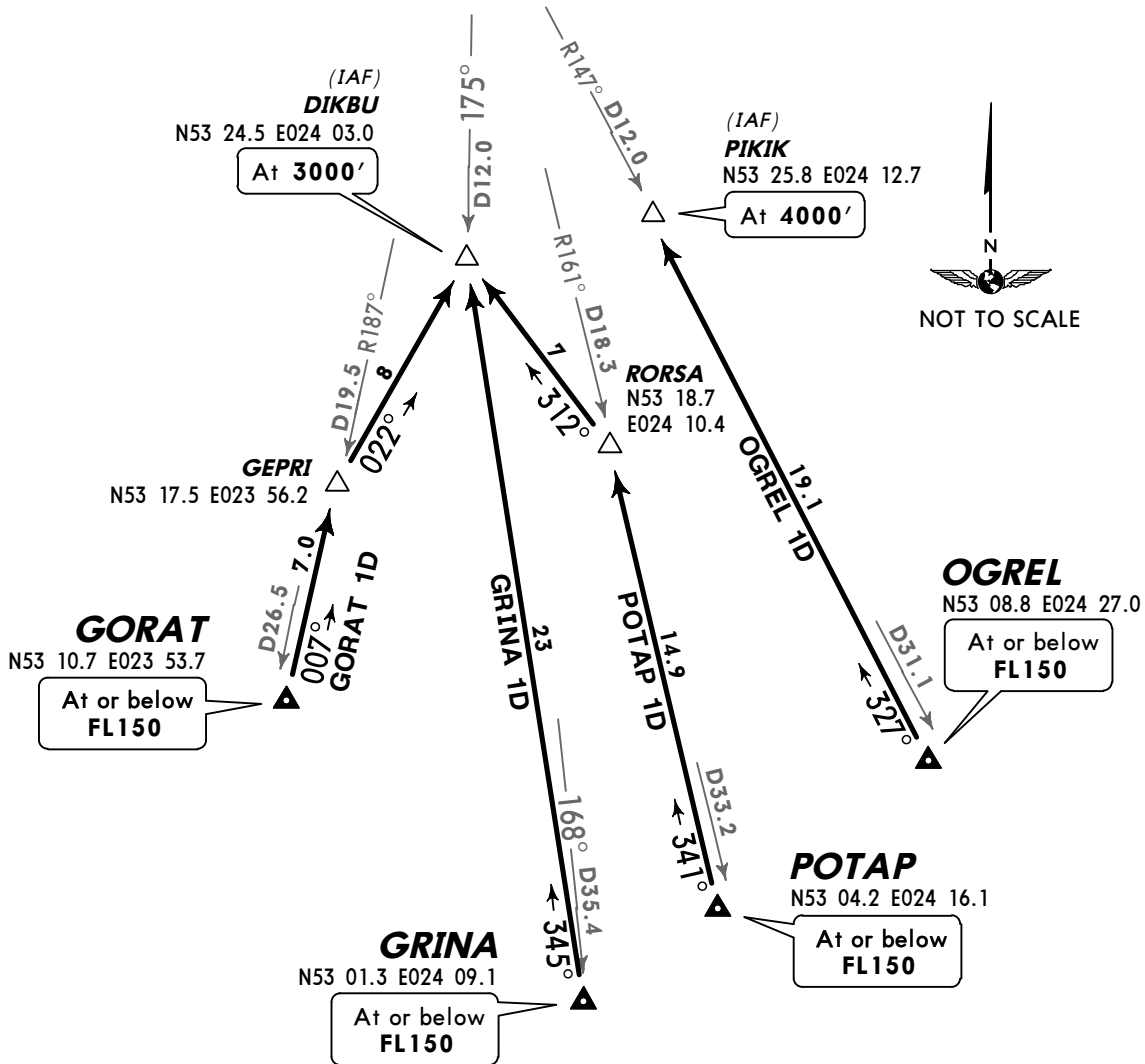
Alt Set: hPa  
Trans level: By ATC Trans alt: 6000'



GORAT ONE DELTA (GORAT 1D)  
GRINA ONE DELTA (GRINA 1D)  
OGREL ONE DELTA (OGREL 1D)  
POTAP ONE DELTA (POTAP 1D)  
RWY 35 ARRIVALS  
VOR DME REQUIRED



HRODNA  
D (H) 115.75 GRD  
N53 36.5 E024 03.4



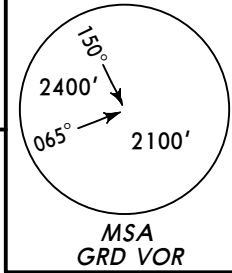
STAR	ROUTING
GORAT 1D	On 007° track to GEPR1, turn RIGHT, 022° track to DIKBU.
GRINA 1D	On 345° track to DIKBU.
OGREL 1D	Intercept GRD R-147 inbound to PIKIK.
POTAP 1D	Intercept GRD R-161 inbound to RORSA, turn LEFT, 312° track to DIKBU.



\*ATIS  
135.02  
(Russian 126.17)

Apt Elev  
443'

Alt Set: hPa  
Trans level: By ATC Trans alt: 6000'



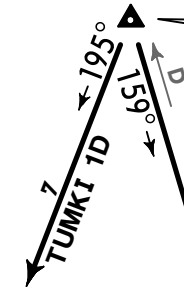
ENOBI ONE DELTA (ENOBI 1D)  
SOTET ONE DELTA (SOTET 1D)  
TUMKI ONE DELTA (TUMKI 1D)  
TUMKI ONE MIKE (TUMKI 1M)  
BY ATC

RWY 35 ARRIVALS  
VOR DME REQUIRED

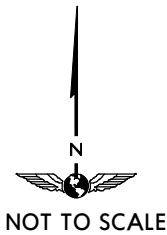
**TUMKI**  
N53 56.9 E023 53.9  
At or below  
FL150

**SOTET**  
N53 49.8 E023 33.2  
At or below  
FL150

**LOBGI**  
N53 50.2 E023 49.5



TUMKI 1M  
By ATC  
21.2  
16.0



SOTET 1D  
22.4

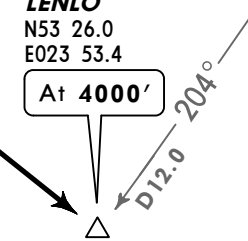
(IAF)  
**HRODNA**  
D (H) 115.75 GRD  
N53 36.5 E024 03.4  
At 4000'

**ENOBI**  
N53 35.6 E023 37.8  
At or below  
FL150

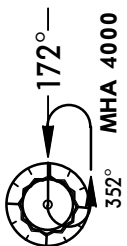


ENOBI 1D  
13

(IAF)  
**LENLO**  
N53 26.0  
E023 53.4  
At 4000'



HOLDING  
OVER GRD



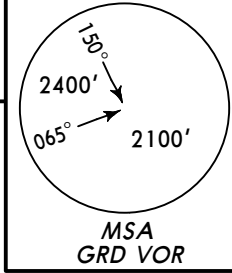
STAR

ROUTING

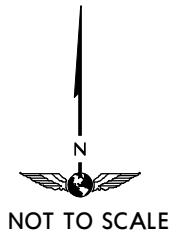
<b>ENOBI 1D</b>	On 130° track to LENLO.
<b>SOTET 1D</b>	Intercept GRD R-301 inbound to GRD.
<b>TUMKI 1D</b>	On 195° track to LOBGI, turn LEFT, intercept GRD R-323 inbound to GRD.
<b>TUMKI 1M</b> By ATC	Intercept GRD R-339 inbound to GRD.

Apt Elev  
443'

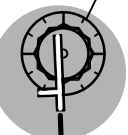
Trans level: By ATC Trans alt: 6000'  
Procedures based on 240 KT.



**ELDOK ONE ALFA (ELDOK 1A)  
KOMEN ONE ALFA (KOMEN 1A)  
PEPAR ONE ALFA (PEPAR 1A)  
RWY 17 DEPARTURES  
VOR DME REQUIRED**



HRODNA  
D (H) 115.75 GRD  
N53 36.5 E024 03.4

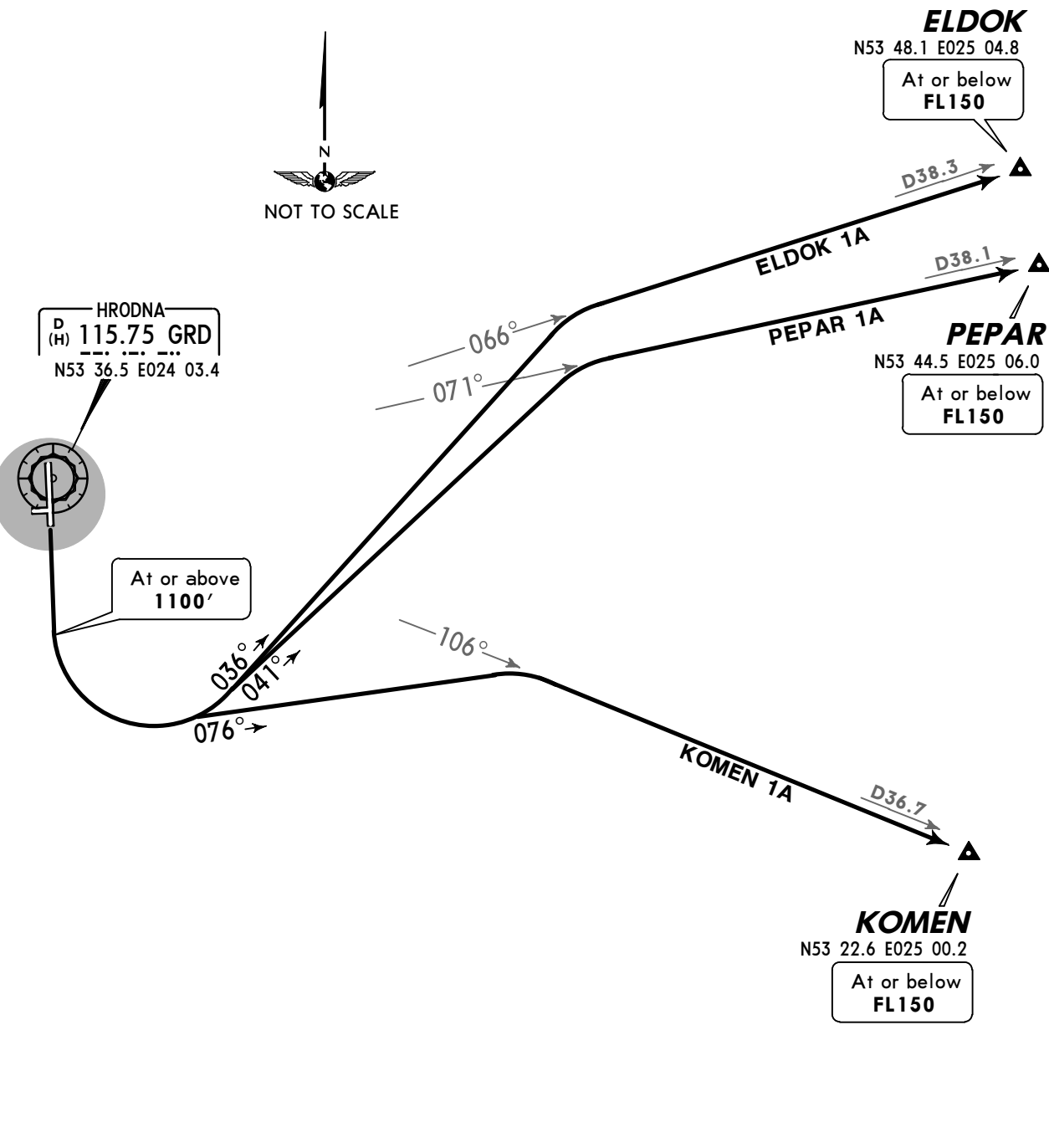


At or above  
1100'

**ELDOK**  
N53 48.1 E025 04.8  
At or below  
FL150

**PEPAR**  
N53 44.5 E025 06.0  
At or below  
FL150

**KOMEN**  
N53 22.6 E025 00.2  
At or below  
FL150

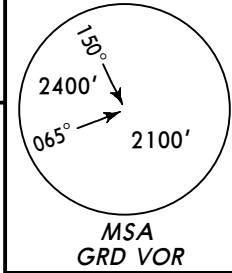


SID	ROUTING
<b>ELDOK 1A</b>	Climb straight ahead to at or above 1100', turn LEFT, 036° track, intercept GRD R-066 to ELDOK.
<b>KOMEN 1A</b>	Climb straight ahead to at or above 1100', turn LEFT, 076° track, intercept GRD R-106 to KOMEN.
<b>PEPAR 1A</b>	Climb straight ahead to at or above 1100', turn LEFT, 041° track, intercept GRD R-071 to PEPAR.



Apt Elev  
443'

Trans level: By ATC Trans alt: 6000'  
Procedures based on 240 KT.



SOTET ONE ALFA (SOTET 1A)  
TUMKI ONE ALFA (TUMKI 1A)  
TUMKI ONE KILO (TUMKI 1K)  
BY ATC

RWY 17 DEPARTURES  
VOR DME REQUIRED

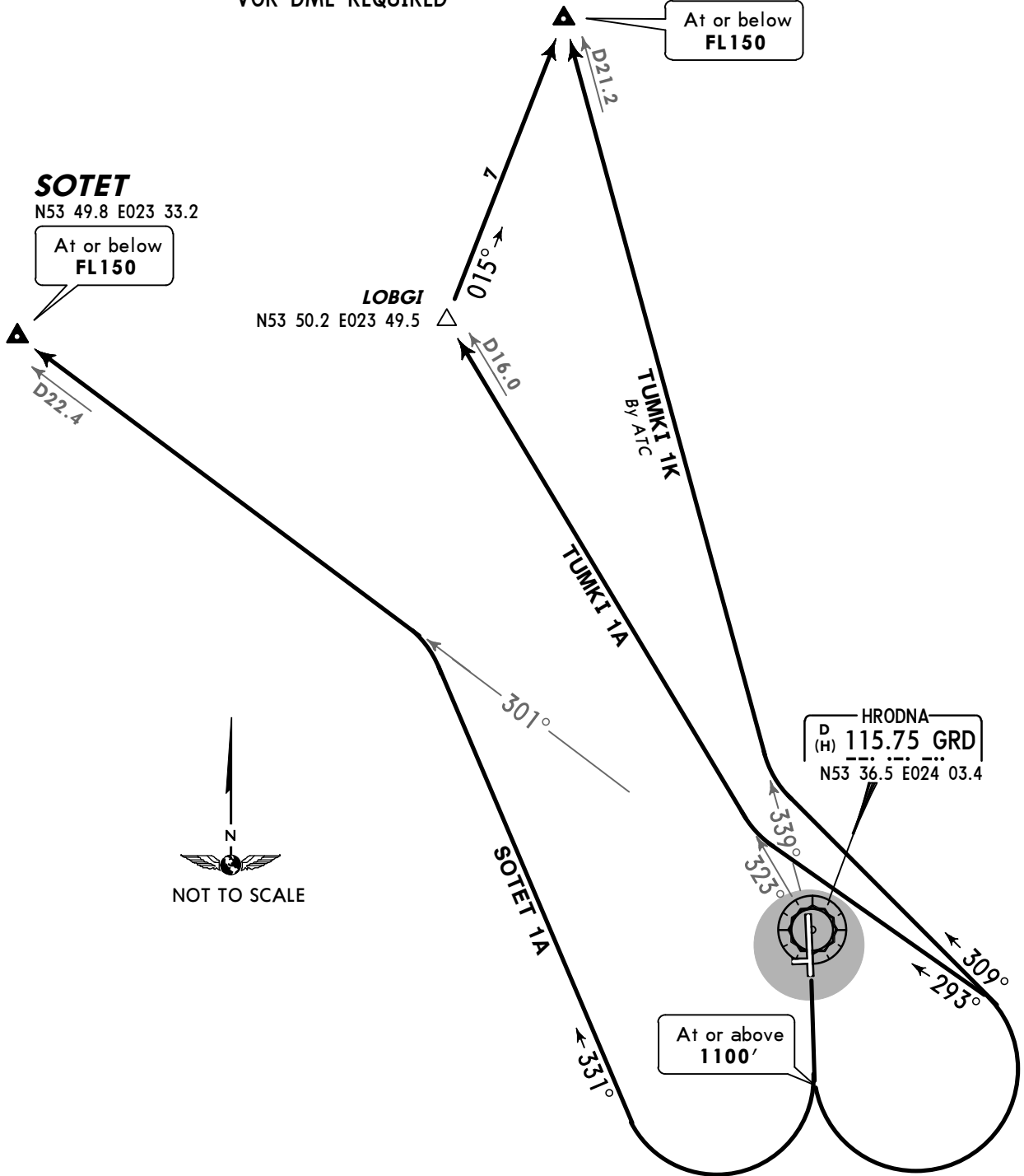
**TUMKI**  
N53 56.9 E023 53.9

At or below  
FL150

**SOTET**  
N53 49.8 E023 33.2

At or below  
FL150

**LOBGI**  
N53 50.2 E023 49.5



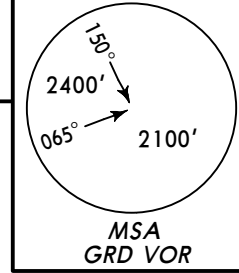
HRODNA  
P (H) 115.75 GRD  
N53 36.5 E024 03.4

At or above  
1100'

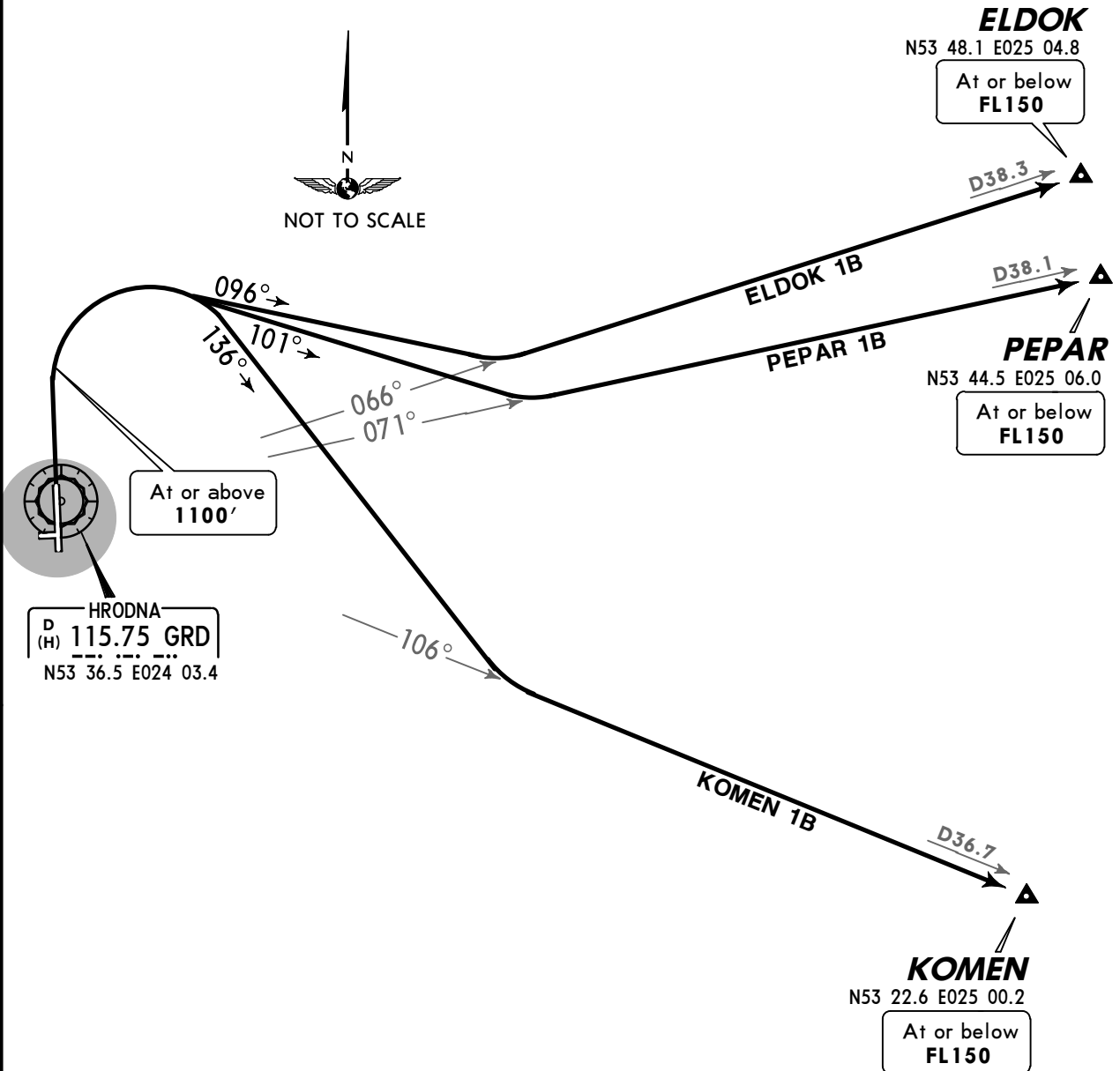
SID	ROUTING
SOTET 1A	Climb straight ahead to at or above 1100' , turn RIGHT, 331° track, intercept GRD R-301 to SOTET.
TUMKI 1A	Climb straight ahead to at or above 1100' , turn LEFT, 293° track, intercept GRD R-323 to LOBGI, turn RIGHT, 015° track to TUMKI.
TUMKI 1K By ATC	Climb straight ahead to at or above 1100' , turn LEFT, 309° track, intercept GRD R-339 to TUMKI.

Apt Elev  
443'

Trans level: By ATC Trans alt: 6000'  
Procedures based on 240 KT.



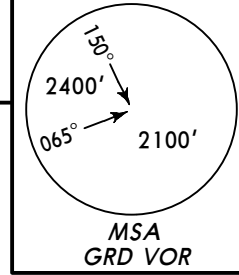
**ELDOK ONE BRAVO (ELDOK 1B)**  
**KOMEN ONE BRAVO (KOMEN 1B)**  
**PEPAR ONE BRAVO (PEPAR 1B)**  
**RWY 35 DEPARTURES**  
VOR DME REQUIRED



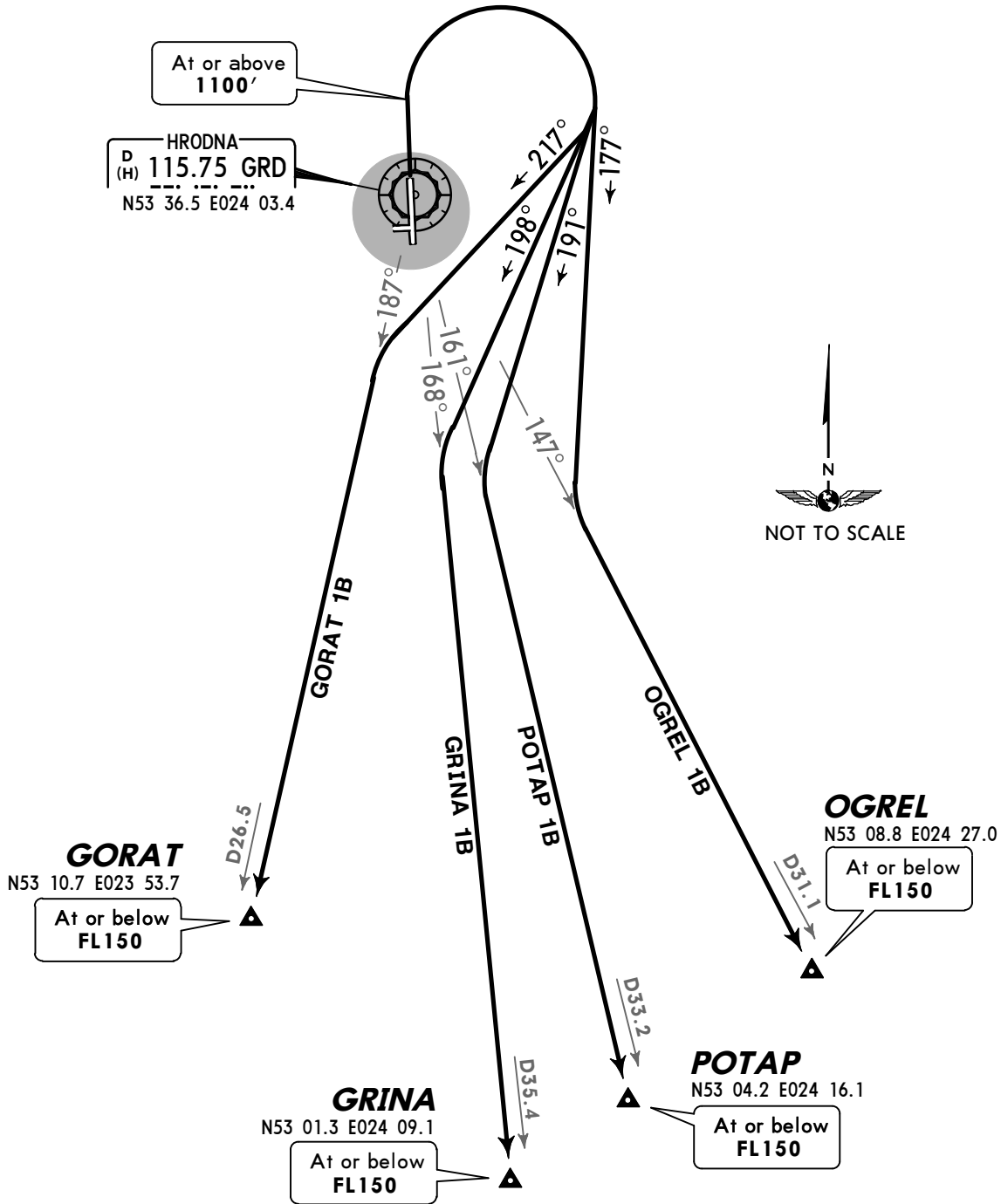
SID	ROUTING
<b>ELDOK 1B</b>	Climb straight ahead to at or above 1100', turn RIGHT, 096° track, intercept GRD R-066 to ELDOK.
<b>KOMEN 1B</b>	Climb straight ahead to at or above 1100', turn RIGHT, 136° track, intercept GRD R-106 to KOMEN.
<b>PEPAR 1B</b>	Climb straight ahead to at or above 1100', turn RIGHT, 101° track, intercept GRD R-071 to PEPAR.

Apt Elev  
443'

Trans level: By ATC Trans alt: 6000'  
Procedures based on 240 KT.



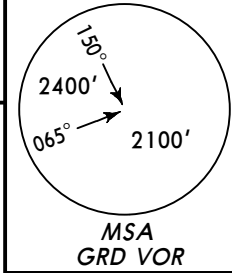
**GORAT ONE BRAVO (GORAT 1B)**  
**GRINA ONE BRAVO (GRINA 1B)**  
**OGREL ONE BRAVO (OGREL 1B)**  
**POTAP ONE BRAVO (POTAP 1B)**  
**RWY 35 DEPARTURES**  
**VOR DME REQUIRED**



SID	ROUTING
GORAT 1B	Climb straight ahead to at or above 1100' , turn RIGHT, 217° track, intercept GRD R-187 to GORAT.
GRINA 1B	Climb straight ahead to at or above 1100' , turn RIGHT, 198° track, intercept GRD R-168 to GRINA.
OGREL 1B	Climb straight ahead to at or above 1100' , turn RIGHT, 177° track, intercept GRD R-147 to OGREL.
POTAP 1B	Climb straight ahead to at or above 1100' , turn RIGHT, 191° track, intercept GRD R-161 to POTAP.

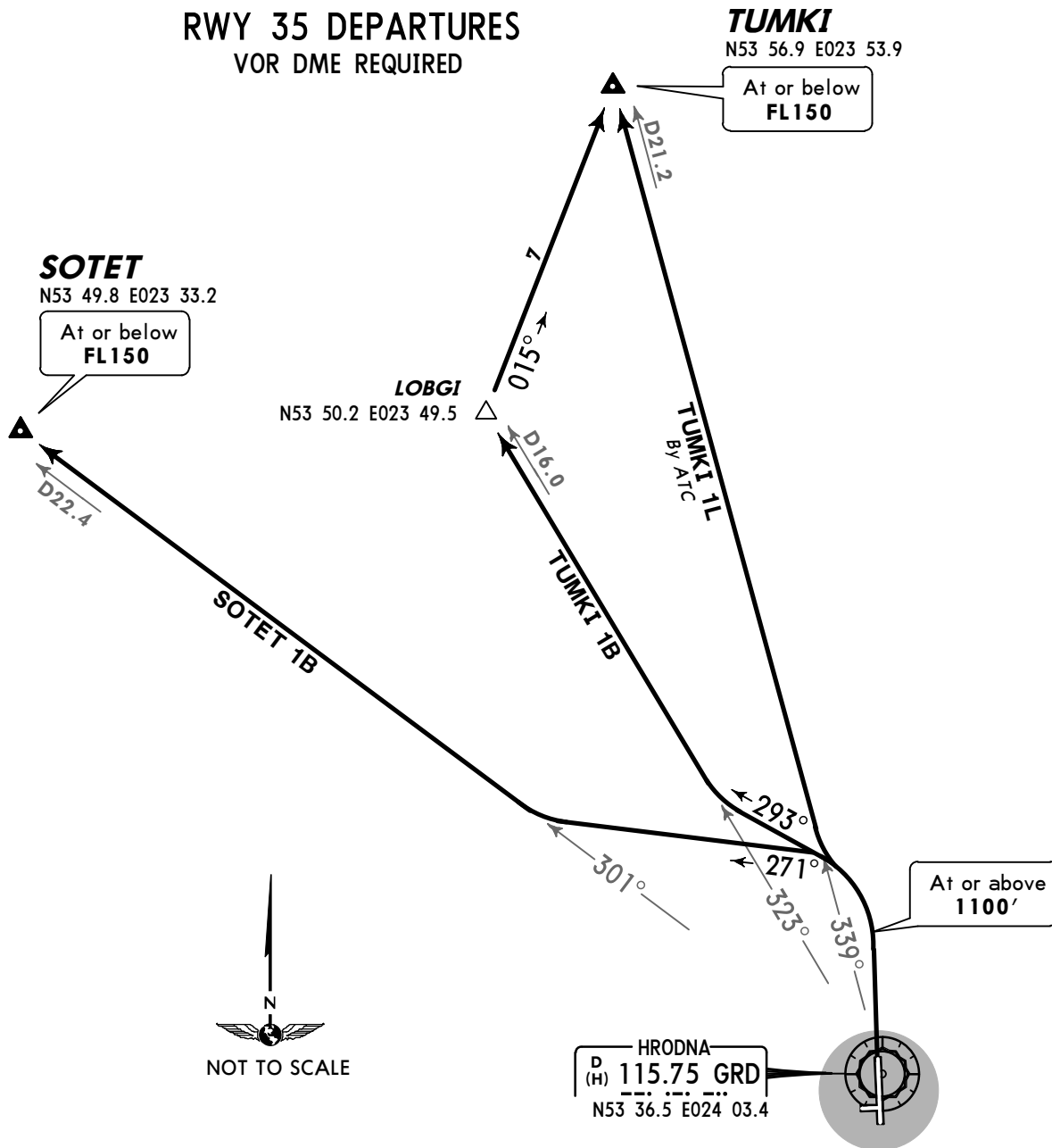
Apt Elev  
443'

Trans level: By ATC Trans alt: 6000'  
Procedures based on 240 KT.

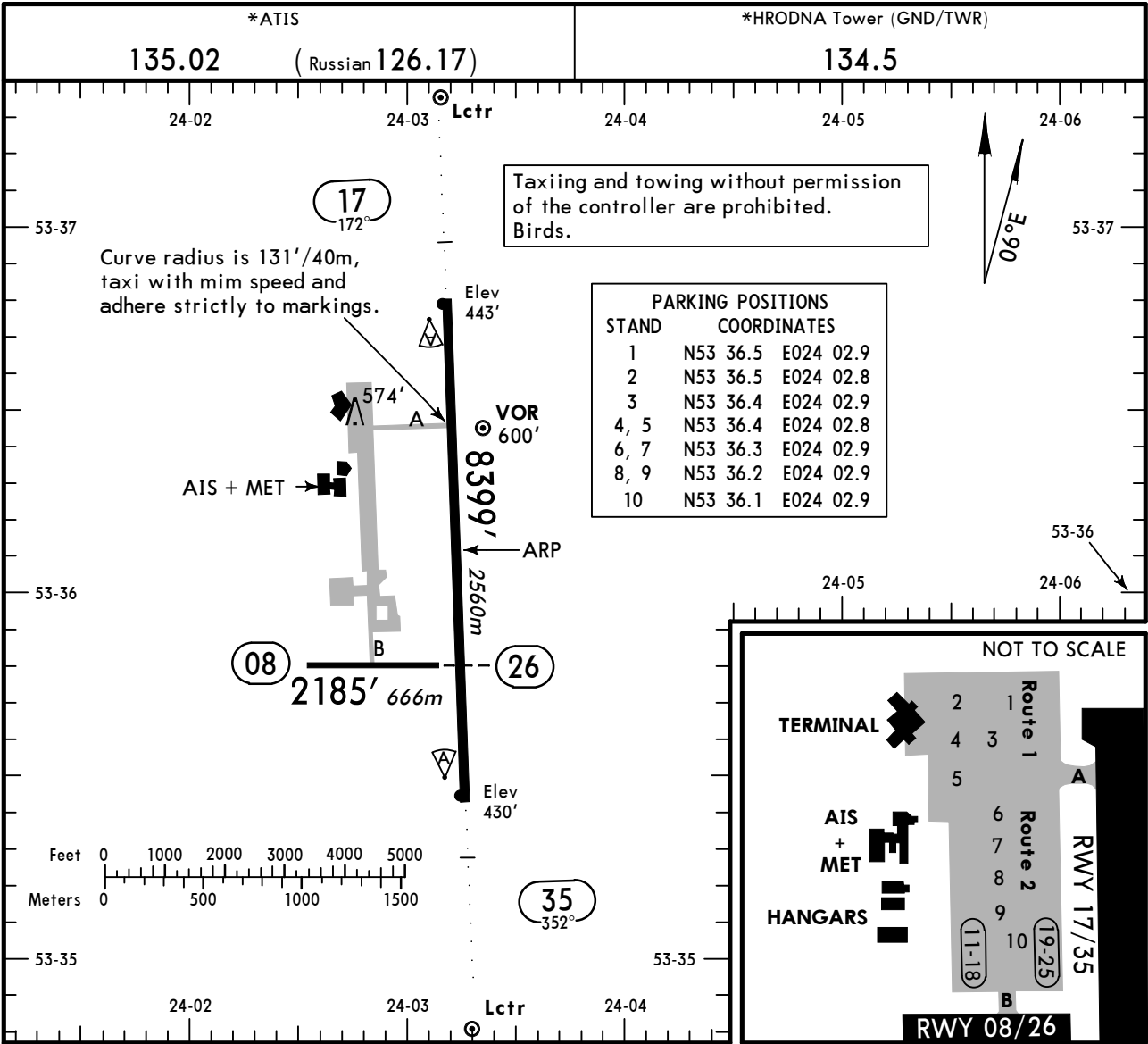


SOTET ONE BRAVO (SOTET 1B)  
TUMKI ONE BRAVO (TUMKI 1B)  
TUMKI ONE LIMA (TUMKI 1L)  
BY ATC

RWY 35 DEPARTURES  
VOR DME REQUIRED



SID	ROUTING
SOTET 1B	Climb straight ahead to at or above 1100', turn LEFT, 271° track, intercept GRD R-301 to SOTET.
TUMKI 1B	Climb straight ahead to at or above 1100', turn LEFT, 293° track, intercept GRD R-323 to LOBGI, turn RIGHT, 015° track to TUMKI.
TUMKI 1L By ATC	Climb straight ahead to at or above 1100', turn LEFT, intercept GRD R-339 to TUMKI.



ADDITIONAL RUNWAY INFORMATION

RWY		USABLE LENGTHS			WIDTH
		Threshold	Landing Beyond Glide Slope	TAKE-OFF	
08					92' 28m
26					
17	RL (60m) ALS PAPI-L (angle 2.67°) RVR		7245' 2208m		138' 42m
35		8235' 2510m		8235' 2510m	

TAKE-OFF

AIR CARRIER (JAA)  
 All Rwy's

	LVP must be in force RCLM (DAY only) or RL	RCLM (DAY only) or RL
A		
B	250m	400m
C		
D	300m	



STRAIGHT-IN RWY		A	B	C	D
17	ILS	643'(200') R1000m	643'(200') R1000m	643'(200') R1000m	643'(200') R1000m
	ALS out	R1200m	R1200m	R1200m	R1200m
	LOC	NOT AUTH	NOT AUTH	NOT AUTH	NOT AUTH
	VOR ① with DME	820'(377') R1500m	820'(377') R1500m	820'(377') R1500m	820'(377') R1500m
	ALS out	R1500m	R1500m	R1700m	R1700m
	VOR w/o DME	820'(377') R1700m	820'(377') R1700m	820'(377') R1900m	820'(377') R1900m
	ALS out	R1900m	R1900m	C2100m	C2100m
NDB ① with DME	820'(377') R1500m	820'(377') R1500m	820'(377') R1500m	820'(377') R1500m	
ALS out	R1500m	R1500m	R1700m	R1700m	
NDB ① w/o DME	820'(377') R1500m	820'(377') R1500m	820'(377') R1500m	820'(377') R1500m	
ALS out	R1700m	R1700m	R1700m	R1700m	
35	VOR ① with DME	760'(330') R1300m	760'(330') R1300m	760'(330') R1300m	760'(330') R1300m
	ALS out	R1500m	R1500m	R1500m	R1500m
	VOR w/o DME	760'(330') R1500m	760'(330') R1500m	760'(330') R1700m	760'(330') R1700m
	ALS out	R1700m	R1700m	R1900m	R1900m
NDB ① with DME	760'(330') R1300m	760'(330') R1300m	760'(330') R1300m	760'(330') R1300m	
ALS out	R1500m	R1500m	R1500m	R1500m	
NDB ① w/o DME	780'(350') R1400m	780'(350') R1400m	780'(350') R1400m	780'(350') R1400m	
ALS out	R1600m	R1600m	R1600m	R1600m	

① Continuous Descent Final Approach.

CIRCLE-TO-LAND	100 KT	135 KT	180 KT	205 KT
	900'(457') 1500m ③	950'(507') 1600m ③	1140'(697') ② 2400m	1150'(707') 3600m

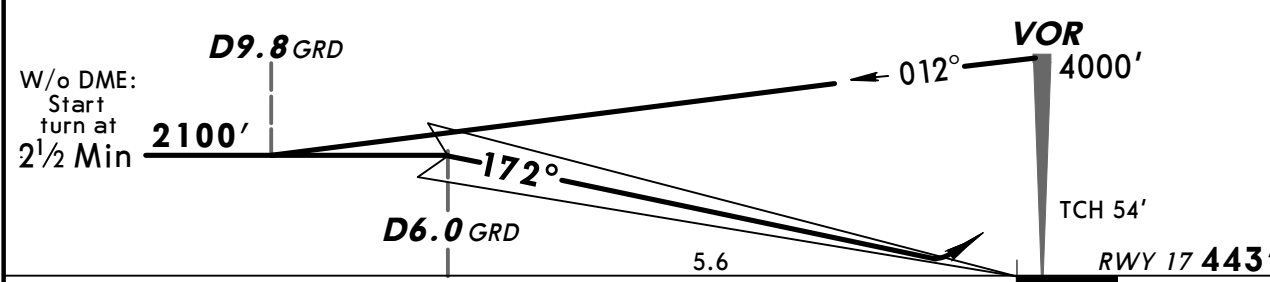
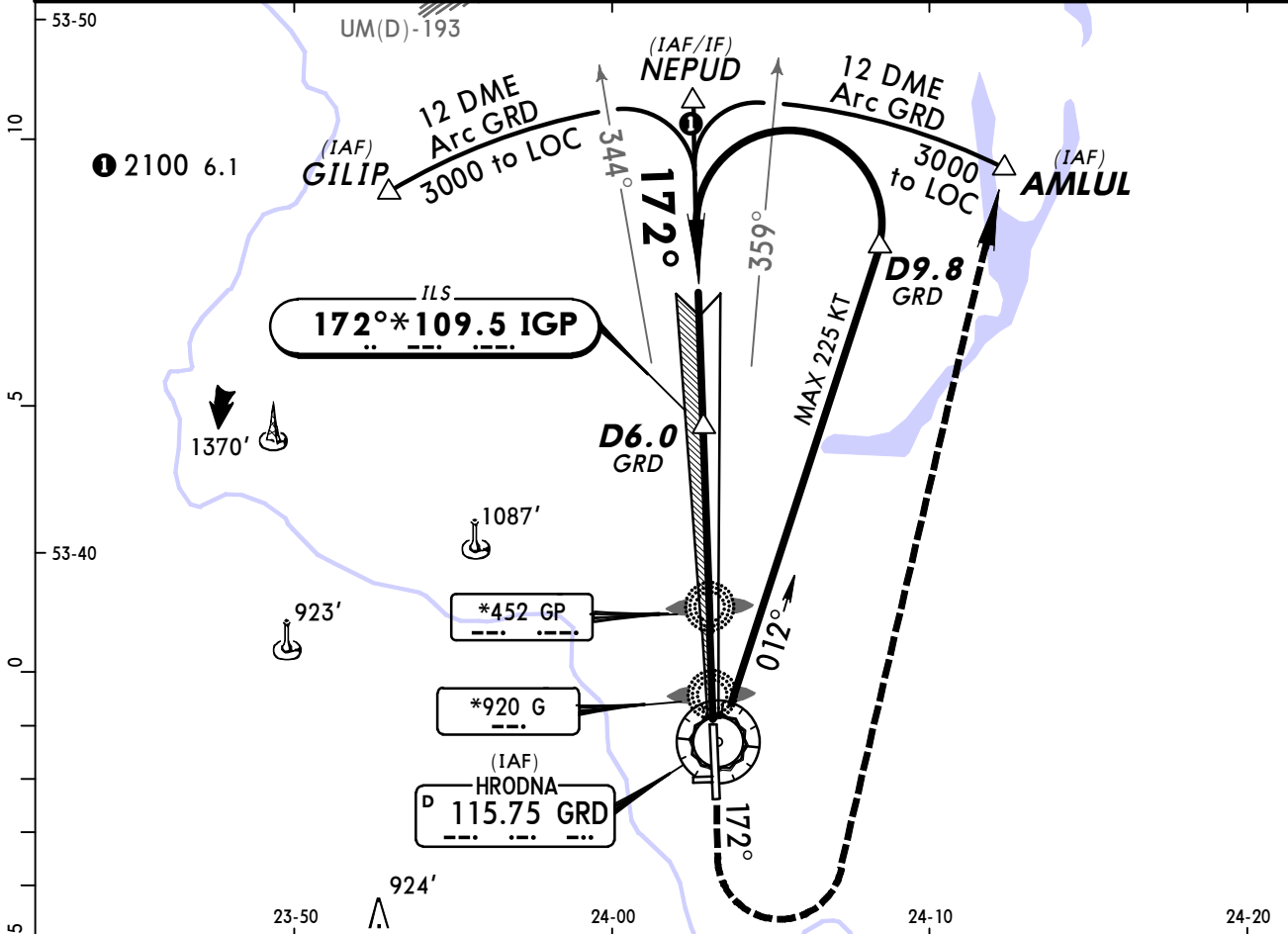
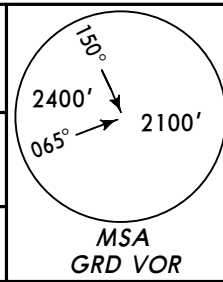
② after ILS 17: 1050' (607').

③ or higher minimums of preceding straight-in approach.

**TAKE-OFF RWY 08, 17, 26, 35**

LVP must be in Force			
	RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
A	250m	400m	500m
B			
C	300m		
D			

*ATIS <b>135.02</b> (Russian 126.17)		*HRODNA Tower (APP/SRE/TWR) <b>134.5</b>		*Ground <b>134.5</b>	
LOC IGP <b>*109.5</b>	Final Apch Crs <b>172°</b>	GS <b>D6.0 GRD</b> 2100' (1657')	ILS DA(H) <b>643' (200')</b>	Apt Elev <b>443'</b> RWY <b>443'</b>	
<b>MISSED APCH: Climb on 172° to 1100' or above, then turn LEFT to AMLUL climbing to 3000', then as directed.</b>					
Alt Set: hPa		Rwy Elev: 16 hPa		Trans level: By ATC	
<b>VOR DME required.</b>				Trans alt: 6000'	



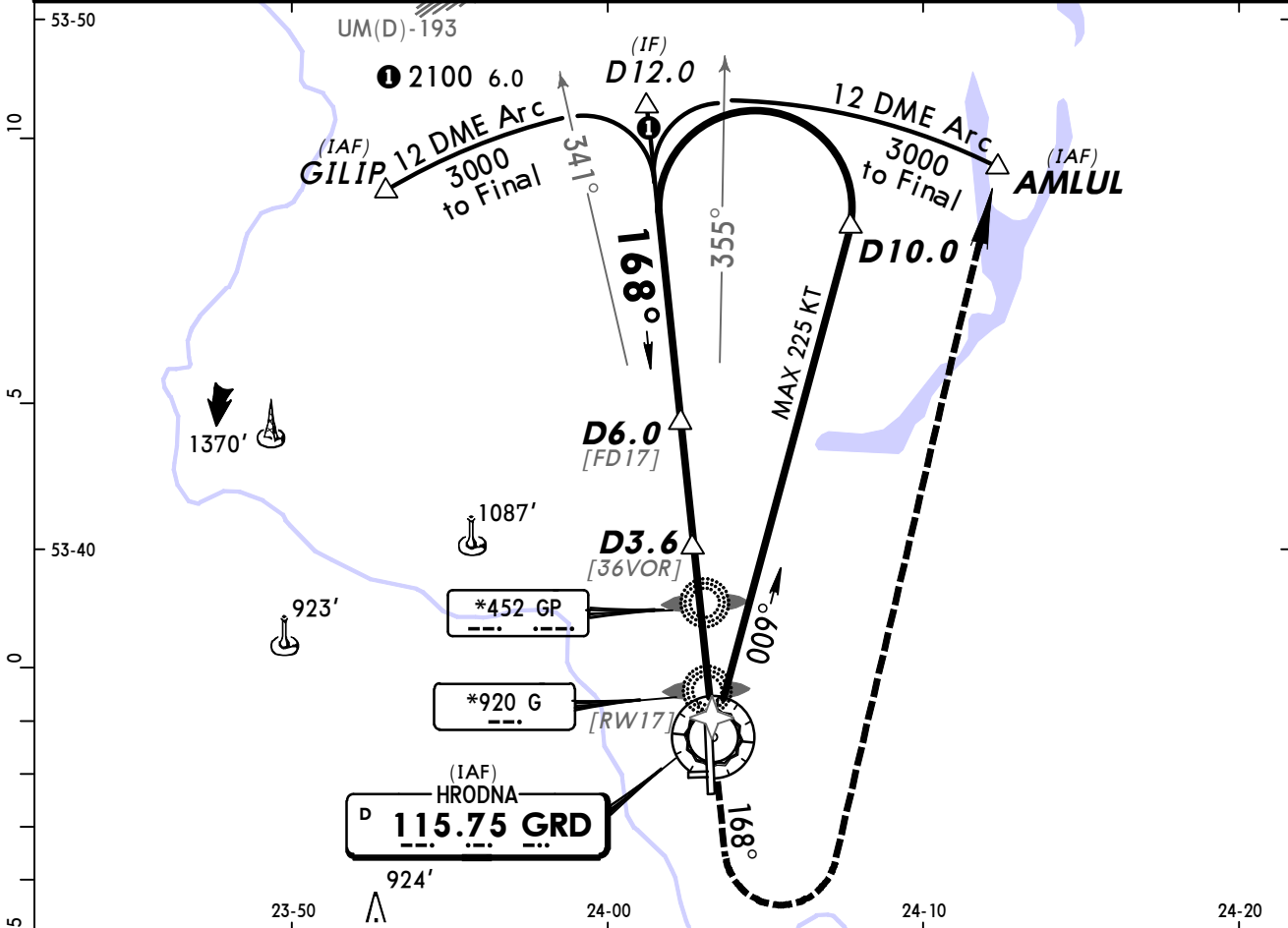
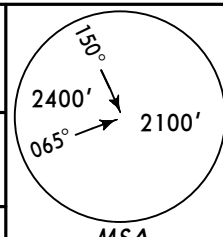
Gnd speed-Kts	70	90	100	120	140	160	ALS PAPI	1100' or above	on 172°	3000' LT	AMLUL
Descent Angle	2.70°	334	430	478	573	669					

STRAIGHT-IN LANDING RWY 17				CIRCLE-TO-LAND			
ILS		LOC (GS out)					
DA(H) <b>643' (200')</b>							
FULL		ALS out					
A					Max Kts	MDA(H)	
B					100	900' (457')	1600m
C	1200m		NOT APPLICABLE		135	940' (497')	1600m
D					180	1040' (597')	2400m
					205	1140' (697')	3600m

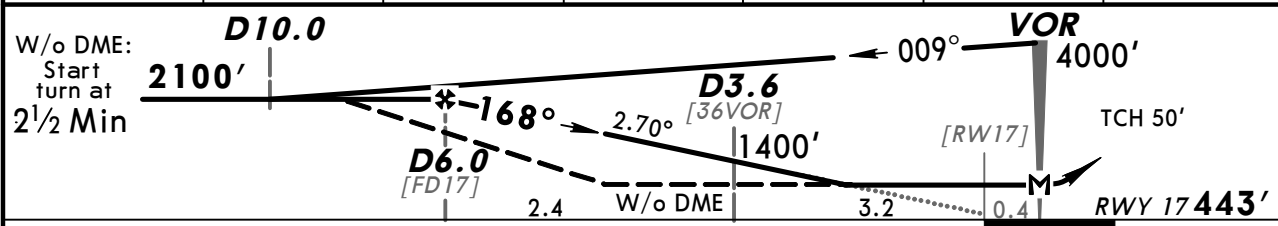
PANS OPS

CHANGES: Missed approach. Fix position.

*ATIS 135.02 (Russian 126.17)		*HRODNA Tower (APP/SRE/TWR) 134.5			*Ground 134.5	
VOR GRD <b>115.75</b>	Final Apch Crs <b>168°</b>	Minimum Alt <b>D6.0</b> 2100' (1657')	MDA(H) <b>820'</b> (377')	Apt Elev <b>443'</b> RWY <b>443'</b>		
<b>MISSED APCH:</b> Climb on 168° to 1100' or above, then turn LEFT to AMLUL climbing to 3000', then as directed.						
Alt Set: hPa		Rwy Elev: 16 hPa		Trans level: By ATC		Trans alt: 6000'
<b>VOR DME required.</b>						MSA GRD VOR



GRD DME	6.0	5.0	4.0	3.0	2.0	1.0
ALTITUDE	2100'	1820'	1530'	1250'	960'	680'

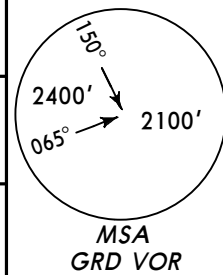


Gnd speed-Kts	70	90	100	120	140	160	ALS 1100' or above on 168° 3000' AMLUL
Descent Angle 2.70°	334	430	478	573	669	764	
MAP at VOR							

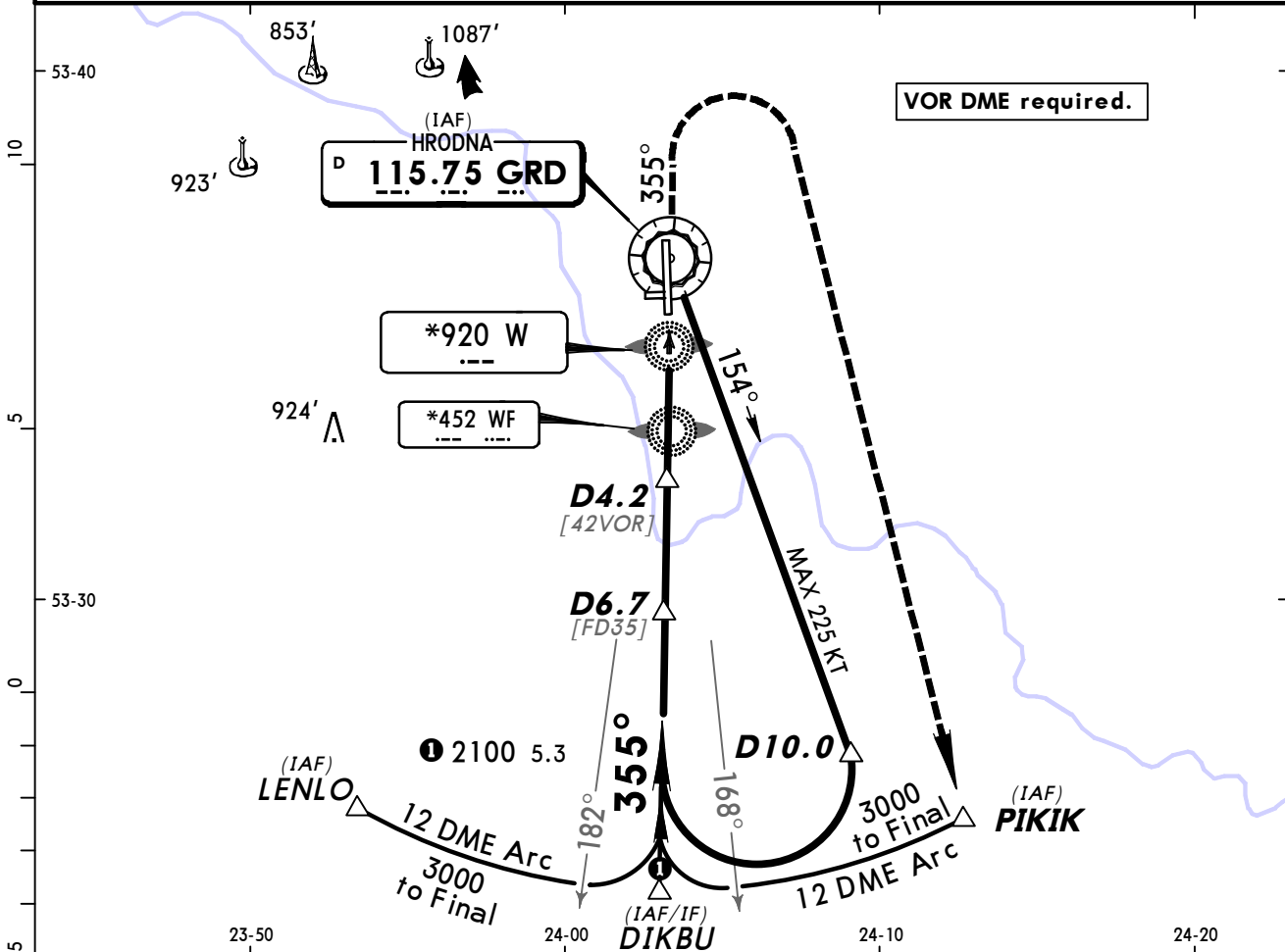
STRAIGHT-IN LANDING RWY 17				CIRCLE-TO-LAND			
MDA(H) <b>820'</b> (377')				ALS out			
A				Max Kts	MDA(H)		
B	RVR 1500m VIS 1600m			100	900'	(457')	1600m
C				135	940'	(497')	1600m
D	2000m			180	1140'	(697')	2400m
				205	1140'	(697')	3600m

PANS OPS

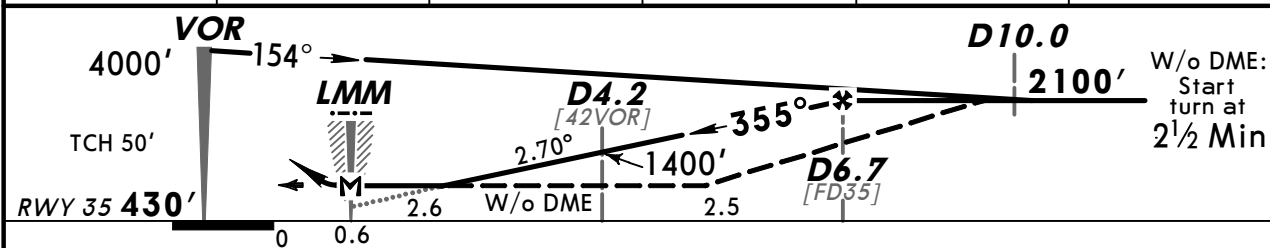
*ATIS 135.02 (Russian 126.17)		*HRODNA Tower (APP/SRE/TWR) 134.5		*Ground 134.5
VOR GRD <b>115.75</b>	Final Apch Crs <b>355°</b>	Minimum Alt <b>D6.7</b> 2100' (1670')	MDA(H) <b>760'</b> (330')	Apt Elev 443' RWY 430'
<b>MISSED APCH: Climb on 355° to 1100' or above, then turn RIGHT to PIKIK climbing to 3000', then as directed.</b>				



Alt Set: hPa Rwy Elev: 16 hPa Trans level: By ATC Trans alt: 6000'



GRD DME	2.0	3.0	4.0	5.0	6.0
ALTITUDE	760'	1040'	1330'	1620'	1900'

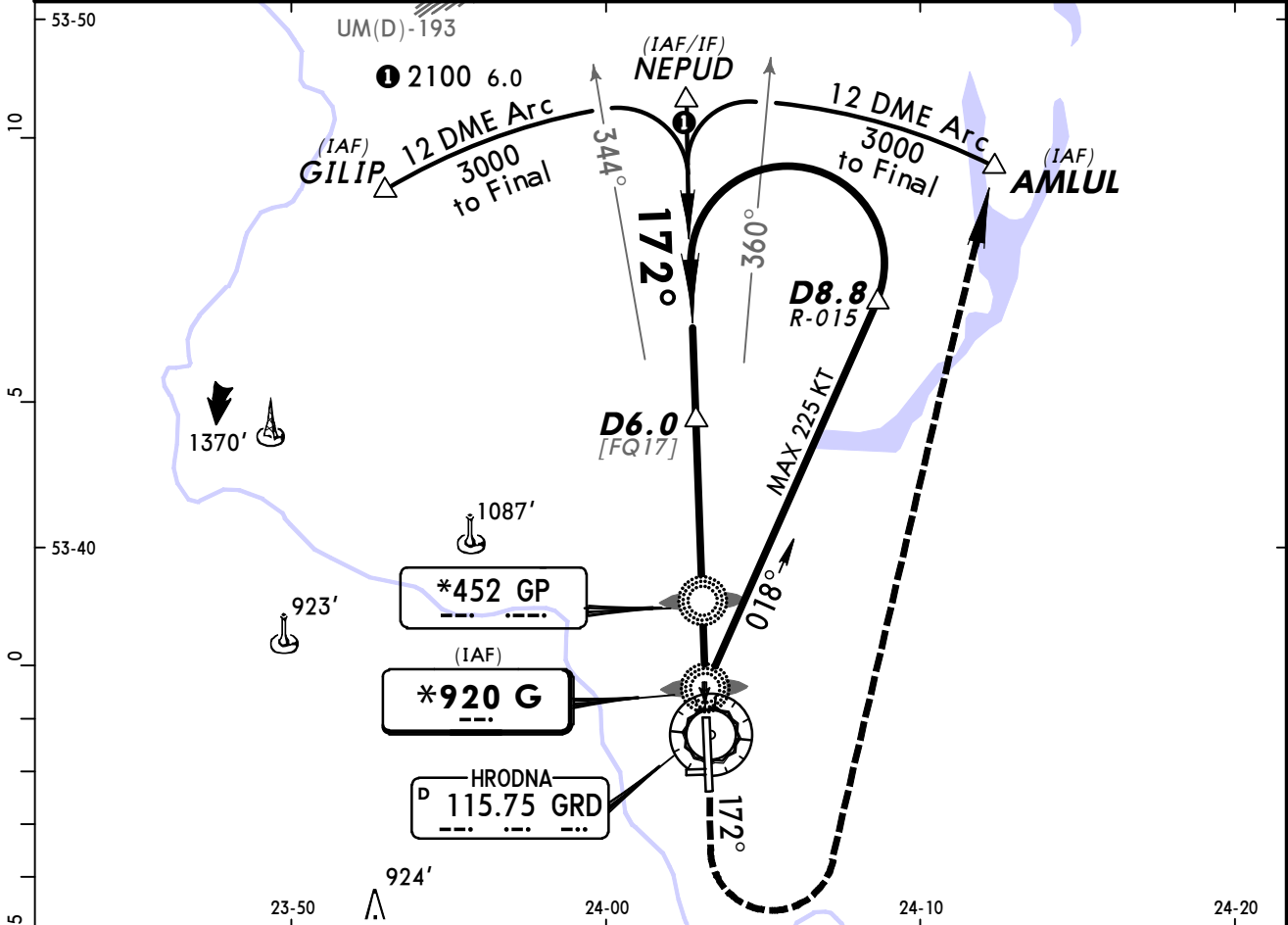
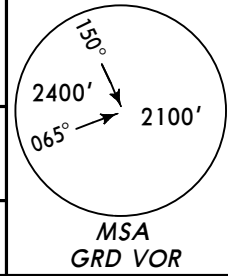


Gnd speed-Kts	70	90	100	120	140	160	ALS	1100'	3000'	PIKIK
Descent Angle	2.70°	334	430	478	573	764	PAPI	or above	on 355°	RT
MAP at LMM										

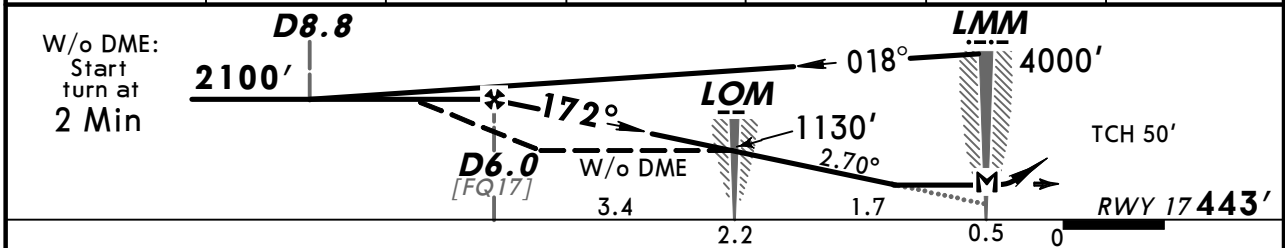
STRAIGHT-IN LANDING RWY 35		CIRCLE-TO-LAND	
MDA(H) <b>760'</b> (330')		ALS out	

PANS OPS	A	RVR 1500m VIS 1600m	Max Kts	MDA(H)	
	B		100	900' (457')	1600m
	C		135	940' (497')	1600m
	D		180	1140' (697')	2400m
			205	1140' (697')	3600m

*ATIS <b>135.02</b> (Russian 126.17)		*HRODNA Tower (APP/SRE/TWR) <b>134.5</b>			*Ground <b>134.5</b>	
NDB G <b>*920</b>	Final Apch Crs <b>172°</b>	Minimum Alt <b>D6.0</b> <b>2100'</b> (1657')	MDA(H) <b>820'</b> (377')	Apt Elev <b>443'</b> RWY <b>443'</b>		
<b>MISSED APCH: Climb on 172° to 1100' or above, then turn LEFT to AMLUL climbing to 3000', then as directed.</b>						
Alt Set: hPa		Rwy Elev: 16 hPa		Trans level: By ATC		Trans alt: 6000'
<b>VOR DME and NDB required.</b>						



GRD DME	6.0	5.0	4.0	3.0	2.0	1.0
ALTITUDE	2100'	1820'	1530'	1250'	960'	680'

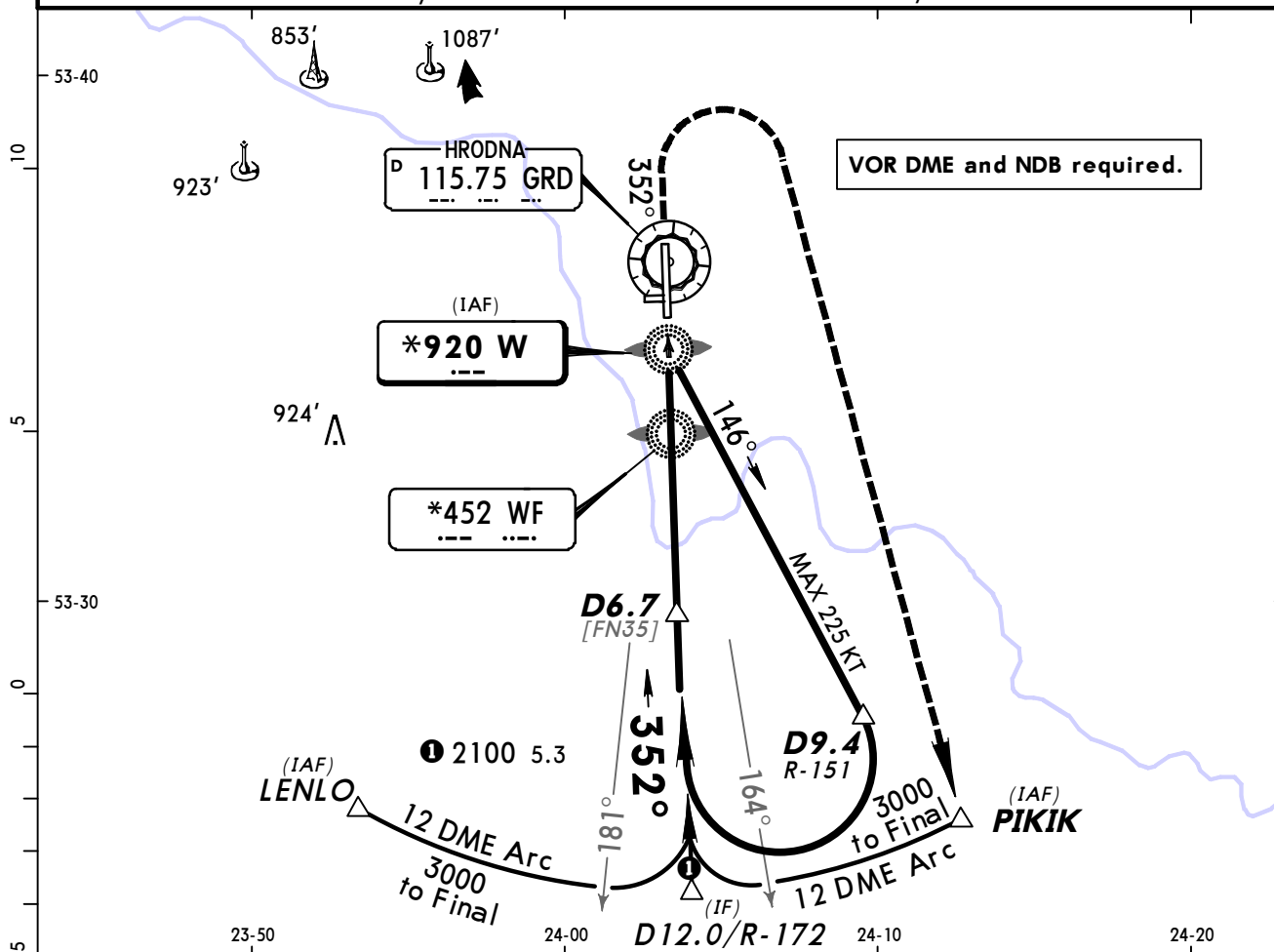


Gnd speed-Kts	70	90	100	120	140	160	ALS 1100' or above on 172°	3000' ← LT	AMLUL	
Descent Angle	2.70°	334	430	478	573	669				764
MAP at LMM										

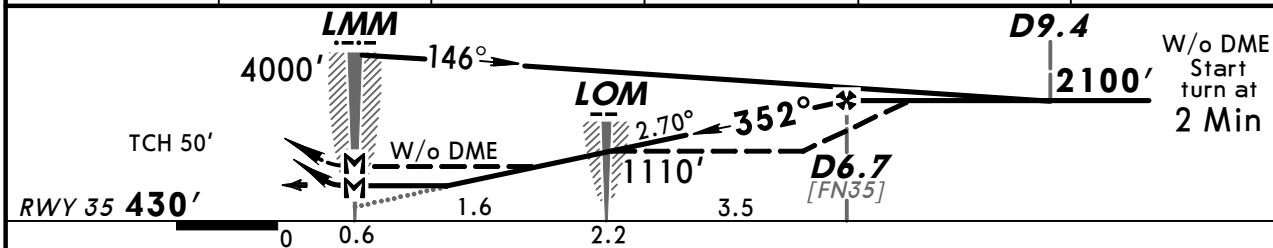
STRAIGHT-IN LANDING RWY 17				CIRCLE-TO-LAND			
MDA(H) <b>820'</b> (377')				ALS out			
A				Max Kts	MDA(H)		
B	RVR 1500m VIS 1600m			100	<b>900'</b> (457')		1600m
C				135	<b>940'</b> (497')		1600m
D	2000m			180	<b>1140'</b> (697')		2400m
				205	<b>1140'</b> (697')		3600m

*ATIS 135.02 (Russian 126.17)		*HRODNA Tower (APP/SRE/TWR) 134.5		*Ground 134.5		<p>MSA GRD VOR</p>
NDB W <b>*920</b>	Final Apch Crs <b>352°</b>	Minimum Alt <b>D6.7</b> 2100' (1670')	MDA(H) (CONDITIONAL) <b>760' (330')</b>	Apt Elev 443'	RWY 430'	
<b>MISSED APCH: Climb on 352° to 1100' or above, then turn RIGHT to PIKIK climbing to 3000', then as directed.</b>						

Alt Set: hPa Rwy Elev: 16 hPa Trans level: By ATC Trans alt: 6000'



GRD DME	2.0	3.0	4.0	5.0	6.0
ALTITUDE	760'	1040'	1330'	1620'	1900'



Gnd speed-Kts	70	90	100	120	140	160	ALS	1100'	3000'	PIKIK
Descent Angle	2.70°	334	430	478	573	669	PAPI	or above on 352°	RT	
MAP at LMM										

STRAIGHT-IN LANDING RWY 35				CIRCLE-TO-LAND	
with DME		W/o DME			
MDA(H) 760' (330')		MDA(H) 780' (350')			
ALS out		ALS out		Max Kts	MDA(H)
A				100	900' (457') 1600m
B				135	940' (497') 1600m
C	RVR 1500m VIS 1600m		RVR 1500m VIS 1600m	180	1140' (697') 2400m
D		2000m		205	1140' (697') 3600m

PANS OPS

## Chart changes since cycle 26-2013

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

ACT	PROCEDURE IDENT	INDEX	REV DATE	EFF DATE
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**HRODNA, (HRODNA - UMMG)**

## **TERMINAL CHART CHANGE NOTICES**

**No Chart Change Notices for Airport UMMG**