

List of pages in this Trip Kit

Trip Kit Index

Airport Information For UUWW

Terminal Charts For UUWW

Revision Letter For Cycle 17-2013

Change Notices

Notebook

General Information

Location: Moscow Rus
IATA Code: VKO
Lat/Long: N55° 35.9' E037° 16.4'
Elevation: 686 ft

Airport Use: Public
Magnetic Variation: 10.3°E

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

Sunrise: 0223 Z
Sunset: 1642 Z,

Runway Information

Runway: 01
Length x Width: 10039 ft x 148 ft
Surface Type: asphalt
TDZ-Elev: 633 ft
Lighting: Edge, ALS, Centerline

Runway: 06
Length x Width: 11483 ft x 197 ft
Surface Type: asphalt
TDZ-Elev: 629 ft
Lighting: Edge, ALS, Centerline, TDZ

Runway: 19
Length x Width: 10039 ft x 148 ft
Surface Type: asphalt
TDZ-Elev: 634 ft
Lighting: Edge, ALS, Centerline, TDZ

Runway: 24
Length x Width: 11483 ft x 197 ft
Surface Type: asphalt
TDZ-Elev: 685 ft
Lighting: Edge, ALS, Centerline, TDZ

Communication Information

ATIS 131.85
ATIS 125.875 Non-English
Vnukovo Vpport Tower 122.875
Vnukovo Tower/Precision Tower 129.0 Secondary
Vnukovo Tower/Precision Tower 124.4 Secondary
Vnukovo Tower/Precision Tower 119.45 Secondary
Vnukovo Tower/Precision Tower 118.3
Vnukovo Taxiing 2 Ground Control 121.7
Vnukovo Taxiing 1 Ground Control 129.0 Secondary
Vnukovo Taxiing 1 Ground Control 124.4 Secondary
Vnukovo Taxiing 1 Ground Control 120.45
Vnukovo Taxiing 1 Ground Control 119.45 Secondary

Vnukovo Clearance Delivery 131.8
Vnukovo Clearance Delivery 131.125
Vnukovo-Approach-1 Approach Control 129.0 Secondary
Vnukovo-Approach-1 Approach Control 122.3
Moscow Approach Approach Control 135.9
Moscow Approach Approach Control 134.0
Moscow Approach Approach Control 131.2
Moscow Approach Approach Control 129.8
Moscow Approach Approach Control 128.0
Moscow Approach Approach Control 127.2
Moscow Approach Approach Control 125.3
Moscow Approach Approach Control 124.4 Secondary
Moscow Approach Approach Control 123.4
Moscow Approach Approach Control 122.7
Moscow Approach Approach Control 119.45 Secondary
Vnukovo Radar 129.0 Secondary
Vnukovo Radar 126.0
Vnukovo Radar 124.4 Secondary
Vnukovo Radar 119.45

1. GENERAL

1.1. ATIS

ATIS 131.85
125.87 (Russian)

1.2. NOISE ABATEMENT PROCEDURES

1.2.1. GENERAL

Noise abatement procedures shall be executed by all ACFT.
Noise abatement procedures shall not be executed at the expense of the reduction of flight safety.

1.2.2. NIGHTTIME RESTRICTIONS

Between 2300-0700LT departures and arrivals are allowed only for ACFT with a noise level not exceeding the requirements envisaged by the ICAO Annex 16, Chapter 3.
Arrivals and departures of all ACFT types are prohibited between 0330-0600LT.

1.2.3. PREFERENTIAL RWY SYSTEM

Between 2300-0700LT RWY 19 should not be used for landing in order of preference.
Between 2300-0700LT RWY 01 should not be used for take-off in order of preference.
Deviations from the given restrictions are possible due the prohibition to use RWY 06/24, extreme weather conditions and operational restrictions.

1.2.4. REVERSE THRUST

After landing between 2300-0700LT it is recommended to use reverse thrust at idle power except for flight safety reasons.

1.2.5. USE OF APU

Between 2300-0700LT the run-up of APU is prohibited. The use of APU should be avoided and/or restricted after parking onto the stands or before taxiing out of the stands equipped with the ground APU units and the devices for air conditioning.

1.3. TAXI PROCEDURES

Taxiing of ACFT with MAX wingspan 161'/49m along TWYs A9, A10, B1, B8, C3, C4, M2 (from TWYs C3 thru A9) and M3 (from TWY A2 thru A3) at reduced speed, strictly along taxi guideline.

Taxiing on TWYs A7 thru A10, B1, B8, C3, C4, C9, M2 (from TWYs C3 thru A9), M3 (from TWYs A2 and A3) and M4 at night or when VIS is less than 2000m, with Follow-me car only; for AN-124 available by towing only.

1.4. PARKING INFORMATION

Use of Vnukovo I stands 32 and 34A along TWY B2 only by towing with closure of the route of vehicle movement.

Use of stands 38 and 38A under engines power is prohibited, when start-up position 29 is occupied.

Leave Vnukovo I stand 64 under engines power; to TWY B5 by towing.

Leave Vnukovo I stand 45 under engines power, when stand 20 vacant.

Vnukovo III stands 21 and 22 to be entered via vacant stands 23 thru 25 and vice versa.

Enter Vnukovo III stand 27 under engines power, when stand 18 vacant.

Enter Vnukovo III stands 1 thru 17, 28, 33, 34, 77 and 78 by towing.

1. GENERAL

Leave Vnukovo III stands under engines power as follows:

- Stand 6, when stand 31 vacant;
- Stands 7 and 8, when stand 23 vacant;
- Stands 9 and 10, when stand 22 vacant;
- Stand 17, when stand 28 vacant;
- Stands 18 and 28, when stand 27 vacant;
- Stand 27, when stand 18 vacant.

Leave Vnukovo III stands 73 thru 78 by towing.

Leave Vnukovo III stands 21 thru 26 by towing, followed by taxiing with engines power 0.4 of the nominal.

Leave Vnukovo III stands by towing as follows:

- Stand 6, when stand 31 occupied;
- Stands 7 and 8, when stand 23 occupied;
- Stands 9 and 10, when stand 22 occupied;
- Stand 17, when stand 28 occupied;
- Stand 18, when stand 27 occupied;
- Stand 27, when stand 18 occupied.

1.5. OTHER INFORMATION

Birds in vicinity of APT.

2. ARRIVAL

2.1. NOISE ABATEMENT PROCEDURES

2.1.1. APPROACH PHASE

Restrictions

Great rates of descent should be avoided (if possible) directly before the final approach.

The change of flight configuration and speed of ACFT, connected with noise abatement procedures, shall be carried out according to the requirements of the Airplane Flight Manual.

During instrument as well as visual approach, it is prohibited to fly below the ILS GS angle.

The noise abatement procedures shall not envisage the excess of the indicated rate of descent established by the Airplane Flight Manual of the given ACFT type.

2.2. CAT II OPERATIONS

RWY 19 approved for CAT II operations, special aircrew and ACFT certification required.

2.3. RWY OPERATION

2.3.1. MINIMUM RWY OCCUPANCY TIME

The pilot must vacate the RWY as fast as possible.

2.4. SPEED RESTRICTIONS

MAX 280 KT +/- 10 KT or Mach 0.8 whichever is less from cruising FL to FL 250;

MAX 270 KT +/- 10 KT below FL 250 to FL 100;

MAX 250 KT +/- 10 KT below FL 100 to TL.

Below transition level, IAS shall be as in accordance with the Aeroplane Flight Manual without exceeding IAS indicated in limitations section. The above mentioned IAS shall be maintained by the flight crew unless otherwise instructed by ATS unit or by the established approach procedure.

If unable to maintain the above mentioned IAS, the flight crew shall report it to ATS unit.

2. ARRIVAL

2.5. TAXIING PROCEDURES

After vacation ACFT transponder should be switched on mode "ALTITUDE OFF" until parking of ACFT on stand.

3. DEPARTURE

3.1. START-UP, TOWING & TAXI PROCEDURES

3.1.1. START-UP

General

Engine start-up, towing and taxiing of ACFT to RWY holding position shall be carried out on the flight crew's request and by clearance of Taxiing.

When requesting for start-up clearance from Taxiing, the flight crews of departing ACFT shall advise call sign and stand number.

When towing of ACFT to engine start-up position is required, the flight crew shall advise stand number and request for towing clearance from Taxiing.

Engine start-up shall be carried out at start-up points by the instruction of the technical specialist.

Flight crew can carry out engine start-up during towing of ACFT if this procedure is envisaged by Airplane Flight Manual and coordinated with the technical personnel of the tow-team.

Procedure

A pilot-in-command shall request the ATC clearance 5 minutes prior to engines start-up or ACFT towing to the start-up point by passing the following information to Delivery:

- flight number;
- the destination aerodrome;
- the ACFT stand number;
- ATIS information index.

Delivery can request the ACFT type, registration number, apron, flight level and other necessary information.

When the ACFT is completely ready for departure, the pilot-in-command must report to Delivery:

- "COMPLETELY READY FOR DEPARTURE",

obtain the ATC clearance and the instruction to change over to communication with Taxiing.

Note: "COMPLETELY READY FOR DEPARTURE"

means that all formalities are observed, the preparation works are completed, all passengers are on board, the entrance and cargo doors of the ACFT are closed, the stairs are taken away (the aerobridge is disconnected and is in a retracted position), a tow bar is connected (when towing is required), the procedure of de-icing treatment of ACFT with de-icing fluid is completed, mode "ALTITUDE OFF" and flight number are set up on ACFT transponder, ground personnel are ready for towing (taxiing) and have established radio contact with the pilot-in-command.

3. DEPARTURE

3.2. NOISE ABATEMENT PROCEDURES

Flight crews shall strictly adhere to the established departure procedure to avoid overflying the settlements.

TAKE-OFF AND CLIMBING PHASE

Restrictions

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

A change of flight course direction after take-off is permitted only after reaching 1080'(394').

Turns initiated between 1080'(394') and 1670'(984') shall be executed with a bank angle of 15°.

Turns initiated between 1670'(984') and 3640'(2954') shall be executed with a bank angle of 20°.

Turns initiated at or above 3640'(2954') shall be executed with 25° bank or with angular speed of turn of 3°/sec.

Noise Abatement Procedures NADP1 and NADP2

Two methods of noise abatement during climbing are used by the flight crews: NADP1 for RWYs 01 & 06 and NADP2 for RWYs 19 & 24 (ICAO Doc 8168, Volume 1).

3.3. RWY OPERATION

3.3.1. MINIMUM RWY OCCUPANCY TIME

After obtaining line-up clearance the flight crew must execute taxiing to the assigned position on the RWY without delay.

Cockpit checks must be completed, if possible, before occupation of line-up position and the checks which have to be done on the RWY shall be executed as soon as possible.

The flight crew shall provide the beginning of take-off run immediately after obtaining clearance for its execution.

If unable to execute the above mentioned requirements, the flight crews must inform Tower about it.

3.4. OTHER INFORMATION

3.4.1. TAKE-OFF FROM INTERSECTION

During briefing, a pilot must report chosen line-up position to Tower.

If the pilot-in-command is ready to carry out take-off without stop on RWY, he has to report his decision to Tower at first contact at RWY holding position, whereas the pilot shall obtain take-off clearance simultaneously with line-up clearance.

TRANSITION DESIGNATION	REFER TO CHART
BOGDANOVO 1W, 2W, 3W, NAMIN 1W, 2W, 3W, 4W	10-2B
LARIONOVO 1W, 2W	10-2C
RELTO 1W, 2W, TIKBI 1W, 2W	10-2D
OKTYABRSKIY 1W, 2W, SUKHOTINO 1W	10-2E
GAGARIN 1W, 2W, 3W, 4W, 5W, SODRU 1W, SUGIR 1W	10-2F

RNAV STAR DESIGNATION	REFER TO CHART
BITSA 3R, KLIMOVSK 3R, SKURYGINO 3R, 5R, UMBEG 3R	10-2H
BITSA 2R, KLIMOVSK 2R, SKURYGINO 2R, 5R, UMBEG 2R	10-2J
BITSA 4R, KLIMOVSK 4R, SKURYGINO 4R, 5R, UMBEG 4R	10-2K
BITSA 1R, KLIMOVSK 1R, SKURYGINO 1R, 5R, UMBEG 1R	10-2L
ADAGA 4P, BITSA 4P, IVANOVSKOYE 4P, KLIMOVSK 4P, OKLIT 4P, SKURYGINO 4P	10-2M

FOR STAR DESIGNATION REFER TO PAGE 10-2A

STAR DESIGNATION	REFER TO CHART
BITSA Ø1A, Ø1M	10-2P
KLIMOVSK Ø1A, Ø1M	10-2Q
SKURYGINO Ø1A, Ø1M	10-2S
UMBEG Ø1B, Ø1K	10-2T
BITSA Ø6A, KLIMOVSK Ø6A, SKURYGINO Ø6A, UMBEG Ø6A, Ø6B	10-2U
BITSA Ø6B, KLIMOVSK Ø6B, SKURYGINO Ø6B	10-2V
BITSA 19B	10-2W
BITSA 19M, OKLIT 19K	10-2X
KLIMOVSK 19A, SKURYGINO 19A, UMBEG 19A	10-2X1
IVANOVSKOYE 19K, KLIMOVSK 19K, SKURYGINO 19K	10-2X2
BITSA 24B	10-2X3
KLIMOVSK 24A, SKURYGINO 24A, UMBEG 24A	10-2X4

ATIS
131.85 (Russian 125.87)

Apt Elev
686'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3284')

BOGDANOVO 1W (BD 1W), BOGDANOVO 2W (BD 2W)

NAMIN 1W [NAM1W], NAMIN 2W [NAM2W]

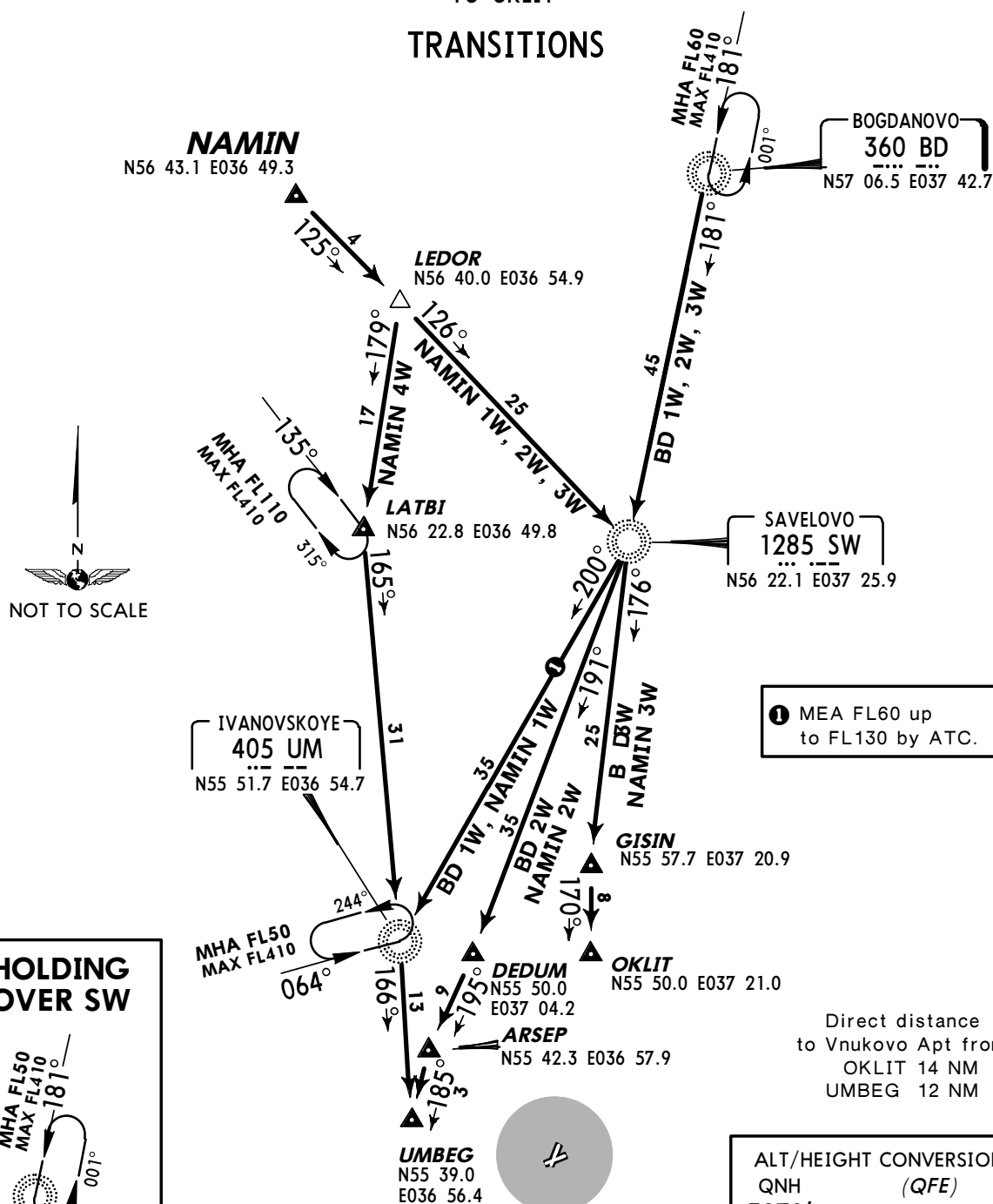
NAMIN 4W [NAM4W]

TO UMBEG

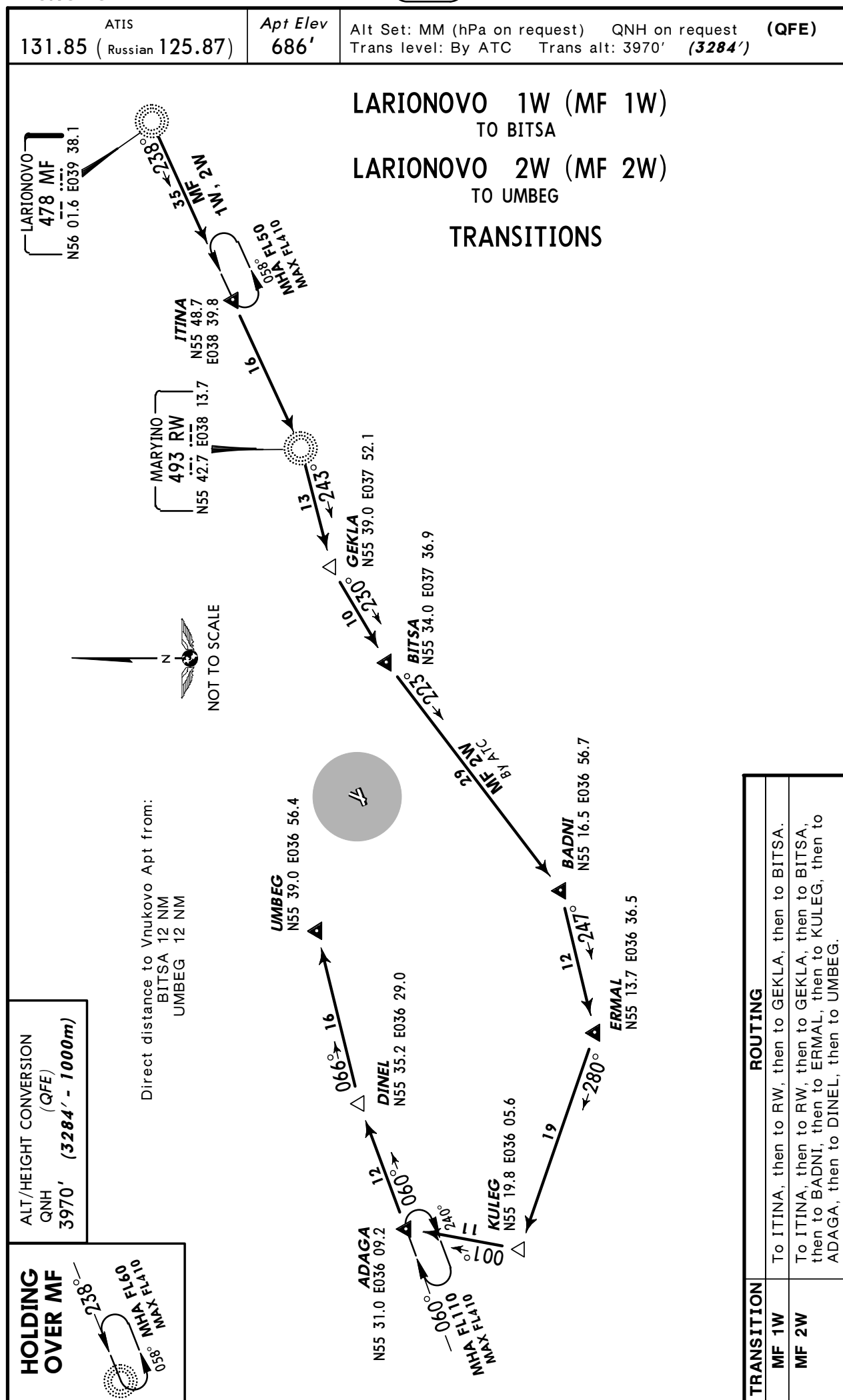
BOGDANOVO 3W (BD 3W), NAMIN 3W [NAM3W]

TO OKLIT

TRANSITIONS



TRANSITION	ROUTING
BD 1W	To SW, then to UM, then to UMBEG.
BD 2W	To SW, then to DEDUM, then to ARSEP, then to UMBEG.
BD 3W	To SW, then to GISIN, then to OKLIT.
NAMIN 1W	To LEDOR, then to SW, then to UM, then to UMBEG.
NAMIN 2W	To LEDOR, then to SW, then to DEDUM, then to ARSEP, then to UMBEG.
NAMIN 3W	To LEDOR, then to SW, then to GISIN, then to OKLIT.
NAMIN 4W	To LEDOR, then to LATBI, then to UM, then to UMBEG.



ATIS
131.85 (Russian 125.87)

Apt Elev
686'

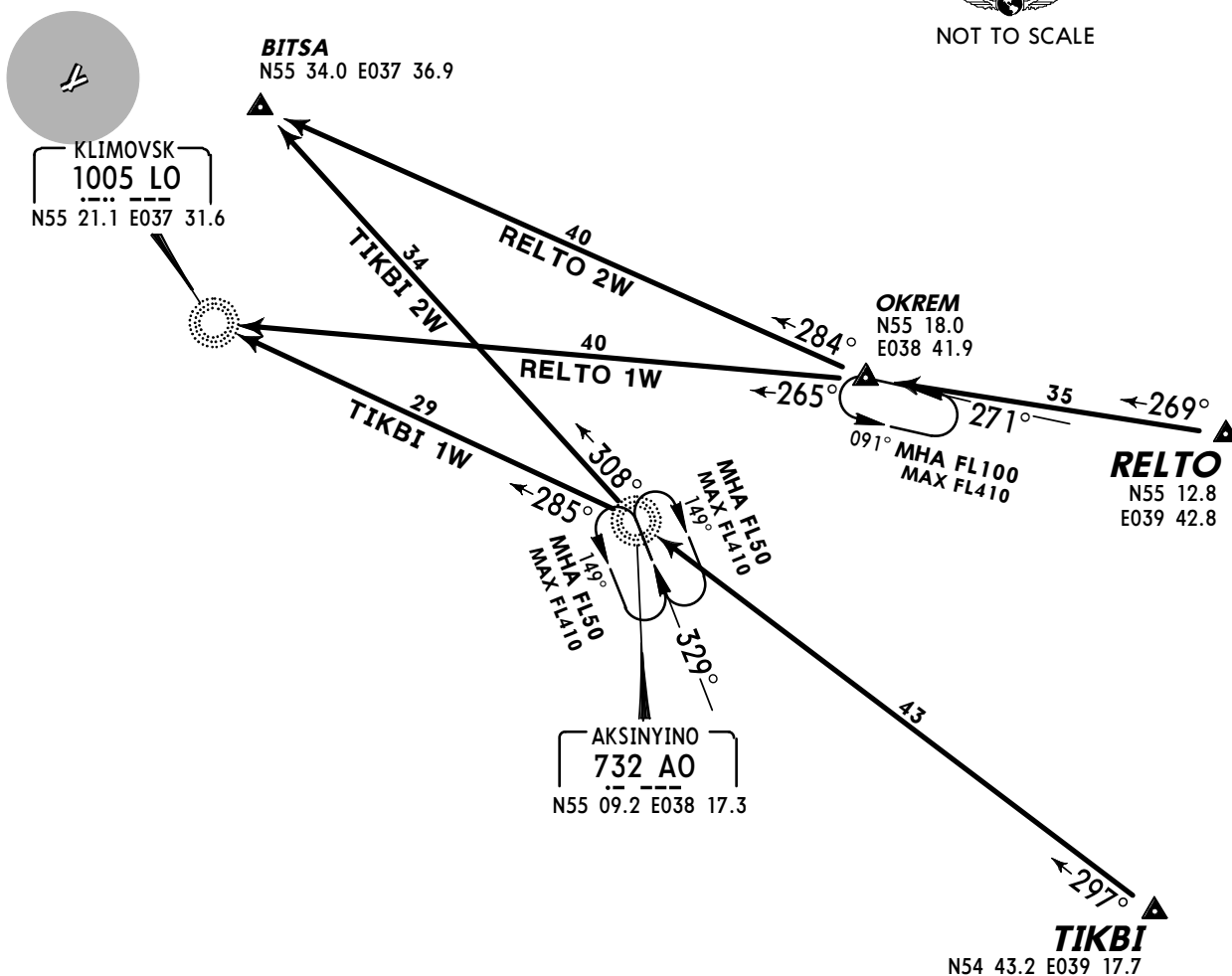
Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3284')

RELTO 1W [REL1W], TIKBI 1W [TIK1W]
TO LO

RELTO 2W [REL2W], TIKBI 2W [TIK2W]
TO BITSA

TRANSITIONS
BY ATC

Direct distance to Vnukovo Apt from:
BITSA 12 NM
LO 17 NM



ALT/HEIGHT CONVERSION
QNH (QFE)
3970' (3284' - 1000m)

TRANSITION	ROUTING
RELTO 1W	To OKREM, then to LO.
RELTO 2W	To OKREM, then to BITSA.
TIKBI 1W	To AO, then to LO.
TIKBI 2W	To AO, then to BITSA.

ATIS
131.85 (Russian 125.87)

Apt Elev
686'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3284')

OKTYABRSKIY 1W (FE 1W)
TO LO

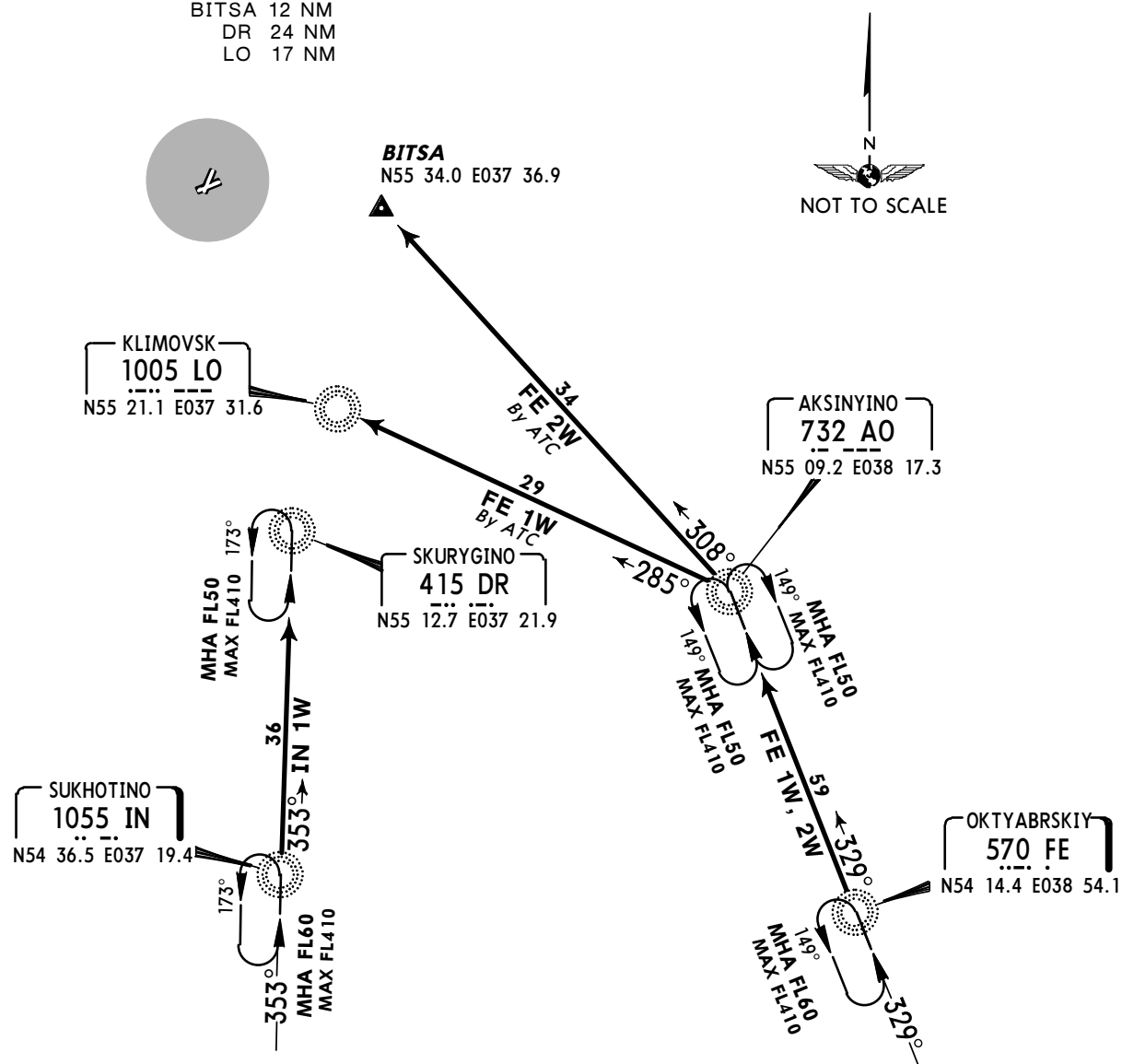
OKTYABRSKIY 2W (FE 2W)
TO BITSA

SUKHOTINO 1W (IN 1W)
TO DR

TRANSITIONS

Direct distance to Vnukovo Apt from:

BITSA 12 NM
DR 24 NM
LO 17 NM



ALT/HEIGHT CONVERSION
QNH (QFE)
3970' (3284' - 1000m)

TRANSITION	ROUTING
FE 1W	To AO, then to LO.
FE 2W	To AO, then to BITSA.
IN 1W	To DR.

ATIS
131.85 (Russian 125.87)

Apt Elev
686'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3284')

GAGARIN 1W (FK 1W) TO UM

GAGARIN 2W (FK 2W) , GAGARIN 3W (FK 3W)

GAGARIN 4W (FK 4W) , GAGARIN 5W (FK 5W)

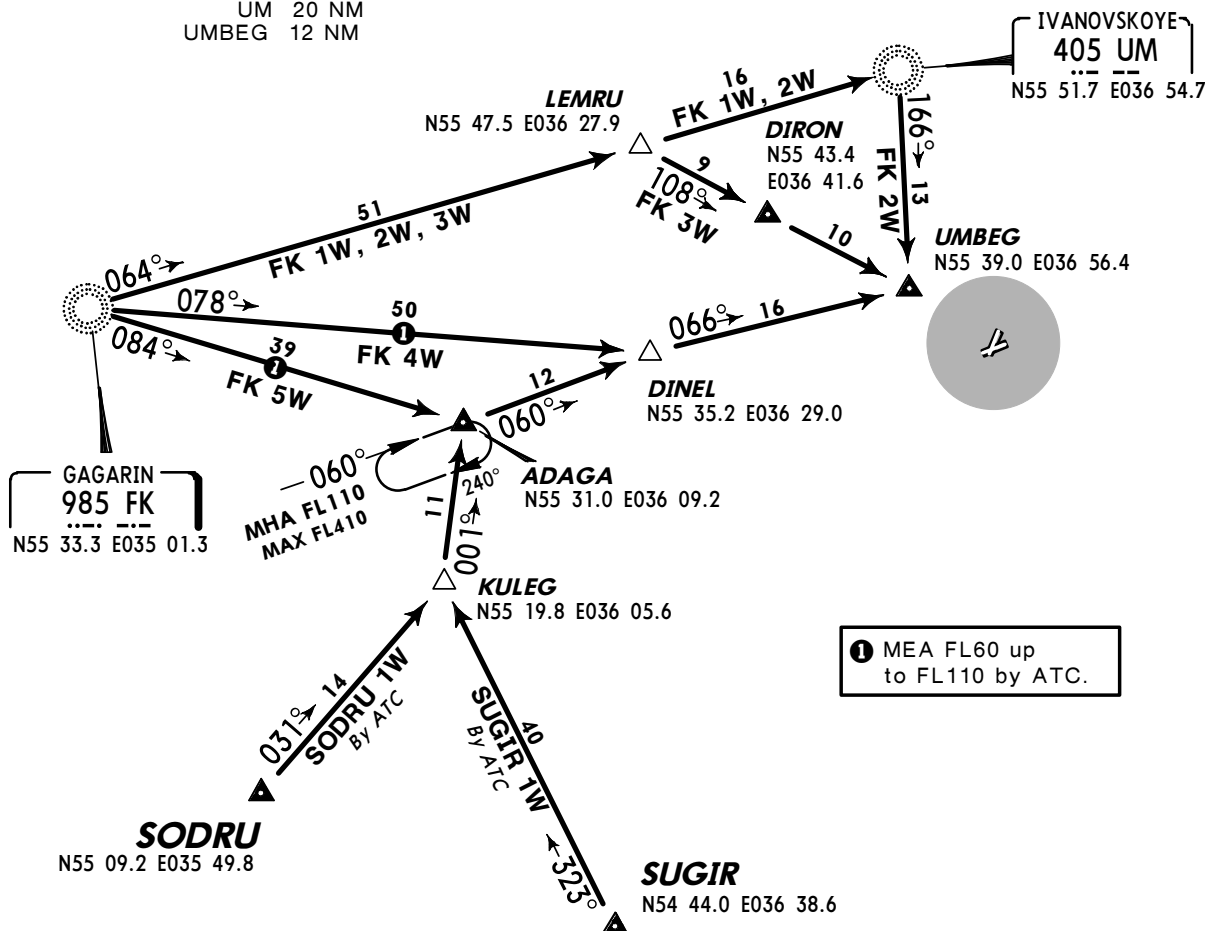
SODRU 1W [SOD1W] , SUGIR 1W [SUG1W]

TO UMBEG

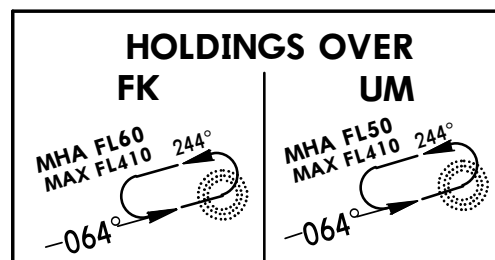
TRANSITIONS

Direct distance to Vnukovo Apt from:

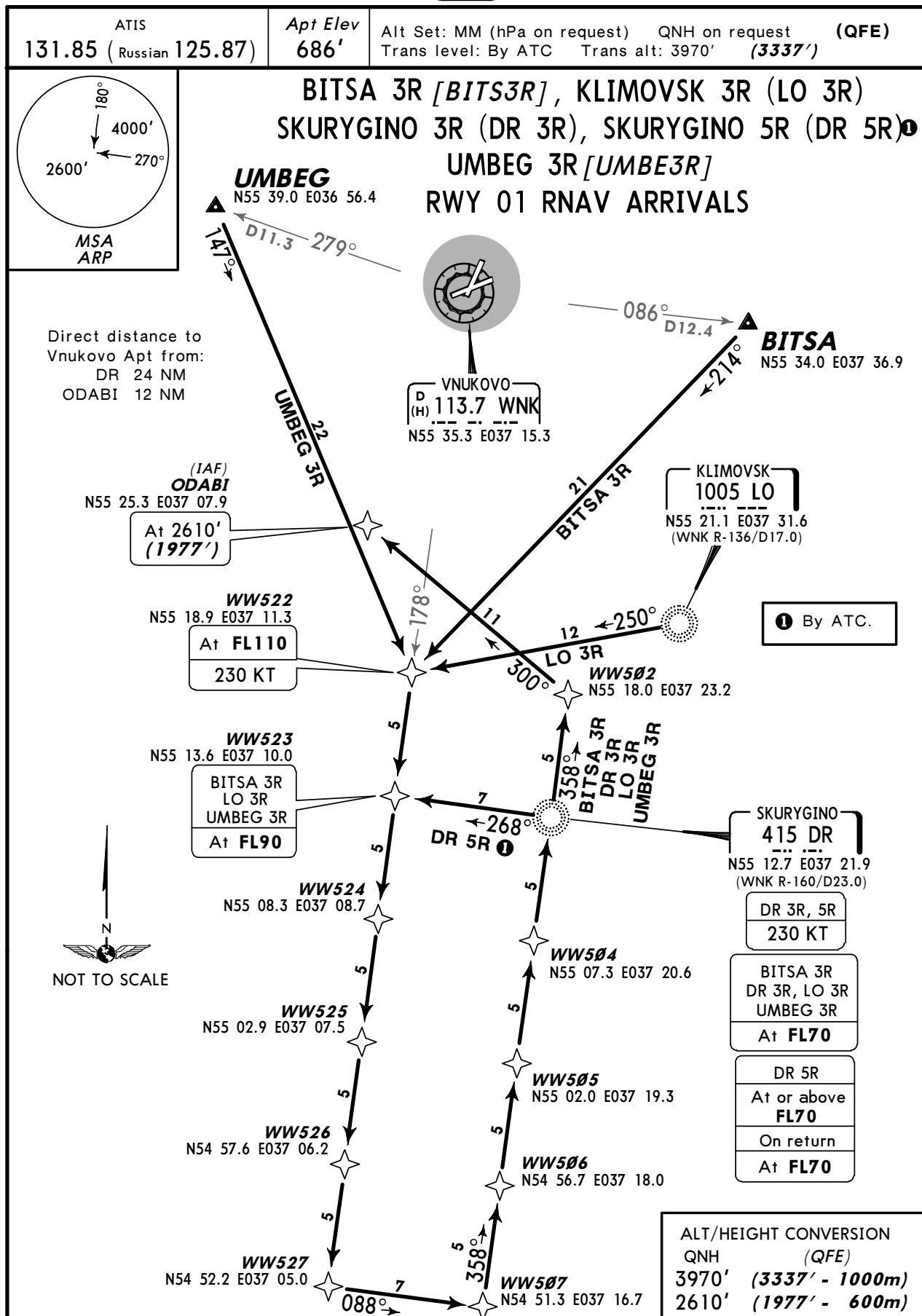
UM 20 NM
UMBEG 12 NM



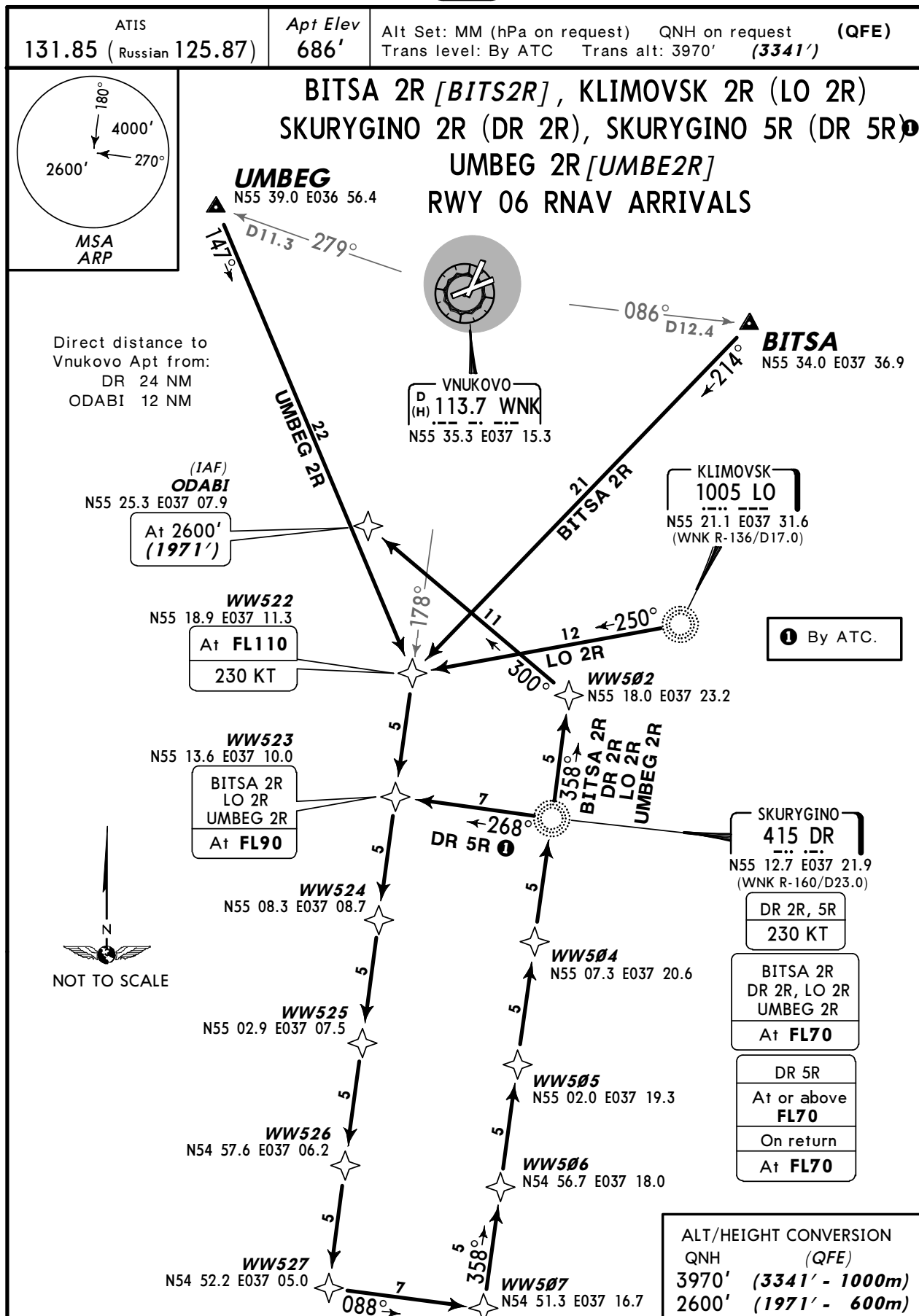
ALT/HEIGHT CONVERSION
QNH (QFE)
3970' (3284' - 1000m)



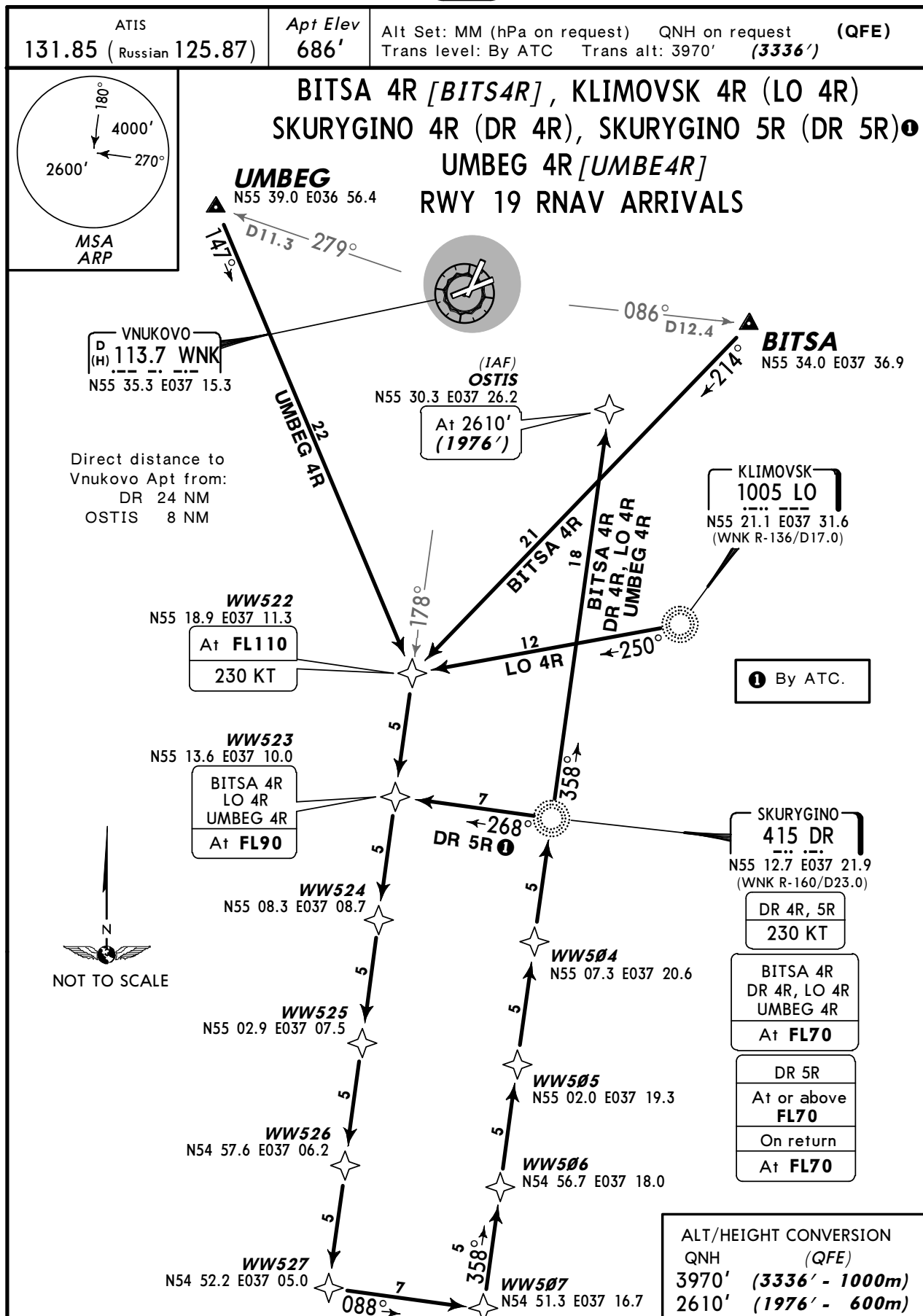
TRANSITION	ROUTING
FK 1W	To LEMRU, then to UM.
FK 2W	To LEMRU, then to UM, then to UMBEG.
FK 3W	To LEMRU, then to DIRON, then to UMBEG.
FK 4W	To DINEL, then to UMBEG.
FK 5W	To ADAGA, then to DINEL, then to UMBEG.
SODRU 1W	To KULEG, then to ADAGA, then to DINEL, then to UMBEG.
SUGIR 1W	



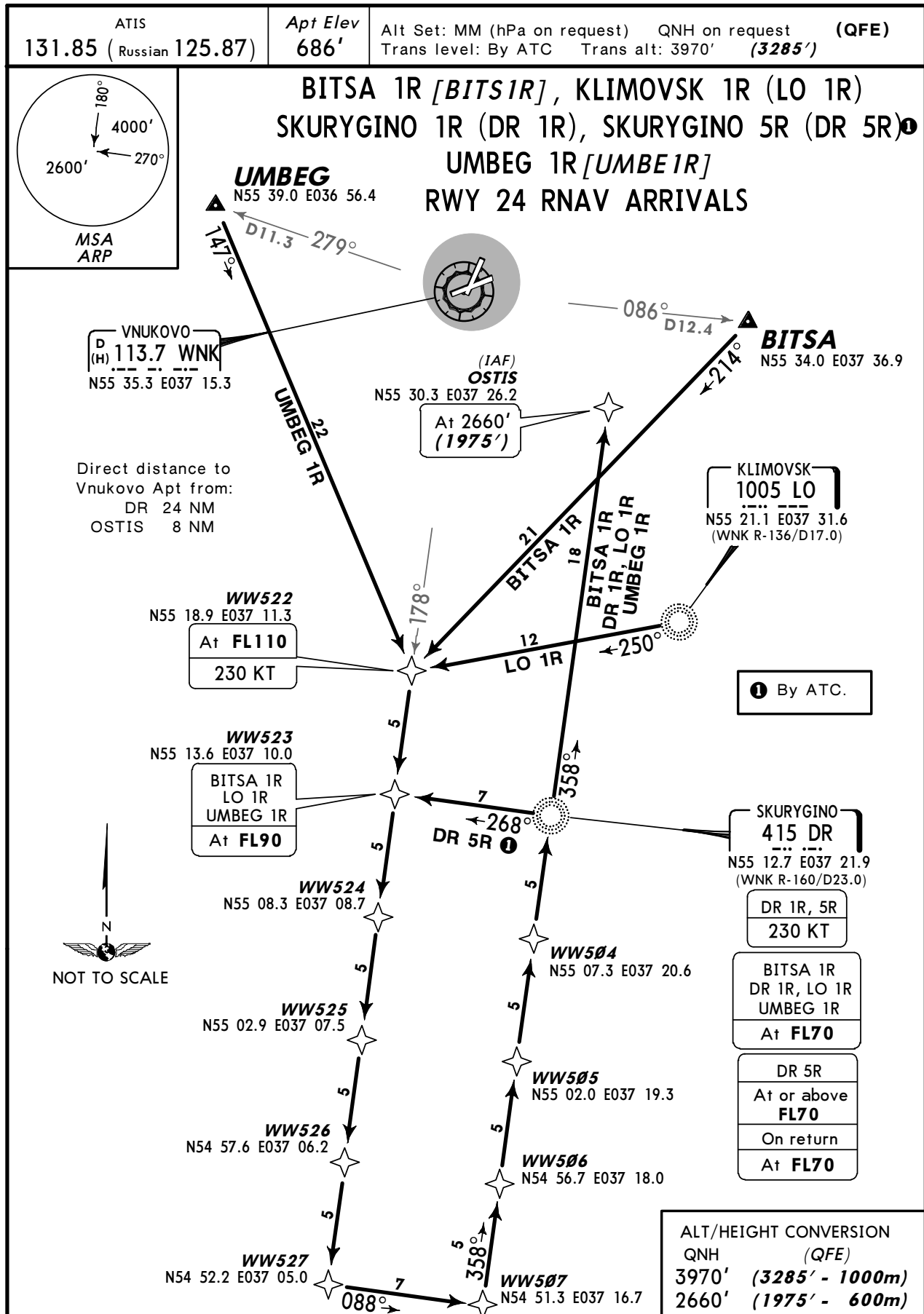
STAR	ROUTING
BITSA 3R	BITSA - WW522 (FL110; K230) - WW523 (FL90) - WW527 - WW507 - DR (FL70) - WW502 - ODABI (2610').
DR 3R	DR (FL70; K230) - WW502 - ODABI (2610').
DR 5R ①	DR (FL70+; K230) - WW523 - WW527 - WW507 - DR (FL70).
LO 3R	LO - WW522 (FL110; K230) - WW523 (FL90) - WW527 - WW507 - DR (FL70) - WW502 - ODABI (2610').
UMBEG 3R	UMBEG - WW522 (FL110; K230) - WW523 (FL90) - WW527 - WW507 - DR (FL70) - WW502 - ODABI (2610').



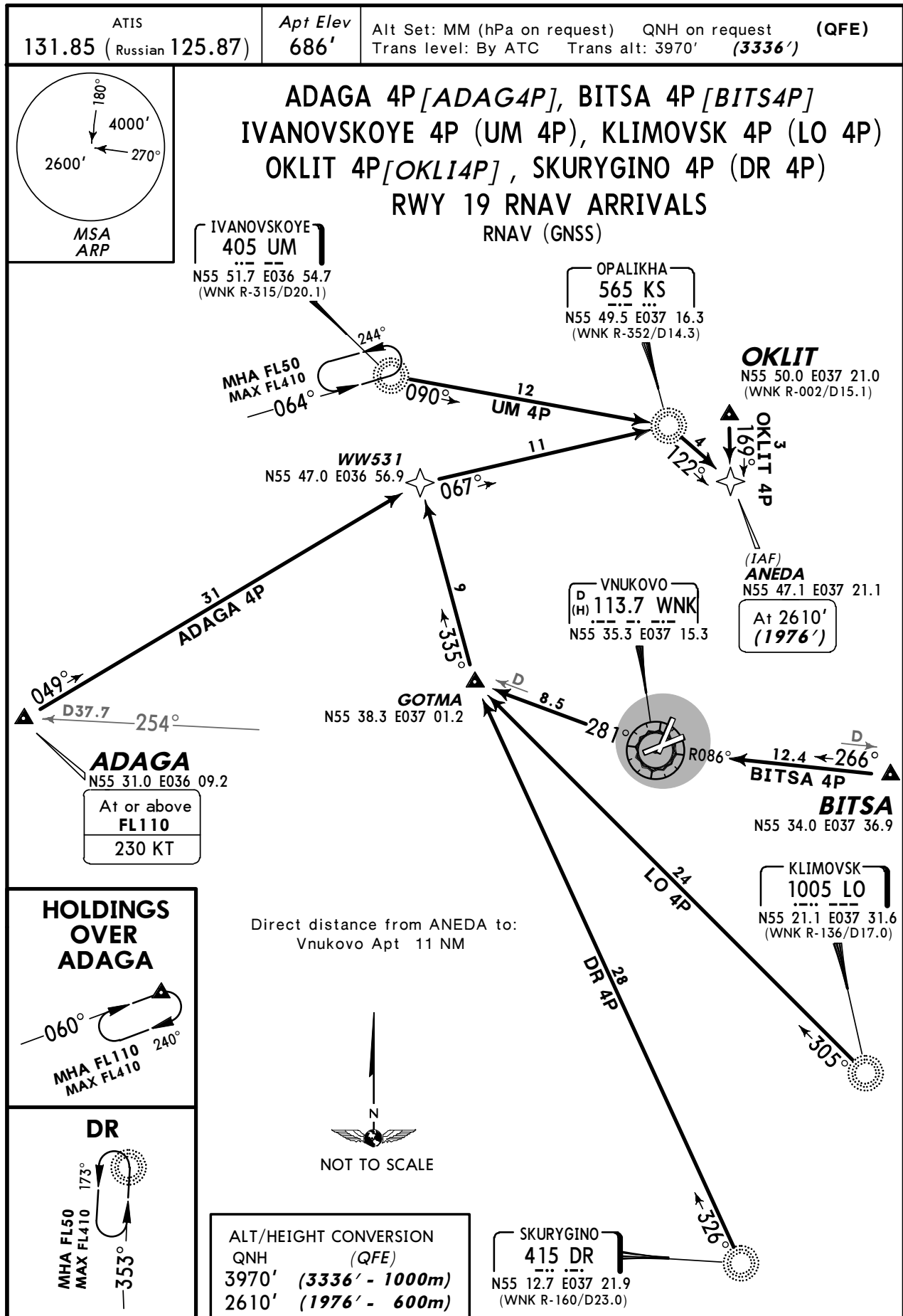
STAR	ROUTING
BITSA 2R	BITSA - WW522 (FL110; K230) - WW523 (FL90) - WW527 - WW507 - DR (FL70) - WW502 - ODABI (2600').
DR 2R	DR (FL70; K230) - WW502 - ODABI (2600').
DR 5R ①	DR (FL70+; K230) - WW523 - WW527 - WW507 - DR (FL70).
LO 2R	LO - WW522 (FL110; K230) - WW523 (FL90) - WW527 - WW507 - DR (FL70) - WW502 - ODABI (2600').
UMBEG 2R	UMBEG - WW522 (FL110; K230) - WW523 (FL90) - WW527 - WW507 - DR (FL70) - WW502 - ODABI (2600').



STAR	ROUTING
BITSA 4R	BITSA - WW522 (FL110; K230) - WW523 (FL90) - WW527 - WW507 - DR (FL70) - OSTIS (2610').
DR 4R	DR (FL70; K230) - OSTIS (2610').
DR 5R ①	DR (FL70+; K230) - WW523 - WW527 - WW507 - DR (FL70).
LO 4R	LO - WW522 (FL110; K230) - WW523 (FL90) - WW527 - WW507 - DR (FL70) - OSTIS (2610').
UMBEG 4R	UMBEG - WW522 (FL110; K230) - WW523 (FL90) - WW527 - WW507 - DR (FL70) - OSTIS (2610').



STAR	ROUTING
BITSA 1R	BITSA - WW522 (FL110; K230) - WW523 (FL90) - WW527 - WW507 - DR (FL70) - OSTIS (2660').
DR 1R	DR (FL70; K230) - OSTIS (2660').
DR 5R ①	DR (FL70+; K230) - WW523 - WW527 - WW507 - DR (FL70).
LO 1R	LO - WW522 (FL110; K230) - WW523 (FL90) - WW527 - WW507 - DR (FL70) - OSTIS (2660').
UMBEG 1R	UMBEG - WW522 (FL110; K230) - WW523 (FL90) - WW527 - WW507 - DR (FL70) - OSTIS (2660').



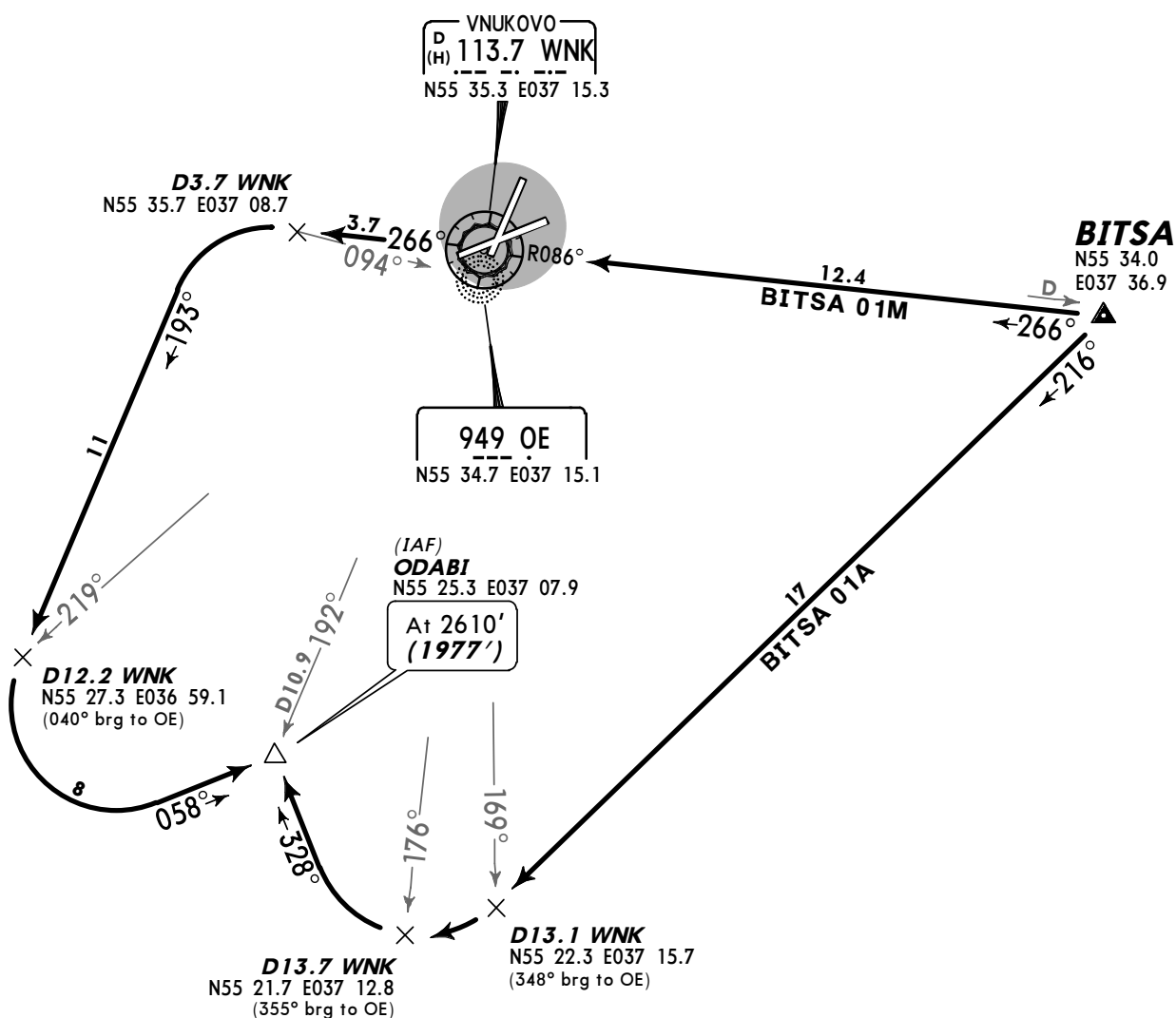
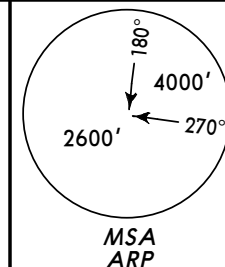
STAR	ROUTING
ADAGA 4P	ADAGA (FL110+; K230) - WW531 - KS - ANEDA (2610').
BITSA 4P	BITSA - WNK - GOTMA - WW531 - KS - ANEDA (2610').
DR 4P	DR - GOTMA - WW531 - KS - ANEDA (2610').
LO 4P	LO - GOTMA - WW531 - KS - ANEDA (2610').
OKLIT 4P	OKLIT - ANEDA (2610').
UM 4P	UM - KS - ANEDA (2610').

ATIS
131.85 (Russian 125.87)

Apt Elev
686'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3337')

BITSA 01A [BIT01A]
BITSA 01M [BIT01M]
RWY 01 ARRIVALS



ALT/HEIGHT CONVERSION	
QNH	(QFE)
3970'	(3337' - 1000m)
2610'	(1977' - 600m)

UUWW/VKO
VNUKOVO

21 JUN 13

10-2Q

Eff 27 Jun

MOSCOW, RUSSIA

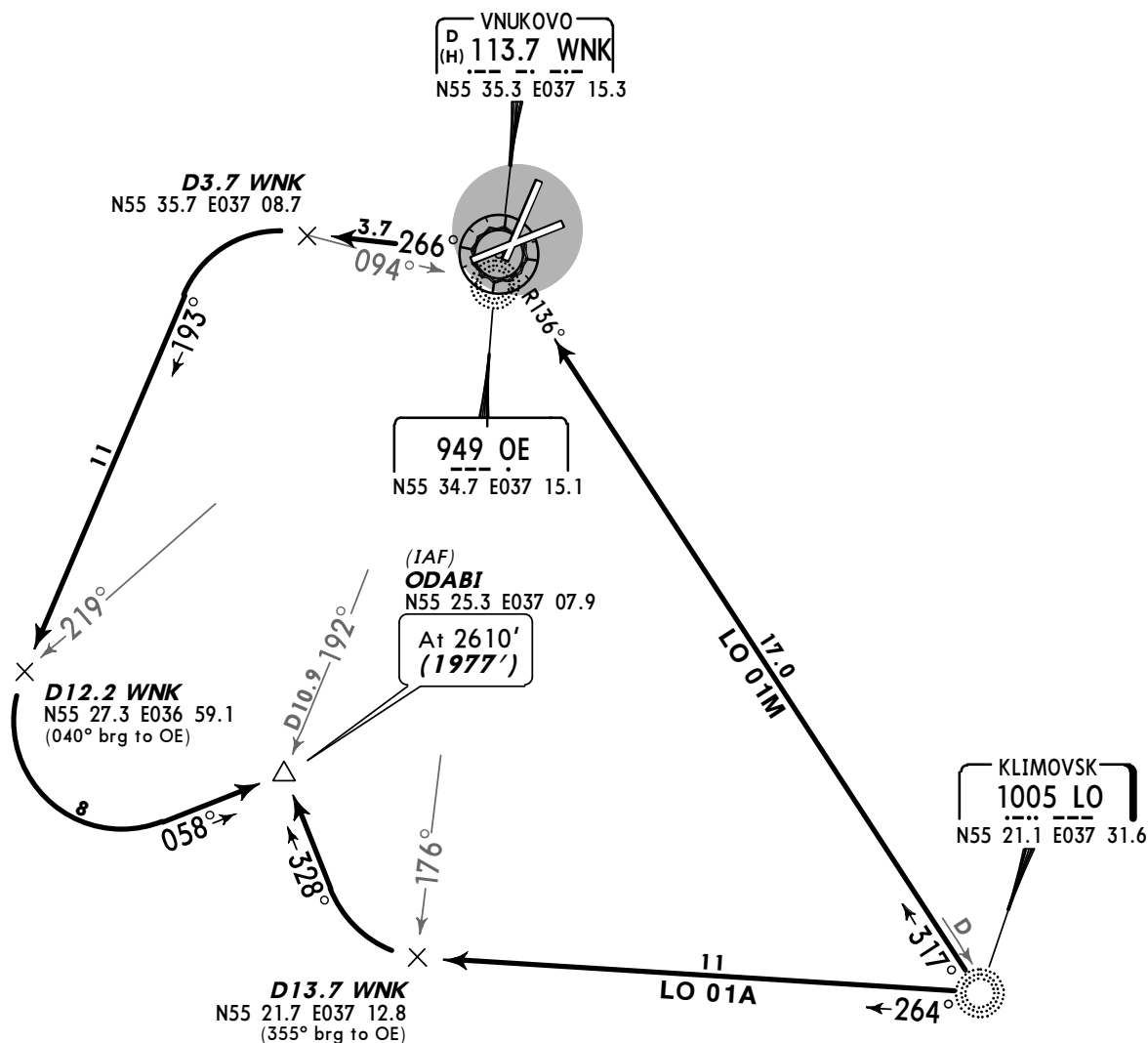
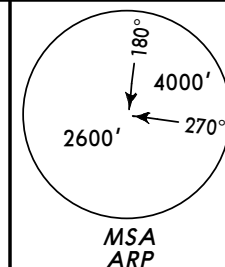
STAR

ATIS
131.85 (Russian 125.87)

Apt Elev
686'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3337')

KLIMOVSK Ø1A (LO Ø1A)
KLIMOVSK Ø1M (LO Ø1M)
RWY 01 ARRIVALS



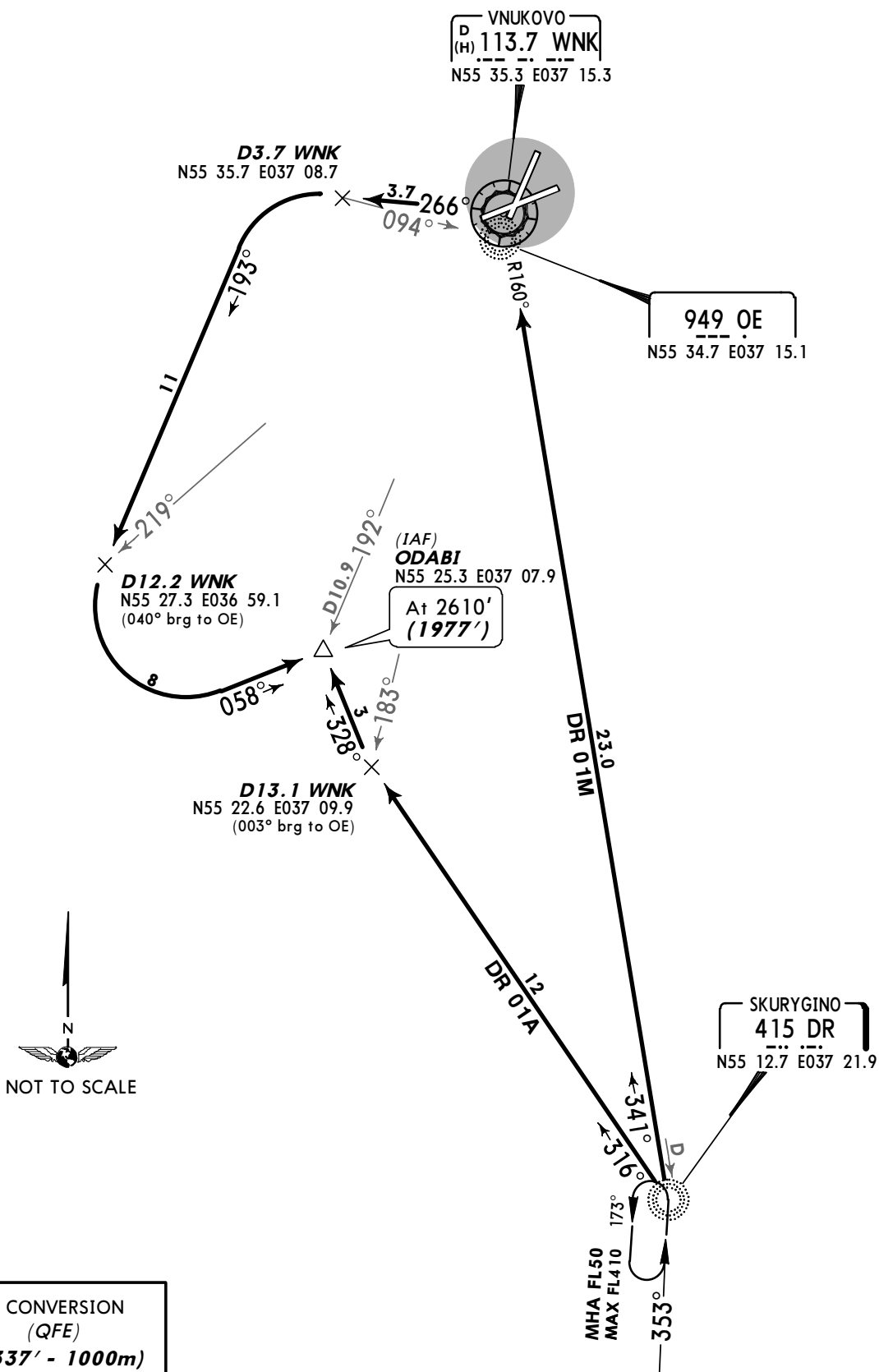
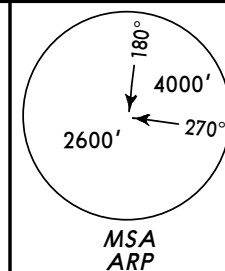
ALT/HEIGHT CONVERSION
QNH (QFE)
3970' (3337' - 1000m)
2610' (1977' - 600m)

ATIS
131.85 (Russian 125.87)

Apt Elev
686'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3337')

SKURYGINO Ø1A (DR Ø1A)
SKURYGINO Ø1M (DR Ø1M)
RWY 01 ARRIVALS



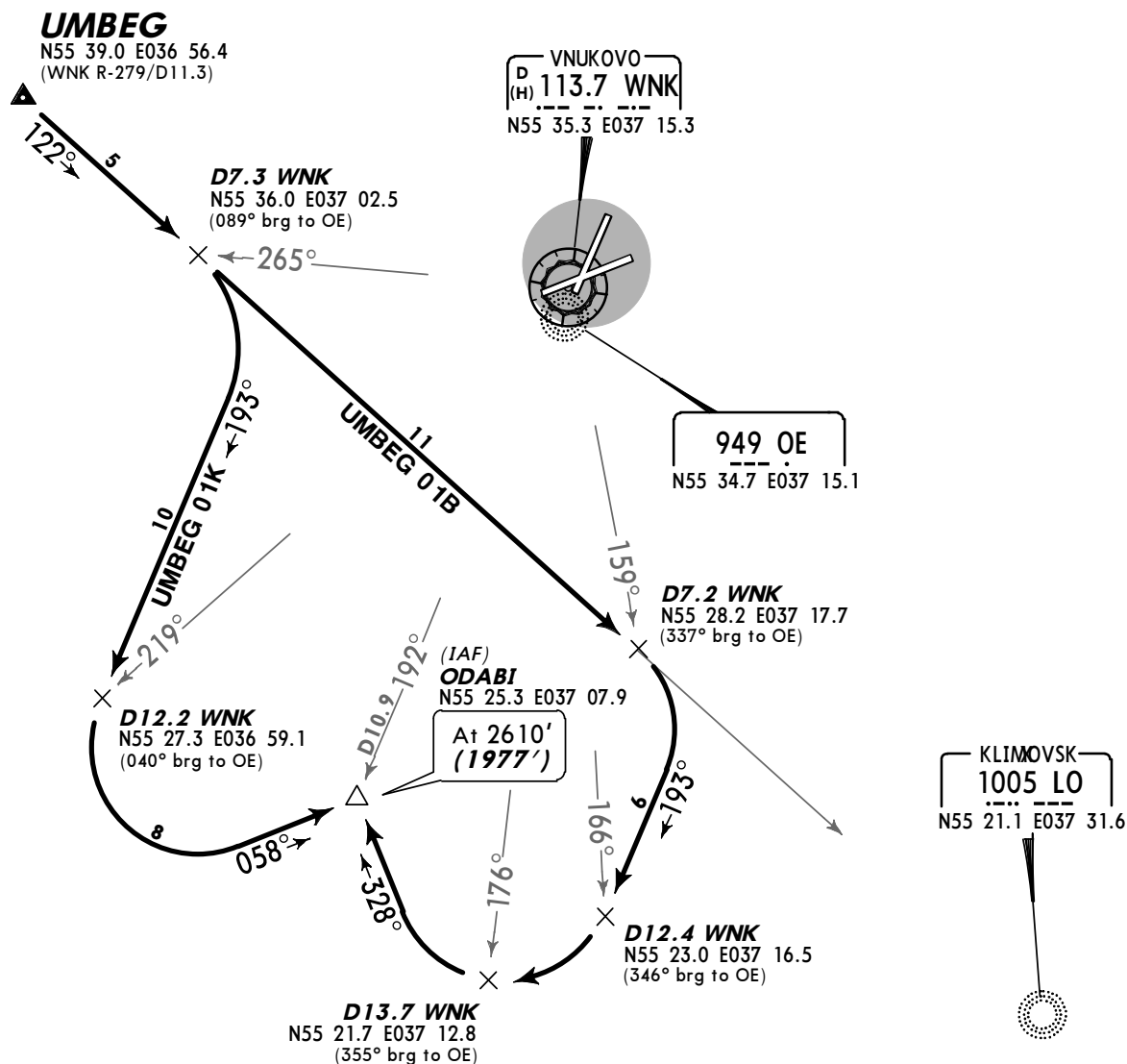
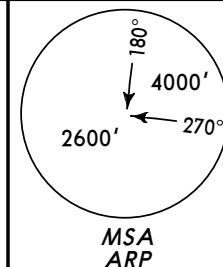
ALT/HEIGHT CONVERSION
QNH (QFE)
3970' (3337' - 1000m)
2610' (1977' - 600m)

ATIS
131.85 (Russian 125.87)

Apt Elev
686'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3337')

UMBEG 01B [UMB01B]
UMBEG 01K [UMB01K]
RWY 01 ARRIVALS



ALT/HEIGHT CONVERSION
QNH (QFE)
3970' (3337' - 1000m)
2610' (1977' - 600m)

(QFE)

ALT/HEIGHT CONVERSION
QNH (QFE)
3970' (3341' - 1000m)
2600' (1971' - 600m)

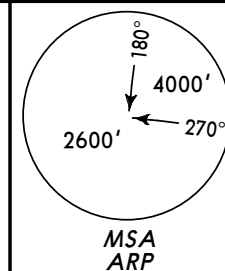
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ATIS
131.85 (Russian 125.87)

Apt Elev
686'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3341')

BITSA Ø6B [BITØ6B]
KLIMOVSK Ø6B (LO Ø6B)
SKURYGINO Ø6B (DR Ø6B)
RWY 06 ARRIVALS



(IAF)
VNUKOVO
D 113.7 WNK
(H) 113.7 WNK
N55 35.3 E037 15.3



BITSA
N55 34.0
E037 36.9

12.4
BITSA 06B

D
266°

17.0
LO 06B

KLIMOVSK
1005 LO
N55 21.1 E037 31.6

D
317°

23.0
DR 06B

SKURYGINO
415 DR
N55 12.7 E037 21.9

D
341°

MHA FL50
MAX FL410

173°
353°



NOT TO SCALE

ALT/HEIGHT CONVERSION
QNH (QFE)
3970' (3341' - 1000m)

UUWW/VKO
VNUKOVO

21 JUN 13

10-2W

Eff 27 Jun

MOSCOW, RUSSIA

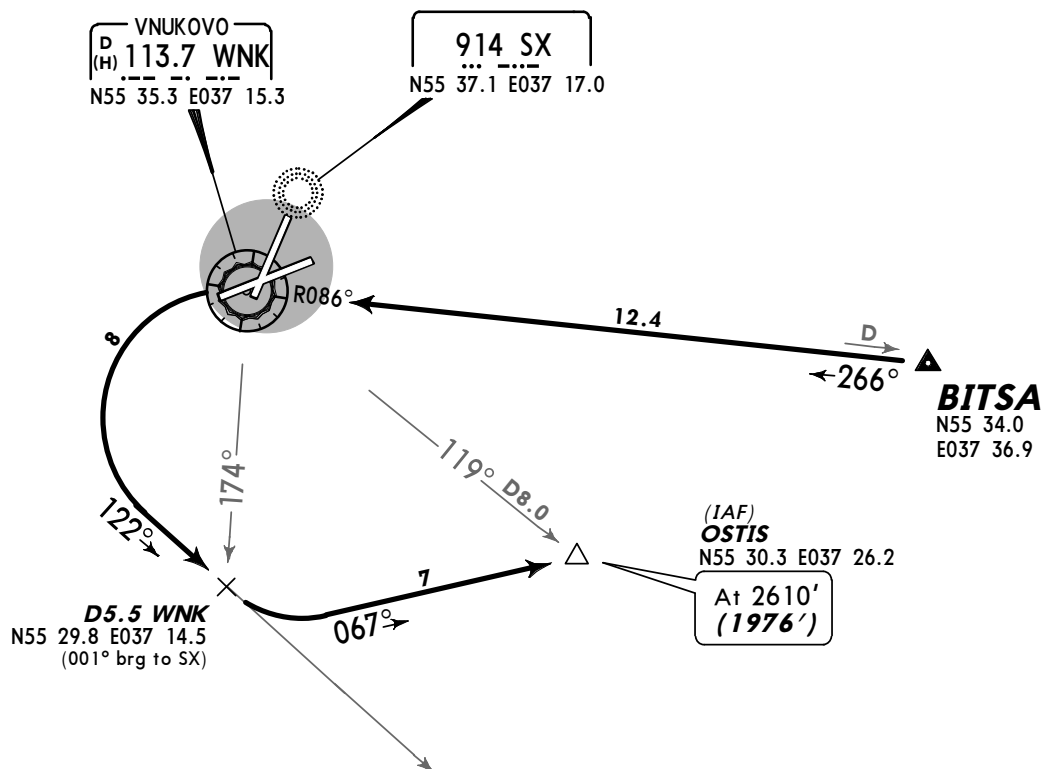
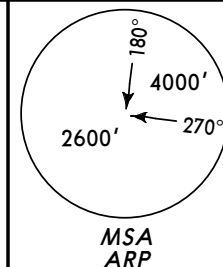
STAR

ATIS
131.85 (Russian 125.87)

Apt Elev
686'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3336')

BITSA 19B [BIT19B]
RWY 19 ARRIVAL



ALT/HEIGHT CONVERSION
QNH (QFE)
3970' (3336' - 1000m)
2610' (1976' - 600m)

21 JUN 13

JEPPesen

10-2X

Eff 27 Jun

MOSCOW, RUSSIA

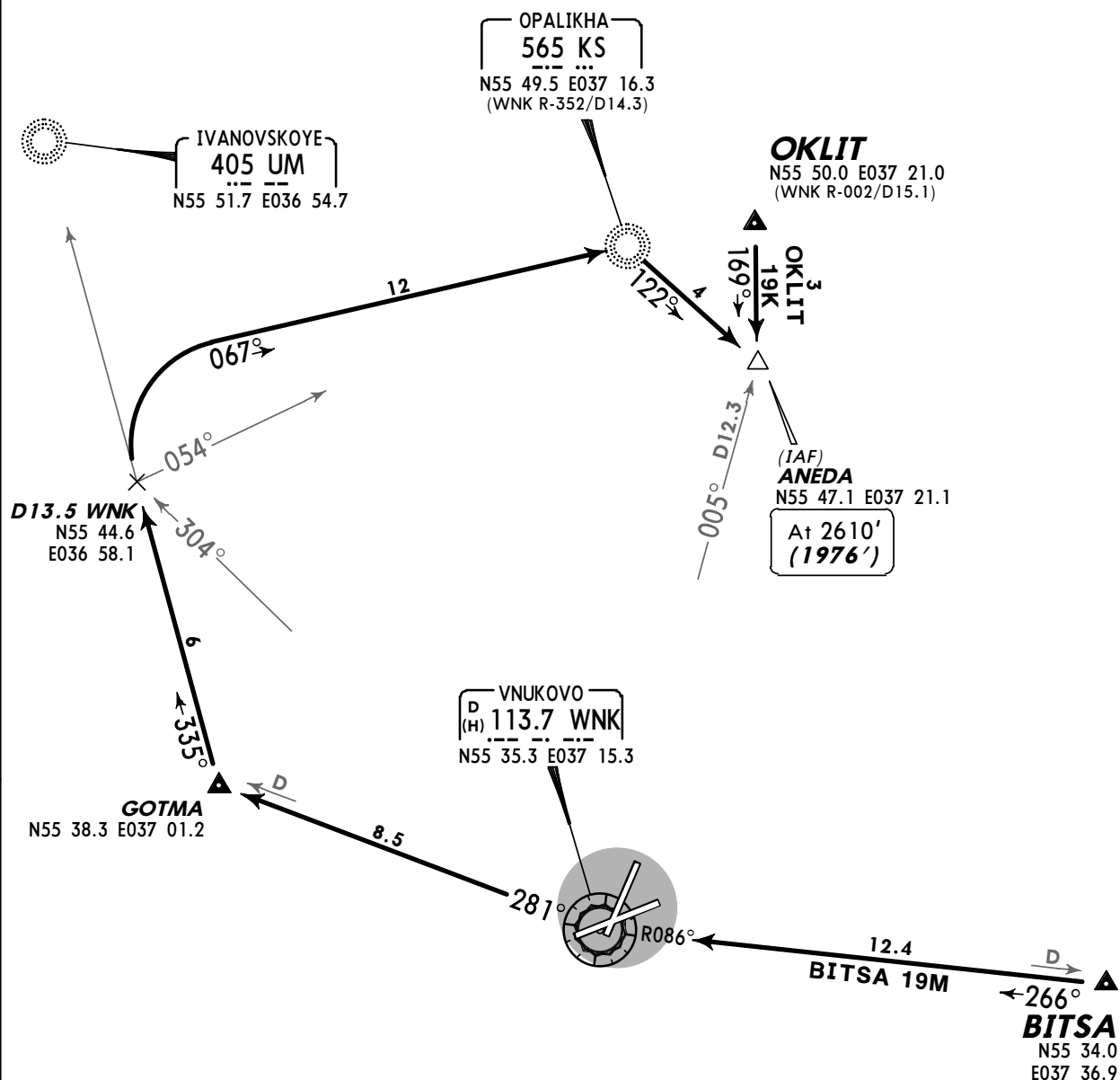
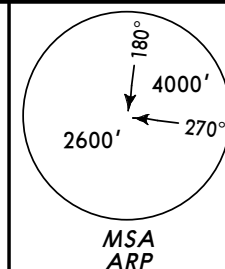
STAR

ATIS
131.85 (Russian 125.87)

Apt Elev
686'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3336')

BITSA 19M [BIT19M]
OKLIT 19K [OKL19K]
RWY 19 ARRIVALS



ALT/HEIGHT CONVERSION
QNH (QFE)
3970' (3336' - 1000m)
2610' (1976' - 600m)

CHANGES: STARs established & transferred.

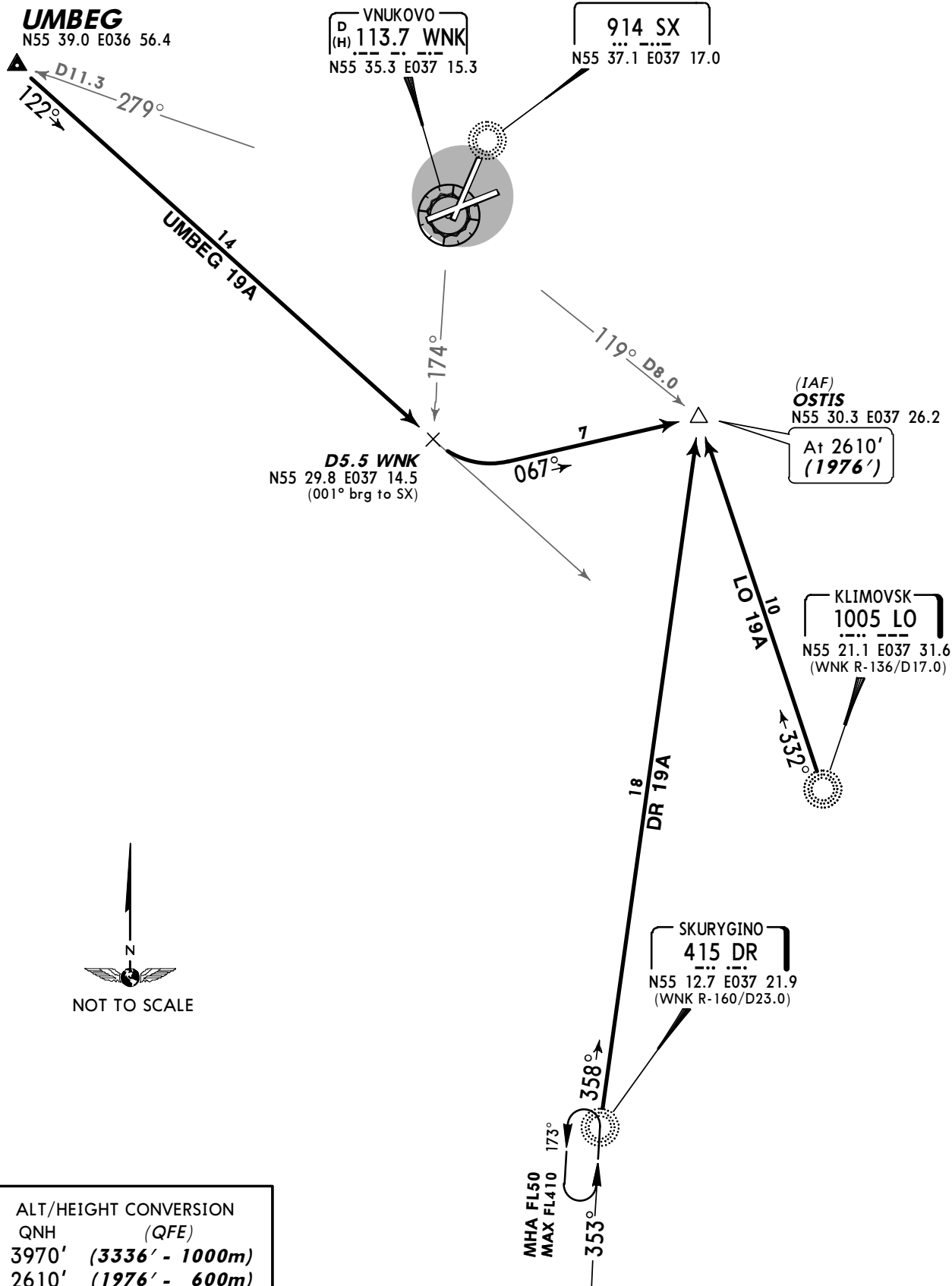
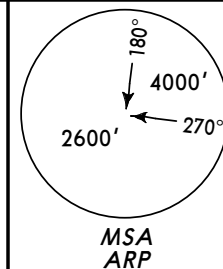
© JEPPESEN, 2013. ALL RIGHTS RESERVED.

ATIS
131.85 (Russian 125.87)

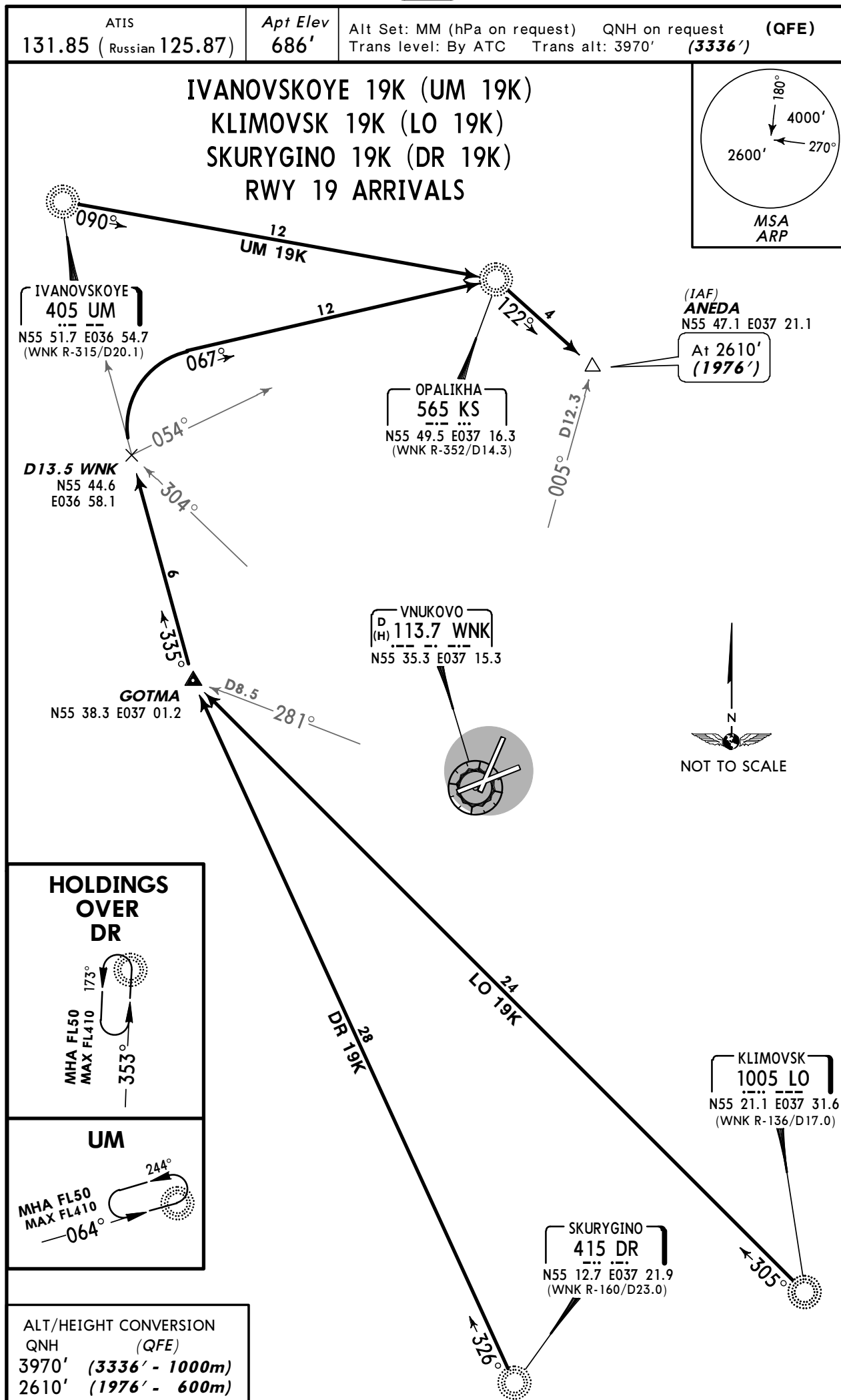
Apt Elev
686'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3336')

KLIMOVSK 19A (LO 19A)
SKURYGINO 19A (DR 19A)
UMBEG 19A [UMB19A]
RWY 19 ARRIVALS



ALT/HEIGHT CONVERSION
QNH (QFE)
3970' (3336' - 1000m)
2610' (1976' - 600m)



UUWW/VKO
VNUKOVO

21 JUN 13

10-2X3

Eff 27 Jun

MOSCOW, RUSSIA

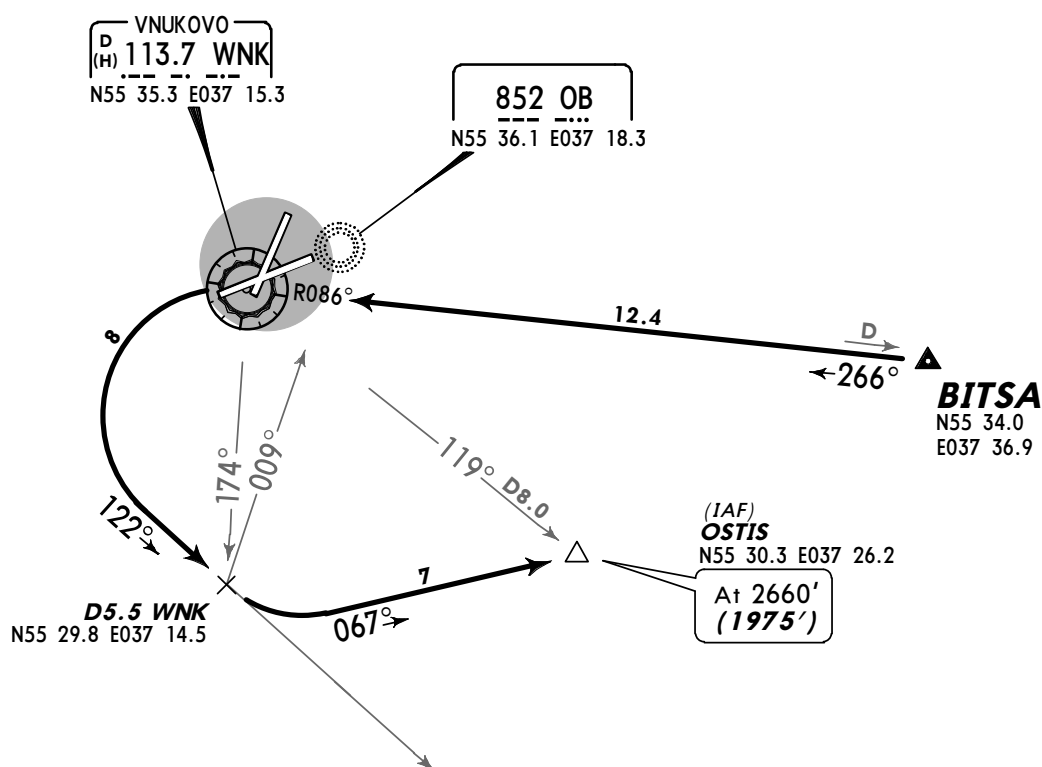
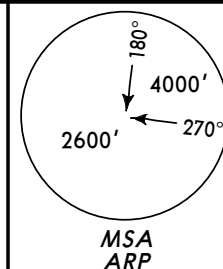
STAR

ATIS
131.85 (Russian 125.87)

Apt Elev
686'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3285')

BITSA 24B [BIT24B] RWY 24 ARRIVAL



NOT TO SCALE

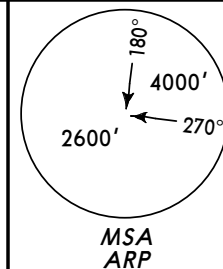
ALT/HEIGHT CONVERSION
QNH (QFE)
3970' (3285' - 1000m)
2660' (1975' - 600m)

ATIS
131.85 (Russian 125.87)

Apt Elev
686'

Alt Set: MM (hPa on request) QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3285')

KLIMOVSK 24A (LO 24A)
SKURYGINO 24A (DR 24A)
UMBEG 24A [UMB24A]
RWY 24 ARRIVALS



UMBEG
N55 39.0 E036 56.4

VNUKOV
D (H) 113.7 WNK
N55 35.3 E037 15.3

852 OB
N55 36.1 E037 18.3

(IAF)
OSTIS
N55 30.3 E037 26.2
At 2660'
(1975')

D5.5 WNK
N55 29.8 E037 14.5

KLIMOVSK
1005 LO
N55 21.1 E037 31.6
(WNK R-136/D17.0)

18
DR 24A

SKURYGINO
415 DR
N55 12.7 E037 21.9
(WNK R-160/D23.0)



ALT/HEIGHT CONVERSION
QNH (QFE)
3970' (3285' - 1000m)
2660' (1975' - 600m)

MHA FL50
MAX FL410

RNAV SID DESIGNATION	REFER TO CHART
DEDUM 1D, IVANOVSKOYE 1D	10-3B
DEDUM 2D, 2E, IVANOVSKOYE 2D, 2E	10-3C
DEDUM 3D, 3E, IVANOVSKOYE 3D, 3E	10-3D
DEDUM 4D, IVANOVSKOYE 4D	10-3E
BITSA 1D, 1E, KLIMOVSK 1D, 1E	10-3F
BITSA 2D, 2E, 2F, KLIMOVSK 2D, 2E, 2F, OKLIT 2D	10-3G
BITSA 3D, 3E, KLIMOVSK 3D, 3E, OKLIT 3D	10-3H
BITSA 4D, 4E, KLIMOVSK 4D, 4E, OKLIT 4E	10-3J
BADNI 1E, KAMENKA 1E	10-3K
BADNI 2D, 2E, KAMENKA 2D, 2E	10-3L
BADNI 3D, 3E, KAMENKA 3D, 3E	10-3M
BADNI 4D, KAMENKA 4D	10-3N

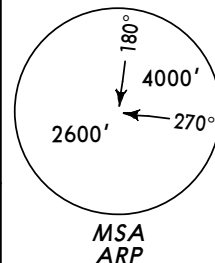
FOR SID AND TRANSITION DESIGNATION
REFER TO PAGE 10-3A

SID DESIGNATION	REFER TO CHART
DEDUM 01D, 01E, IVANOVSKOYE 01D, 01E	10-3P
DEDUM 06D, 06E, IVANOVSKOYE 06D, 06E	10-3Q
DEDUM 19D, IVANOVSKOYE 19D	10-3S
DEDUM 24D, IVANOVSKOYE 24D	10-3T
BITSA 01D, 01E, KLIMOVSK 01D, 01E, OKLIT 01D	10-3U
BITSA 06D, 06E, 06F	10-3V
KLIMOVSK 06D, 06E, 06F, OKLIT 06D	10-3V1
BITSA 19D, 19E, KLIMOVSK 19D, 19E, OKLIT 19E	10-3W
BITSA 24D, 24E, KLIMOVSK 24D, 24E	10-3X
BADNI 01D, 01E, KAMENKA 01D, 01E	10-3X1
BADNI 06D, 06E, KAMENKA 06D, 06E	10-3X2
BADNI 19D, KAMENKA 19D	10-3X3
BADNI 24E, KAMENKA 24E	10-3X4
TRANSITION DESIGNATION	REFER TO CHART
NERL 1W, 2W, TIMIG 1W, 2W	10-3X5
CHERUSTI 1W, RELTO 3W TIKBI 3W, VENEV 1W	10-3X6
ADETI 1W, ROLUN 1W, SODRU 2W, SUGIR 2W	10-3X7
BELAG 1W, KARMANOVO 1W, OBELU 1W	10-3X8

VNUKOVO
Radar
126.0

Apt Elev
686'

QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3285')
1. Contact VNUKOVO Radar immediately after crossing
1350' (665').
2. Execute noise abatement procedures according to
ICAO Annex 16, DOC 8168.

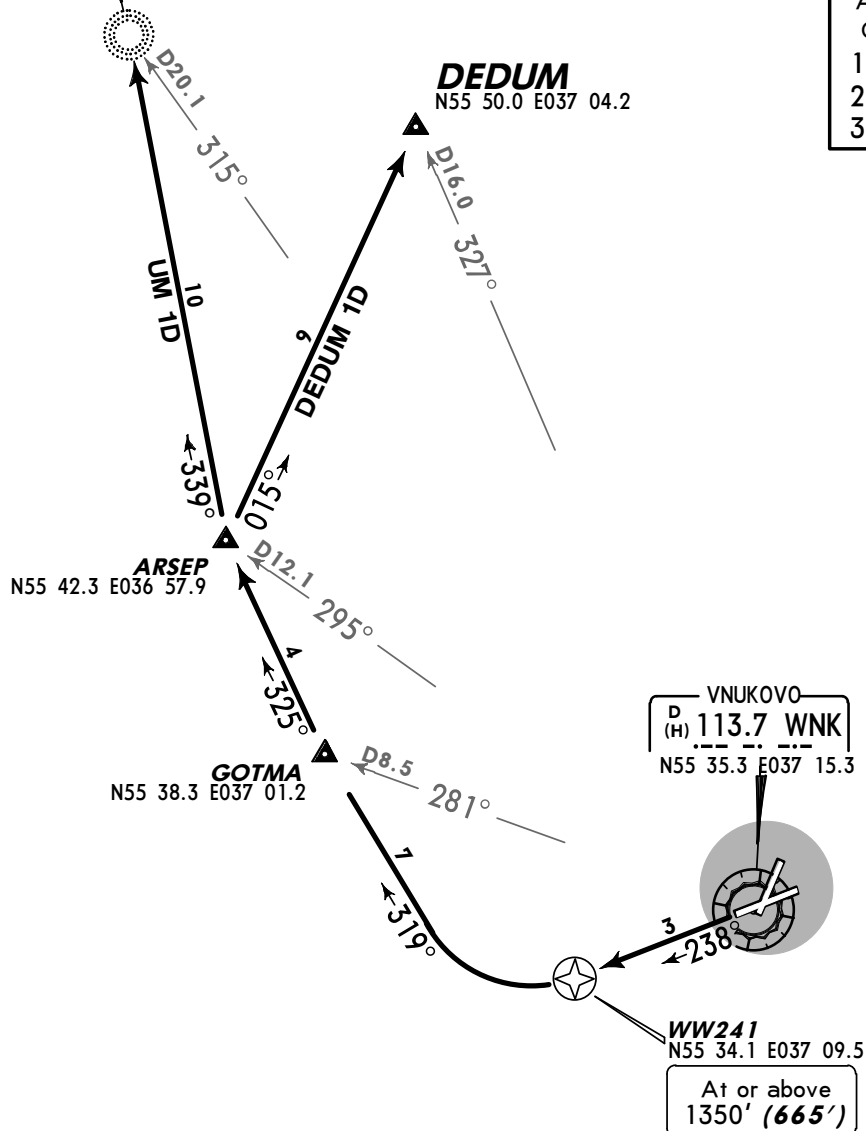


DEDUM 1D [DEDU1D]
IVANOVSKOYE 1D (UM 1D)
RWY 24 RNAV DEPARTURES
~~SPEED~~ MAX 250 KT BELOW FL100

IVANOVSKOYE
405 UM
N55 51.7 E036 54.7

DEDUM
N55 50.0 E037 04.2

QNH	(QFE)
1350'	(665' - 200m)
2660'	(1975' - 600m)
3970'	(3285' - 1000m)



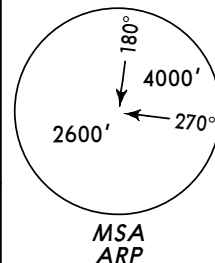
Initial climb clearance 2660' (1975')

SID	ROUTING
DEDUM 1D	DER24 - WW241 (1350'+) - GOTMA - ARSEP - DEDUM.
UM 1D	DER24 - WW241 (1350'+) - GOTMA - ARSEP - UM.

VNUKOVO
Radar
126.0

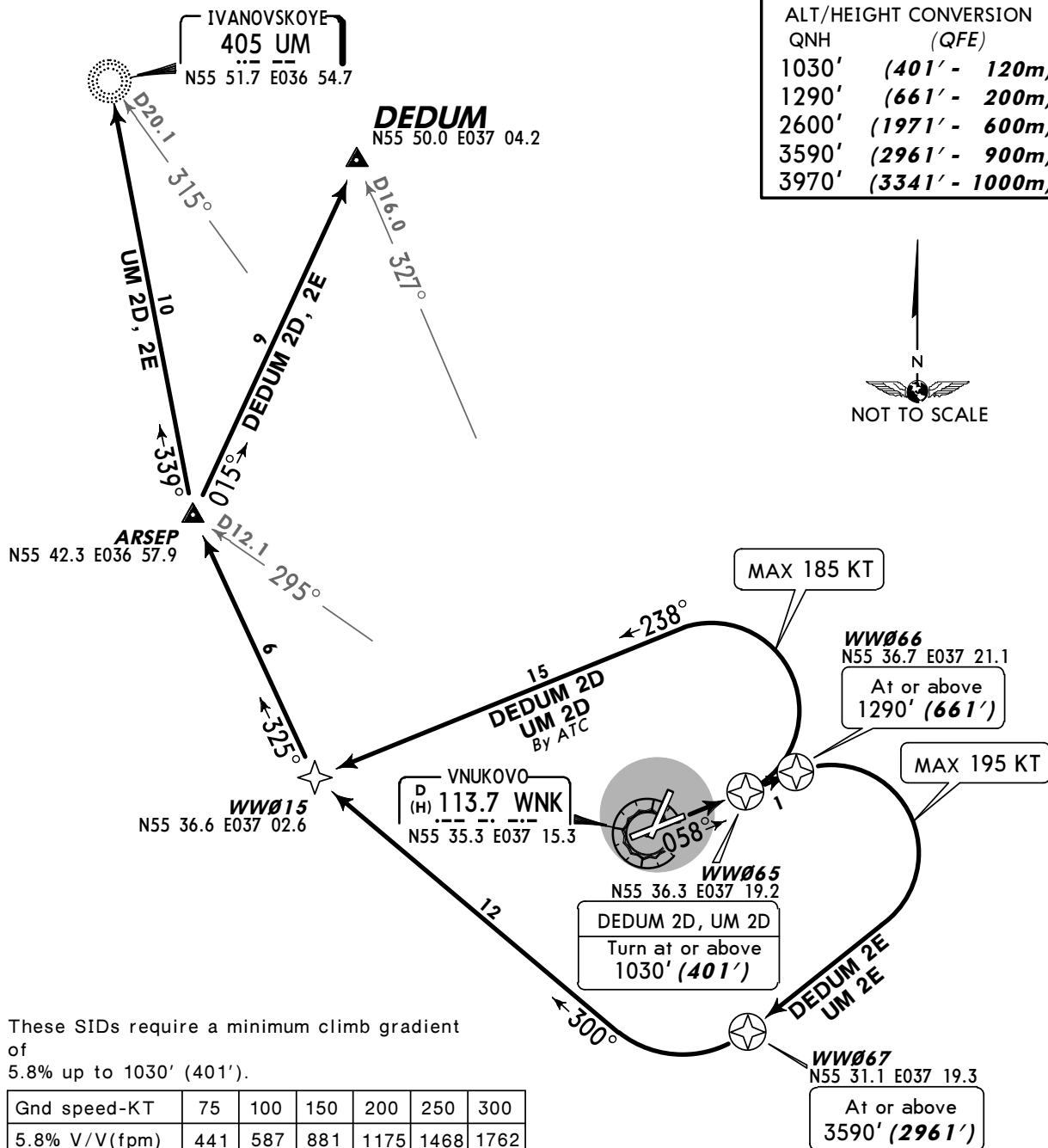
Apt Elev
686'

QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3341')
1. Contact VNUKOVO Radar immediately after crossing
1290' (661').
2. Execute noise abatement procedures according to
ICAO Annex 16, DOC 8168.



**DEDUM 2D [DEDU2D] , DEDUM 2E [DEDU2E]
IVANOVSKOYE 2D (UM 2D)
IVANOVSKOYE 2E (UM 2E)
RWY 06 RNAV DEPARTURES
~~SPEED~~ MAX 250 KT BELOW FL100**

ALT/HEIGHT CONVERSION	
QNH	(QFE)
1030'	(401' - 120m)
1290'	(661' - 200m)
2600'	(1971' - 600m)
3590'	(2961' - 900m)
3970'	(3341' - 1000m)



Initial climb clearance 2600' (1971')

SID	ROUTING
DEDUM 2D By ATC	DER06 - WW065 (1030'+; K185-) - WW015 - ARSEP - DEDUM.
DEDUM 2E	DER06 - WW066 (1290'+; K195-) - WW067 (3590'+) - WW015 - ARSEP - DEDUM.
UM 2D By ATC	DER06 - WW065 (1030'+; K185-) - WW015 - ARSEP - UM.
UM 2E	DER06 - WW066 (1290'+; K195-) - WW067 (3590'+) - WW015 - ARSEP - UM.

VNUKOVO
Radar
126.0

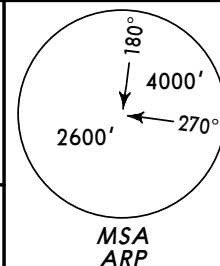
Apt Elev
686'

QNH on request (QFE)

Trans level: By ATC Trans alt: 3970' (3337')

1. Contact VNUKOVO Radar immediately after crossing 1290' (657').

2. Execute noise abatement procedures according to ICAO Annex 16, DOC 8168.



DEDUM 3D [DEDU3D] , DEDUM 3E [DEDU3E]
IVANOVSKOYE 3D (UM 3D)
IVANOVSKOYE 3E (UM 3E)
RWY 01 RNAV DEPARTURES
~~SPEED~~ MAX 250 KT BELOW FL100

IVANOVSKOYE
405 UM
N55 51.7 E036 54.7

ALT/HEIGHT CONVERSION

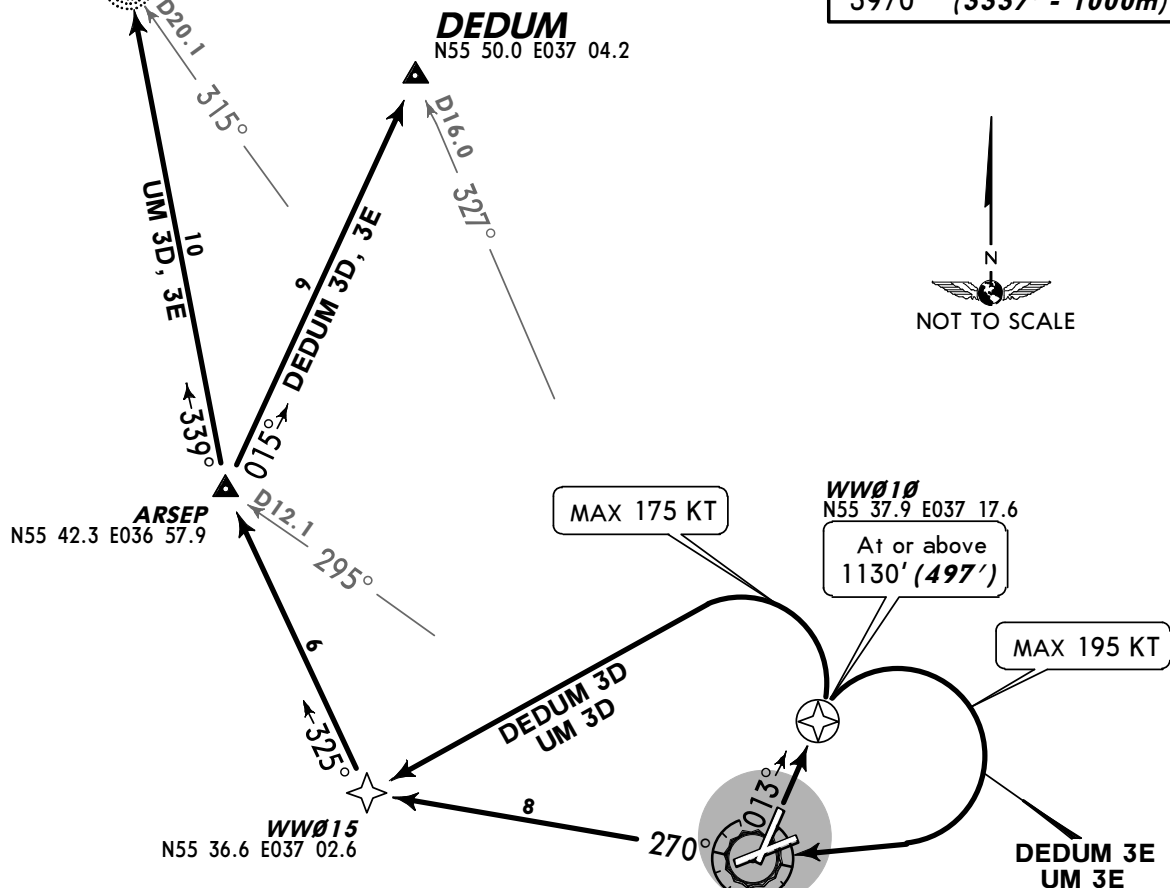
QNH (QFE)

1130' (497' - 150m)

1290' (657' - 200m)

2610' (1977' - 600m)

3970' (3337' - 1000m)



These SIDs require a minimum climb gradient of 5.8% up to 1130' (497').

Gnd speed-KT	75	100	150	200	250	300
5.8% V/V(fpm)	441	587	881	1175	1468	1762

Initial climb clearance 2610' (1977')

SID	ROUTING
DEDUM 3D	DER01 - WW010 (1130'+; K175-) - WW015 - ARSEP - DEDUM.
DEDUM 3E	DER01 - WW010 (1130'+; K195-) - WNK (3970'+) - WW015 - ARSEP - DEDUM.
UM 3D	DER01 - WW010 (1130'+; K175-) - WW015 - ARSEP - UM.
UM 3E	DER01 - WW010 (1130'+; K195-) - WNK (3970'+) - WW015 - ARSEP - UM.

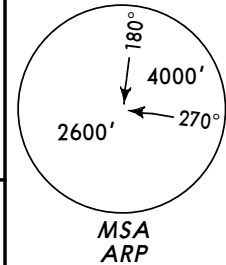
VNUKOVO
Radar
126.0

Apt Elev
686'

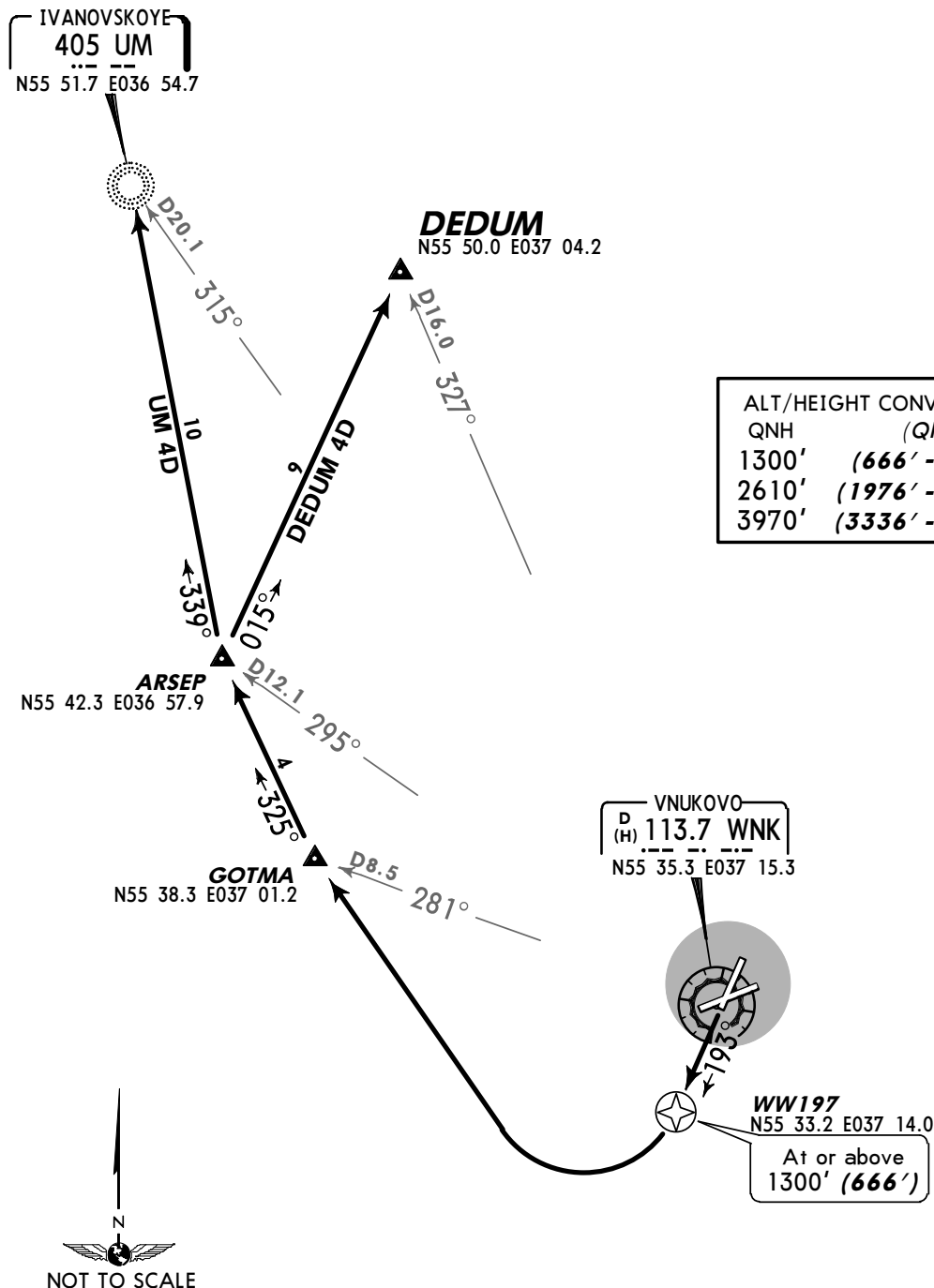
QNH on request (QFE)

Trans level: By ATC Trans alt: 3970' (3336')

1. Contact VNUKOVO Radar immediately after crossing 1300' (666').
2. Execute noise abatement procedures according to ICAO Annex 16, DOC 8168.



**DEDUM 4D [DEDU4D]
IVANOVSKOYE 4D (UM 4D)
RWY 19 RNAV DEPARTURES**
~~SPEED~~ MAX 250 KT BELOW FL100



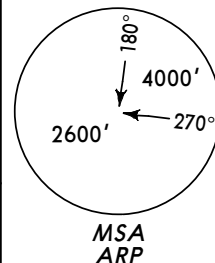
Initial climb clearance 2610' (1976')

SID	ROUTING
DEDUM 4D	DER19 - WW197 (1300'+) - GOTMA - ARSEP - DEDUM.
UM 4D	DER19 - WW197 (1300'+) - GOTMA - ARSEP - UM.

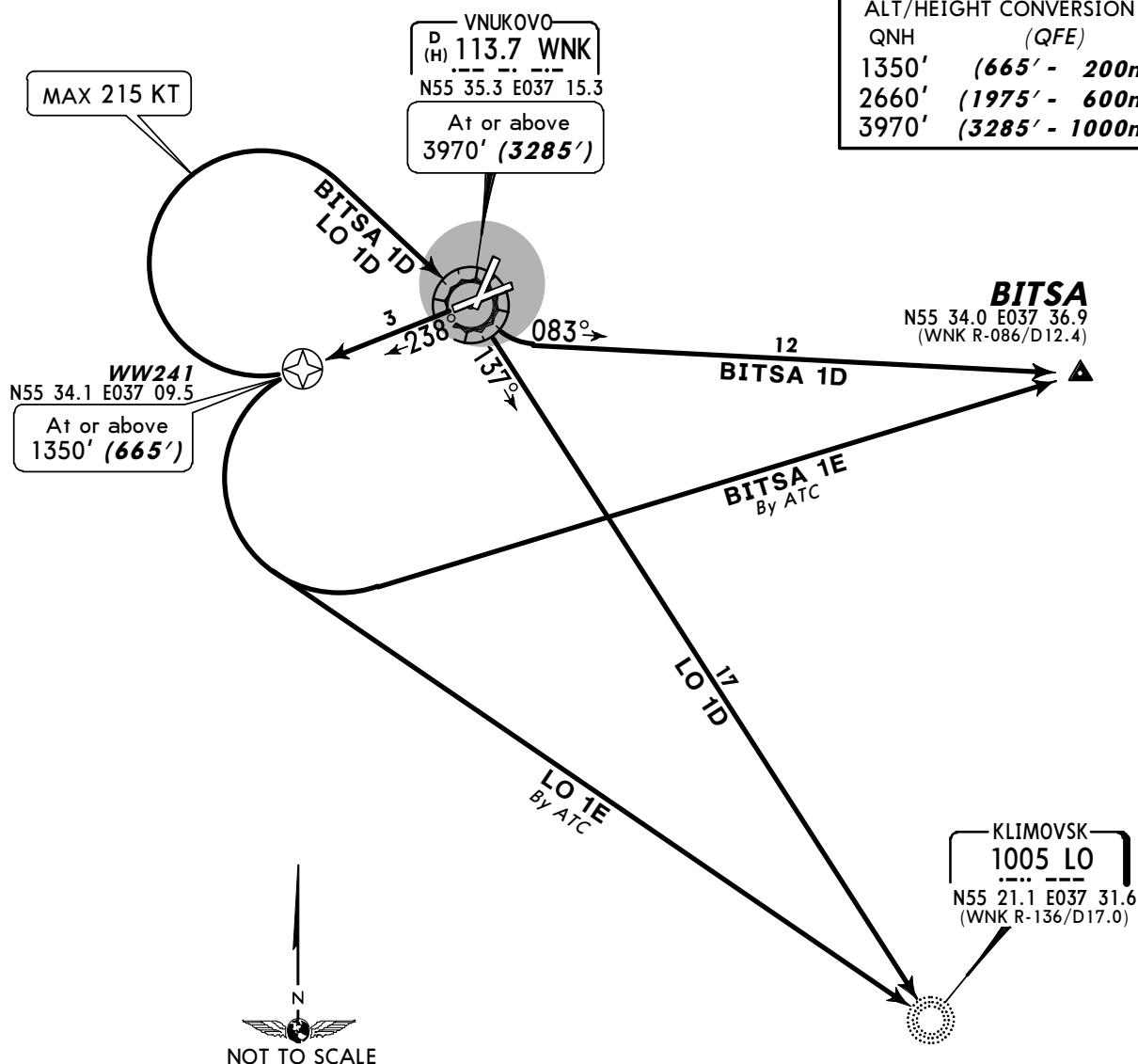
VNUKOVO
Radar
126.0

Apt Elev
686'

QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3285')
1. Contact VNUKOVO Radar immediately after crossing
1350' (665').
2. Execute noise abatement procedures according to
ICAO Annex 16, DOC 8168.



BITSA 1D [BITS1D] , BITSA 1E [BITS1E]
KLIMOVSK 1D (LO 1D), KLIMOVSK 1E (LO 1E)
RWY 24 RNAV DEPARTURES
~~SPEED~~ MAX 250 KT BELOW FL100



ALT/HEIGHT CONVERSION	
QNH	(QFE)
1350'	(665' - 200m)
2660'	(1975' - 600m)
3970'	(3285' - 1000m)

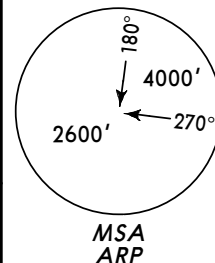
Initial climb clearance 2660' (1975')

SID	ROUTING
BITSA 1D	DER24 - WW241 (1350'+; K215-) - WNK (3970'+) - BISTA.
BITSA 1E By ATC	DER24 - WW241 (1350'+) - BISTA.
LO 1D	DER24 - WW241 (1350'+; K215-) - WNK (3970'+) - LO.
LO 1E By ATC	DER24 - WW241 (1350'+) - LO.

VNUKOVO
Radar
126.0

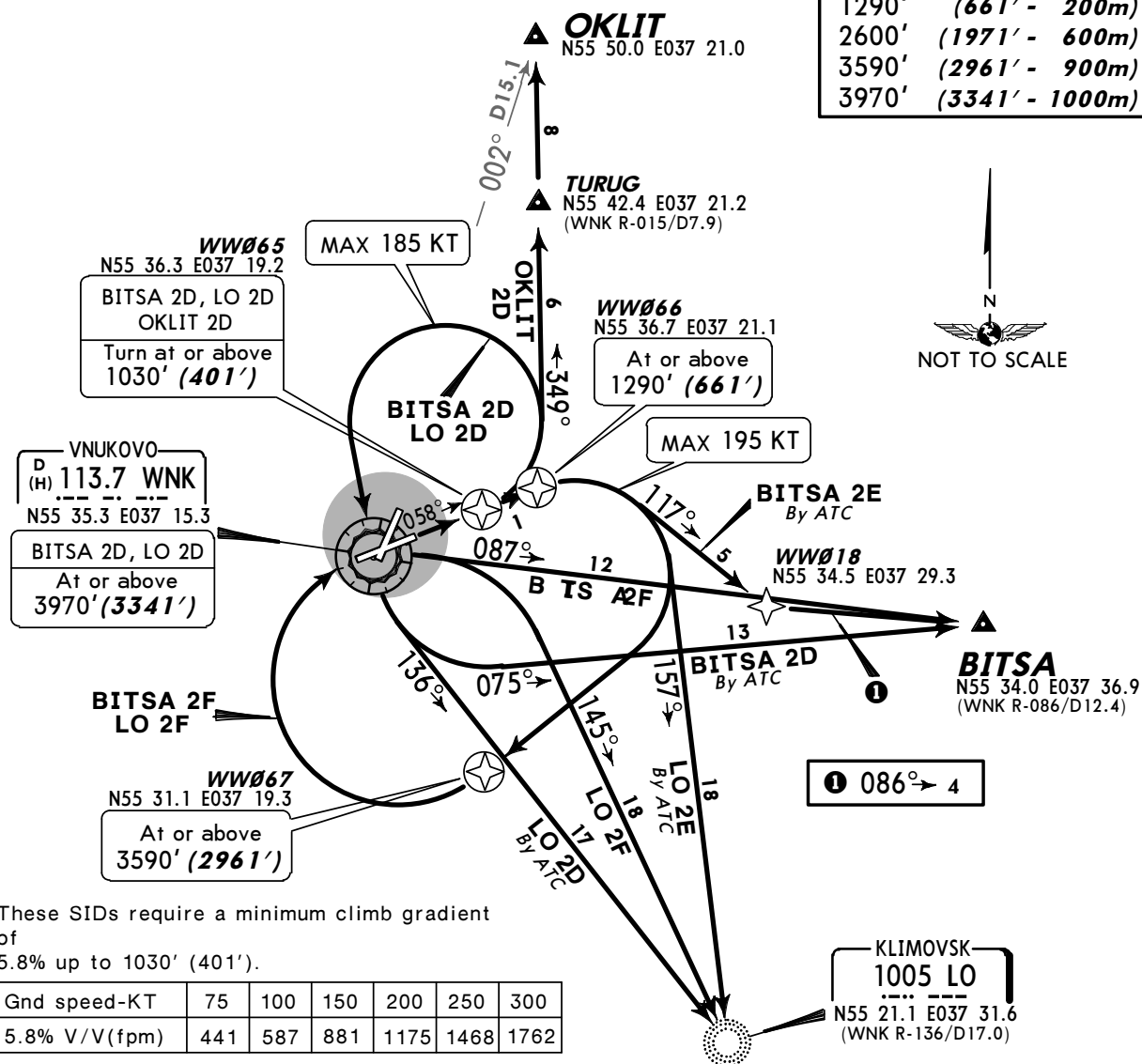
Apt Elev
686'

QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3341')
1. Contact VNUKOVO Radar immediately after crossing
1290' (661').
2. Execute noise abatement procedures according to
ICAO Annex 16, DOC 8168.



BITSA 2D[BITSA2D], BITSA 2E[BITSA2E]
BITSA 2F [BITSA2F]
KLIMOVSK 2D (LO 2D), KLIMOVSK 2E (LO 2E)
KLIMOVSK 2F (LO 2F)
OKLIT 2D[OKLI2D]
RWY 06 RNAV DEPARTURES
MAX 250 KT BELOW FL100

QNH	(QFE)
1030'	(401' - 120m)
1290'	(661' - 200m)
2600'	(1971' - 600m)
3590'	(2961' - 900m)
3970'	(3341' - 1000m)



Initial climb clearance 2600' (1971')

SID	ROUTING
BITSA 2D By ATC	DER06 - WW065 (1030'+; K185-) - WNK (3970'+) - BITSA.
BITSA 2E By ATC	DER06 - WW066 (1290'+; K195-) - WW018 - BITSA.
BITSA 2F	DER06 - WW066 (1290'+; K195-) - WW067 (3590'+) - WNK - BITSA.
LO 2D By ATC	DER06 - WW065 (1030'+; K185-) - WNK (3970'+) - LO.
LO 2E By ATC	DER06 - WW066 (1290'+; K195-) - LO.
LO 2F	DER06 - WW066 (1290'+; K195-) - WW067 (3590'+) - WNK - LO.
OKLIT 2D	DER06 - WW065 (1030'+; K185-) - TURUG - OKLIT.

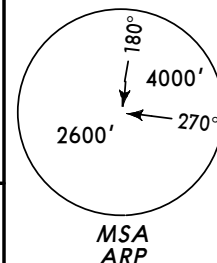
VNUKOVO
Radar
126.0

Apt Elev
686'

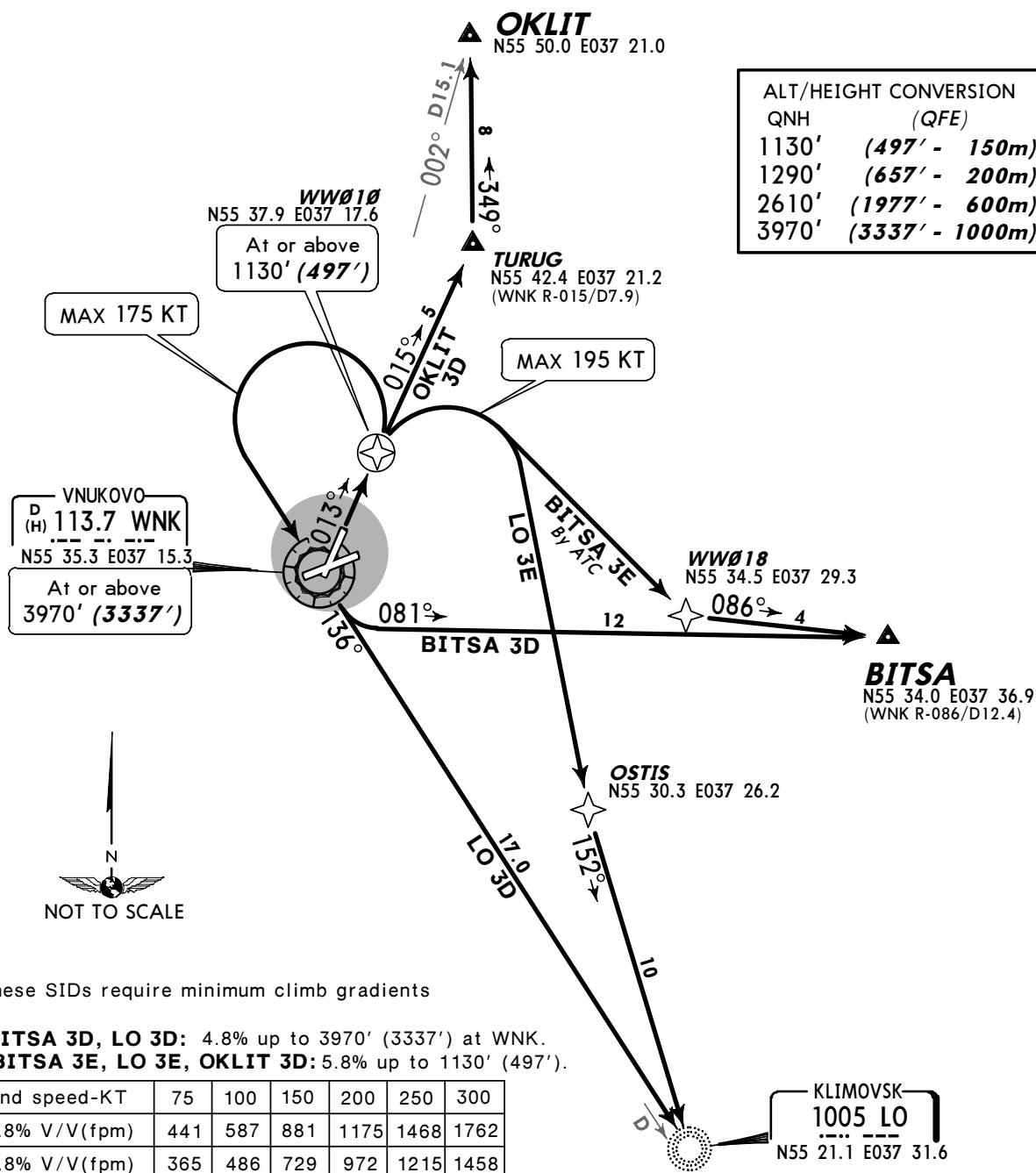
QNH on request (QFE)

Trans level: By ATC Trans alt: 3970' (3337')

1. Contact VNUKOVO Radar immediately after crossing 1290' (657').
2. Execute noise abatement procedures according to ICAO Annex 16, DOC 8168.



BITSA 3D [BITS3D], BITSA 3E [BITS3E]
KLIMOVSK 3D (LO 3D), KLIMOVSK 3E (LO 3E)
OKLIT 3D [OKLI3D]
RWY 01 RNAV DEPARTURES
~~SPEED~~ MAX 250 KT BELOW FL100



These SIDs require minimum climb gradients of

BITSA 3D, LO 3D: 4.8% up to 3970' (3337') at WNK.

BITSA 3E, LO 3E, OKLIT 3D: 5.8% up to 1130' (497').

Gnd speed-KT	75	100	150	200	250	300
5.8% V/V(fpm)	441	587	881	1175	1468	1762
4.8% V/V(fpm)	365	486	729	972	1215	1458

Initial climb clearance 2610' (1977')

SID	ROUTING
BITSA 3D	DER01 - WW010 (1130'+; K175-) - WNK (3970'+) - BITSA.
BITSA 3E By ATC	DER01 - WW010 (1130'+; K195-) - WW018 - BITSA.
LO 3D	DER01 - WW010 (1130'+; K175-) - WNK (3970'+) - LO.
LO 3E	DER01 - WW010 (1130'+; K195-) - OSTIS - LO.
OKLIT 3D	DER01 - WW010 (1130'+) - TURUG - OKLIT.

VNUKOVO Radar 126.0	Apt Elev 686'	QNH on request (QFE) Trans level: By ATC Trans alt: 3970' (3336') 1. Contact VNUKOVO Radar immediately after crossing 1300' (666'). 2. Execute noise abatement procedures according to ICAO Annex 16, DOC 8168.	MSA ARP
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BITSA 4D [BITS4D] , BITSA 4E [BITS4E]

KLIMOVSK 4D (LO 4D), KLIMOVSK 4E (LO 4E)

OKLIT 4E [OKLI4E]

RWY 19 RNAV DEPARTURES

SPEED: MAX 250 KT BELOW FL100

VNUKOVO
D(H) 113.7 WNK
N55 35.3 E037 15.3
At or above 3970' (**3336'**)

TURUG
N55 42.4 E037 21.2

WW197
N55 33.2 E037 14.0
BITSA 4D, LO 4D
Turn at or above 1300' (**666'**)

WW198
N55 31.2 E037 12.4
At or above 1620' (**986'**)

BITSAs:
 - BITSA 4D: N55 34.0 E037 36.9 (WNK R-086/D12.4)
 - BITSA 4E: N55 21.1 E037 31.6 (WNK R-136/D17.0)
 - KLIMOVSK 1005 LO: N55 21.1 E037 31.6 (WNK R-136/D17.0)

OKLIT 4E
N55 50.0 E037 21.0

Altitude/Height Conversion Table:

QNH	(QFE)
1300'	(666' - 200m)
1620'	(986' - 300m)
2610'	(1976' - 600m)
3970'	(3336' - 1000m)

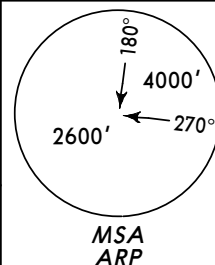
Initial climb clearance 2610' (1976')

SID	ROUTING
BITSAs 4D	DER19 - WW197 (1300'+) - WNK (3970'+) - BITSAs.
BITSAs 4E By ATC	DER19 - WW198 (1620'+) - BITSAs.
LO 4D	DER19 - WW197 (1300'+) - WNK (3970'+) - LO.
LO 4E By ATC	DER19 - WW198 (1620'+) - LO.
OKLIT 4E By ATC	DER19 - WW198 (1620'+) - TURUG - OKLIT.

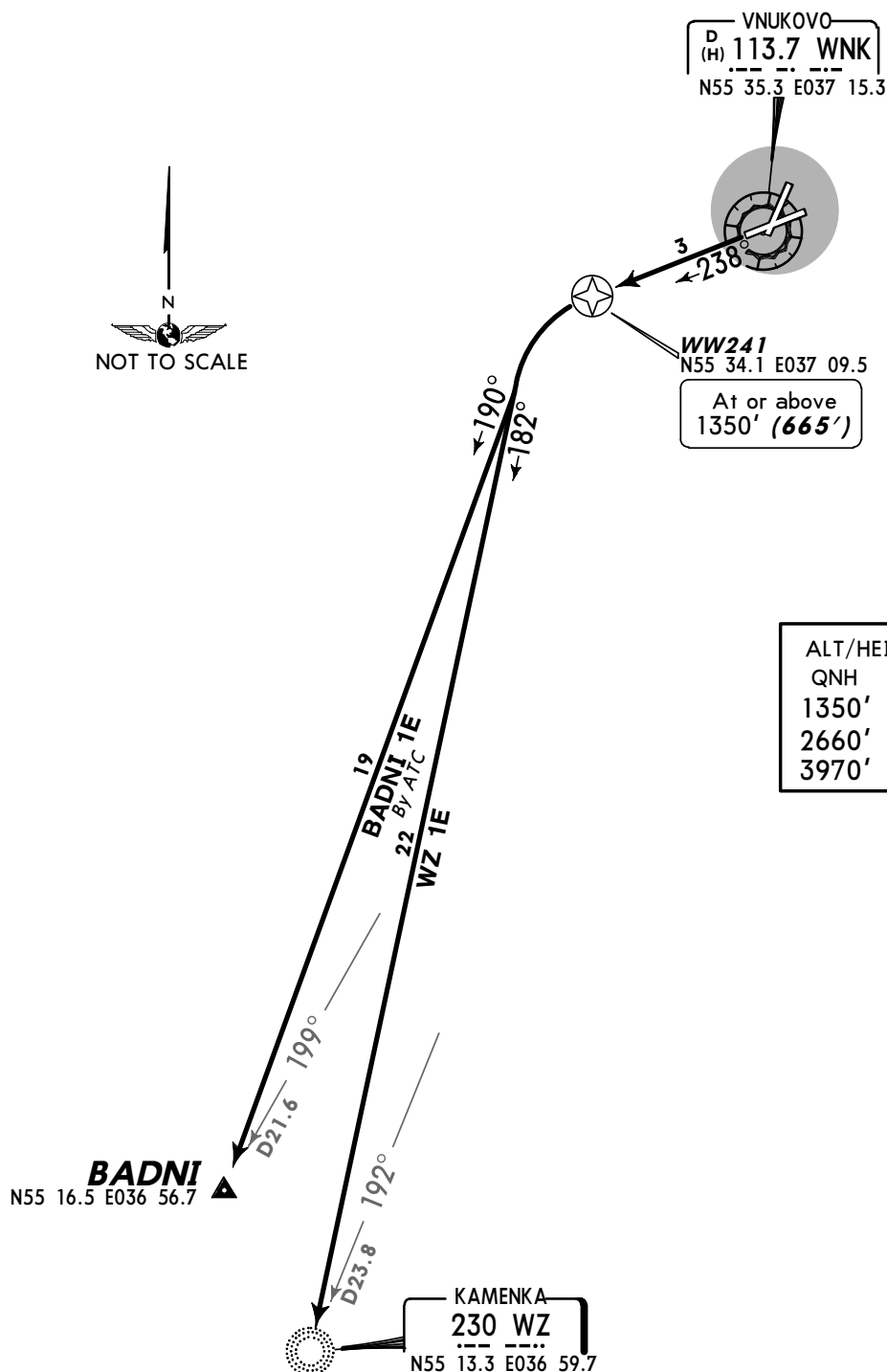
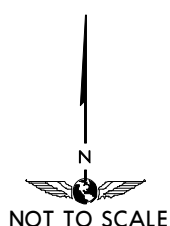
VNUKOVO
Radar
126.0

Apt Elev
686'

QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3285')
1. Contact VNUKOVO Radar immediately after crossing
1350' (665').
2. Execute noise abatement procedures according to
ICAO Annex 16, DOC 8168.



**BADNI 1E [BADN1E]
KAMENKA 1E (WZ 1E)
RWY 24 RNAV DEPARTURES
~~SPEED~~ MAX 250 KT BELOW FL100**



Initial climb clearance 2660' (1975')

SID	ROUTING
BADNI 1E By ATC	DER24 - WW241 (1350'+) - BADNI.
WZ 1E	DER24 - WW241 (1350'+) - WZ.

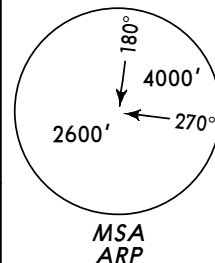
VNUKOVO
Radar
126.0

Apt Elev
686'

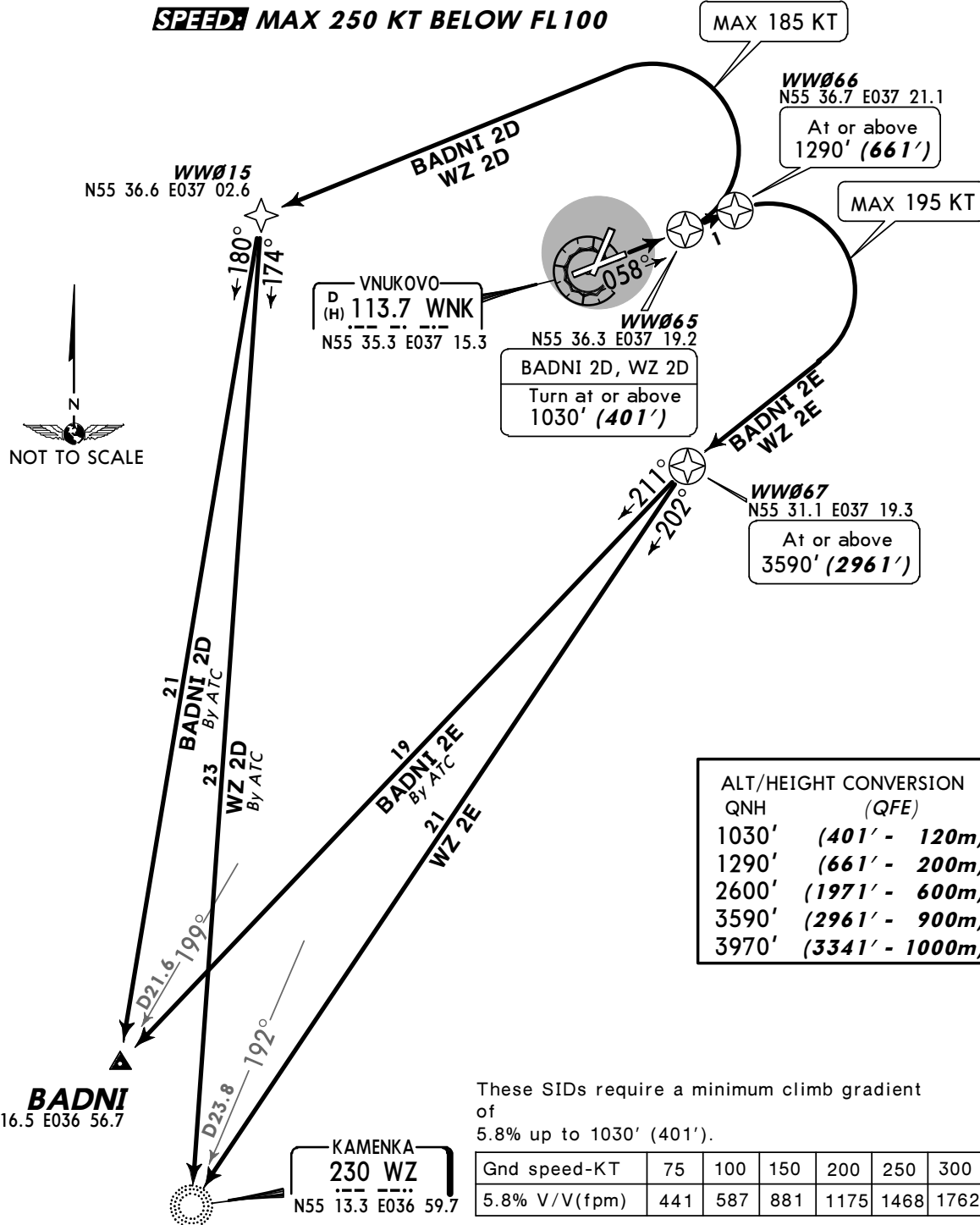
QNH on request (QFE)

Trans level: By ATC Trans alt: 3970' (3341')

1. Contact VNUKOVO Radar immediately after crossing 1290' (661').
2. Execute noise abatement procedures according to ICAO Annex 16, DOC 8168.



**BADNI 2D [BADN2D], BADNI 2E [BADN2E]
KAMENKA 2D (WZ 2D), KAMENKA 2E (WZ 2E)
RWY 06 RNAV DEPARTURES
~~SPEED~~ MAX 250 KT BELOW FL100**



Initial climb clearance 2600' (1971')

SID	ROUTING
BADNI 2D By ATC	DER06 - WW065 (1030'+; K185-) - WW015 - BADNI.
BADNI 2E By ATC	DER06 - WW066 (1290'+; K195-) - WW067 (3590'+) - BADNI.
WZ 2D By ATC	DER06 - WW065 (1030'+; K185-) - WW015 - WZ.
WZ 2E	DER06 - WW066 (1290'+; K195-) - WW067 (3590'+) - WZ.

VNUKOVO
Radar
126.0

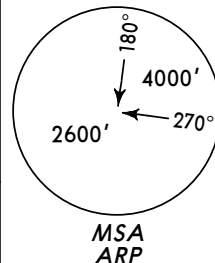
Apt Elev
686'

QNH on request (QFE)

Trans level: By ATC Trans alt: 3970' (3337')

1. Contact VNUKOVO Radar immediately after crossing 1290' (657').

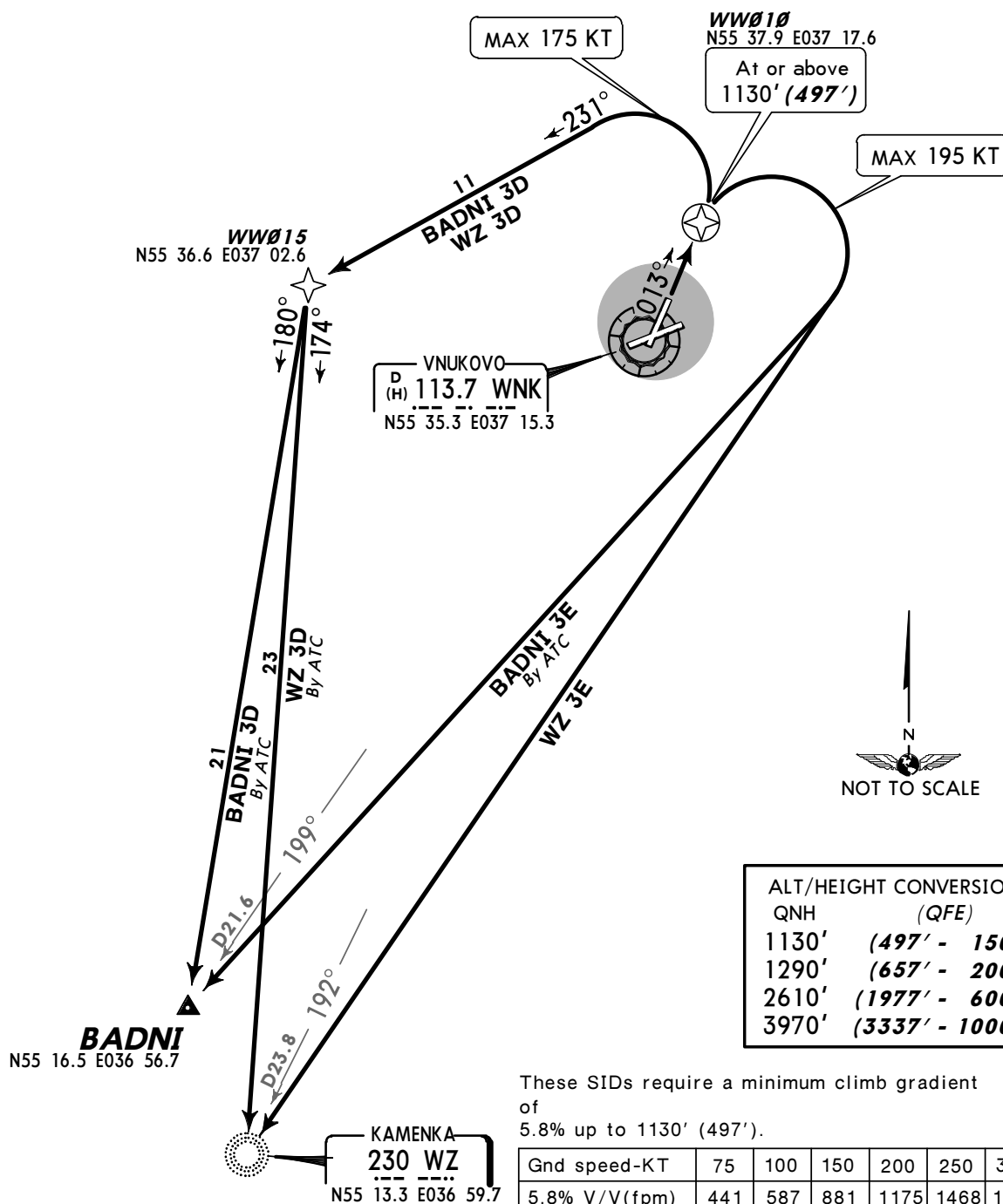
2. Execute noise abatement procedures according to ICAO Annex 16, DOC 8168.



BADNI 3D [BADN3D], BADNI 3E [BADN3E]
KAMENKA 3D (WZ 3D), KAMENKA 3E (WZ 3E)

RWY 01 RNAV DEPARTURES

SPEEDS MAX 250 KT BELOW FL100



Initial climb clearance 2610' (1977')

SID	ROUTING
BADNI 3D By ATC	DER01 - WW010 (1130'+; K175-) - WW015 - BADNI.
BADNI 3E By ATC	DER01 - WW010 (1130'+; K195-) - BADNI.
WZ 3D	DER01 - WW010 (1130'+; K175-) - WW015 - WZ.
WZ 3E	DER01 - WW010 (1130'+; K195-) - WZ.

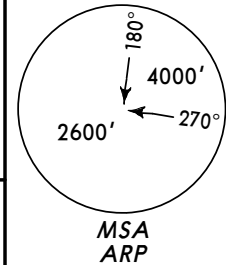
VNUKOVO
Radar
126.0

Apt Elev
686'

QNH on request (QFE)

Trans level: By ATC Trans alt: 3970' (3336')

1. Contact VNUKOVO Radar immediately after crossing 1300' (666').
2. Execute noise abatement procedures according to ICAO Annex 16, DOC 8168.



**BADNI 4D [BADN4D]
KAMENKA 4D (WZ 4D)
RWY 19 RNAV DEPARTURES
~~SPEED~~ MAX 250 KT BELOW FL100**



WW197
N55 33.2 E037 14.0
At or above
1300' (666')

VNUKOVO
D (H) 113.7 WNK
N55 35.3 E037 15.3

BADNI
N55 16.5 E036 56.7
(WNK R-199/D21.6)

**KAMENKA
230 WZ**
N55 13.3 E036 59.7
(WNK R-192/D23.8)

ALT/HEIGHT CONVERSION	
QNH	(QFE)
1300'	(666' - 200m)
2610'	(1976' - 600m)
3970'	(3336' - 1000m)

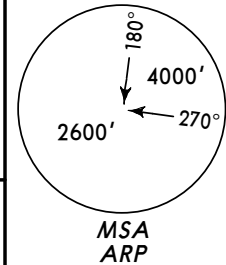
Initial climb clearance 2610' (1976')

SID	ROUTING
BADNI 4D By ATC	DER19 - WW197 (1300'+) - BADNI.
WZ 4D	DER19 - WW197 (1300'+) - WZ.

VNUKOVO
Radar
126.0Apt Elev
686'

QNH on request (QFE)

Trans level: By ATC Trans alt: 3970' (3337')

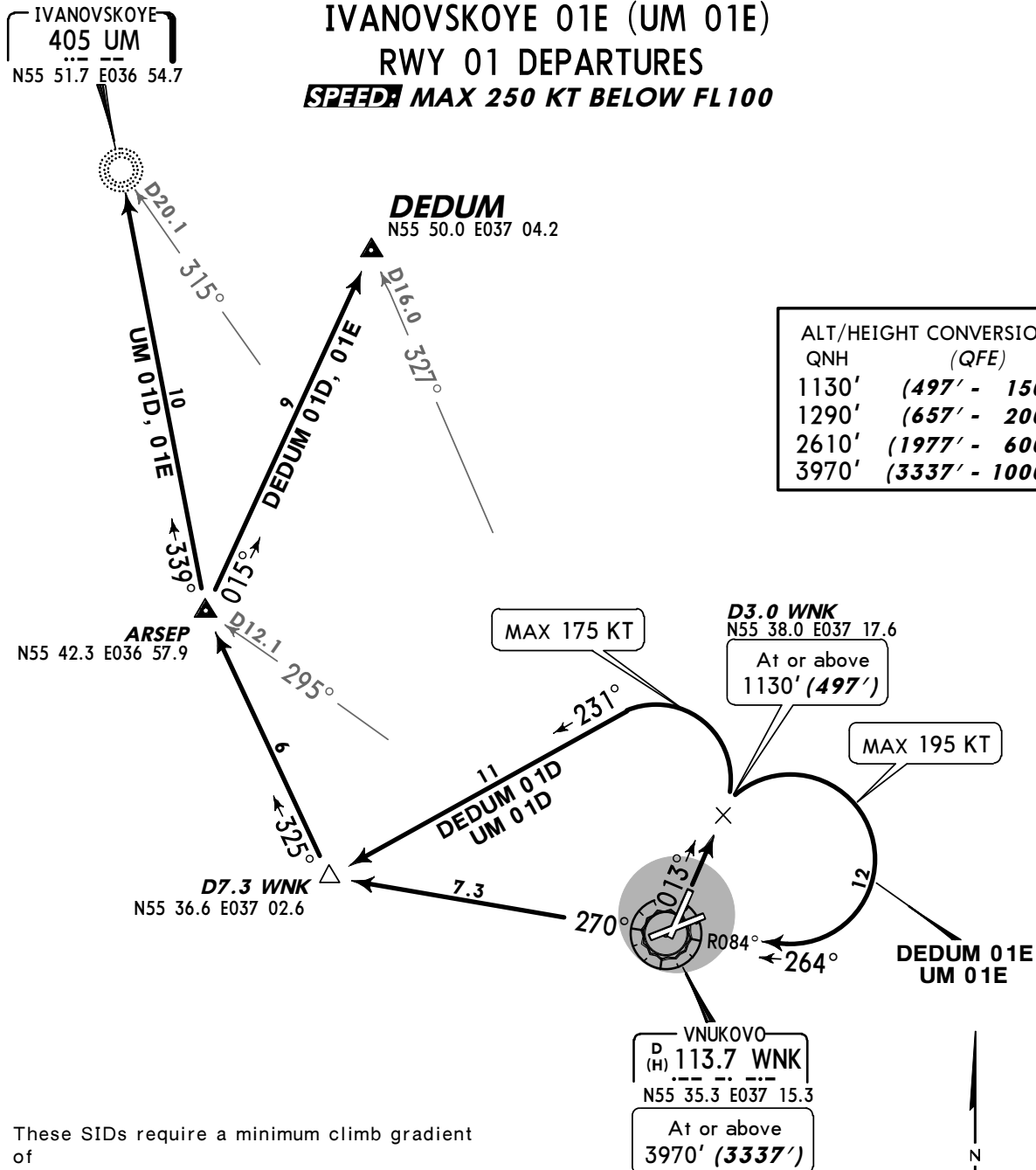
1. Contact VNUKOVO Radar immediately after crossing
1290' (657').2. Execute noise abatement procedures according to
ICAO Annex 16, DOC 8168.

DEDUM 01D[DEDØ1D], DEDUM 01E[DEDØ1E]

IVANOVSKOYE 01D (UM 01D)

IVANOVSKOYE 01E (UM 01E)

RWY 01 DEPARTURES

~~SPEED~~ MAX 250 KT BELOW FL100

These SIDs require a minimum climb gradient
of
5.8% up to 1130' (497').

Gnd speed-KT	75	100	150	200	250	300
5.8% V/V (fpm)	441	587	881	1175	1468	1762

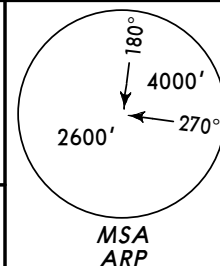
Initial climb clearance 2610' (1977')

SID	ROUTING
DEDUM 01D	Climb straight ahead to D3.0 WNK, turn LEFT, 231° track to D7.3 WNK, 325° track to ARSEP, then to DEDUM.
DEDUM 01E	Climb straight ahead to D3.0 WNK, turn RIGHT, 264° track to WNK, 270° track to D7.3 WNK, 325° track to ARSEP, then to DEDUM.
UM 01D	Climb straight ahead to D3.0 WNK, turn LEFT, 231° track to D7.3 WNK, 325° track to ARSEP, then to UM.
UM 01E	Climb straight ahead to D3.0 WNK, turn RIGHT, 264 track to WNK, 270° track to D7.3 WNK, 325° track to ARSEP, then to UM.

VNUKOVO
Radar
126.0Apt Elev
686'

QNH on request (QFE)

Trans level: By ATC Trans alt: 3970' (3341')

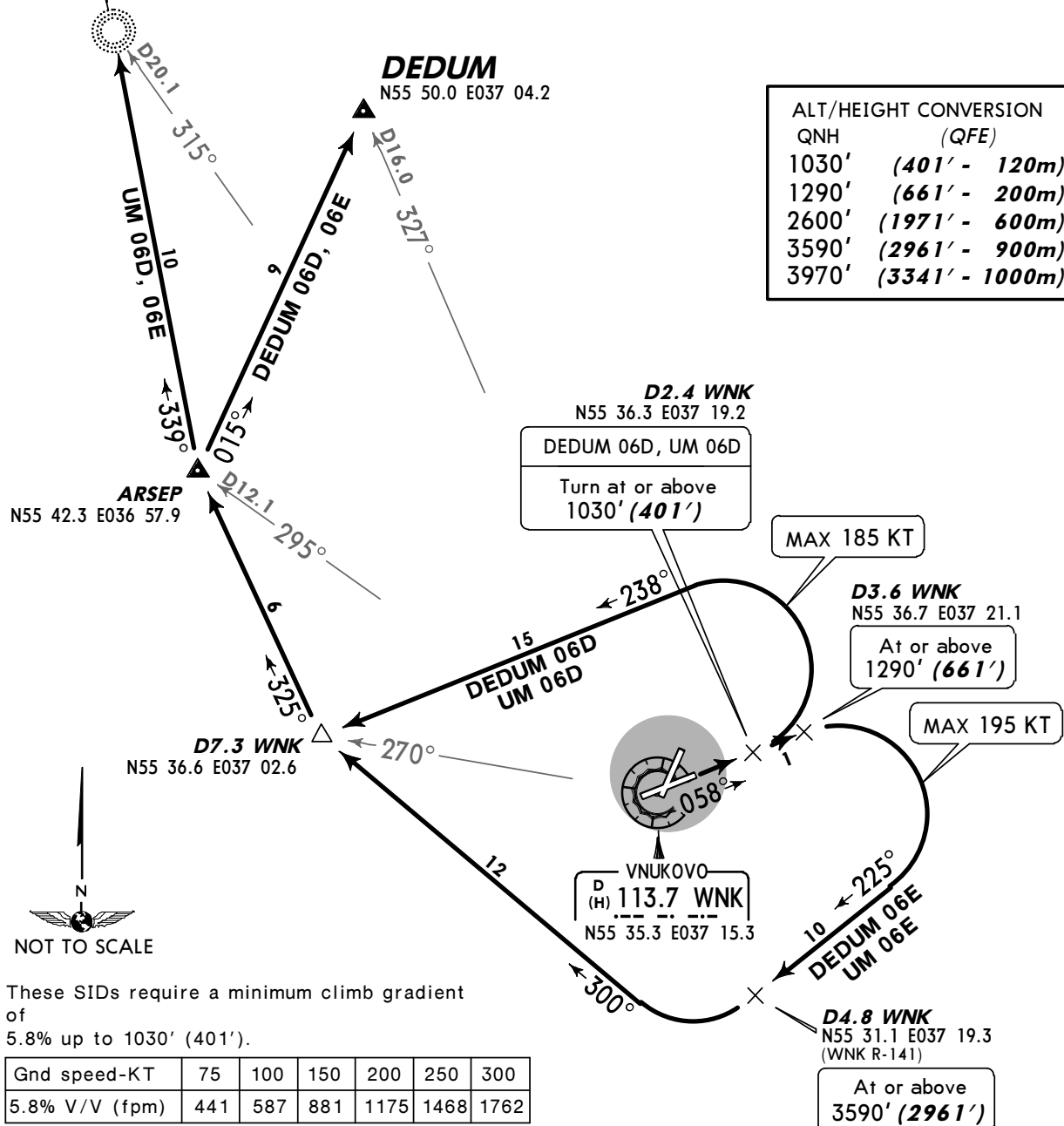
1. Contact VNUKOVO Radar immediately after crossing
1290' (661').2. Execute noise abatement procedures according to
ICAO Annex 16, DOC 8168.

DEDUM 06D[DED06D], DEDUM 06E[DED06E]

IVANOVSKOYE 06D (UM 06D)

IVANOVSKOYE 06E (UM 06E)

RWY 06 DEPARTURES

SPEED MAX 250 KT BELOW FL100IVANOVSKOYE
405 UM
N55 51.7 E036 54.7

Initial climb clearance 2600' (1971')

SID	ROUTING
DEDUM 06D	Climb straight ahead to D2.4 WNK, turn LEFT, 238° track to D7.3 WNK, 325° track to ARSEP, then to DEDUM.
DEDUM 06E	Climb straight ahead to D3.6 WNK, turn RIGHT, 225° track to D4.8 WNK, turn RIGHT, 300° track to D7.3 WNK, then to ARSEP, then to DEDUM.
UM 06D	Climb straight ahead to D2.4 WNK, turn LEFT, 238° track to D7.3 WNK, 325° track to ARSEP, then to UM.
UM 06E	Climb straight ahead to D3.6 WNK, turn RIGHT, 225° track to D4.8 WNK, turn RIGHT, 300° track to D7.3 WNK, then to ARSEP, then to UM.

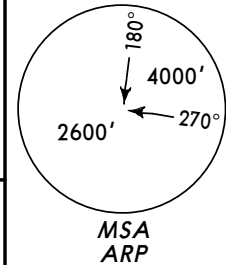
VNUKOVO
Radar
126.0

Apt Elev
686'

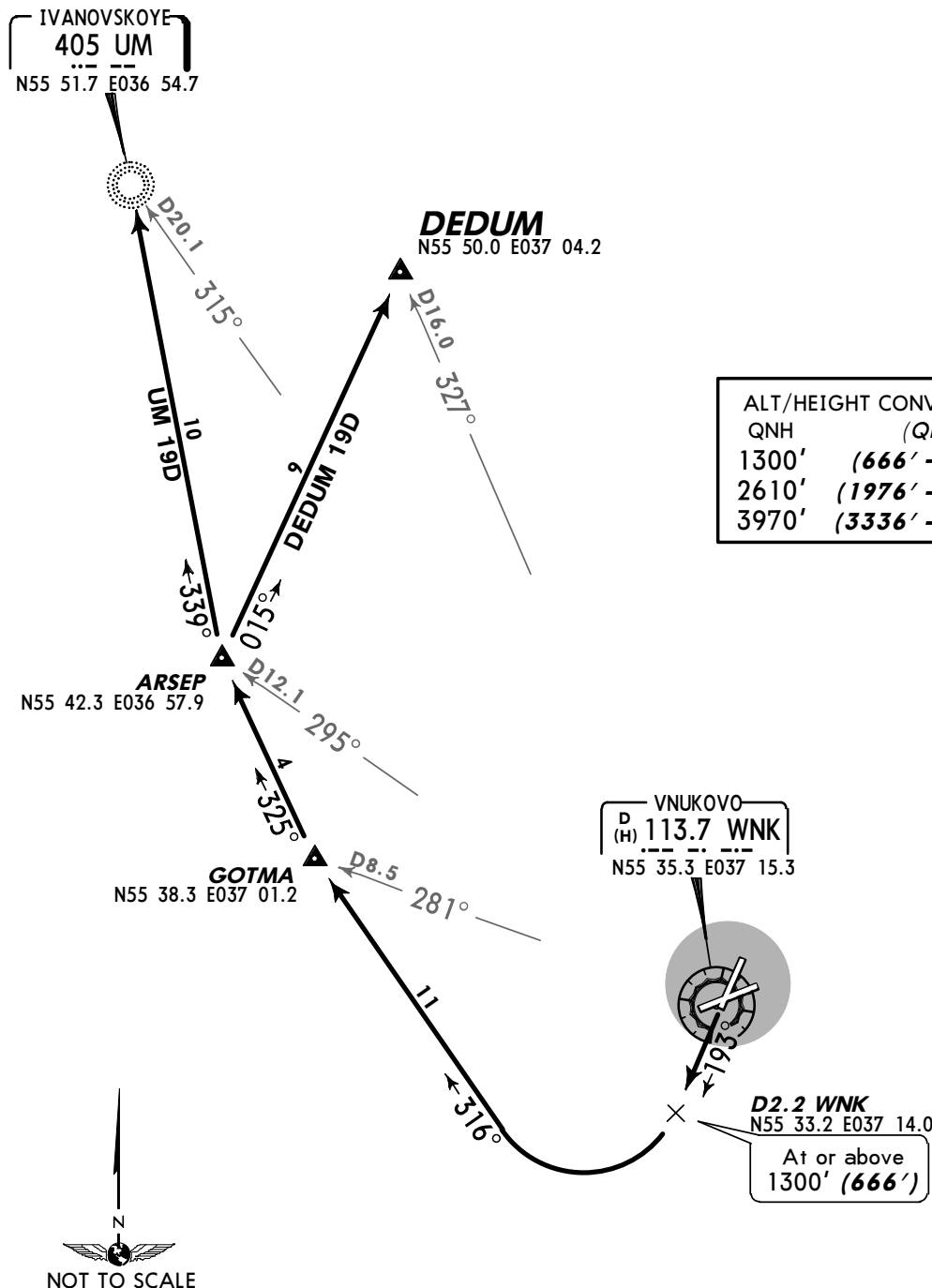
QNH on request (QFE)

Trans level: By ATC Trans alt: 3970' (3336')

1. Contact VNUKOVO Radar immediately after crossing 1300' (666').
2. Execute noise abatement procedures according to ICAO Annex 16, DOC 8168.



**DEDUM 19D [DED19D]
IVANOVSKOYE 19D (UM 19D)
RWY 19 DEPARTURES
~~SPEED~~ MAX 250 KT BELOW FL100**



Initial climb clearance 2610' (1976')

SID	ROUTING
DEDUM 19D	Climb straight ahead to D2.2 WNK, turn RIGHT, 316° track to GOTMA, 325° track to ARSEP, then to DEDUM.
UM 19D	Climb straight ahead to D2.2 WNK, turn RIGHT, 316° track to GOTMA, 325° track to ARSEP, then to UM.

VNUKOVO
Radar
126.0

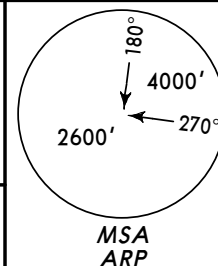
Apt Elev
686'

QNH on request (QFE)

Trans level: By ATC Trans alt: 3970' (3285')

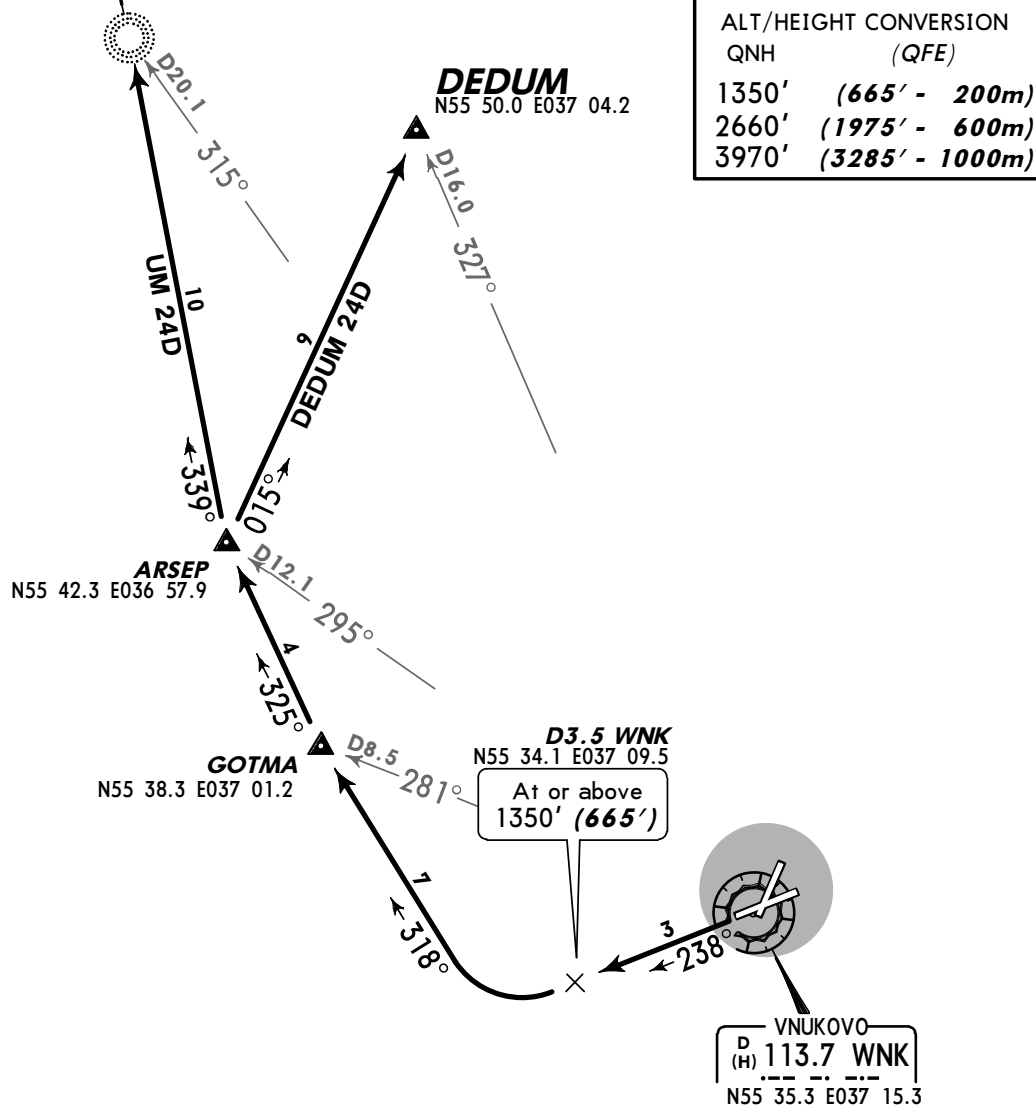
1. Contact VNUKOVO Radar immediately after crossing 1350' (665').

2. Execute noise abatement procedures according to ICAO Annex 16, DOC 8168.



**DEDUM 24D [DED24D]
IVANOVSKOYE 24D (UM 24D)
RWY 24 DEPARTURES
~~SPEED~~ MAX 250 KT BELOW FL100**

IVANOVSKOYE
405 UM
N55 51.7 E036 54.7



Initial climb clearance 2660' (1975')

SID	ROUTING
DEDUM 24D	Climb straight ahead to D3.5 WNK, turn RIGHT, 318° track to GOTMA, then to ARSEP, then to DEDUM.
UM 24D	Climb straight ahead to D3.5 WNK, turn RIGHT, 318° track to GOTMA, then to ARSEP, then to UM.

VNUKOVO
Radar
126.0

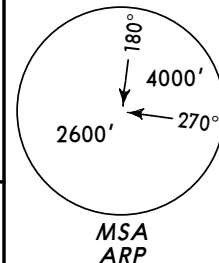
Apt Elev
686'

QNH on request (QFE)

Trans level: By ATC Trans alt: 3970' (3337')

1. Contact VNUKOVO Radar immediately after crossing 1290' (657').

2. Execute noise abatement procedures according to ICAO Annex 16, DOC 8168.



**BITSA 01D [BITØ1D], BITSA 01E [BITØ1E]
KLIMOVSK 01D (LO 01D), KLIMOVSK 01E (LO 01E)
OKLIT 01D [OKLØ1D]
RWY 01 DEPARTURES
SPEED* MAX 250 KT BELOW FL100*

ALT/HEIGHT CONVERSION

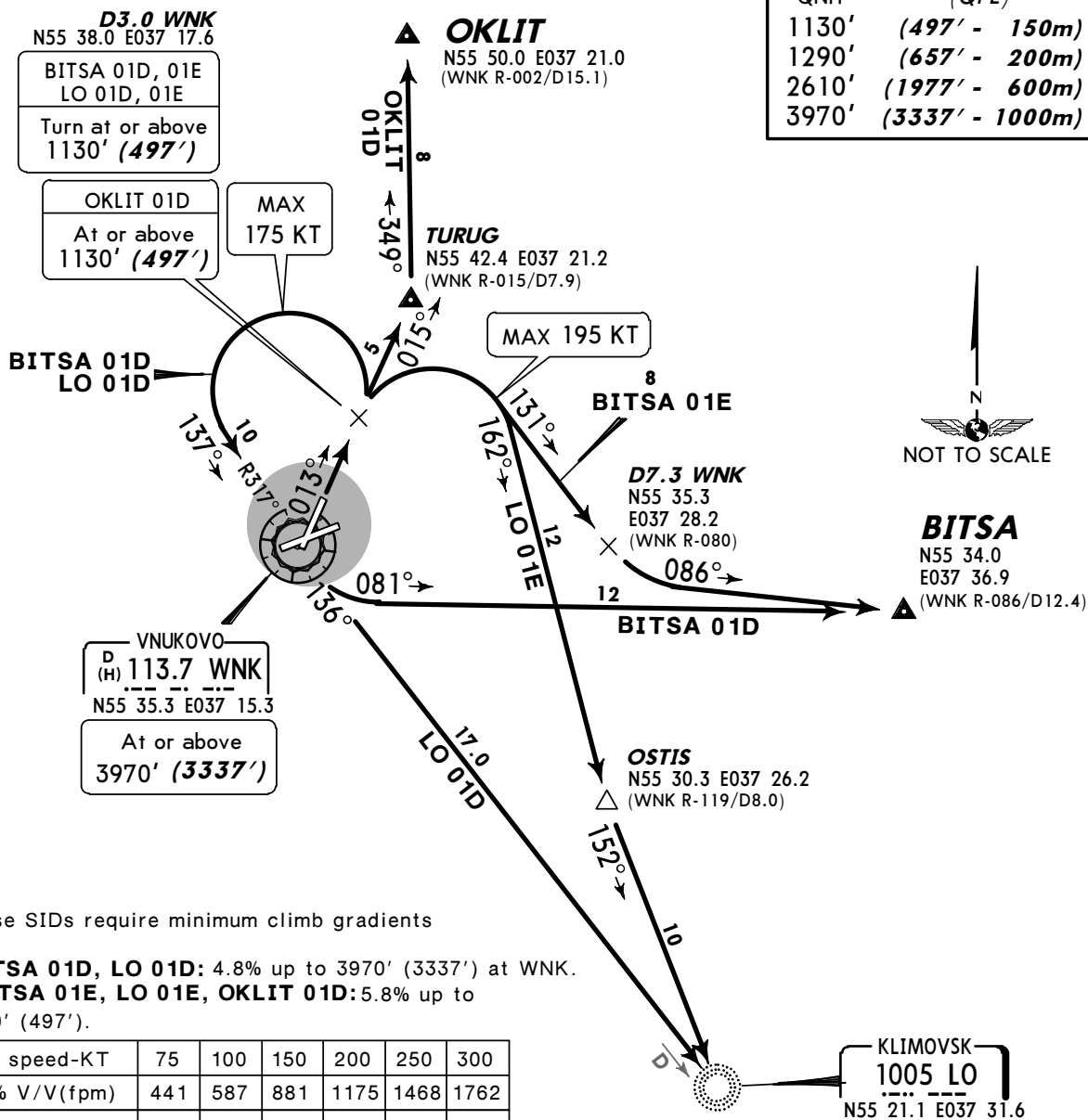
QNH (QFE)

1130' (497' - 150m)

1290' (657' - 200m)

2610' (1977' - 600m)

3970' (3337' - 1000m)



These SIDs require minimum climb gradients of

BITSA 01D, LO 01D: 4.8% up to 3970' (3337') at WNK.

BITSA 01E, LO 01E, OKLIT 01D: 5.8% up to 1130' (497').

Gnd speed-KT	75	100	150	200	250	300
5.8% V/V(fpm)	441	587	881	1175	1468	1762
4.8% V/V(fpm)	365	486	729	972	1215	1458

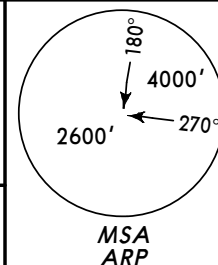
Initial climb clearance 2610' (1977')

SID	ROUTING
BITSA 01D	Climb straight ahead to D3.0 WNK, turn LEFT, 137° track to WNK, 081° track to BITSA.
BITSA 01E	Climb straight ahead to D3.0 WNK, turn RIGHT, 131° track to D7.3 WNK, 086° track to BITSA.
LO 01D	Climb straight ahead to D3.0 WNK, turn LEFT, 137° track to WNK, 136° track to LO.
LO 01E	Climb straight ahead to D3.0 WNK, turn RIGHT, 162° track to OSTIS, 152° track to LO.
OKLIT 01D	Climb straight ahead to D3.0 WNK, then to TURUG, then to OKLIT.

VNUKOVO
Radar
126.0

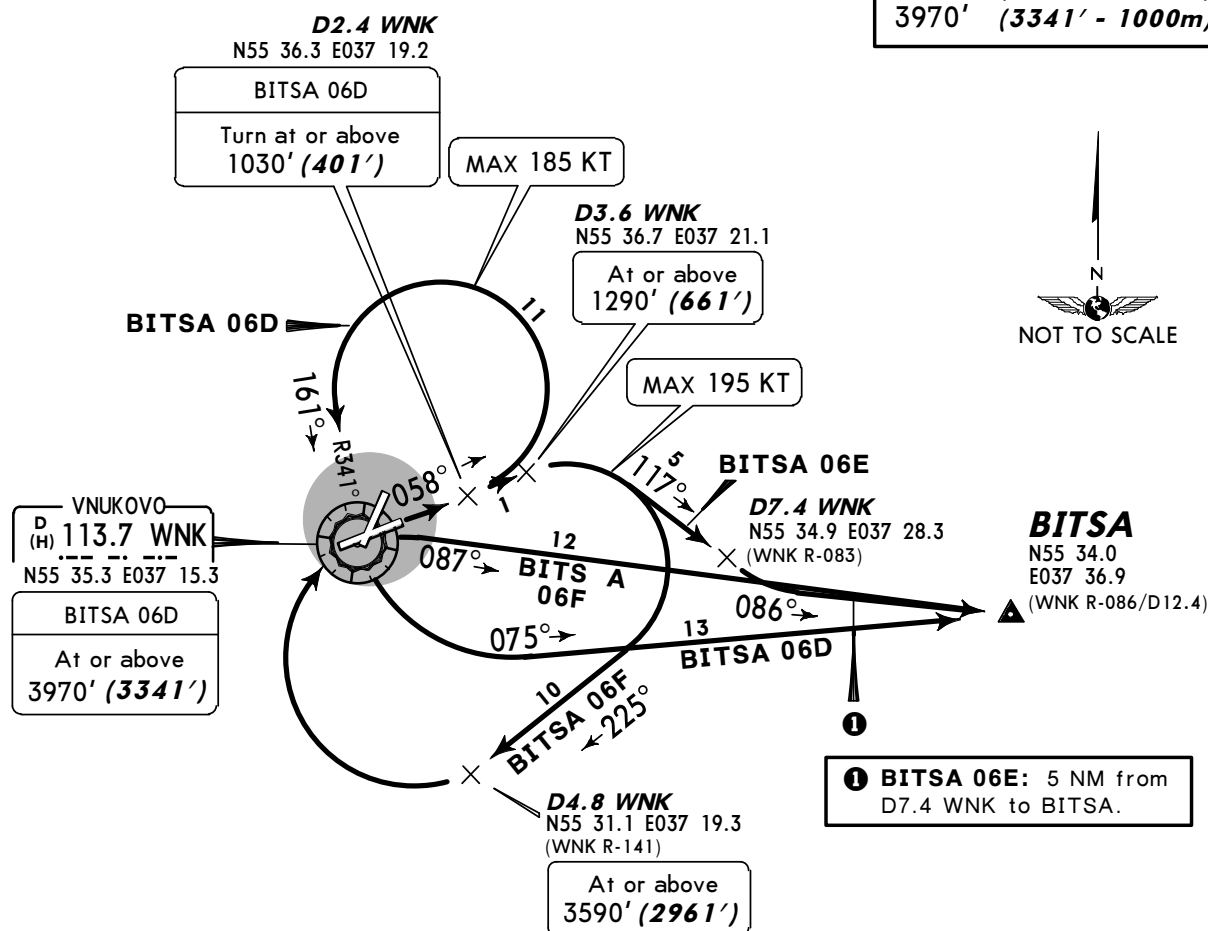
Apt Elev
686'

QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3341')
1. Contact VNUKOVO Radar immediately after crossing
1290' (661').
2. Execute noise abatement procedures according to
ICAO Annex 16, DOC 8168.



**BITSA 06D [BITØ6D], BITSA 06E [BITØ6E]
BITSA 06F [BITØ6F]
RWY 06 DEPARTURES**
~~SPEED~~ MAX 250 KT BELOW FL100

ALT/HEIGHT CONVERSION	
QNH	(QFE)
1030'	(401' - 120m)
1290'	(661' - 200m)
2600'	(1971' - 600m)
3590'	(2961' - 900m)
3970'	(3341' - 1000m)



These SIDs require a minimum climb gradient
of
5.8% up to 1030' (401').

Gnd speed-KT	75	100	150	200	250	300
5.8% V/V (fpm)	441	587	881	1175	1468	1762

Initial climb clearance 2600' (1971')

SID	ROUTING
BITSA 06D	Climb straight ahead to D2.4 WNK, turn LEFT, 161° track to WNK, turn LEFT, 075° track to BITSA.
BITSA 06E	Climb straight ahead to D3.6 WNK, turn RIGHT, 117° track to D7.4 WNK, turn LEFT, 086° track to BITSA.
BITSA 06F	Climb straight ahead to D3.6 WNK, turn RIGHT, 225° track to D4.8 WNK, turn RIGHT to WNK, 087° track to BITSA.

VNUKOVO
Radar
126.0

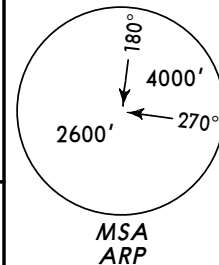
Apt Elev
686'

QNH on request (QFE)

Trans level: By ATC Trans alt: 3970' (3341')

1. Contact VNUKOVO Radar immediately after crossing 1290' (661').

2. Execute noise abatement procedures according to ICAO Annex 16, DOC 8168.



KLIMOVSK 06D (LO 06D)

KLIMOVSK 06E (LO 06E)

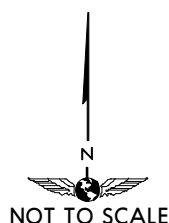
KLIMOVSK 06F (LO 06F)

OKLIT 06D [OKLI06D]

RWY 06 DEPARTURES

SPEED: MAX 250 KT BELOW FL100

ALT/HEIGHT CONVERSION	
QNH	(QFE)
1030'	(401' - 120m)
1290'	(661' - 200m)
2600'	(1971' - 600m)
3590'	(2961' - 900m)
3970'	(3341' - 1000m)



VNUKOVO
D(H) 113.7 WNK
N55 35.3 E037 15.3
LO 06D
At or above
3970' (3341')

D2.4 WNK
N55 36.3 E037 19.2
LO 06D, OKLIT 06D
Turn at or above
1030' (401')

LO 06D
161°

D4.8 WNK
N55 31.1 E037 19.3
(WNK R-141)
At or above
3590' (2961')

OKLIT
N55 50.0 E037 21.0
(WNK R-002/D15.1)

TURUG
N55 42.4 E037 21.2
(WNK R-015/D7.9)

D3.6 WNK
N55 36.7 E037 21.1
At or above
1290' (661')

MAX 195 KT

KLIMOVSK
1005 LO
N55 21.1 E037 31.6
(WNK R-136/D17.0)

These SIDs require a minimum climb gradient of 5.8% up to 1030' (401').

Gnd speed-KT	75	100	150	200	250	300
5.8% V/V (fpm)	441	587	881	1175	1468	1762

Initial climb clearance 2600' (1971')

SID	ROUTING
LO 06D By ATC	Climb straight ahead to D2.4 WNK, turn LEFT, 161° track to WNK, turn LEFT, 136° track to LO.
LO 06E By ATC	Climb straight ahead to D3.6 WNK, turn RIGHT, 157° track to LO.
LO 06F	Climb straight ahead to D3.6 WNK, turn RIGHT, 225° track to D4.8 WNK, turn RIGHT to WNK, 145° track to LO.
OKLIT 06D	Climb straight ahead to D2.4 WNK, turn LEFT, 349° track to TURUG, then to OKLIT.

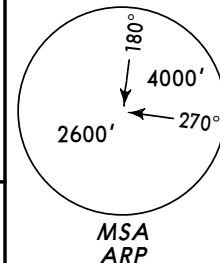
VNUKOVO
Radar
126.0Apt Elev
686'

QNH on request (QFE)

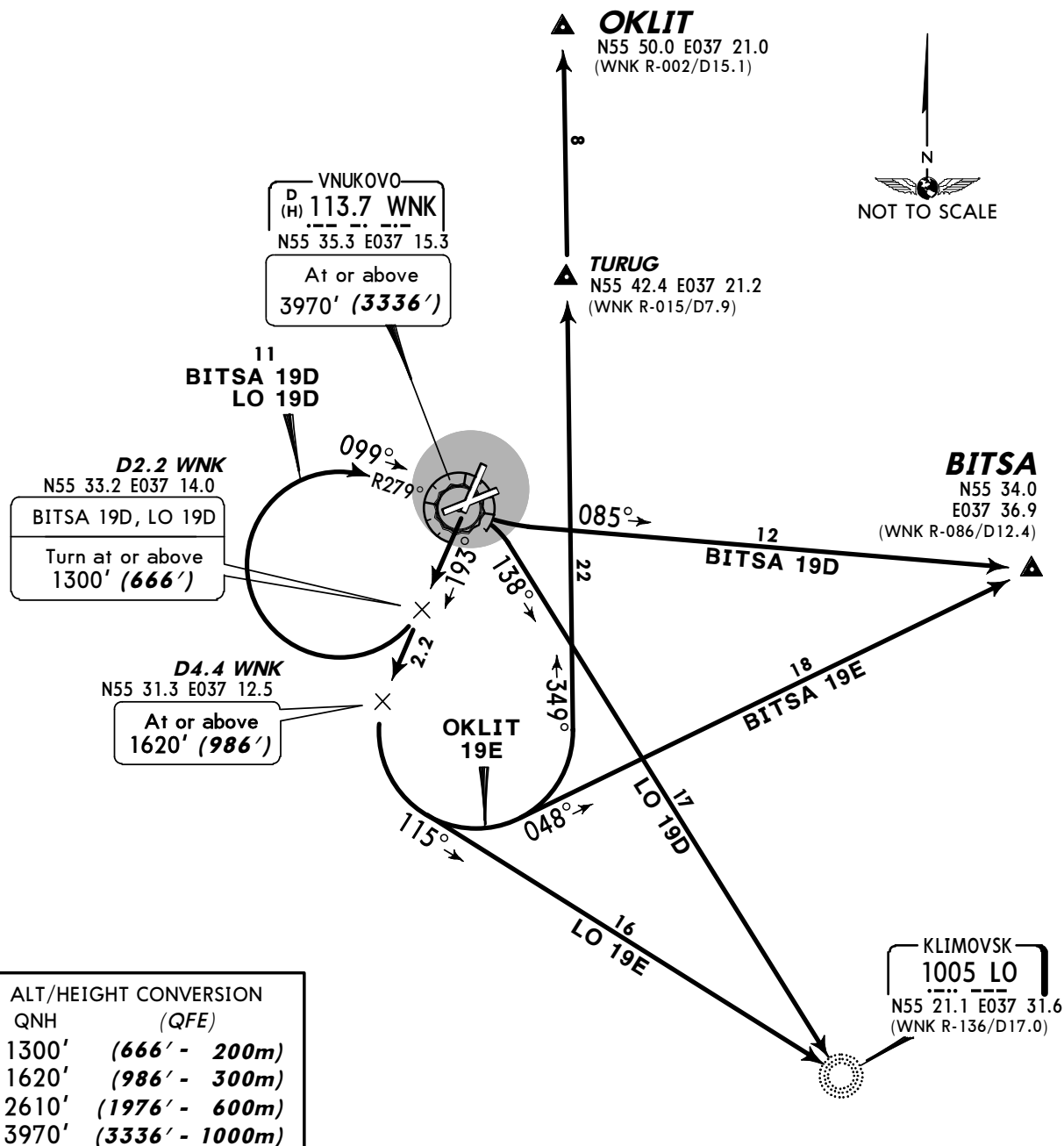
Trans level: By ATC Trans alt: 3970' (3336')

1. Contact VNUKOVO Radar immediately after crossing 1300' (666').

2. Execute noise abatement procedures according to ICAO Annex 16, DOC 8168.



**BITSA 19D[BIT19D], BITSA 19E[BIT19E]
KLIMOVSK 19D (LO 19D), KLIMOVSK 19E (LO 19E)
OKLIT 19E[OKL19E]
RWY 19 DEPARTURES
~~SPEED~~ MAX 250 KT BELOW FL100**

**Initial climb clearance 2610' (1976')**

SID	ROUTING
BITSA 19D	Climb straight ahead to D2.2 WNK, turn RIGHT, 099° track to WNK, then to BITSA.
BITSA 19E	Climb straight ahead to D4.4 WNK, turn LEFT to BITSA.
LO 19D	Climb straight ahead to D2.2 WNK, turn RIGHT, 099° track to WNK, then to LO.
LO 19E	Climb straight ahead to D4.4 WNK, turn LEFT to LO.
OKLIT 19E	Climb straight ahead to D4.4 WNK, turn LEFT, 349° track to TURUG, then to OKLIT.

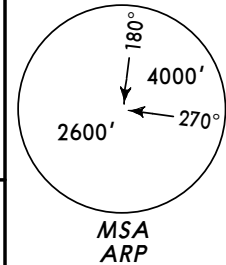
VNUKOVO
Radar
126.0

Apt Elev
686'

QNH on request (QFE)

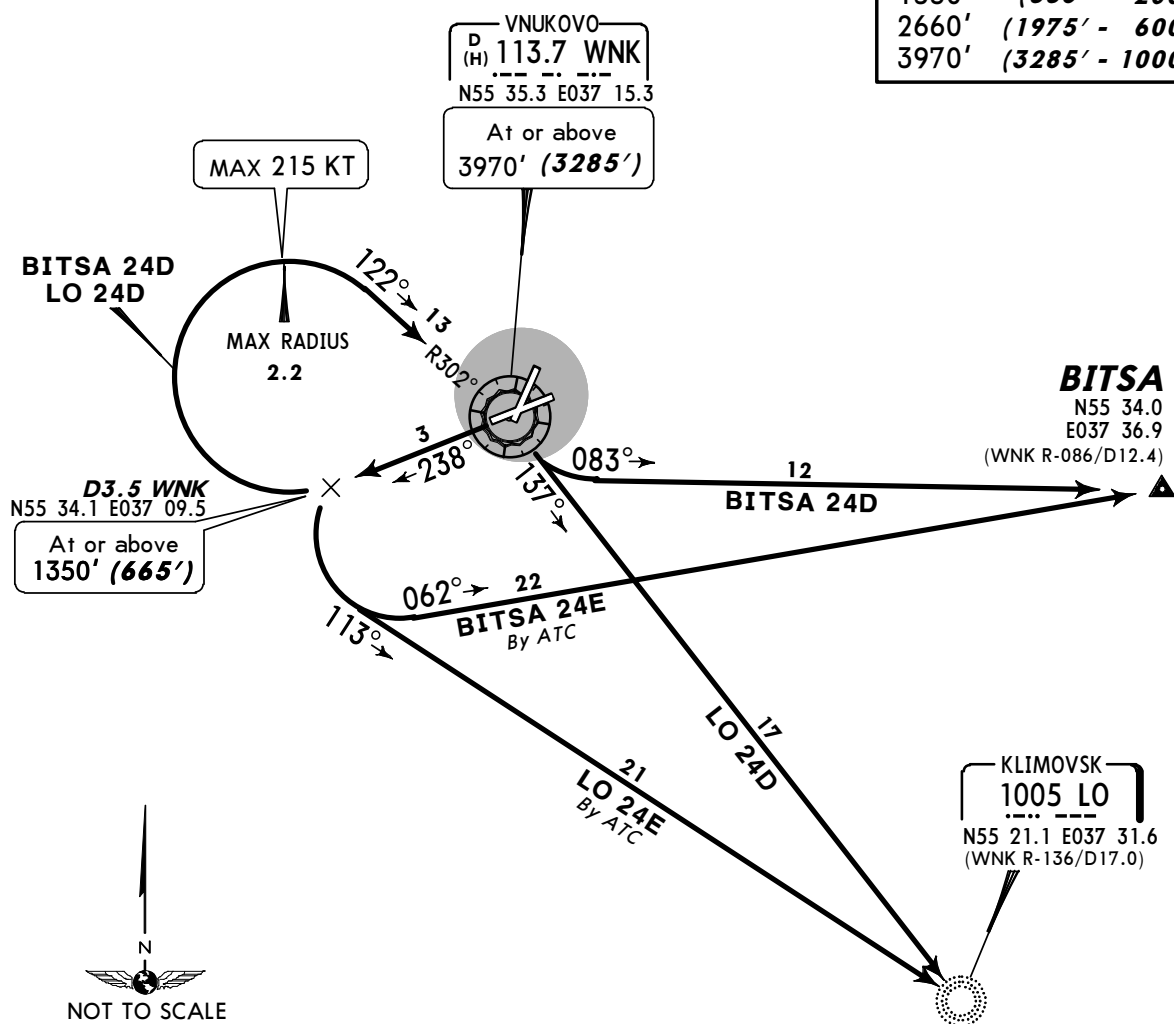
Trans level: By ATC Trans alt: 3970' (3285')

1. Contact VNUKOVO Radar immediately after crossing 1350' (665').
2. Execute noise abatement procedures according to ICAO Annex 16, DOC 8168.



**BITSA 24D [BIT24D], BITSA 24E [BIT24E]
KLIMOVSK 24D (LO 24D), KLIMOVSK 24E (LO 24E)
RWY 24 DEPARTURES
~~SPEED~~ MAX 250 KT BELOW FL100**

ALT/HEIGHT CONVERSION	
QNH	(QFE)
1350'	(665' - 200m)
2660'	(1975' - 600m)
3970'	(3285' - 1000m)



Initial climb clearance 2660' (1975')

SID	ROUTING
BITSA 24D	Climb straight ahead to D3.5 WNK, turn RIGHT, 122° track to WNK, turn LEFT, 083° track to BITSA.
BITSA 24E By ATC	Climb straight ahead to D3.5 WNK, turn LEFT, 062° track to BITSA.
LO 24D	Climb straight ahead to D3.5 WNK, turn RIGHT, 122° track to WNK, turn RIGHT, 137° track to LO.
LO 24E By ATC	Climb straight ahead to D3.5 WNK, turn LEFT, 113° track to LO.

VNUKOVO
Radar
126.0

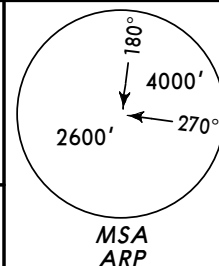
Apt Elev
686'

QNH on request (QFE)

Trans level: By ATC Trans alt: 3970' (3337')

1. Contact VNUKOVO Radar immediately after crossing 1290' (657').

2. Execute noise abatement procedures according to ICAO Annex 16, DOC 8168.



BADNI 01D [BADØ1D]

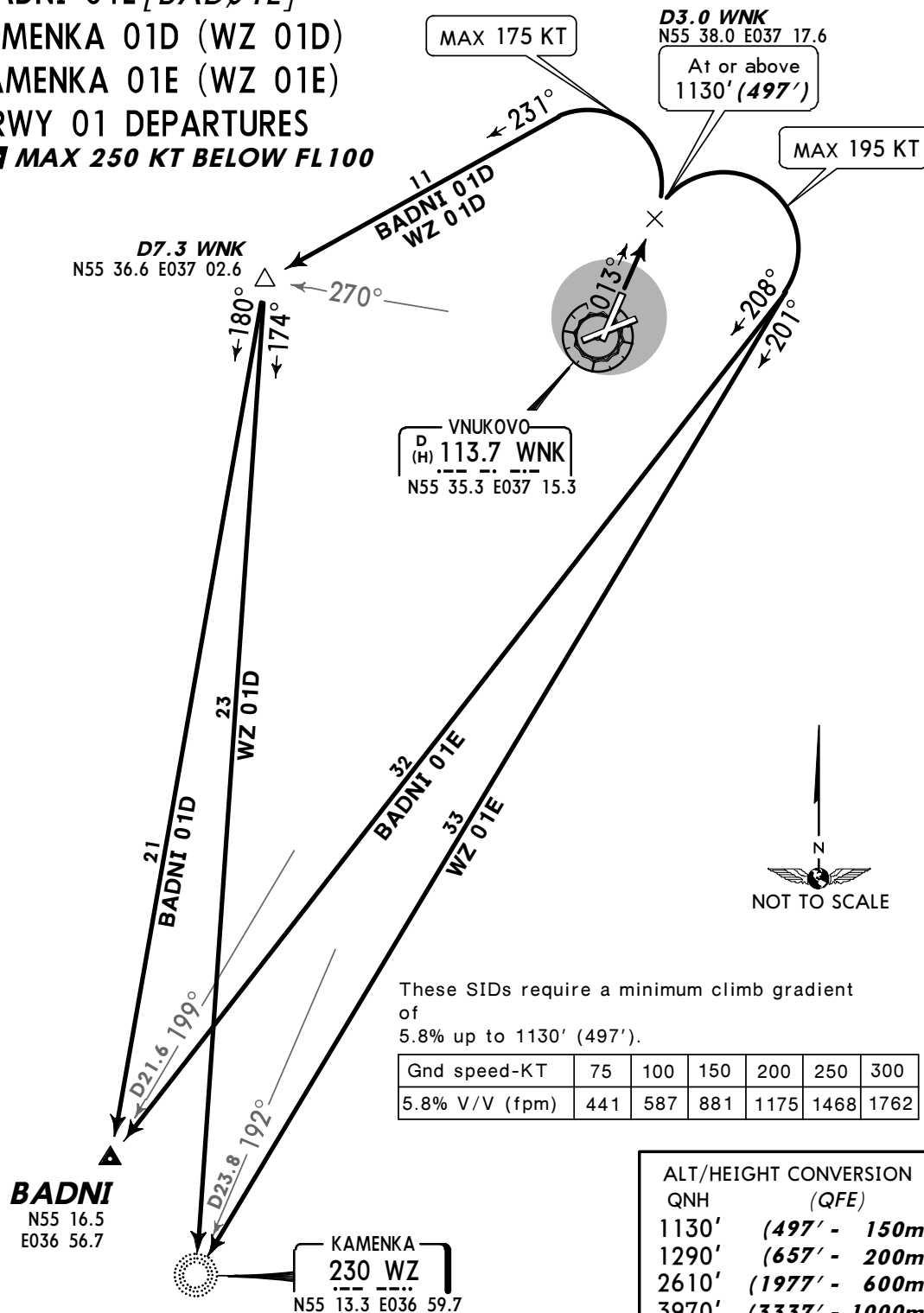
BADNI 01E [BADØ1E]

KAMENKA 01D (WZ 01D)

KAMENKA 01E (WZ 01E)

RWY 01 DEPARTURES

SPEED MAX 250 KT BELOW FL100



These SIDs require a minimum climb gradient of 5.8% up to 1130' (497').

Gnd speed-KT	75	100	150	200	250	300
5.8% V/V (fpm)	441	587	881	1175	1468	1762

ALT/HEIGHT CONVERSION

QNH (QFE)

1130' (497' - 150m)

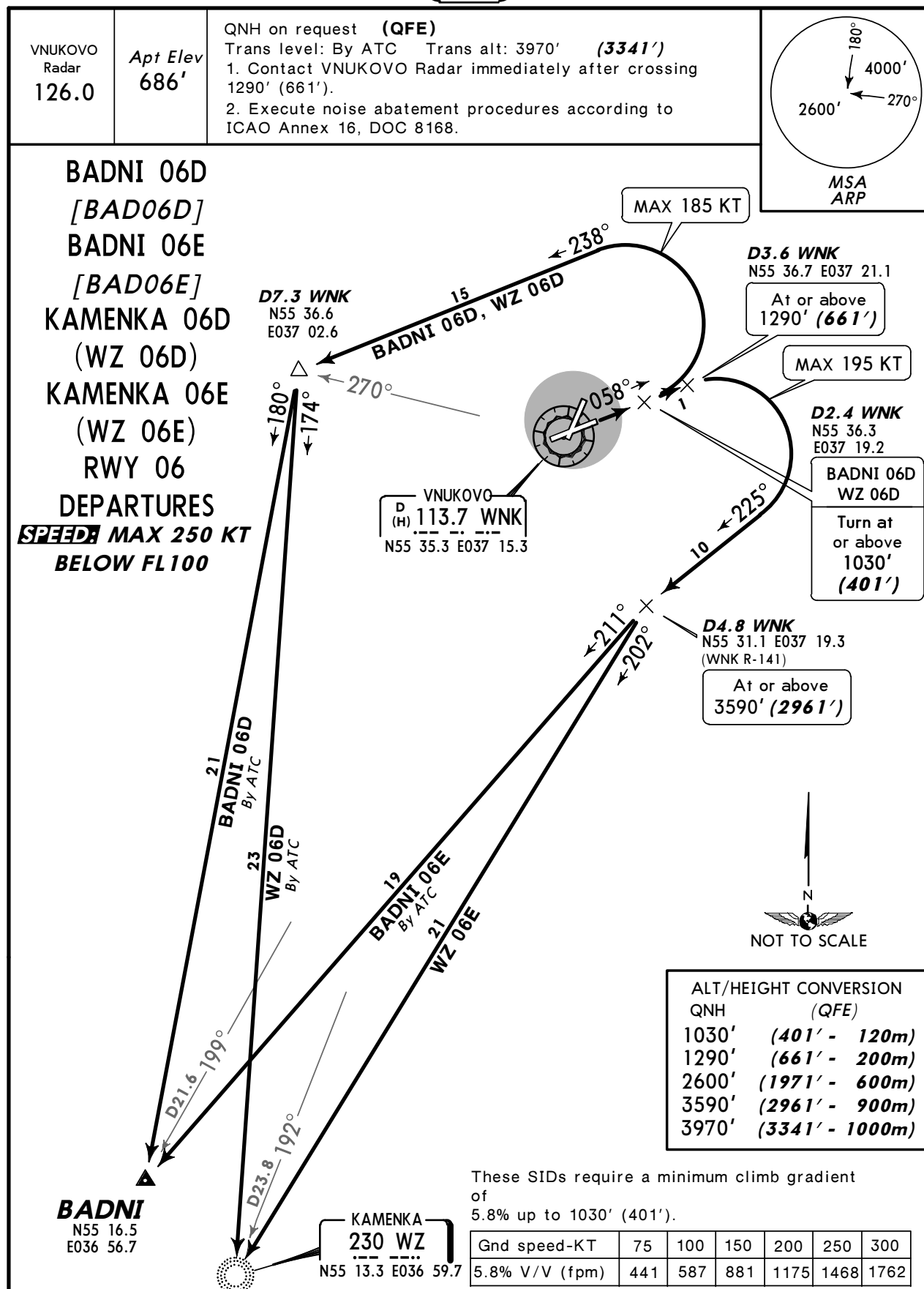
1290' (657' - 200m)

2610' (1977' - 600m)

3970' (3337' - 1000m)

Initial climb clearance 2610' (1977')

SID	ROUTING
BADNI 01D	Climb straight ahead to D3.0 WNK, turn LEFT, 231° track to D7.3 WNK, 180° track to BADNI.
BADNI 01E	Climb straight ahead to D3.0 WNK, turn RIGHT, 208° track to BADNI.
WZ 01D	Climb straight ahead to D3.0 WNK, turn LEFT, 231° track to D7.3 WNK, 174° track to WZ.
WZ 01E	Climb straight ahead to D3.0 WNK, turn RIGHT, 201° track to WZ.



Initial climb clearance 2600' (1971')

SID	ROUTING
BADNI 06D By ATC	Climb straight ahead to D2.4 WNK, turn LEFT, 238° track to D7.3 WNK, 180° track to BADNI.
BADNI 06E By ATC	Climb straight ahead to D3.6 WNK, turn RIGHT, 225° track to D4.8 WNK, turn LEFT, 211° track to BADNI.
WZ 06D By ATC	Climb straight ahead to D2.4 WNK, turn LEFT, 238° track to D7.3 WNK, 174° track to WZ.
WZ 06E	Climb straight ahead to D3.6 WNK, turn RIGHT, 225° track to D4.8 WNK, turn LEFT, 202° track to WZ.

VNUKOVO
Radar
126.0

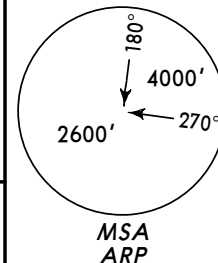
Apt Elev
686'

QNH on request (QFE)

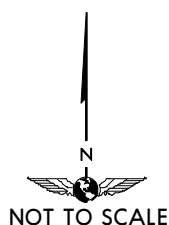
Trans level: By ATC Trans alt: 3970' (3336')

1. Contact VNUKOVO Radar immediately after crossing 1300' (666').

2. Execute noise abatement procedures according to ICAO Annex 16, DOC 8168.



**BADNI 19D [BAD 19D]
KAMENKA 19D (WZ 19D)
RWY 19 DEPARTURES
~~SPEED~~ MAX 250 KT BELOW FL100**



VNUKOVO
D (H) 113.7 WNK
N55 35.3 E037 15.3

D2.2 WNK
N55 33.2 E037 14.0
At or above
1300' (666')

BADNI
N55 16.5
E036 56.7
(WNK R-199/D21.6)

KAMENKA
230 WZ
N55 13.3 E036 59.7
(WNK R-192/D23.8)

ALT/HEIGHT CONVERSION	
QNH	(QFE)
1300'	(666' - 200m)
2610'	(1976' - 600m)
3970'	(3336' - 1000m)

Initial climb clearance 2610' (1976')

SID	ROUTING
BADNI 19D	Climb straight ahead to D2.2 WNK, turn RIGHT to BADNI.
WZ 19D	Climb straight ahead to D2.2 WNK, turn LEFT to WZ.

VNUKOVO
Radar
126.0

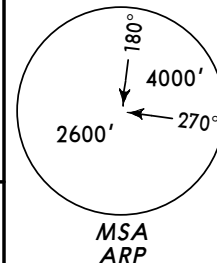
Apt Elev
686'

QNH on request (QFE)

Trans level: By ATC Trans alt: 3970' (**3285'**)

1. Contact VNUKOVO Radar immediately after crossing 1350' (665').

2. Execute noise abatement procedures according to ICAO Annex 16, DOC 8168.

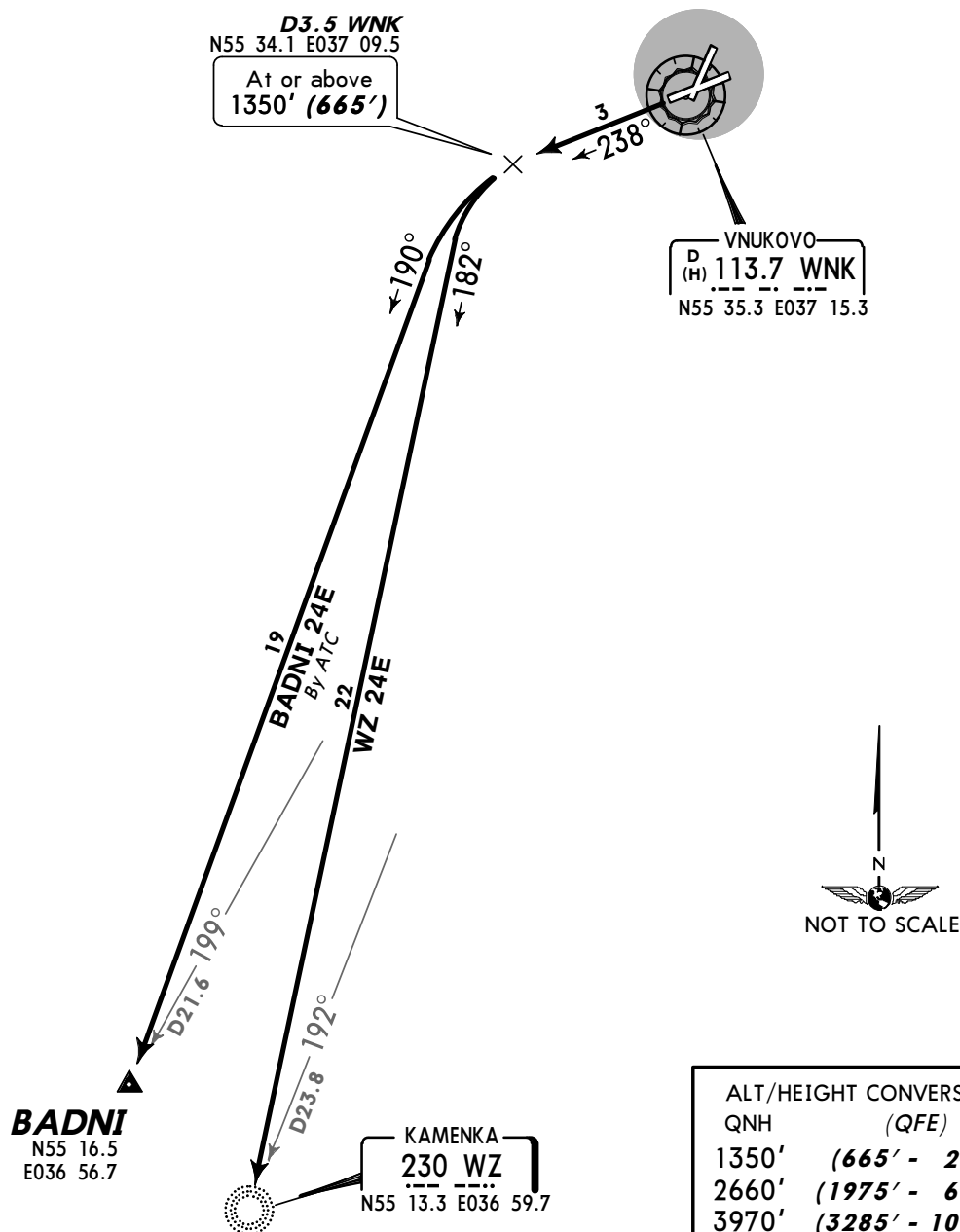


BADNI 24E [BAD24E]

KAMENKA 24E (WZ 24E)

RWY 24 DEPARTURES

~~SPEED~~ MAX 250 KT BELOW FL100



Initial climb clearance 2660' (**1975'**)

SID	ROUTING
BADNI 24E By ATC	Climb straight ahead to D3.5 WNK, turn LEFT, 190° track to BADNI.
WZ 24E	Climb straight ahead to D3.5 WNK, turn LEFT, 182° track to WZ.

Apt Elev
686'

QNH on request (QFE)

Trans level: By ATC Trans alt: 3970' (3284')

NERL 1W (NE 1W)

NERL 2W (NE 2W)

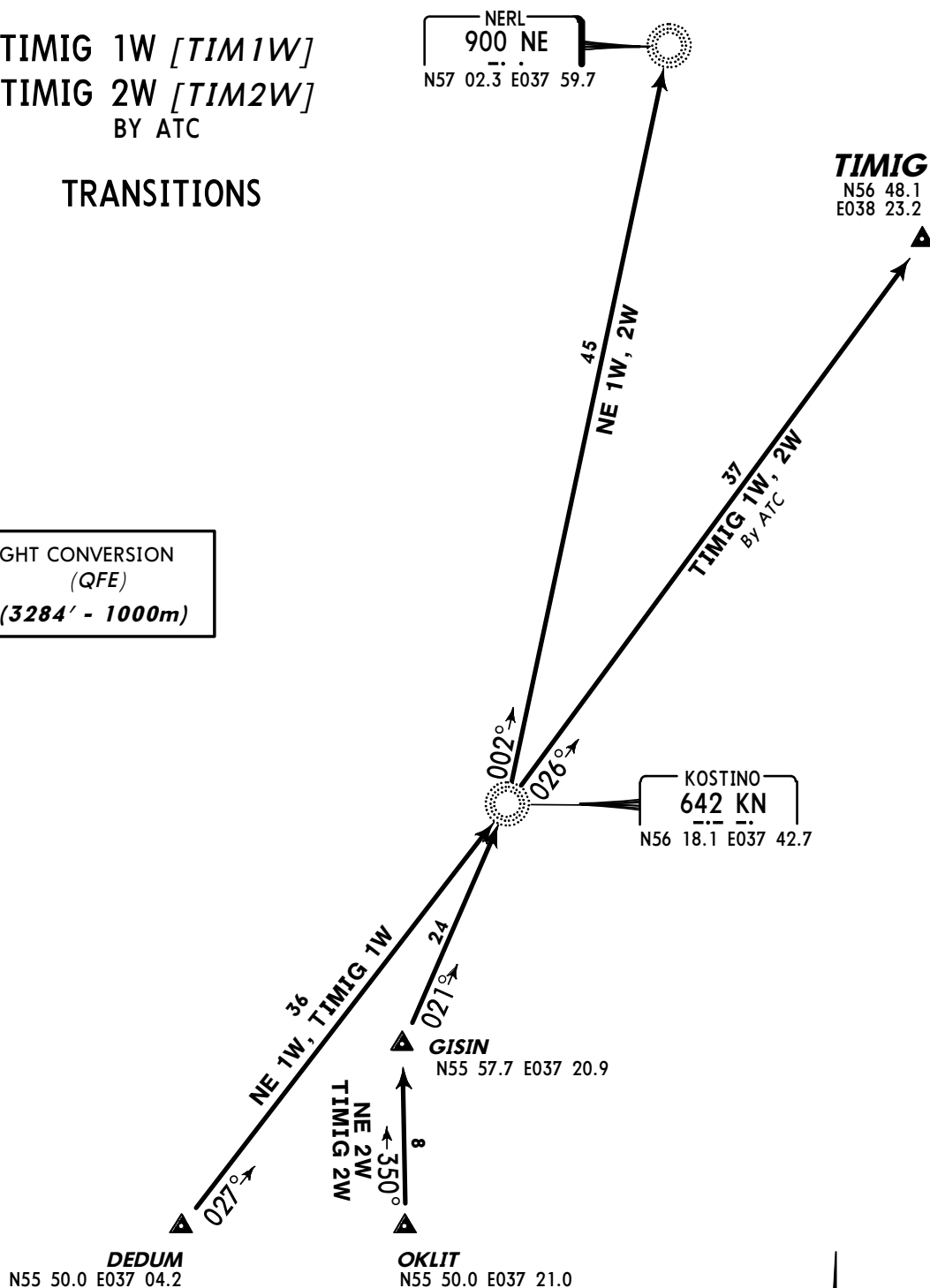
TIMIG 1W [TIM1W]

TIMIG 2W [TIM2W]

BY ATC

TRANSITIONS

ALT/HEIGHT CONVERSION
QNH (QFE)
3970' (3284' - 1000m)



TRANSITION	ROUTING
NE 1W	From DEDUM to KN, then to NE.
NE 2W	From OKLIT to GISIN, then to KN, then to NE.
TIMIG 1W	From DEDUM to KN, then to TIMIG.
TIMIG 2W	From OKLIT to GISIN, then to KN, then to TIMIG.

ALT/HEIGHT CONVERSION
QNH (QFE)
3970' (3284' - 1000m)

Apt Elev
686'

QNH on request (QFE)

Trans level: By ATC Trans alt: 3970' (3284')

ADETI 1W [ADE1W]
ROLUN 1W [ROL1W]
SODRU 2W [SOD2W]
BY ATC

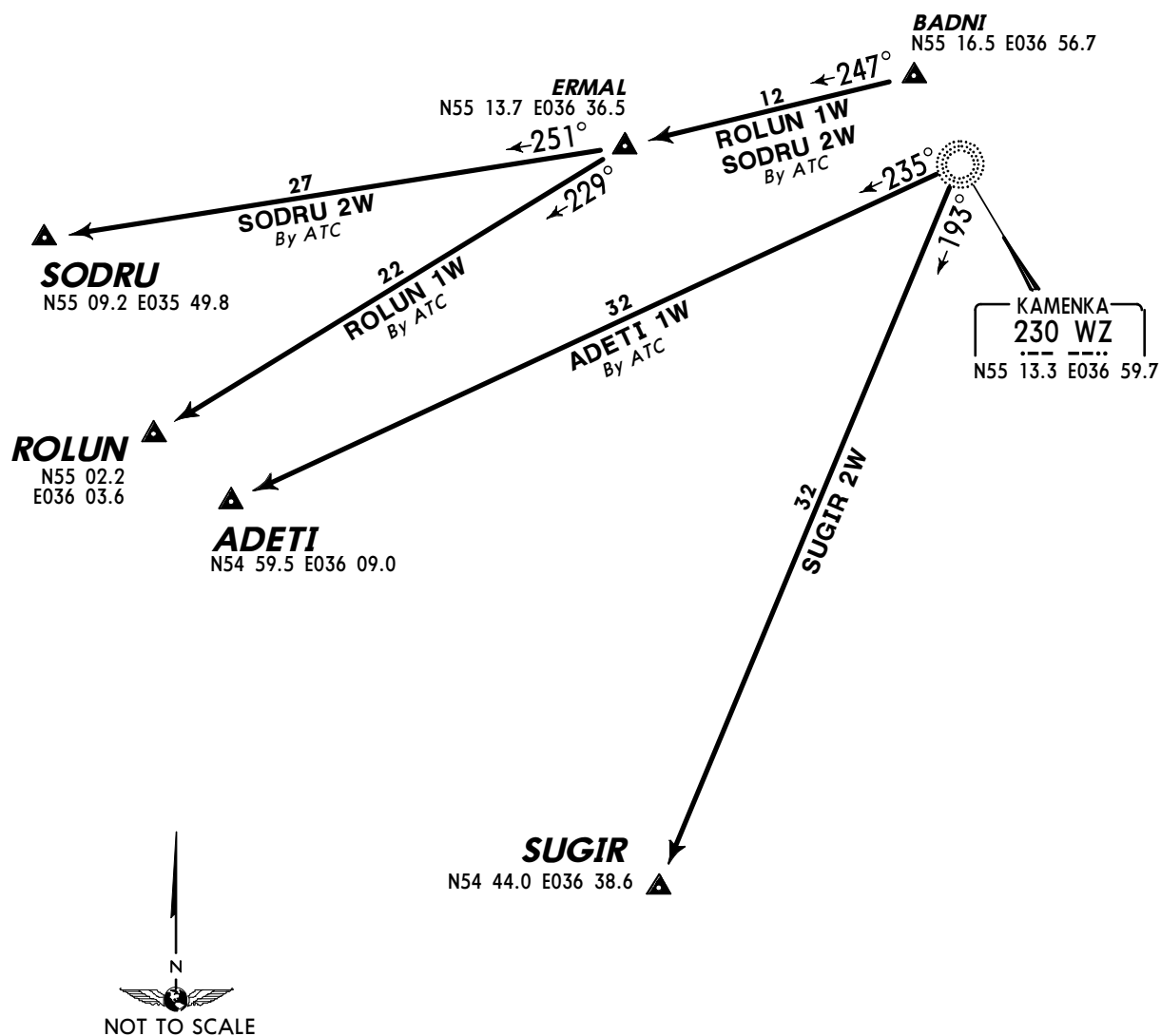
SUGIR 2W[SUG2W]

TRANSITIONS

ALT/HEIGHT CONVERSION

QNH (QFE)

3970' (3284' - 1000m)



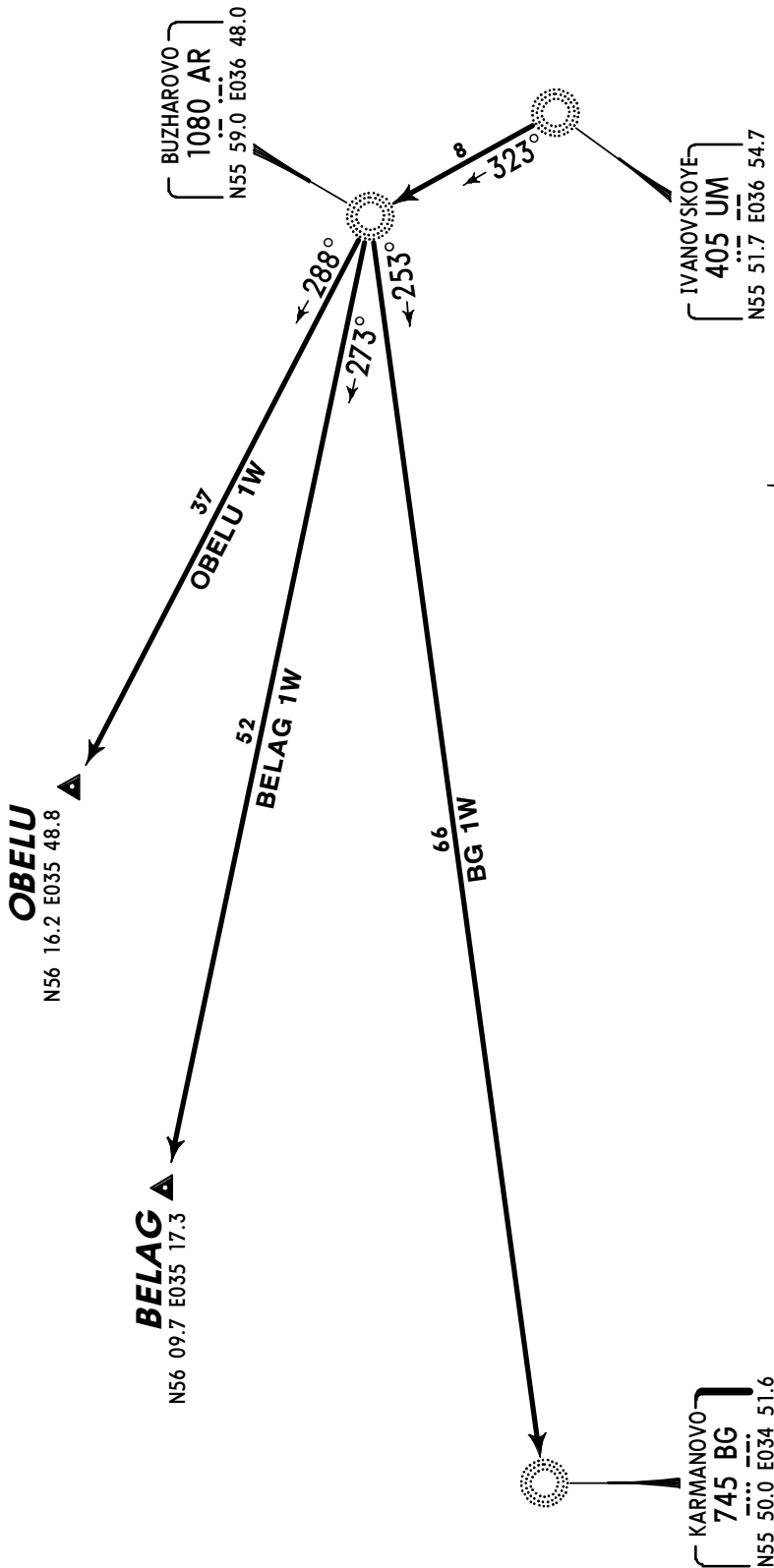
TRANSITION	ROUTING
ADETI 1W	From WZ to ADETI.
ROLUN 1W	From BADNI to ERMAL, then to ROLUN.
SODRU 2W	From BADNI to ERMAL, then to SODRU.
SUGIR 2W	From WZ to SUGIR.

Apt Elev 686'
QNH on request (QFE)
Trans level: By ATC Trans alt: 3970' (3284')

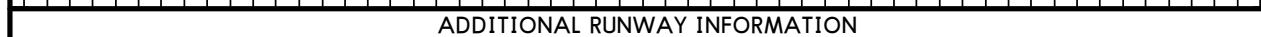
BELAG 1W [BEL1W]
KARMANOVO 1W (BG 1W)
OBELU 1W [OBE1W]
TRANSITIONS



ALT/HEIGHT CONVERSION
QNH (QFE)
3970' (3284' - 1000m)

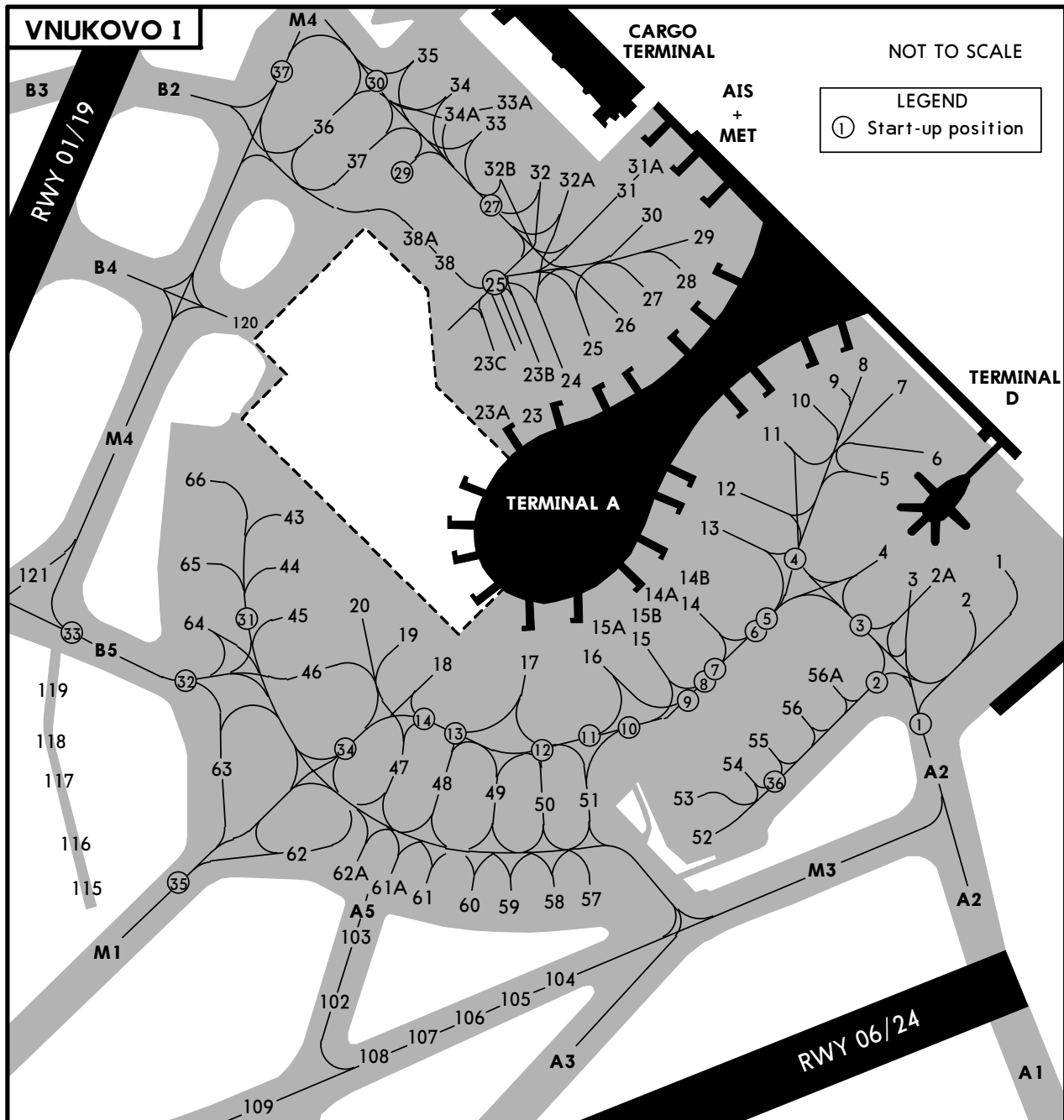


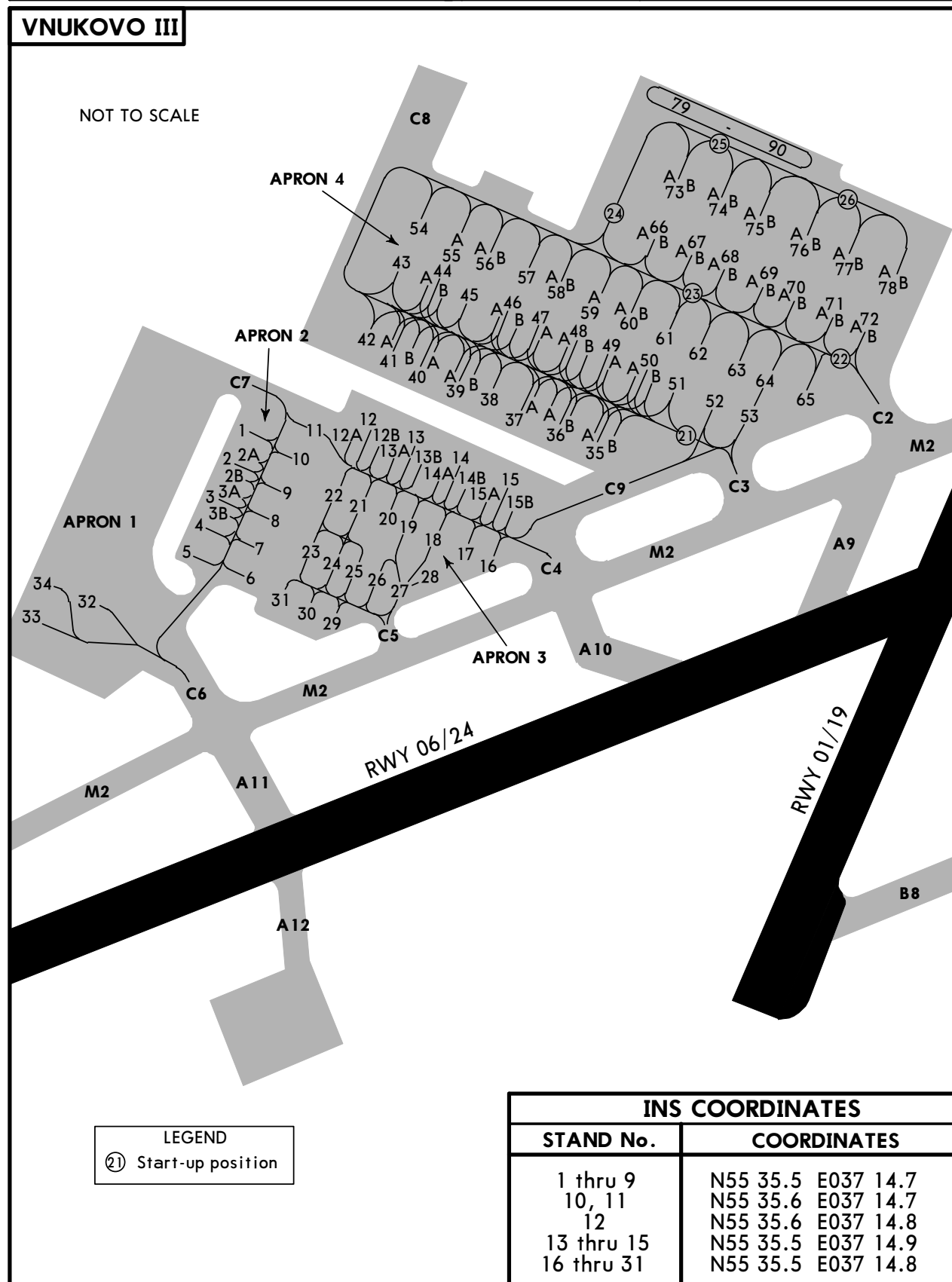
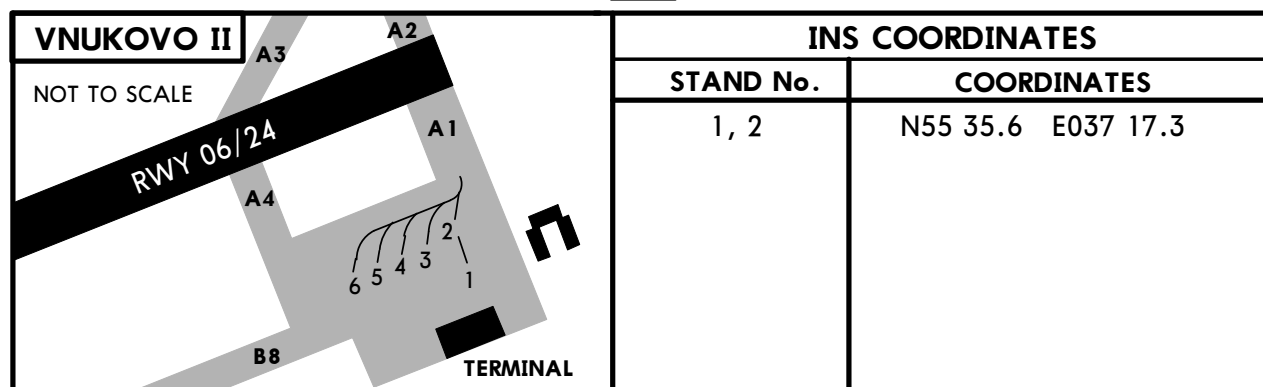
TRANSITION	ROUTING
BELAG 1W	From UM to AR, then to BELAG.
BG 1W	From UM to AR, then to BG.
OBELU 1W	From UM to AR, then to OBELU.



② TAKE-OFF RUN AVAILABLE					
<u>RWY 06:</u> From point 06-1		11,483' (3500m)	<u>RWY 24:</u> From point 24-1		11,483' (3500m)
from point 06-2		9843' (3000m)	from point 24-2		9285' (2830m)
from point 06-3		7710' (2350m)	from point 24-3		7874' (2400m)

TAKE-OFF						
AIR CARRIER (JAA) All Rwys				AIR CARRIER (FAR 121) All Rwys		
LVP must be in force		RCLM (DAY only) or RL	RCLM (DAY only) or RL	CL & RCLM any RVR out, other two req.		Adequate Vis Ref
RL & CL						
A				2 Eng	TDZ RVR 200m Mid RVR 200m Roll out RVR 150m	RVR 500m VIS 400m
B	200m (150m)	250m	400m	3 & 4 Eng		
C						
D	250m (200m)	300m				





STRAIGHT-IN RWY		A	B	C	D
01	ILS	833'(200')	833'(200')	833'(200')	833'(200')
	<i>FULL</i>	R550m	R550m	R550m	R550m
	<i>Limited</i>	R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m
	LOC	NOT AUTH	NOT AUTH	NOT AUTH	NOT AUTH
	RNAV ①	1050'(417')	1050'(417')	1050'(417')	1050'(417')
		R1200m	R1200m	R1200m	R1200m
	<i>ALS out</i>	R1500m	R1500m	R1900m	R1900m
	NDB ①	1400'(767')	1400'(767')	1400'(767')	1400'(767')
		R1500m	R1500m	C2400m	C2400m
06	PAR	856'(223')	866'(233')	876'(243')	886'(253')
		R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1200m	R1200m	R1300m	R1300m
	ILS	829'(200')	829'(200')	829'(200')	829'(200')
	<i>FULL</i>	R550m	R550m	R550m	R550m
	<i>Limited</i>	R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m
	LOC	NOT AUTH	NOT AUTH	NOT AUTH	NOT AUTH
	RNAV ①	1030'(401')	1030'(401')	1030'(401')	1030'(401')
		R1100m	R1100m	R1100m	R1100m
19	<i>ALS out</i>	R1500m	R1500m	R1800m	R1800m
	NDB ①	1390'(761')	1390'(761')	1390'(761')	1390'(761')
		R1500m	R1500m	C2400m	C2400m
	CAT 2 ILS	733'(100')	733'(100')	733'(100')	733'(100')
		RA105' R350m	RA105' R350m	RA105' R350m	RA105' R350m
	ILS	833'(200')	833'(200')	833'(200')	833'(200')
	<i>FULL</i>	R550m	R550m	R550m	R550m
	<i>Limited</i>	R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m
	LOC	NOT AUTH	NOT AUTH	NOT AUTH	NOT AUTH
	RNAV ①	1110'(477')	1110'(477')	1110'(477')	1110'(477')
		R1500m	R1500m	R1500m	R1500m
	<i>ALS out</i>	R1500m	R1500m	C2200m	C2200m
	NDB ①	1410'(777')	1410'(777')	1410'(777')	1410'(777')
		R1500m	R1500m	C2400m	C2400m
	PAR	856'(223')	866'(233')	876'(243')	886'(253')
		R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1200m	R1200m	R1300m	R1300m

① Continuous Descent Final Approach

STRAIGHT-IN RWY		A	B	C	D
24	ILS	886' (200')	886' (200')	886' (200')	886' (200')
	<i>FULL</i>	R550m	R550m	R550m	R550m
	<i>Limited</i>	R750m	R750m	R750m	R750m
	<i>ALS out</i>	R1200m	R1200m	R1200m	R1200m
	LOC	NOT AUTH	NOT AUTH	NOT AUTH	NOT AUTH
	RNAV ①	1100' (414')	1100' (414')	1100' (414')	1100' (414')
		R1200m	R1200m	R1200m	R1200m
	<i>ALS out</i>	R1500m	R1500m	R1900m	R1900m
	NDB ①	1590' (904')	1590' (904')	1590' (904')	1590' (904')
		R1500m	R1500m	C2400m	C2400m

① Continuous Descent Final Approach

TAKE-OFF RWY 01, 06, 19, 24

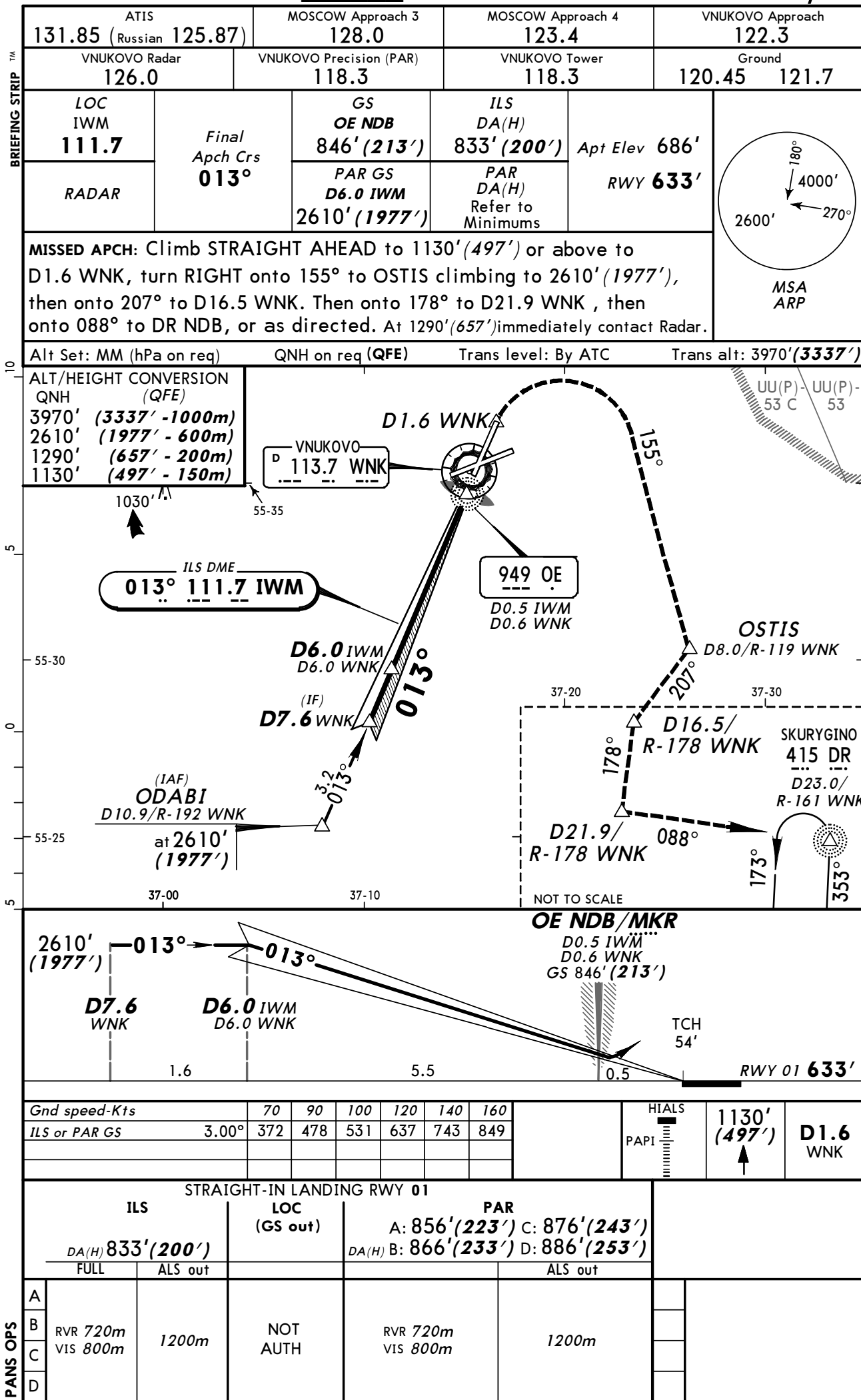
	Approved Operators HIRL, CL & mult. RVR req	LVP must be in Force			RCLM (DAY only) or RL	RCLM (DAY only) or RL	NIL (DAY only)
		RL, CL & mult. RVR req	RL & CL	RCLM (DAY only) or RL			
A							
B	125m	150m	200m	250m	400m	500m	
C							
D	150m	200m	250m	300m			

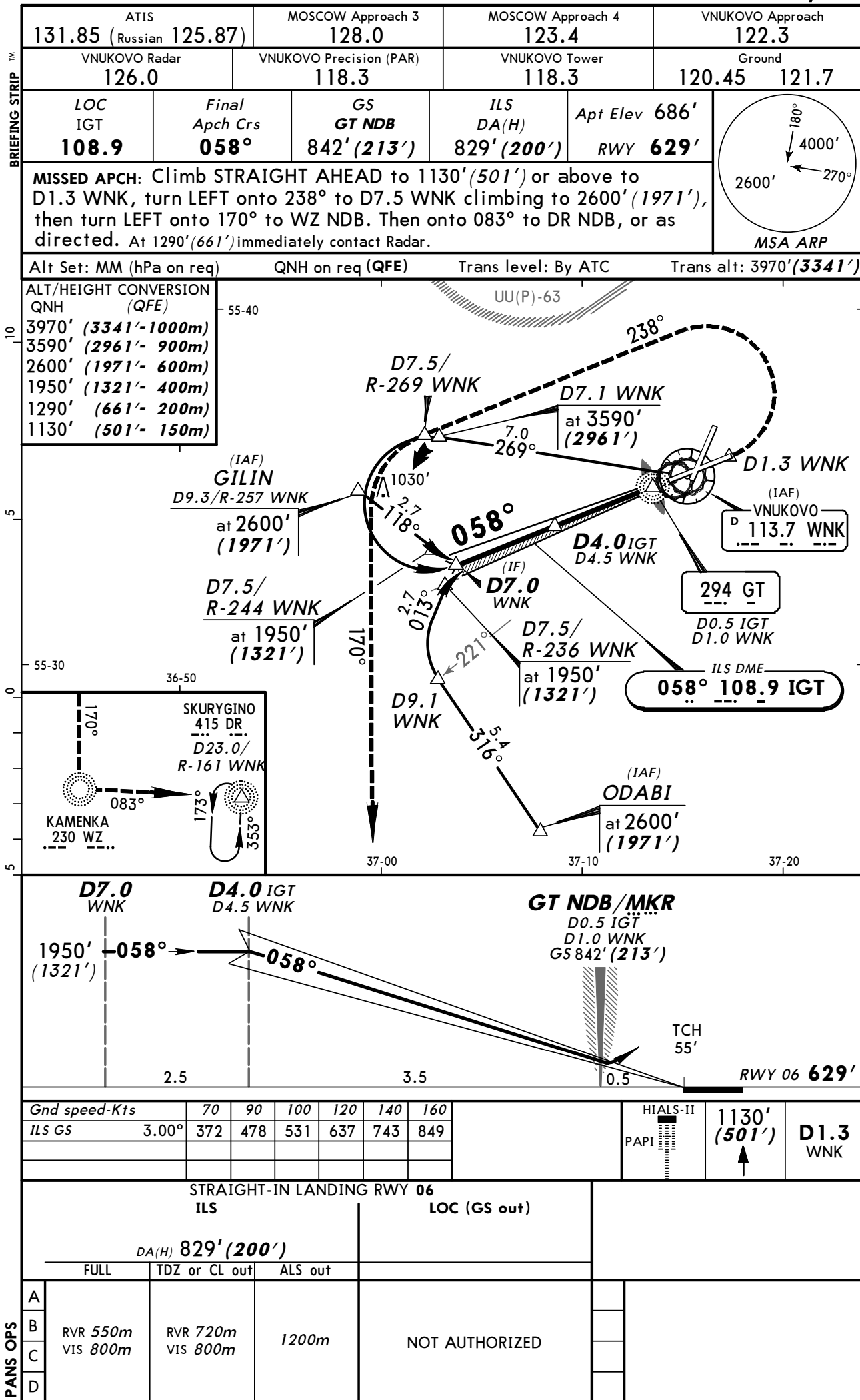
UWW/VKO
VNUKOVO

21 JUN 13
Eff 27 Jun

11-1

MOSCOW, RUSSIA
ILS DME or PAR Rwy 01



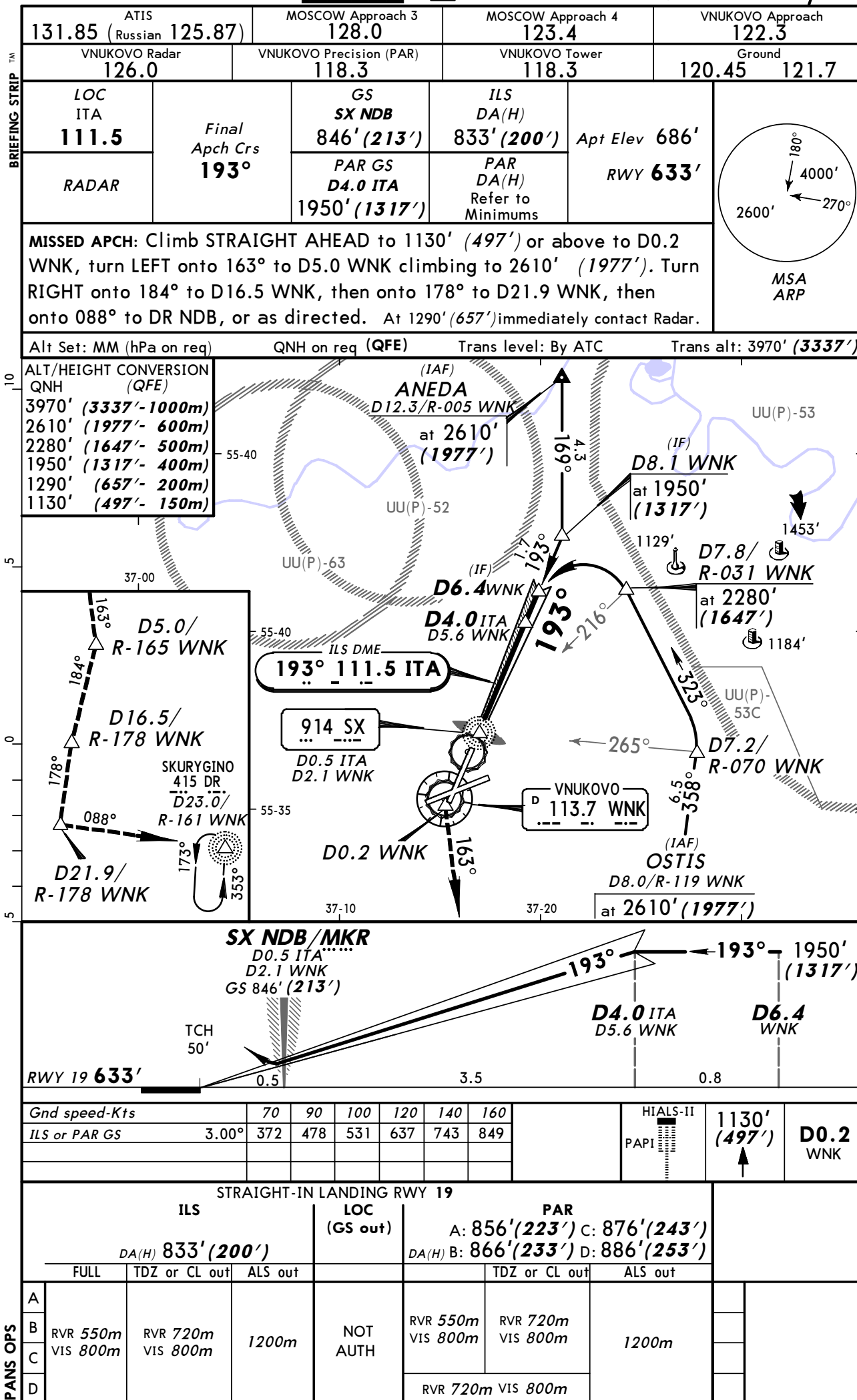


UWW/VKO
VNUKOV

21 JUN 13
Eff 27 Jun

11-3

MOSCOW, RUSSIA
ILS DME or PAR Rwy 19



BRIEFING STRIP TM

ATIS 131.85 (Russian 125.87)		MOSCOW Approach 3 128.0	MOSCOW Approach 4 123.4	VNUKOVO Approach 122.3
VNUKOVO Radar 126.0		VNUKOVO Precision (PAR) 118.3	VNUKOVO Tower 118.3	Ground 120.45 121.7
LOC ITA 111.5	Final Apch Crs 193°	GS SX NDB 846' (213')	CAT II ILS RA 105' DA(H) 733' (100')	Apt Elev 686' RWY 633'
MISSED APCH: Climb STRAIGHT AHEAD to 1130' (497') or above to D0.2 WNK, turn LEFT onto 163° to D5.0 WNK climbing to 2610' (1977'). Turn RIGHT onto 184° to D16.5 WNK, then onto 178° to D21.9 WNK, then onto 088° to DR NDB, or as directed. At 1290' (657') immediately contact Radar.				

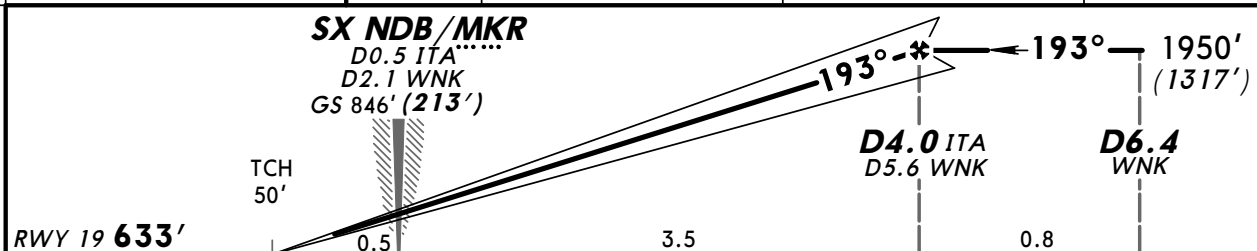
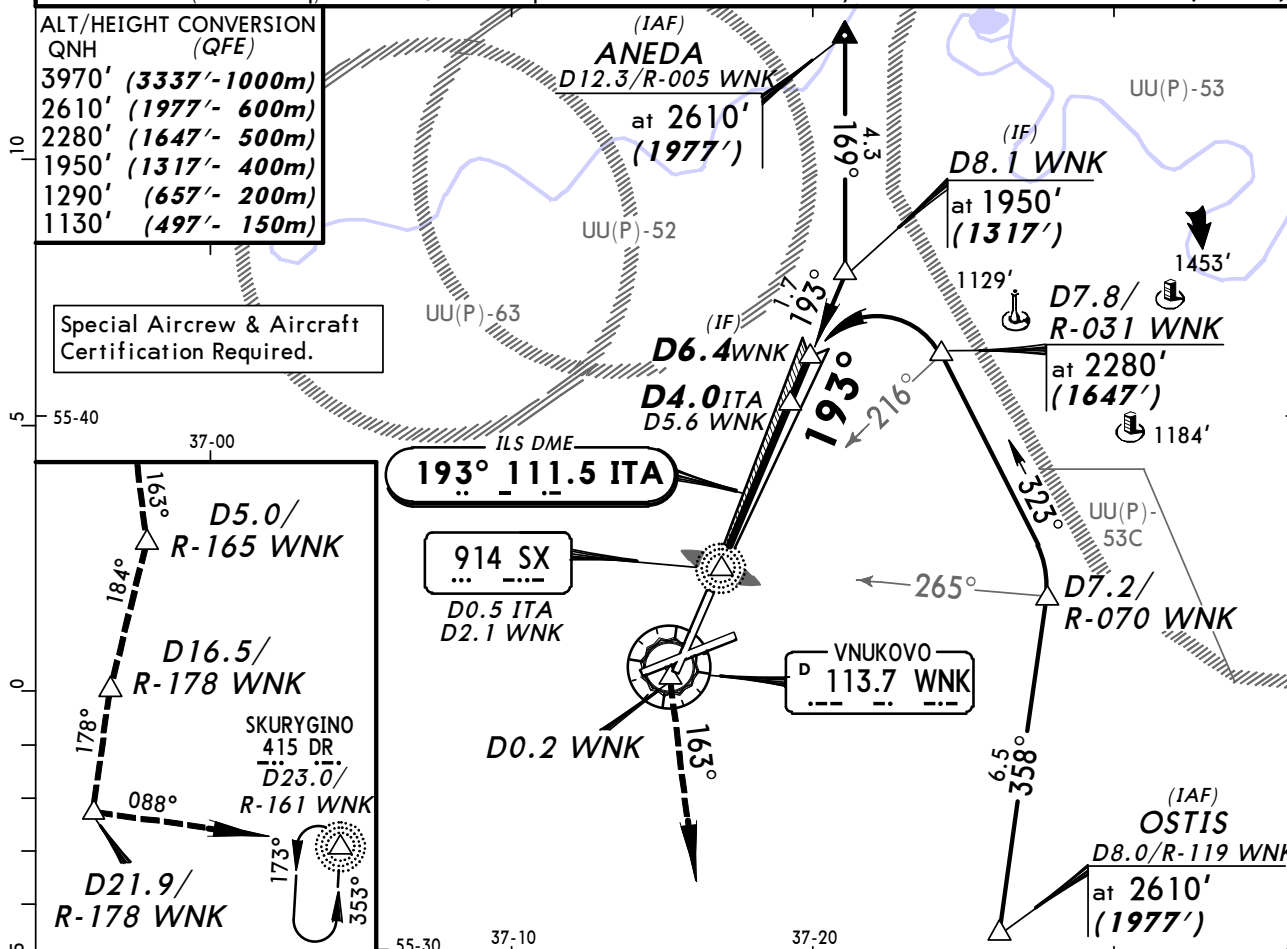
180°
4000'
2600'
270°

MSA ARP

Alt Set: MM (hPa on req) QNH on req (**QFE**) Trans level: By ATC Trans alt: 3970' (**3337'**)

ALT/HEIGHT CONVERSION	
QNH	(QFE)
3970'	(3337' - 1000m)
2610'	(1977' - 600m)
2280'	(1647' - 500m)
1950'	(1317' - 400m)
1290'	(657' - 200m)
1130'	(497' - 150m)

Special Aircrew & Aircraft
Certification Required.



<i>Gnd speed-Kts</i>	70	90	100	120	140	160		1130' (497')	D0.2 WNK
<i>GS</i> 3.00°	372	478	531	637	743	849			

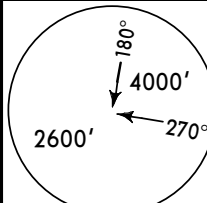
STRAIGHT-IN LANDING RWY 19
CAT II ILS

RA 105'
DA(H) **733' (100')**

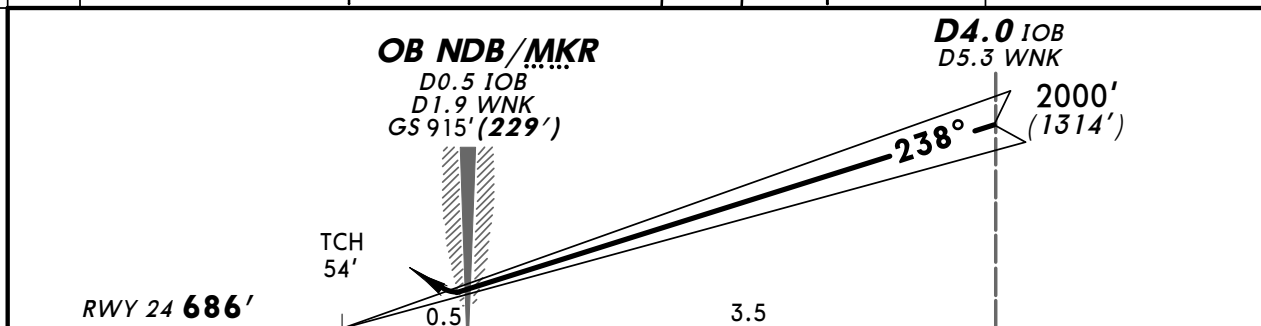
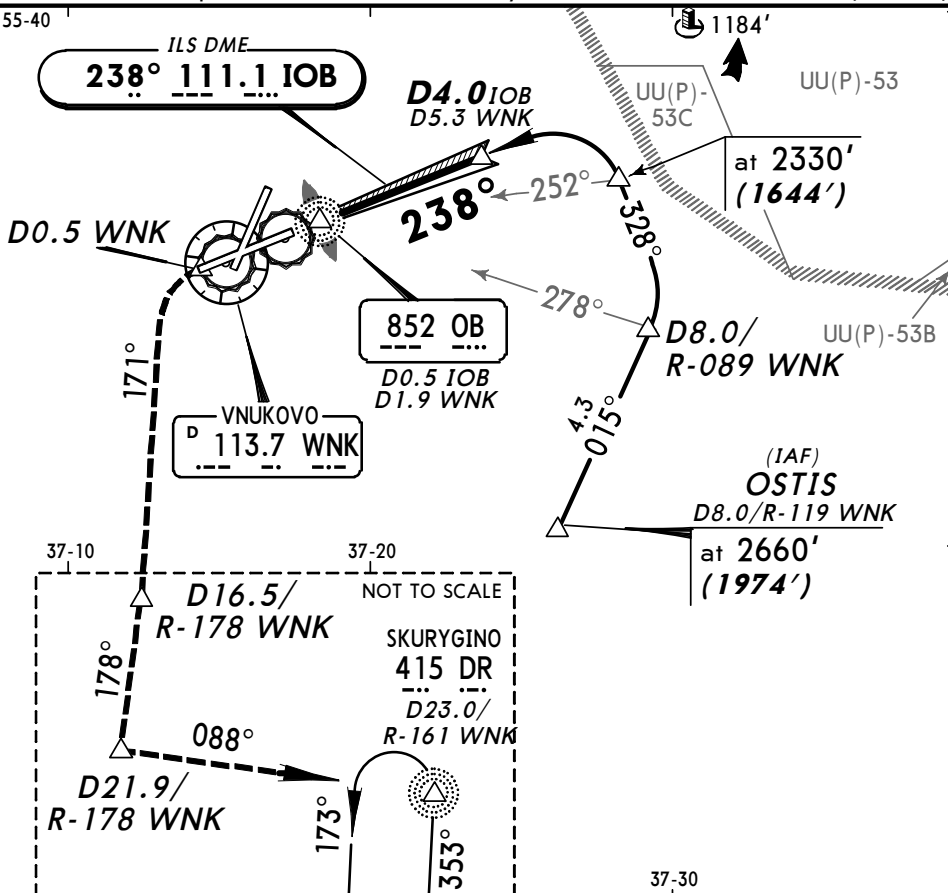
RVR **350m**

PANS OPS

BRIEFING STRIP™

ATIS 131.85 (Russian 125.87)	MOSCOW Approach 3 128.0	MOSCOW Approach 4 123.4	VNUKOVO Approach 122.3
VNUKOVO Radar 126.0	VNUKOVO Precision (PAR) 118.3	VNUKOVO Tower 118.3	Ground 120.45 121.7
LOC IOB 111.1	Final Apch Crs 238°	GS D0.5 IOB 915' (229')	ILS DA(H) 886' (200')
Apt Elev 686' RWY 686'			 MSA ARP
MISSED APCH: Climb STRAIGHT AHEAD to 1180' (494') or above to D0.5 WNK, then turn LEFT onto 171° to D16.5 WNK climbing to 2660' (1974'). Turn RIGHT onto 178° to D21.9 WNK, then onto 088° to DR NDB, or as directed. At 1350' (664') immediately contact Radar.			
Alt Set: MM (hPa on req)	QNH on req (QFE)	Trans level: By ATC	Trans alt: 3970' (3284')

ALT/HEIGHT CONVERSION QNH (QFE)
3970' (3284' - 1000m)
2660' (1974' - 600m)
2330' (1644' - 500m)
2000' (1314' - 400m)
1350' (664' - 200m)
1180' (494' - 150m)



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II		1180' (494')	D0.5 WNK
ILS GS 3.00°	372	478	531	637	743	849	PAPI			

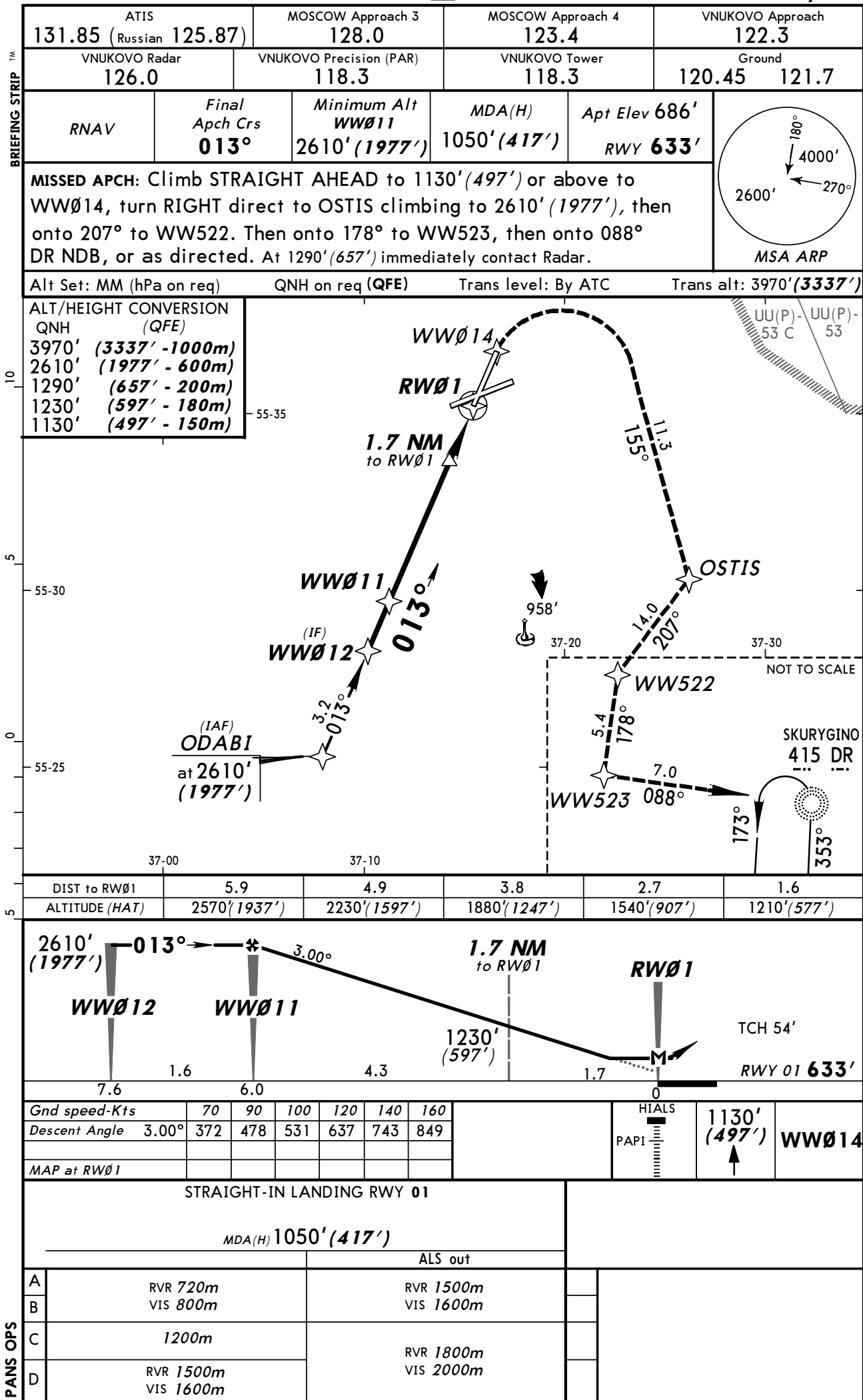
STRAIGHT-IN LANDING RWY 24						
ILS			LOC (GS out)			
DA(H) 886' (200')						
FULL		TDZ or CL out	ALS out			
A	RVR 550m VIS 800m	RVR 720m VIS 800m	1200m	NOT AUTHORIZED		
B						
C						
D						

PANS OPS

UWW/VKO
VNUKOVO

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21 JUN 13 (12-1)

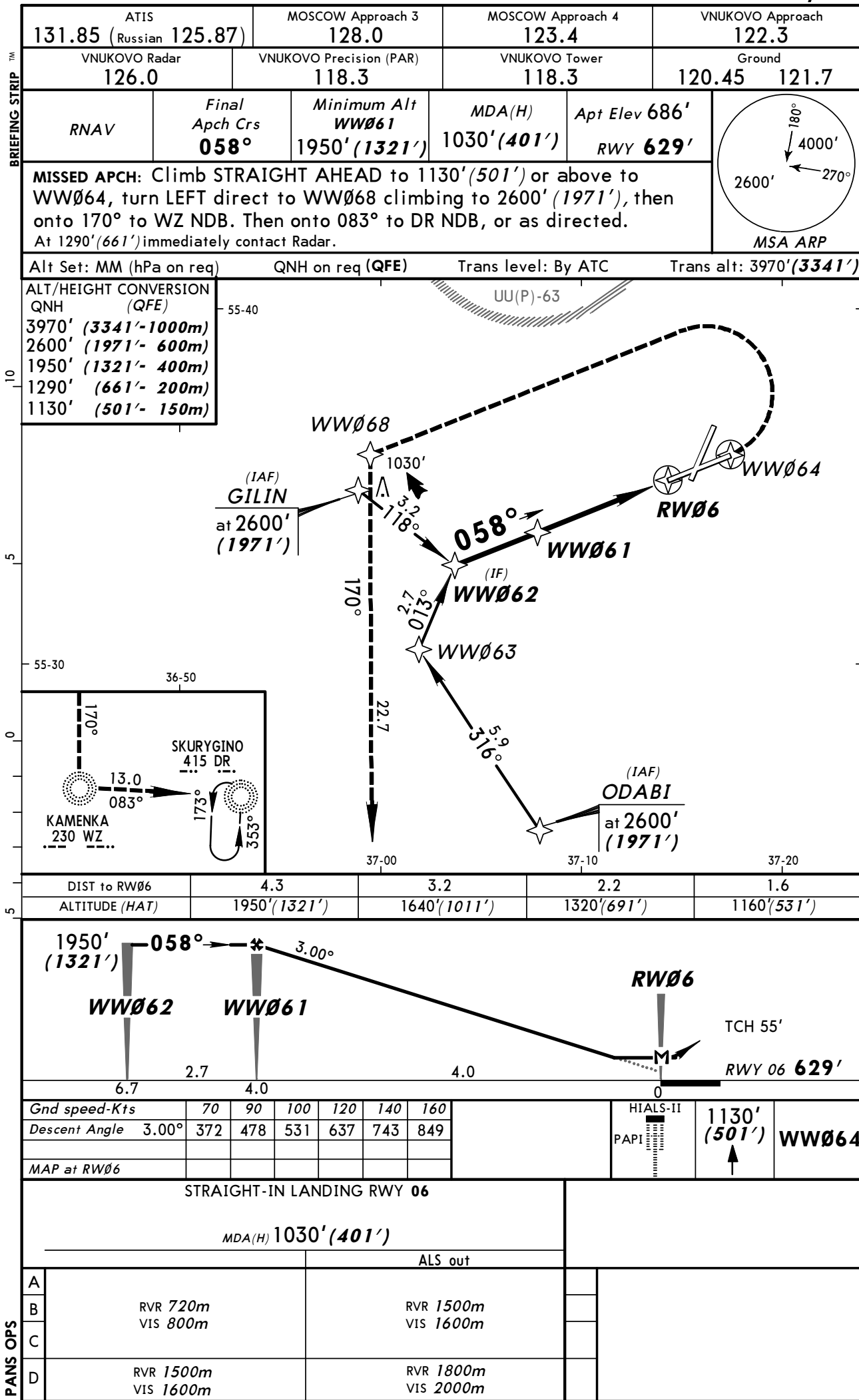
MOSCOW, RUSSIA
RNAV (GNSS) Rwy 01



UUWW/VKO
VNUKOVO

JEPPESSEN
21 JUN 13 **12-2**

MOSCOW, RUSSIA
RNAV (GNSS) Rwy 06



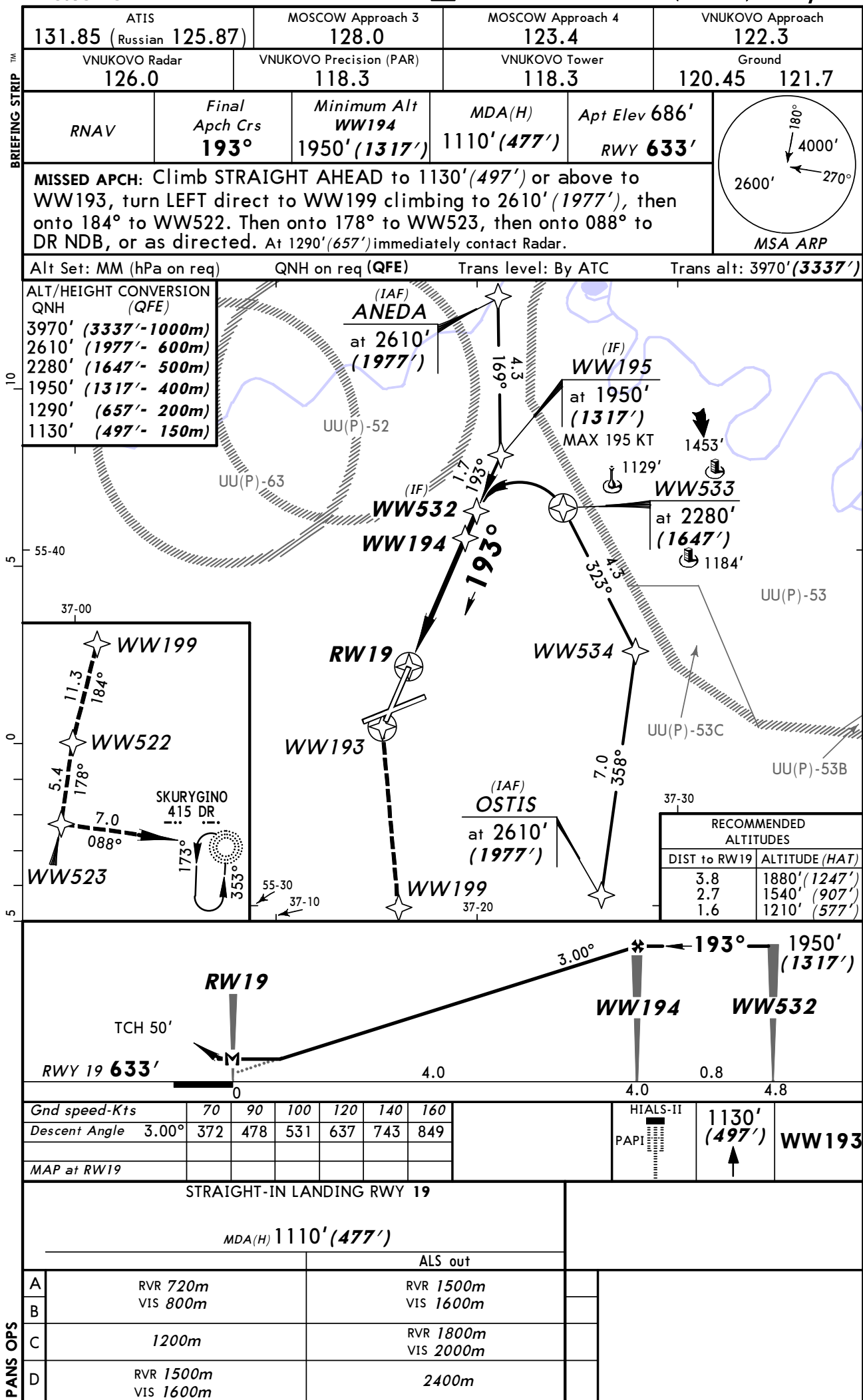
CHANGES: New procedure.

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UWW/VKO
VNUKOVO

JEPPESSEN
21 JUN 13 12-3

MOSCOW, RUSSIA
RNAV (GNSS) Rwy 19



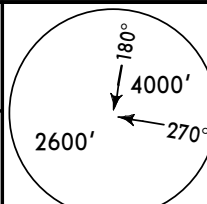
UUWW/VKO
VNUKOVO

21 JUN 13
Eff 27 Jun 12-4

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MOSCOW, RUSSIA
RNAV (GNSS) A Rwy 24

BRIEFING STRIP™

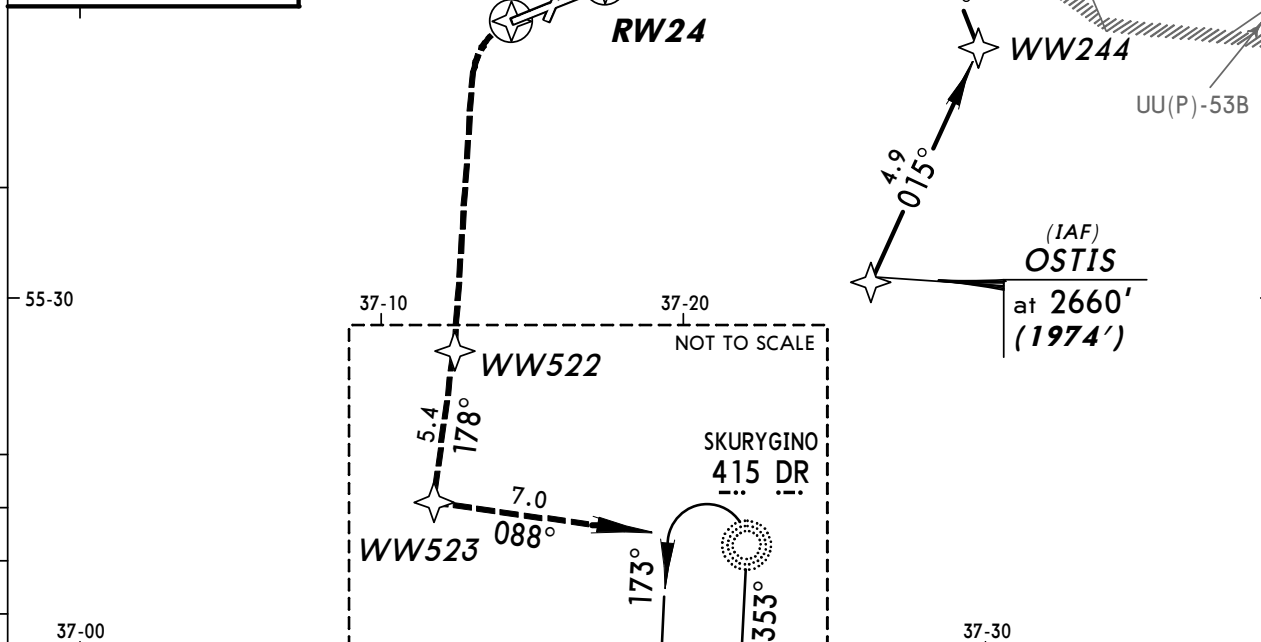
ATIS 131.85 (Russian 125.87)		MOSCOW Approach 3 128.0		MOSCOW Approach 4 123.4		VNUKOVO Approach 122.3	
VNUKOVO Radar 126.0		VNUKOVO Precision (PAR) 118.3		VNUKOVO Tower 118.3		Ground 120.45 121.7	
RNAV	Final Apch Crs 238°	Minimum Alt WW242 2000' (1314')	MDA(H) 1100' (414')	Apt Elev 686' RWY 686'			
MISSED APCH: Climb STRAIGHT AHEAD to 1180' (494') or above to WW248, then turn LEFT direct to WW522 climbing to 2660' (1974'). Then onto 178° to WW523, then onto 088° to DR NDB, or as directed. At 1350' (664') immediately contact Radar.							
					MSA ARP		

Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: By ATC Trans alt: 3970' (3284')

ALT/HEIGHT CONVERSION QNH (QFE)	55-40
3970' (3284' - 1000m)	
2660' (1974' - 600m)	
2330' (1644' - 500m)	
2000' (1314' - 400m)	
1350' (664' - 200m)	
1180' (494' - 150m)	

10

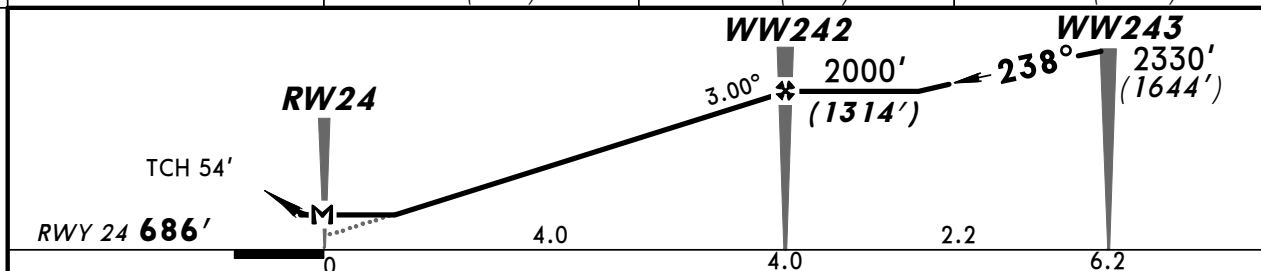
5



55-30

5

DIST to RW24	1.6	2.7	3.8
ALTITUDE (HAT)	1260' (574')	1590' (904')	1940' (1254')



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II		1180' (494')	WW248
Descent Angle 3.00°	372	478	531	637	743	849	PAPI			
MAP at RW24										

STRAIGHT-IN LANDING RWY 24									
MDA(H) 1100' (414')									
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: New procedure.

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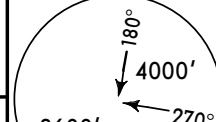
UUWW/VKO
VNUKOVO

21 JUN 13
Eff 27 Jun 12-5

JEPPESSEN

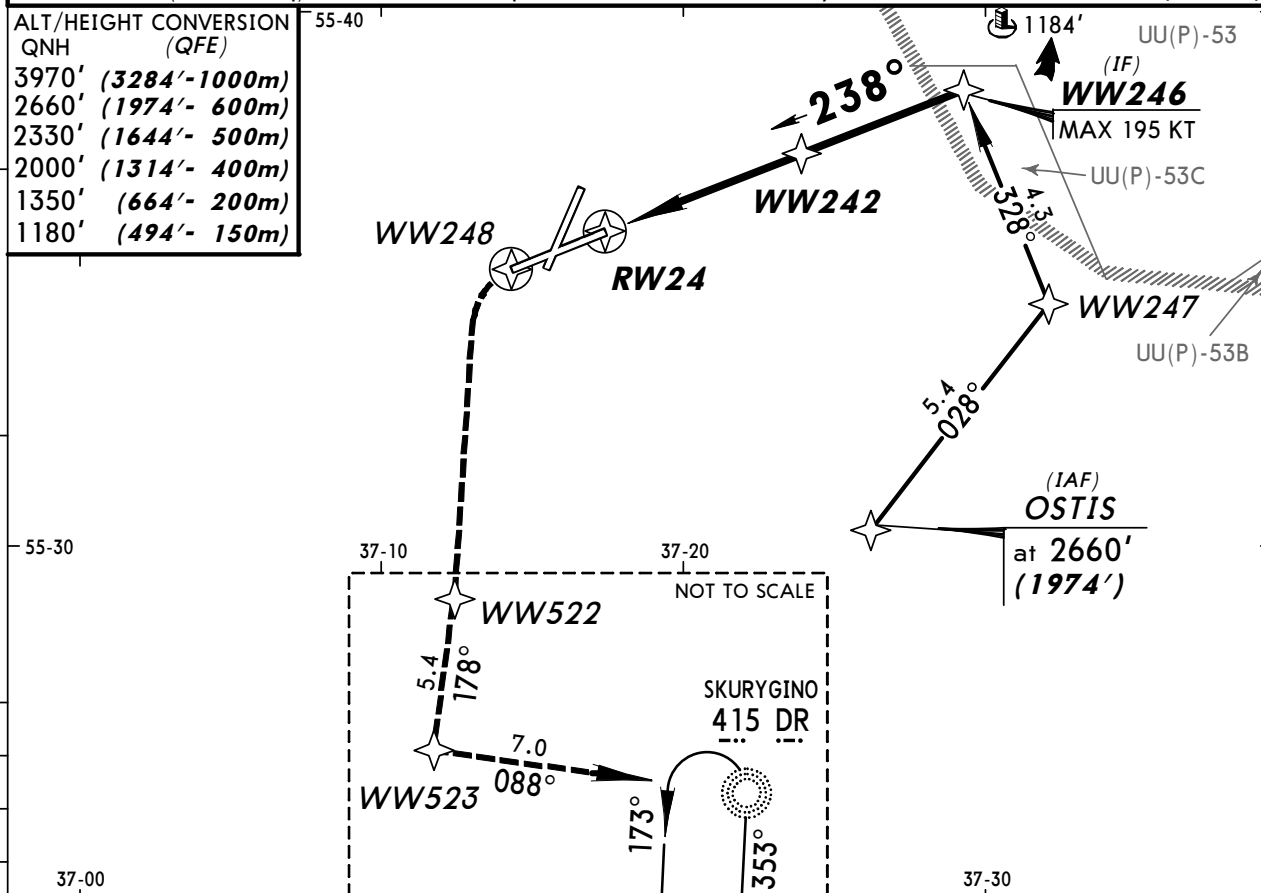
MOSCOW, RUSSIA
RNAV (GNSS) B Rwy 24

BRIEFING STRIP™

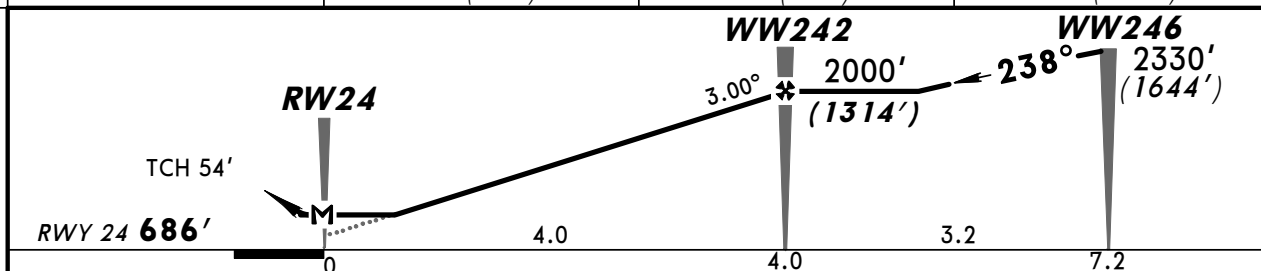
ATIS 131.85 (Russian 125.87)		MOSCOW Approach 3 128.0	MOSCOW Approach 4 123.4	VNUKOVO Approach 122.3	
VNUKOVO Radar 126.0		VNUKOVO Precision (PAR) 118.3	VNUKOVO Tower 118.3	Ground 120.45 121.7	
RNAV	Final Apch Crs 238°	Minimum Alt WW242 2000' (1314')	MDA(H) 1100' (414')	Apt Elev 686' RWY 686'	
MISSED APCH: Climb STRAIGHT AHEAD to 1180' (494') or above to WW248, then turn LEFT direct to WW522 climbing to 2660' (1974'). Then onto 178° to WW523, then onto 088° to DR NDB, or as directed. At 1350' (664') immediately contact Radar.					
MSA ARP					

Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: By ATC Trans alt: 3970' (3284')

ALT/HEIGHT CONVERSION QNH (QFE)	55-40
3970' (3284' - 1000m)	
2660' (1974' - 600m)	
2330' (1644' - 500m)	
2000' (1314' - 400m)	
1350' (664' - 200m)	
1180' (494' - 150m)	



DIST to RW24	1.6	2.7	3.8
ALTITUDE (HAT)	1260' (574')	1590' (904')	1940' (1254')



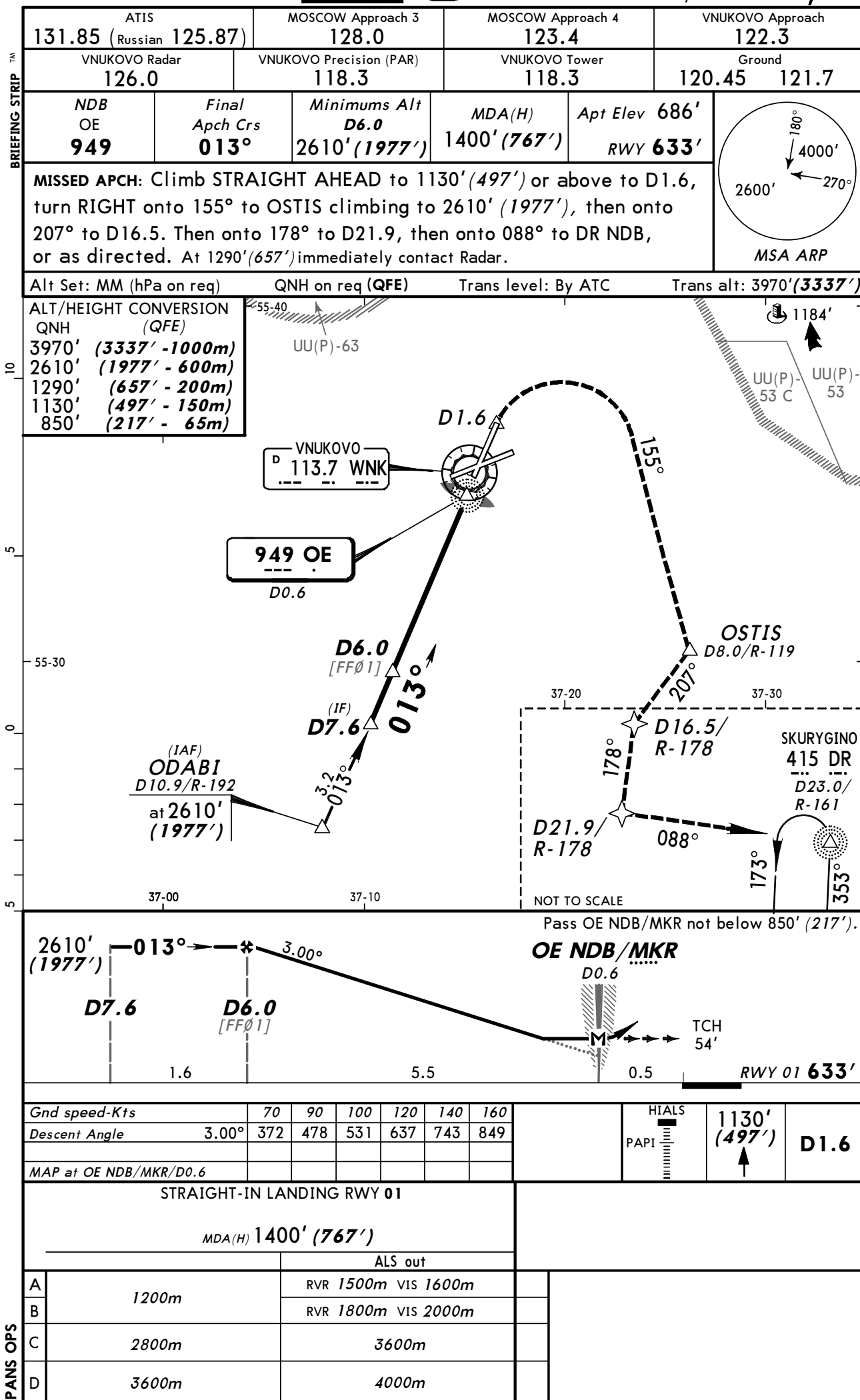
Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI	1180' (494') WW248
Descent Angle 3.00°	372	478	531	637	743	849		
MAP at RW24								

STRAIGHT-IN LANDING RWY 24							
MDA(H) 1100' (414')							
				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

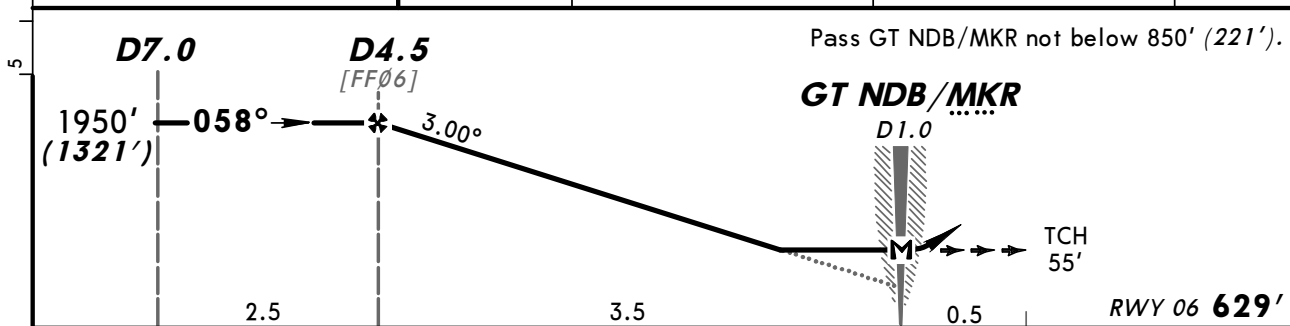
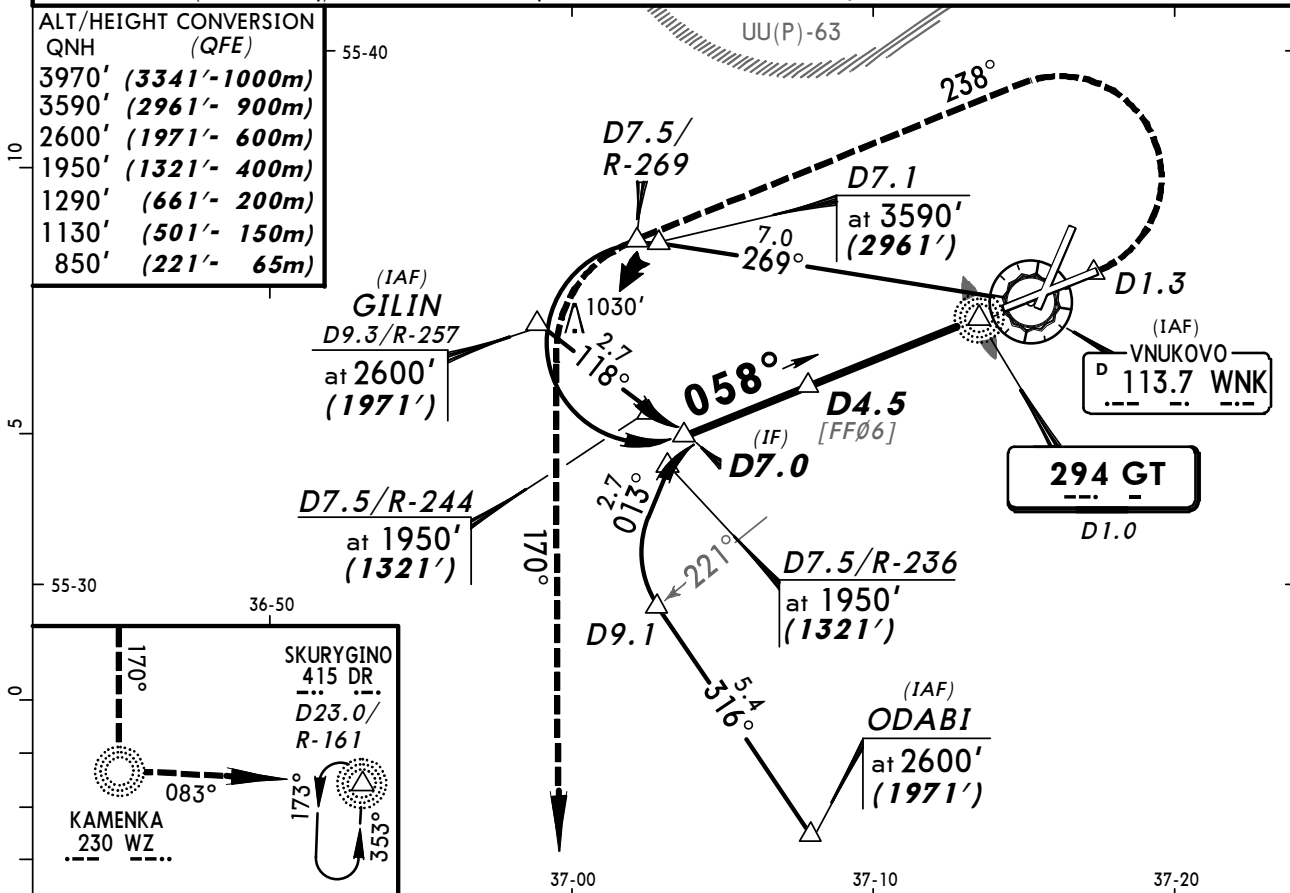
CHANGES: New procedure.

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BRIEFING STRIP™

ATIS 131.85 (Russian 125.87)		MOSCOW Approach 3 128.0		MOSCOW Approach 4 123.4		VNUKOVO Approach 122.3	
VNUKOVO Radar 126.0		VNUKOVO Precision (PAR) 118.3		VNUKOVO Tower 118.3		Ground 120.45 121.7	
NDB GT 294	Final Apch Crs 058°	Minimum Alt D4.5 1950' (1321')	MDA(H) 1390' (761')	Apt Elev 686' RWY 629'	 MSA ARP		
MISSED APCH: Climb STRAIGHT AHEAD to 1130' (501') or above to D1.3, turn LEFT onto 238° to D7.5 climbing to 2600' (1971'), then turn LEFT onto 170° to WZ NDB. Then onto 083° to DR NDB, or as directed. At 1290' (661') immediately contact Radar.							
Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: By ATC Trans alt: 3970' (3341')							



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI </
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STRAIGHT-IN LANDING RWY 06										
MDA(H) 1390' (761')										
ALS out										
A	1200m					RVR 1500m VIS 1600m				
B	2800m					RVR 1800m VIS 2000m				
C	3600m					3600m				
D	3600m					4000m				

UWW/VKO
VNUKOVO

21 JUN 13
Eff 27 Jun

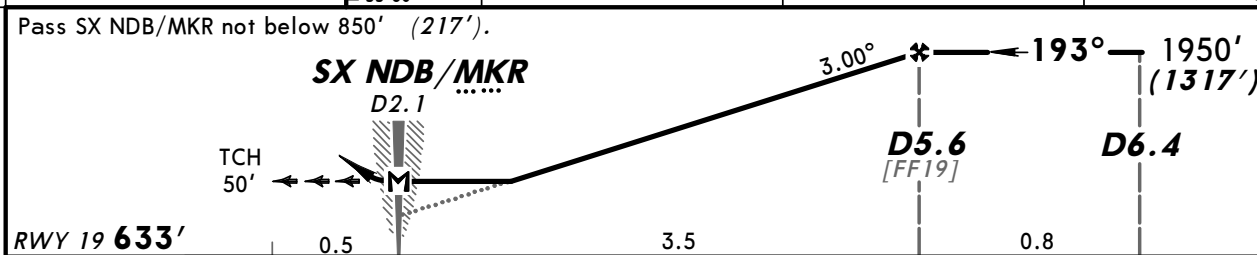
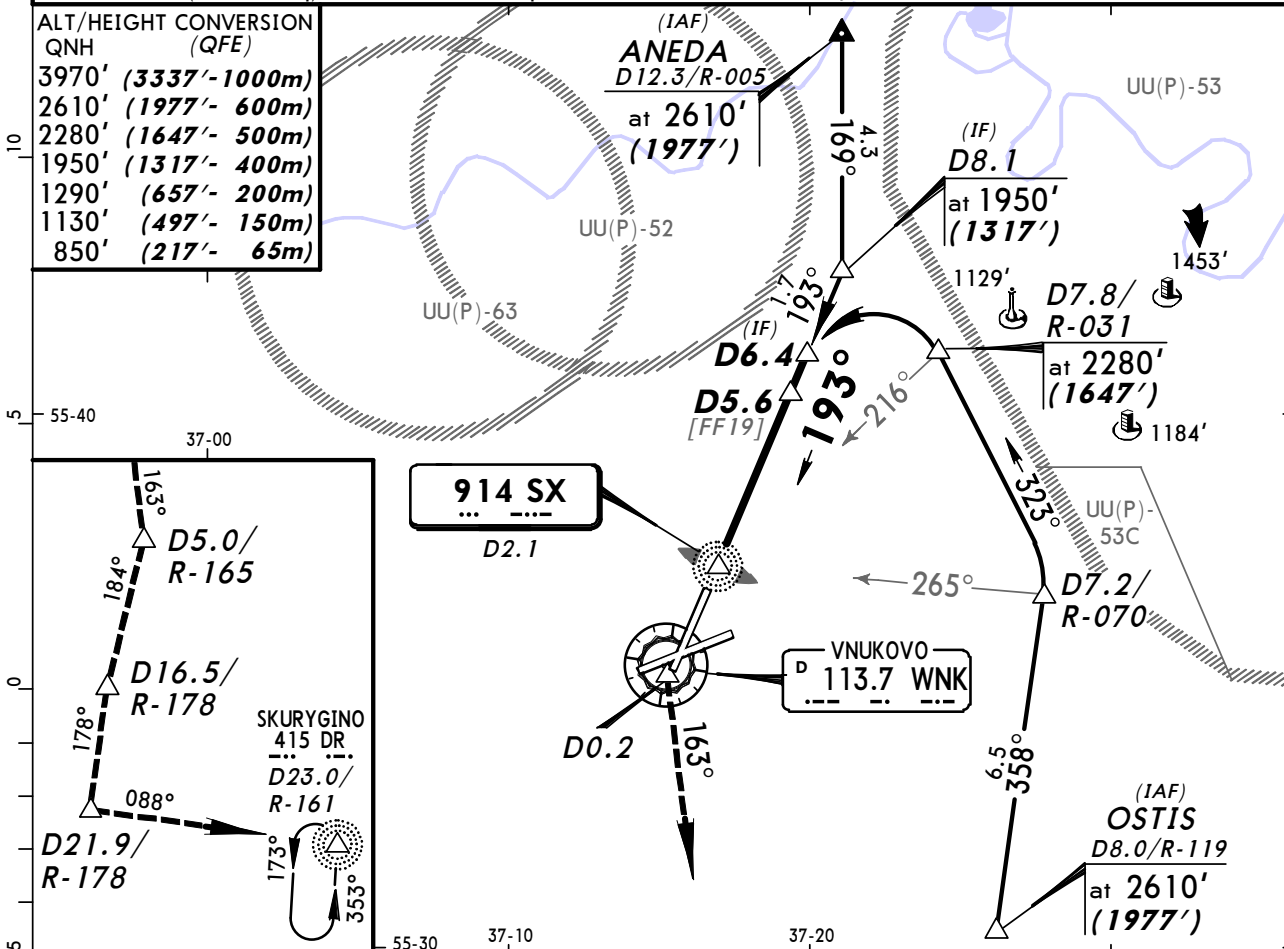
16-3

MOSCOW, RUSSIA
NDB/MKR Rwy 19

BRIEFING STRIP

ATIS 131.85 (Russian 125.87)	MOSCOW Approach 3 128.0	MOSCOW Approach 4 123.4	VNUKOVO Approach 122.3
VNUKOVO Radar 126.0	VNUKOVO Precision (PAR) 118.3	VNUKOVO Tower 118.3	Ground 120.45 121.7
NDB SX 914	Final Apch Crs 193°	Minimum Alt D5.6 1950' (1317')	MDA(H) 1410' (777')
		Apt Elev 686'	RWY 633'
MISSED APCH: Climb STRAIGHT AHEAD to 1130' (497') or above to D0.2, turn LEFT onto 163° to D5.0 climbing to 2610' (1977'). Turn RIGHT onto 184° to D16.5, then onto 178° to D21.9, then onto 088° to DR NDB, or as directed. At 1290' (657') immediately contact Radar.			
Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: By ATC Trans alt: 3970' (3337')			

ALT/HEIGHT CONVERSION	QNH	(QFE)
3970'	(3337' - 1000m)	
2610'	(1977' - 600m)	
2280'	(1647' - 500m)	
1950'	(1317' - 400m)	
1290'	(657' - 200m)	
1130'	(497' - 150m)	
850'	(217' - 65m)	



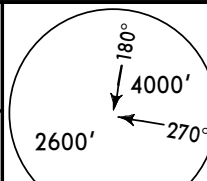
Gnd speed-Kts	70	90	100	120	140	160			
Descent Angle	3.00°	372	478	531	637	743	849		
MAP at SX NDB/MKR/D2.1									

STRAIGHT-IN LANDING RWY 19							
MDA(H) 1410' (777')							
ALS out							
A				RVR 1500m VIS 1600m			
B	1200m			RVR 1800m VIS 2000m			
C	2800m			3600m			
D	3600m			4000m			

CHANGES: Airport elevation. Procedure. NDB/MKR proc. transferred from 11-3.

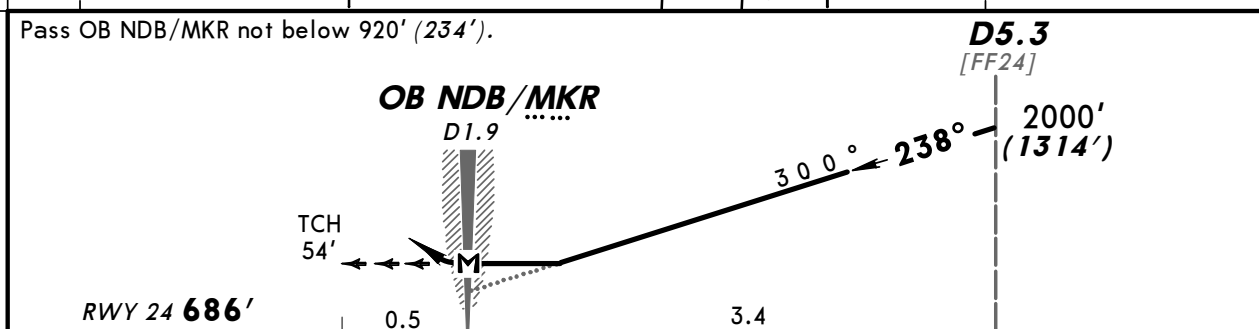
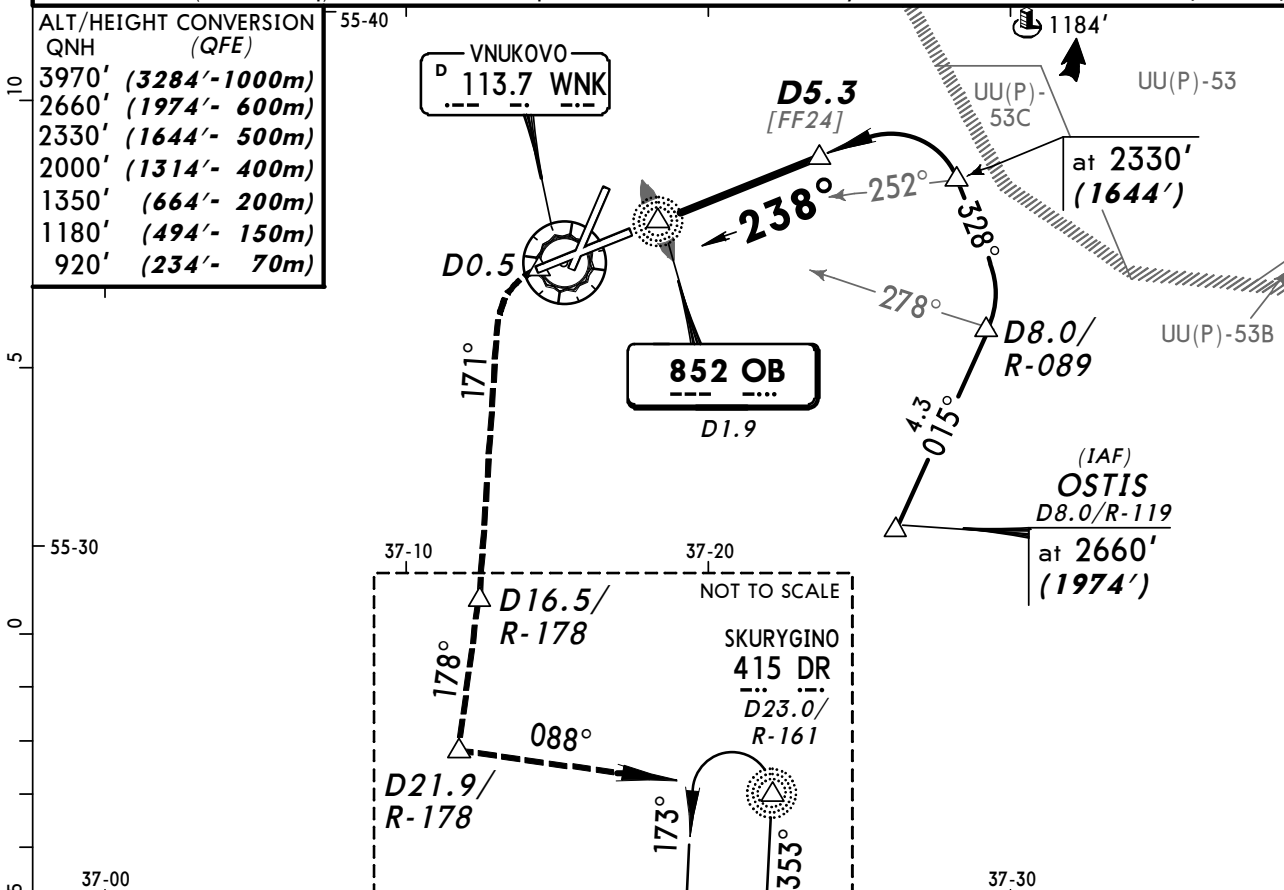
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BRIEFING STRIP™

ATIS 131.85 (Russian 125.87)		MOSCOW Approach 3 128.0		MOSCOW Approach 4 123.4		VNUKOVO Approach 122.3	
VNUKOVO Radar 126.0		VNUKOVO Precision (PAR) 118.3		VNUKOVO Tower 118.3		Ground 120.45 121.7	
NDB OB 852	Final Apch Crs 238°	Minimum Alt D5.3 2000' (1314')	MDA(H) 1590' (904')	Apt Elev 686' RWY 686'		 MSA ARP	
MISSED APCH: Climb STRAIGHT AHEAD to 1180' (494') or above to D0.5, then turn LEFT onto 171° to D16.5 climbing to 2660' (1974'). Turn RIGHT onto 178° to D21.9, then onto 088° to DR NDB, or as directed. At 1350' (664') immediately contact Radar.							

Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: By ATC Trans alt: 3970' (3284')

ALT/HEIGHT CONVERSION QNH (QFE)	55-40
3970' (3284'-1000m)	
2660' (1974'- 600m)	
2330' (1644'- 500m)	
2000' (1314'- 400m)	
1350' (664'- 200m)	
1180' (494'- 150m)	
920' (234'- 70m)	



Gnd speed-Kts	70	90	100	120	140	160	HIALS-II PAPI 	1180' (494') ↑	D0.5
Descent Angle	3.00°	372	478	531	637	743			
MAP at OB NDB/MKR/D1.9									

STRAIGHT-IN LANDING RWY 24			
MDA(H) 1590' (904')		ALS out	
A	1200m	RVR 1800m VIS 2000m	
B			
C	3600m	4400m	
D	4400m	4800m	

PANS OPS

Chart changes since cycle 16-2013

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

ACT PROCEDURE IDENT

INDEX

REV DATE

EFF DATE

MOSCOW, (VNUKOV - UUWW)

TERMINAL CHART CHANGE NOTICES

Chart Change Notices for Airport UUWW

Type: Terminal

Effectivity: Permanent

Begin Date: Immediately

End Date: No end date

PAR apch rwy 01/19 withdrawn.