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Revision Letter For Cycle 17-2013

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Notebook

## **General Information**

Location: Ramenskoye Rus  
IATA Code:  
Lat/Long: N55° 33.2' E038° 09.0'  
Elevation: 404 ft

Airport Use: Public  
Magnetic Variation: 10.5°E

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

Sunrise: 0220 Z  
Sunset: 1639 Z,

## **Runway Information**

Runway: 12  
Length x Width: 15092 ft x 230 ft  
Surface Type: concrete  
TDZ-Elev: 401 ft  
Lighting: Edge

Runway: 30  
Length x Width: 15092 ft x 230 ft  
Surface Type: concrete  
TDZ-Elev: 376 ft  
Lighting: Edge, ALS

## **Communication Information**

ATIS 127.75 Non-English  
Gordy Ground Control 124.0 Non-English  
Gordy Ground Control 125.25 Non-English  
Gordy Radar 124.0 Non-English  
Gordy Radar 125.25 Non-English  
Gordy Transit Operations 123.9 Non-English

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**1. GENERAL**

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**FOR RUSSIAN USERS ONLY****1.1. ATIS**\*ATIS 127.75X

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**2. ARRIVAL**

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**FOR RUSSIAN USERS ONLY****2.1. SPEED RESTRICTIONS**

MAX 280 KT +/- 10 KT or Mach 0.8 whichever is less from cruising FL to FL250;

MAX 270 KT +/- 10 KT below FL250 to FL100;

MAX 250 KT +/- 10 KT below FL100 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.

**2.2. NOISE ABATEMENT PROCEDURES****2.2.1. NOISE ABATEMENT APPROACH PROCEDURES****General**

Noise abatement APCH procedures shall be executed by crews of all aircraft for RWYs 12/30.

RWY 30 is a noise preferential RWY which shall be used to the maximum degree.

When meteorological phenomena dangerous (strong wind, CB, etc.) for a flight of ACFT are present in arrival and APCH sectors. The ATC can deviate from procedure shown below by own intention or by crew request due to safety reason.

The crews shall maintain the prescribed STAR routes and in case of deviation from them - join the assigned track immediately.

**Restrictions**

Noise abatement procedure shall be not executed under following conditions:

- RWY surface covered (for example: snow, slush, ice, water, dust, rubber, oil and other obstructions) and friction coefficient at this is 0.4 or less;
- visibility less than 1800m;
- cross-wind component is more than 7m/sec;
- back-wind component is more than 2.5m/sec;
- forecast or reported windshear, or expected, that CB can be elected for APP/LDG performance.

Immediately prior to the APCH the crews should avoid (as far as possible) excessive rates of descent. The change of flight configuration and ACFT speed, connected with noise abatement procedures, shall be carried out according to the requirements of the AFM for the specific ACFT type.

In case of instrument APCH and also in case of visual APCH flying below the ILS GS is prohibited.

No noise abatement procedures shall envisage the exceeding of the indicated rate of descent.

A displaced RWY THR shall not be used as a noise abatement measure.

During the execution of noise abatement procedures air-ground communication should be kept to a minimum.

Landing of ACFT with tail/wind component up to 5m/sec is allowed under the following conditions:

- RWY is dry or damp;
- friction coefficient is 0.5 or more;
- cross-wind component is not more than 5 m/sec.

Reverse thrust power (with the exception of reverse idle thrust) shall be used only for safety reasons.

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## 2. ARRIVAL

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### **Straight-in approach RWY 30**

The noise abatement procedures are as follows: by the moment of reaching by ACFT the distance of 13.5 NM from RWY THR the crew must conduct the flight at 3330' maintaining 210 KT and flight direction enabling to intercept ILS LOC coverage area providing approach-to-land.

From distance of 11.9 NM the crew shall reduce IAS from 210 KT to 185 KT(+/-10KT) in order to intercept ILS LOC at distance 8.1 NM from RWY THR descending to 2020'. At distance 8.1 NM from RWY THR gear down.

After GS interception at 2020' the crew shall continue to reduce IAS in such way that by the moment of reaching 1690' select speed for flaps/slats landing position. After this limit the speed shall be maintained as per the AFM.

REMARK: Flaps/slats must be selected in landing position, Stab.Trimm Setting must be completed before LOM overfly.

### **Approach RWY 12**

Gear down execute before final turn.

Flaps/slats shall be selected after glide slope interception at 2050' and continue descent, crew shall continue to reduce IAS in such way that by the moment of reaching 1720' select speed for flaps/slats landing position.

REMARK: By APCH for RWY 12 with racetrack width 4.3 NM, gear down procedure shall be carried out before beginning turn base-leg, and flaps/slats setting before final turn.

Flaps/slats must be selected in landing position, Stab.Trimm Setting must be completed before LOM overfly.

## 2.3. LOST COMMS

### **General**

In case of radio communication failure the crew take measures to re-establish lost communication using all available means, radio communication with other ACFT and ATS units.

If radio communication re-established impossible, crew must:

- switch on the distress signal
- when SSR transponder is available, mode ATC(UVD) - "Avaria", mode RBS set "A" switch on squawk 7600 periodically identify with push button "ZNAK" (identification);
- use all available channels (frequency) continue transpond information about location, actions and flight status, without confirmation by ATC;
- use emergency frequency 121.5;
- maintain communication watch on the aerodrome LOM frequency 370 RWY 30 "RT" for reception of information and instructions issued by ATS unit controller;
- by receiving information from controller comply instructions. Confirm receiving information with maneuver given by ATC and pushing button RBS "ZNAK" or "Identification".

### **Radio communication failure after TMA entry**

The flight crew shall continue flight at flight level, last assigned by ATC and confirmed by crew to LOM RWY30 RAMENSKOYE along entry route:

- NE NDB - BD NDB - BESTA - RUGEL - RW NDB - LOM RWY 30 Ramenskoye;
- BG NDB - FK NDB - GISIN - BESTA - RUGEL - RW NDB - LOM RWY 30 RAMENSKOYE;
- IP NDB - IN NDB - DR NDB - DMD VORDME - LOM RWY 30 RAMENSKOYE;
- FV NDB - AO NDB - LOM RWY30 RAMENSKOYE;
- SF NDB - MF NDB - ITINA - LOM RWY 30 RAMENSKOYE.

After passing LOM RWY 30 execute entering the holding area and carry out one standard flight at the last FL (altitude)\* assigned. If necessary period of time for fuel dumping (jettisoning) can be extended.

Then pilot-in-command shall carry out descending and approach-to-land procedure based on the navigation facility;

\* If flight level (altitude) at holding pattern above than FL138 - after entry to holding pattern, on 122° track begin descent to  $H = (H_{init} + FL138)$ .

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## 2. ARRIVAL

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After reach assigned altitude make a LEFT turn descending to FL138 to LOM RWY 30.

After passing LOM carry out one holding pattern standard flight at FL138.

If it not possible to land at Ramenskoye flight crew has the right:

-to alternate Vnukovo AD with climb FL69 along departure route and then:  
LOM RWY 30 RAMENSKOYE - RW NDB - GEKLA - LOM RWY-in-use VNUKOVO then  
pilot-in-command shall carry out descending and approach-to-land procedure based  
on the navigation facility;

-to alternate Domodedovo AD climb FL69 along departure route and then:  
LOM RWY 30 RAMENSKOYE - RW NDB - GEKLA - WT NDB - DMD VORDME  
then pilot-in-command shall carry out descending and approach-to-land procedure  
based on the navigation facility;

-to alternate Sheremetyevo AD climb FL69 along departure route and then:  
LOM RWY 30 RAMENSKOYE - RW NDB - RUGEL - BESTA - LOM/LMM RWY-in-use  
Sheremetyevo AD then pilot-in-command shall carry out descending and approach-to-  
land procedure based on the navigation facility;

-to alternate aerodrome located outside Moscow Area chosen when making a  
decision for departure at the lower safe flight level or at flight level (FL138, FL148,  
or FL237, FL246) specially established for a flight without radio communication  
depending on flight direction along the main departure route climbing to the  
indicated flight level.

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## 3. DEPARTURE

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### FOR RUSSIAN USERS ONLY

#### 3.1. NOISE ABATEMENT PROCEDURES

##### 3.1.1. TAKE-OFF AND CLIMBING PROCEDURE

###### General

Noise abatement procedure during take-off and climbing phase shall be executed by  
crews of all ACFT for departure RWYs 12/30.

When executing the noise abatement procedures, the provisions, concerning the  
responsibility of a pilot-in-command for carrying out a flight as in accordance with  
his duties to provide flight safety, shall remain in force.

Noise abatement procedures shall not be executed at the expense of reduction of  
flight safety. Noise abatement procedure shall not be executed in case of one of the  
ACFT engines failure during take-off phase.

###### Restrictions

Take-off of ACFT with tail-wind component up to 5m/sec is allowed under the  
following conditions:

- RWY is dry or damp;
- friction coefficient is 0.5 or more;
- cross-wind component is not more than 5 m/sec.

The change of flight direction (course) of the ACFT after take-off shall be permitted  
only after reaching a flight altitude of 800'.

The minimum indicated air speed during steady climb shall not be less than  $V_{2+10}$  KT  
or not less than that prescribed in the Aeoroplane Flight Manual if it has greater  
value.

The maintaining of the minimum indicated air speed of climb is not required if it  
brings to exceeding the maximum permissible angle of attack.

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### 3. DEPARTURE

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Noise abatement procedure shall not be applied until:

- the ACFT reaches 1200'
- established standard power mode enables with the maximum certified TKOF mass to maintain the steady climb gradient of not less than 4% at a speed specified above;
- take-off path provides overflying all obstacles located under the flight path with sufficient clearance both when all engines are operating normally and also taking into account possible engine failure and the time period necessary for the rest engines to develop full power.

Noise abatement procedure with reduced take-off thrusts shall be not executed under following conditions:

- RWY surface covered (for example: snow, slush, ice, water, dust, rubber and other obstructions) and friction coefficient at this is 0.4 or less;
- visibility less than 1800m;
- cross-wind component is more than 7m/sec;
- back-wind component is more than 2.5m/sec;
- forecast or reported windshear, or expected, that CB can be effected for TKOF/LDG performance. During take-off from RWY 30 climbing shall be performed with maximum possible climb gradient.

#### During take-off

RWY 12 is noise preferential RWY which shall be used to the maximum degree for ACFT take-off.

Take-off:

- take-off power
- take-off flaps/slats position

Reduced take-off thrust during take-off and climb shall be used according to OM ACFT.

The following two variants of take-off and climb procedures are applied:

NADP 1 is intended to provide noise reduction for noise-sensitive areas in close proximity to the departure and of the RWY- in- use;

NADP 2 provides noise reduction for noise areas more distant from the RWY end.

For both procedures, intermediate flap transitions required for specific performance related issues may be initiated prior to the prescribed minimum height; however, no power reduction can be initiated prior to attaining prescribed minimum altitude.

IAS for the initial portion of the departure prior to the acceleration segment is to be flown at a climb speed of  $V_2 + 10-20$  KT.

#### Noise Abatement Procedures NADP1 and NADP2

Two variants of take-off and climb procedures are applied: NADP1 and NADP2 (ICAO Doc 8168, Volume 1, Part V, Chapter 3).

NADP1 is the main method for departure RWY 30.

## 3.2. LOST COMMS

### General

In case of radio communication failure the crew take measures to re-establish lost communication using all available means, radio communication with other ACFT and ATS units.

If radio communication re-established impossible, crew must:

- switch on the distress signal
- when SSR transponder is available, mode ATC(UVD) - "Avaria", mode RBS set "A" switch on squawk 7600 periodically identify with push button "ZNAK" (identification);
- use all available channels (frequency) continue transpond information about location, actions and flight status, without confirmation by ATC;
- use emergency frequency 121.5;
- maintain communication watch on the aerodrome LOM frequency 370 RWY 30 "RT" for reception of information and instructions issued by ATS unit controller;
- by receiving information from controller comply instructions. Confirm receiving information with maneuver given by ATC and pushing button RBS "ZNAK" or "Identification".

### 3. DEPARTURE

**Radio Communication Failure immediately after Take-off or after Missed Approach**

If at 1060' communication with ATC not established:

- Continue climb to 2050' and execute racetrack approach according to IAC, without descent at (500)m.
- During the climb and circling execute the following: Carry out at least one circuit flight at 2050', circuit width shall not exceed 4.3 NM.
- After go-around - execute missed approach procedure, and depending on the meteorological conditions and landing weight, shall carry out landing at APT Ramenskoye or proceed to alternate APT.
- If meteorological conditions below minima, proceed to alternate APT.
- Take-off from RWY 12 for landing RWY 30, at 1060' turn onto 156° climbing 2050' proceed to base leg for RWY 30. After reaching 2050', carry out approach for RWY 30 without descent.

In case of ACFT weight exceeding landing weight and conditions provide for fuel use (dumping) before landing at departure APT, crew must:

- After passing LOM RWY 30 at 2050' carry out the procedure of entering the holding area climbing 5905'/1800m and continue fly in it within a period of time necessary for fuel dumping (jettisoning). Fuel dumping shall be carried out on track 122°.
- After completed fuel dumping, proceed to LOM RWY 30, carry out priority approach to land in accordance with the published chart.
  - a) To the destination aerodrome climbing to altitude (flight level), indicated in the flight plan, along the route as in accordance with the flight plan and land at the destination aerodrome with minimum deviations from the time indicated in FPL.
  - b) Proceed to alternate APTs Moscow Area:
    - To alternate Vnukovo APT climbing FL 070 on departure route and then: LOM RWY 30 - RW NDB - GEKLA - BITSA - LOM RWY in use Vnukovo APT and then descent and approach according to facility used and to approach chart;
    - To alternate Domodedovo APT climbing FL 070 on departure route and then: LOM RWY 30 - RW NDB - GEKLA - WT NDB - DMD VORDME and then descent and approach according to facility used and to approach chart;
    - To alternate Sheremetyevo APT climbing FL 070 on departure route and then: LOM RWY 30 - RW NDB - GEKLA - RUGEL - BESTA - LOM/LMM RWY in use Sheremetyevo APT and then descent and approach according to facility used and approach chart;
    - To the alternate aerodrome located outside Moscow Area at MEL or at flight level specially established for a flight without radio communication depending on flight direction FL140, FL150 or FL240, FL250 along departure route climbing to the indicated flight level.

**Radio Communication Failure after Departure on Airways.**

In case of radio communications failure before leaving last point of SID, crew may:

- a) Proceed to destination APT climbing (altitude) FL indicated in FPL, along the route in accordance with FPL. Climbing FL assigned in FPL only after passing last SID exit point, land at the destination aerodrome with minimum deviations from the time indicated in FPL.
- b) Return to Ramenskoye APT:
  - Proceed at last assigned FL to LOM RWY 30.
  - After passing LOM RWY 30, join to holding pattern and execute one standard procedure turn at last assigned FL. If necessary, continue to fly in it within a period of time necessary for fuel dumping (jettisoning).
  - After completed fuel dumping, carry out priority approach to land in accordance with published chart.

### 3. DEPARTURE

If due to metrological conditions or other reasons landing at Ramenskoye APT is not possible, then after executing the missed approach a pilot-in-command has the right to proceed to alternate APT according to the main procedures.

In case of radio communications failure after last point of SID, crew must maintain last (altitude) FL assigned by controller and confirmed by crew until passing last point of route in Moscow Area. After passing last exit point of Moscow Area, pilot-in-command may:

- a) Proceed to destination APT in accordance with FPL. Climb FL indicated in FPL, carried out after passing exit point of Moscow Area. Land at the destination APT with minimum deviations from the time indicated in FPL.
- b) Return to Ramenskoye APT:
  - Without change proceed at last assigned (altitude) FL by ATC and confirmed by crew, on route till exit point of Moscow area;
  - The flight crew shall continue flight via exit route to TMA exit at last assigned by ATC and confirmed by captain FL;
  - After exit from TMA, proceed to Ramenskoye APT via nearest entry WPT in TMA via following routes:
    - NE NDB - BD NDB - SW NDB - BESTA - RUGEL - RW NDB - LOM RWY30 Ramenskoye;
    - BG NDB - FK NDB - UM NDB - GISIN - BESTA - RUGEL - RW NDB - LOM RWY30 Ramenskoye;
    - IP NDB - IN NDB - NDB SKURYGINO - VORDME DOMODEDOVO - LOM RWY30 RAMENSKOYE;
    - NDB VENEV - DR NDB - FV NDB - LOM RWY30 Ramenskoye;
    - SF NDB - CW NDB - MF NDB - ITINA - LOM RWY30 Ramenskoye.

After passing LOM RWY 30 Ramenskoye, execute entering the holding area and carry out one standard flight at the last FL (altitude) <sup>2</sup> assigned. If necessary, period of time for fuel dumping (jettisoning) can be extended.

#### Radio Communication Failure after passing last Point of Departure Route

The flight crew shall continue flight in accordance with FPL at last assigned by ATC and confirmed by captain FL to Ramenskoye APT via following entry routes:

- BD NDB - SW NDB - BESTA - RUGEL - RW NDB - LOM RWY 30 Ramenskoye;
- FK NDB - UM NDB - GISIN - BESTA - RUGEL - RW NDB - LOM RWY30 Ramenskoye;
- IN NDB - DR NDB - DMD VORDME - LOM RWY30 Ramenskoye;
- FE NDB - AO NDB - LOM RWY30 Ramenskoye;
- MF NDB - ITINA - LOM RWY30 Ramenskoye.

After passing LOM RWY 30, execute entering the holding area and carry out one standard flight at the last FL(altitude) <sup>3</sup> assigned. If necessary, period of time for fuel dumping (jettisoning) can be extended;

- After holding completed, carry out priority approach to land;
- Execute approach to land in accordance with published chart.

If due to meteorological conditions or other reasons landing at Ramenskoye APT is not possible, captain, then after executing the missed approach procedure, has the right proceed to alternate APT.

- After holding completed, carry out priority approach to land;
- Execute approach to land in accordance with published chart.

2. If flight level (altitude) at holding pattern above than FL140 to LOM RWY30.

After passing LOM carry out one holding pattern standard flight at FL140.

- After holding completed, carry out priority approach to land;
- Execute approach to land in accordance with published chart.

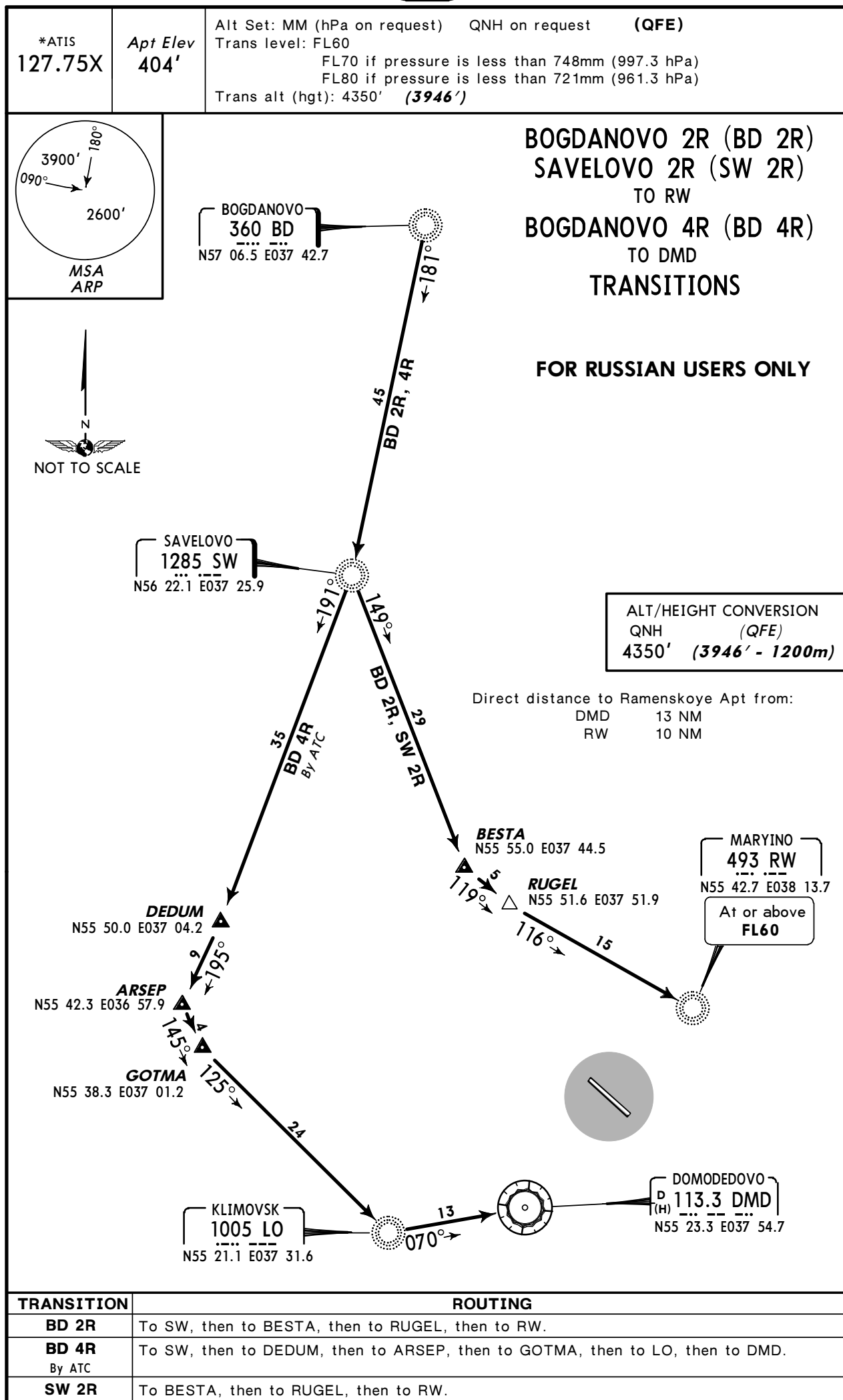
If due to meteorological conditions or other reasons landing at Ramenskoye APT is not possible, captain, then after executing the missed approach procedure, has the right to proceed to alternate AD.

3. If flight level (altitude) at holding pattern above than FL140 - after entry to holding pattern, on track 122° begin descent to  $H = (H_{nit} + 4250)/2$ . After reaching assigned altitude, make a left turn descending to FL140 (4250m) to LOM RWY30. After passing LOM, carry out one holding pattern standard flight at FL140.

If due to meteorological conditions or other reasons landing at Ramenskoye APT is not possible, captain, then after executing the missed approach procedure, has the right to proceed to alternate APT.



| STAR TRANS DESIGNATION                                  | REFER TO CHART |
|---------------------------------------------------------|----------------|
| BOGDANOVO 2R, 4R, SAVELOVO 2R                           | 10-2A          |
| LARIONOVO 2R, 4R                                        | 10-2B          |
| OKTYABRSKIY 2R, 4R, SUKHOTINO 2AR,<br>2BR, 4R, TIKBI 2R | 10-2C          |
| GAGARIN 4AR, 4BR, 2R                                    | 10-2D          |
| STAR DESIGNATION                                        | REFER TO CHART |
| RW 2A                                                   | 10-2E          |
| RW 2B, 2C                                               | 10-2F          |
| RW 4A                                                   | 10-2G          |
| RW 4B, 4C, 4D                                           | 10-2H          |
| ITINA 2A                                                | 10-2J          |
| ITINA 2B, 2C                                            | 10-2K          |
| ITINA 4A                                                | 10-2L          |
| ITINA 4B, 4C, 4D                                        | 10-2M          |
| OKREM 2A, RELTO 2A, TIKBI 2A                            | 10-2N          |
| OKREM 2B, RELTO 2B, TIKBI 2B                            | 10-2P          |
| OKREM 4A, RELTO 4A, TIKBI 4A                            | 10-2Q          |
| OKREM 4B, RELTO 4B, TIKBI 4B                            | 10-2S          |
| AO 2A                                                   | 10-2T          |
| AO 2B                                                   | 10-2U          |
| AO 4A                                                   | 10-2V          |
| AO 4B, 4C                                               | 10-2W          |
| DMD 2A                                                  | 10-2X          |
| DMD 2B                                                  | 10-2X1         |
| DMD 4A                                                  | 10-2X2         |
| DMD 4B, 4C                                              | 10-2X3         |
| RNAV STAR DESIGNATION                                   | REFER TO CHART |
| IT 12S, RE 12S, RW 12S                                  | 10-2X4         |
| IT 30S, RE 30S, RW 30S                                  | 10-2X5         |
| AO 12S, DMD 12S, OK 12S                                 | 10-2X6         |
| AO 30S, DMD 30SA, 30SB, TI 30S                          | 10-2X7         |
| LOST COMMS                                              | REFER TO CHART |
| LOST COMMS                                              | 10-2X8         |
| FOR RUSSIAN USERS ONLY                                  |                |

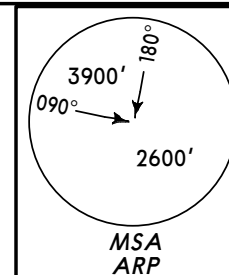


\*ATIS  
127.75X

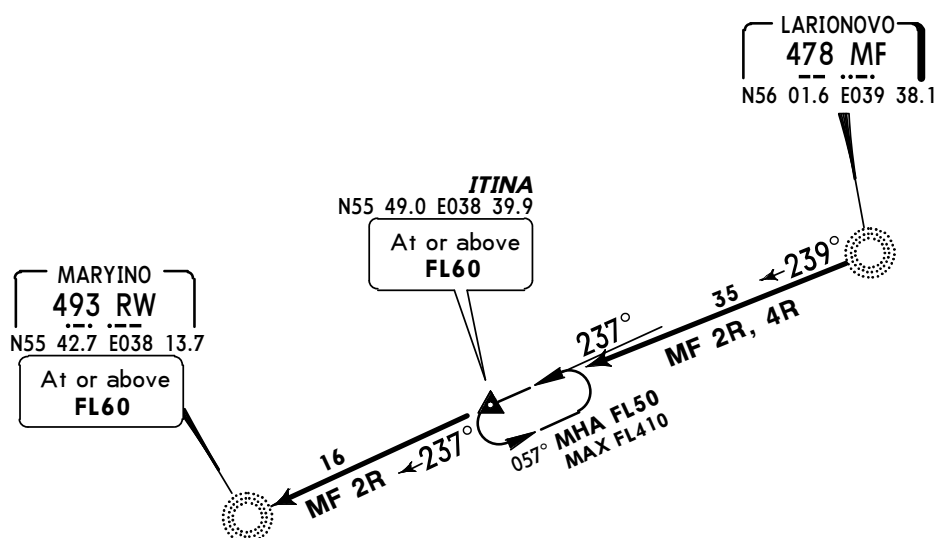
Apt Elev  
404'

Alt Set: MM (hPa on request) QNH on request (QFE)  
Trans level: FL60  
FL70 if pressure is less than 748mm (997.3 hPa)  
FL80 if pressure is less than 721mm (961.3 hPa)  
Trans alt (hgt): 4350' (3946')

LARIONOVO 2R (MF 2R)  
TO RW  
LARIONOVO 4R (MF 4R)  
TO ITINA  
TRANSITIONS



FOR RUSSIAN USERS ONLY



Direct distance from RW to:  
Ramenskoye Apt 10 NM



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3946' - 1200m)

| TRANSITION | ROUTING               |
|------------|-----------------------|
| MF 2R      | To ITINA, then to RW. |
| MF 4R      | To ITINA.             |

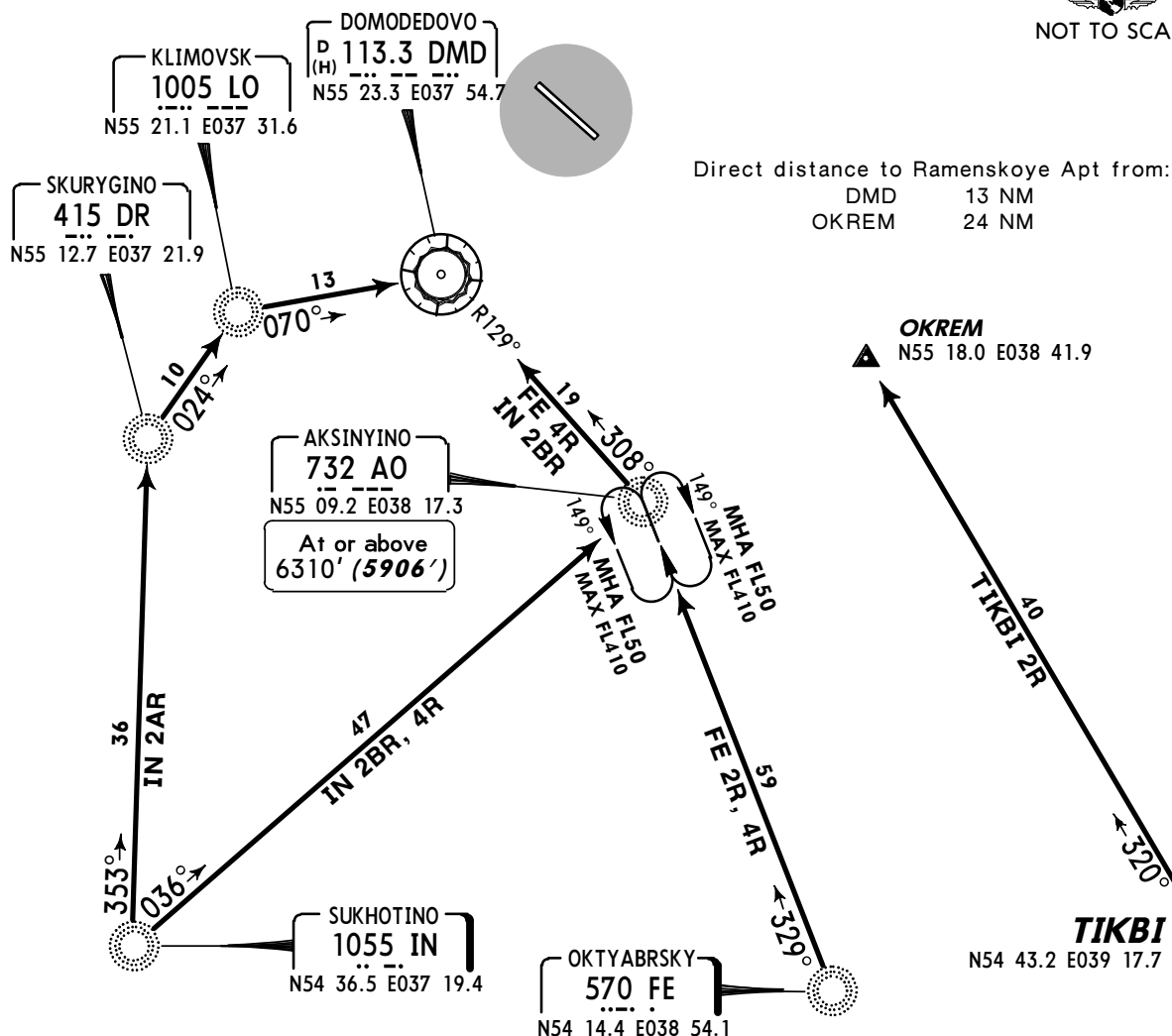
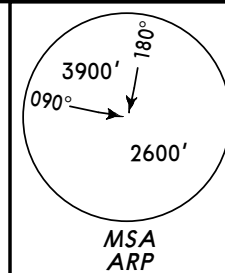
\*ATIS  
127.75X

Apt Elev  
404'

Alt Set: MM (hPa on request) QNH on request (QFE)  
Trans level: FL60  
FL70 if pressure is less than 748mm (997.3 hPa)  
FL80 if pressure is less than 721mm (961.3 hPa)  
Trans alt (hgt): 4350' (3946')

OKTYABRSKIY 2R (FE 2R), SUKHOTINO 4R (IN 4R)  
TO AO  
OKTYABRSKIY 4R (FE 4R), SUKHOTINO 2AR (IN 2AR)  
SUKHOTINO 2BR (IN 2BR)  
TO DMD  
TIKBI 2R [TIK2R]  
TO OKREM  
TRANSITIONS

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3946' - 1200m)  
6310' (5906' - 1800m)

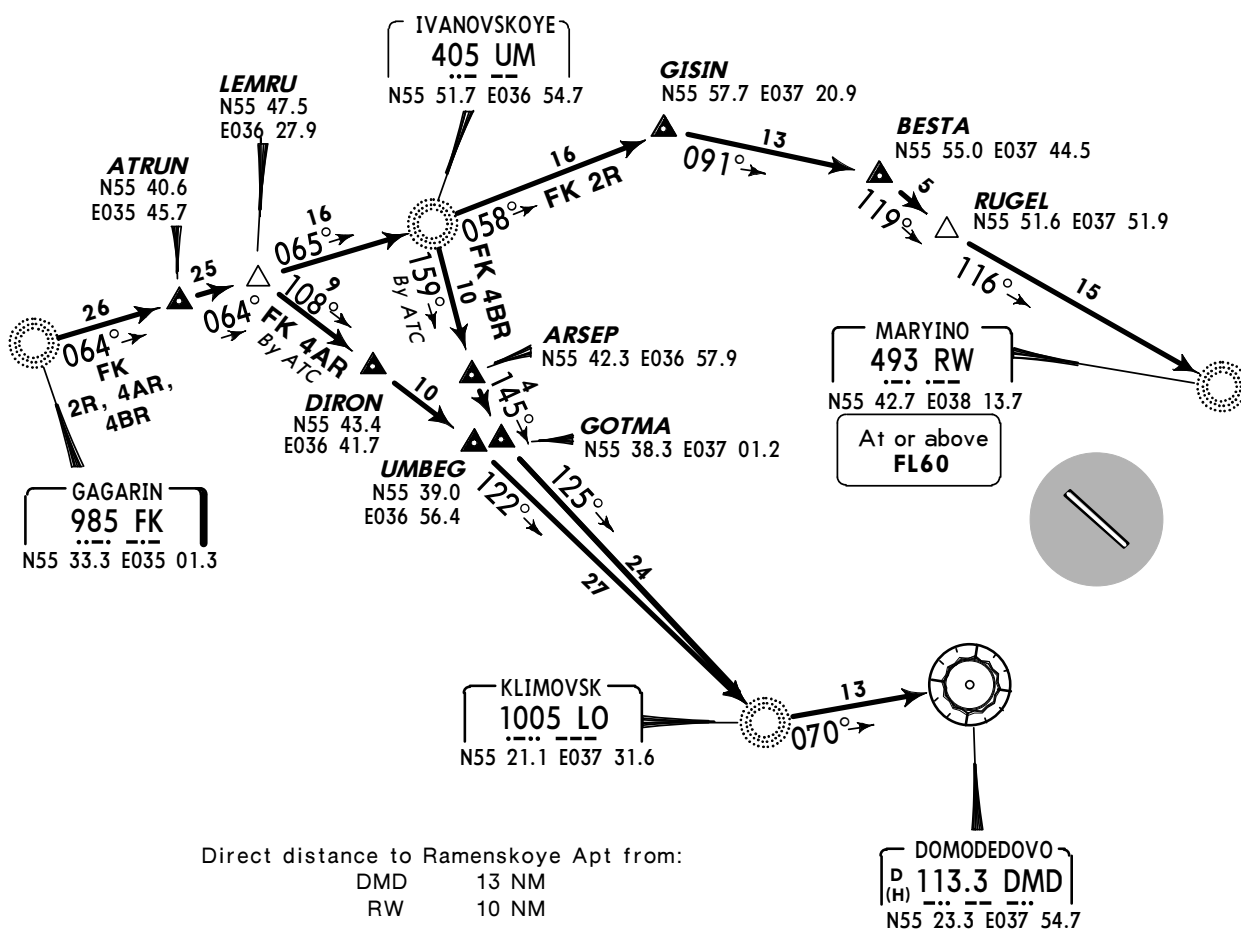
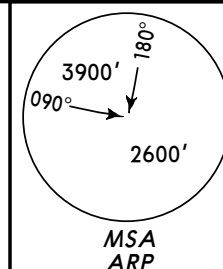
| TRANSITION    | ROUTING                         |
|---------------|---------------------------------|
| FE 2R, IN 4R  | To AO.                          |
| FE 4R, IN 2BR | To AO, then to DMD.             |
| IN 2AR        | To DR, then to LO, then to DMD. |
| TIKBI 2R      | To OKREM.                       |

\*ATIS  
127.75X

Apt Elev  
404'

Alt Set: MM (hPa on request) QNH on request (QFE)  
Trans level: FL60  
FL70 if pressure is less than 748mm (997.3 hPa)  
FL80 if pressure is less than 721mm (961.3 hPa)  
Trans alt (hgt): 4350' (3946')

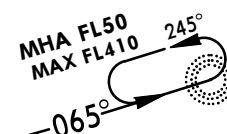
GAGARIN 4AR (FK 4AR), GAGARIN 4BR (FK 4BR)  
TO DMD  
GAGARIN 2R (FK 2R)  
TO RW  
TRANSITIONS  
FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3946' - 1200m)



HOLDING OVER  
UM



| TRANSITION              | ROUTING                                                                                       |
|-------------------------|-----------------------------------------------------------------------------------------------|
| <b>FK 4AR</b><br>By ATC | To ATRUN, then to LEMRU, then to DIRON, then to UMBEG, then to LO, then to DMD.               |
| <b>FK 4BR</b><br>By ATC | To ATRUN, then to LEMRU, then to UM, then to ARSEP, then to GOTMA, then to LO, then to DMD.   |
| <b>FK 2R</b>            | To ATRUN, then to LEMRU, then to UM, then to GISIN, then to BESTA, then to RUGEL, then to RW. |

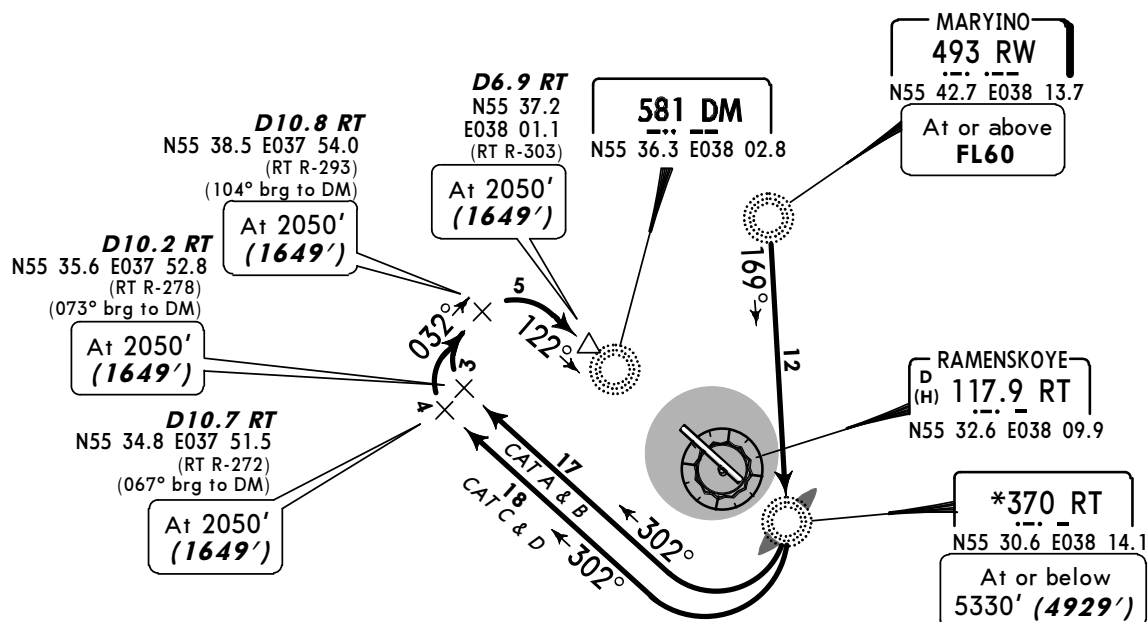
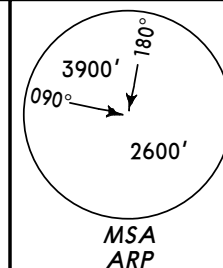
\*ATIS  
127.75X

Apt Elev  
404'

Alt Set: MM (hPa on request) QNH on request (QFE)  
Trans level: FL60  
FL70 if pressure is less than 748mm (997.3 hPa)  
FL80 if pressure is less than 721mm (961.3 hPa)  
Trans alt (hgt): 4350' (3949')

RW 2A  
RWY 12 ARRIVAL

FOR RUSSIAN USERS ONLY



| ALT/HEIGHT CONVERSION |                 |
|-----------------------|-----------------|
| QNH                   | (QFE)           |
| 5330'                 | (4929' - 1500m) |
| 4350'                 | (3949' - 1200m) |
| 2050'                 | (1649' - 500m)  |

HOLDING OVER  
RT LCTR



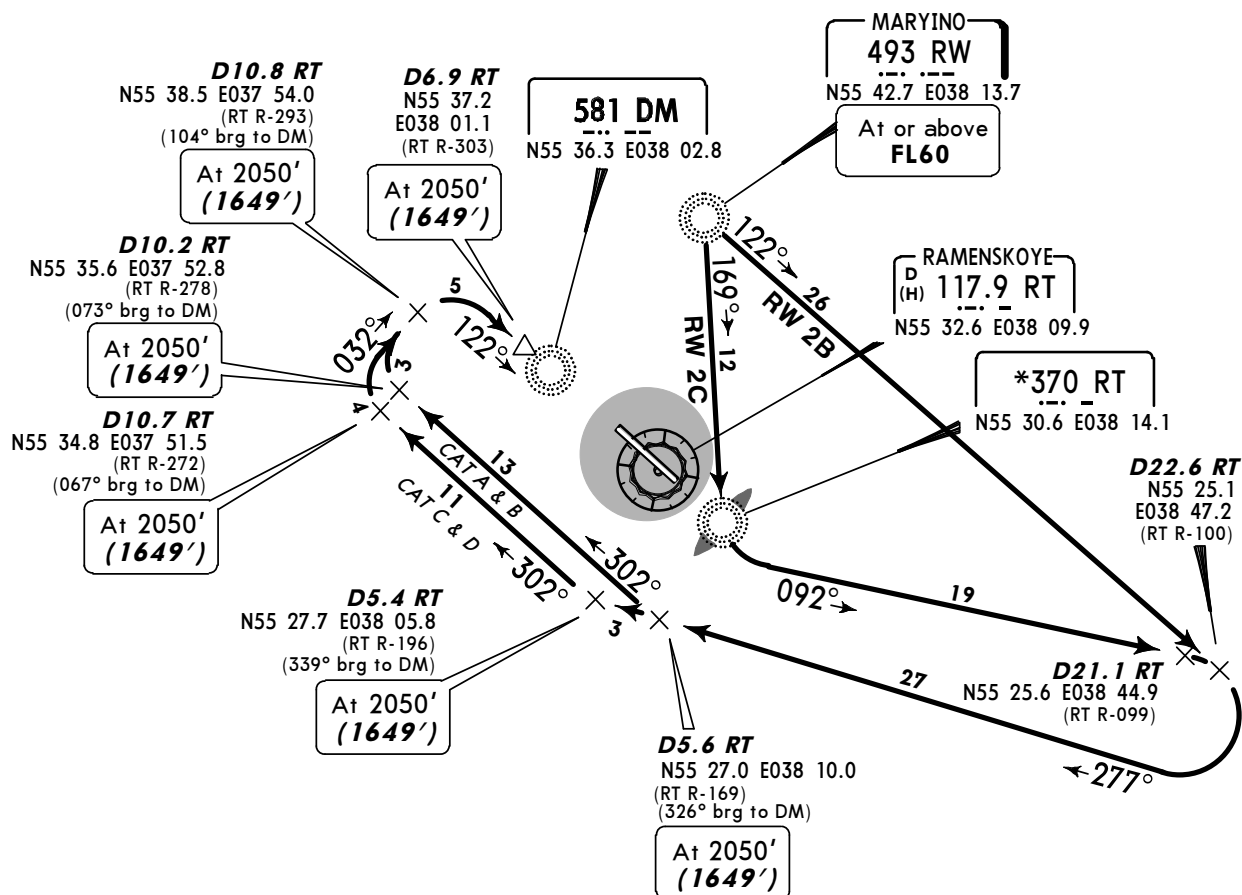
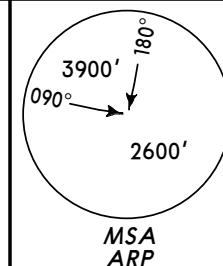
\*ATIS  
127.75X

Apt Elev  
404'

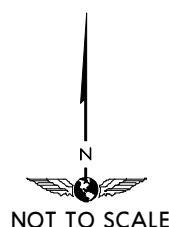
Alt Set: MM (hPa on request) QNH on request (QFE)  
Trans level: FL60  
FL70 if pressure is less than 748mm (997.3 hPa)  
FL80 if pressure is less than 721mm (961.3 hPa)  
Trans alt (hgt): 4350' (3949')

RW 2B, RW 2C  
RWY 12 ARRIVALS  
BY ATC

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3949' - 1200m)  
2050' (1649' - 500m)



\*ATIS  
127.75X

Apt Elev  
404'

Alt Set: MM (hPa on request) QNH on request (QFE)

Trans level: FL60

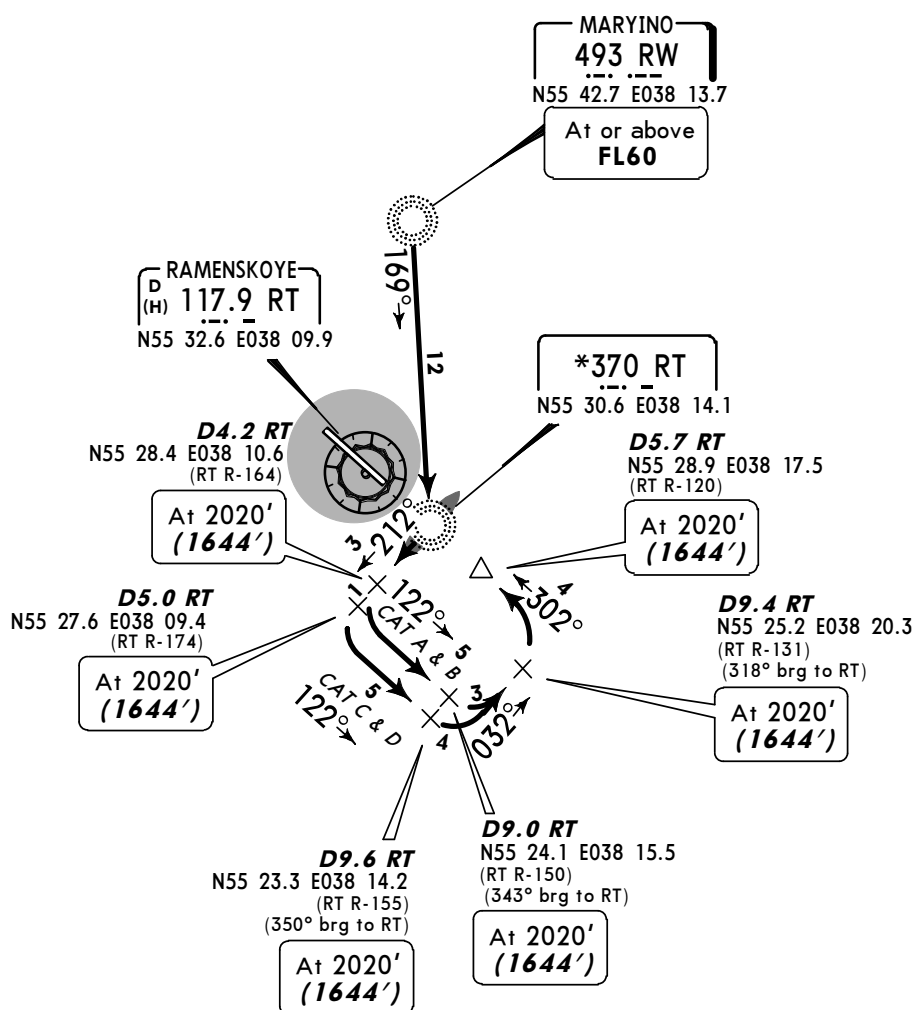
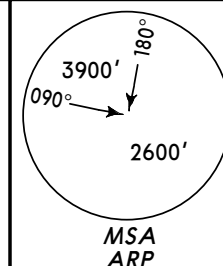
FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3974')

# RW 4A RWY 30 ARRIVAL

FOR RUSSIAN USERS ONLY



HOLDING OVER  
RT LCTR



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3974' - 1200m)  
2020' (1644' - 500m)



\*ATIS  
127.75X

Apt Elev  
404'

Alt Set: MM (hPa on request) QNH on request (QFE)

Trans level: FL60

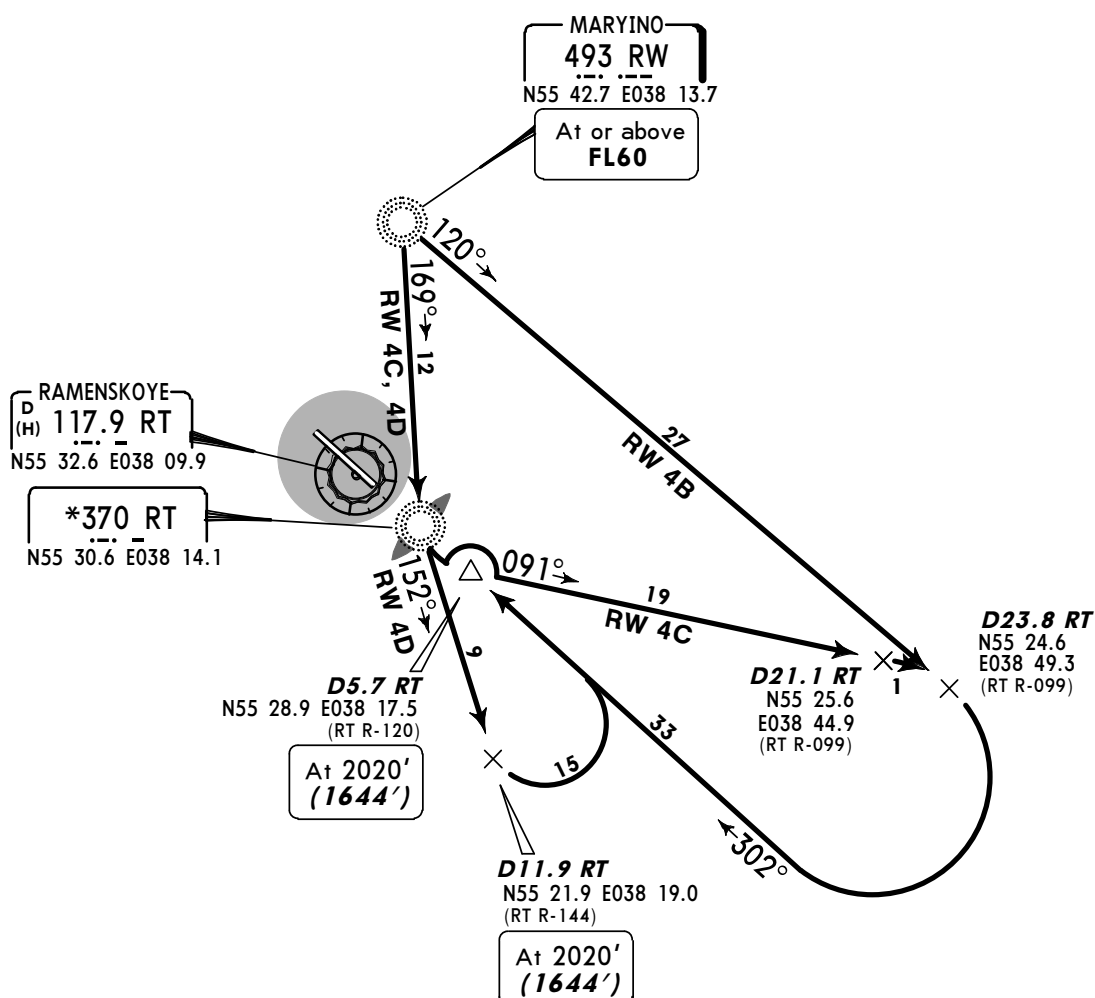
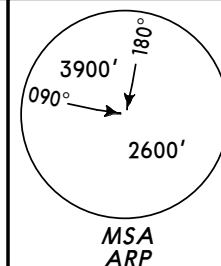
FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3974')

RW 4B, RW 4C, RW 4D  
RWY 30 ARRIVALS  
BY ATC

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3974' - 1200m)  
2020' (1644' - 500m)



\*ATIS  
127.75X

*Apt Elev*  
**404'**

Alt Set: MM (hPa on request)    QNH on request    **(QFE)**

Trans level: FL60

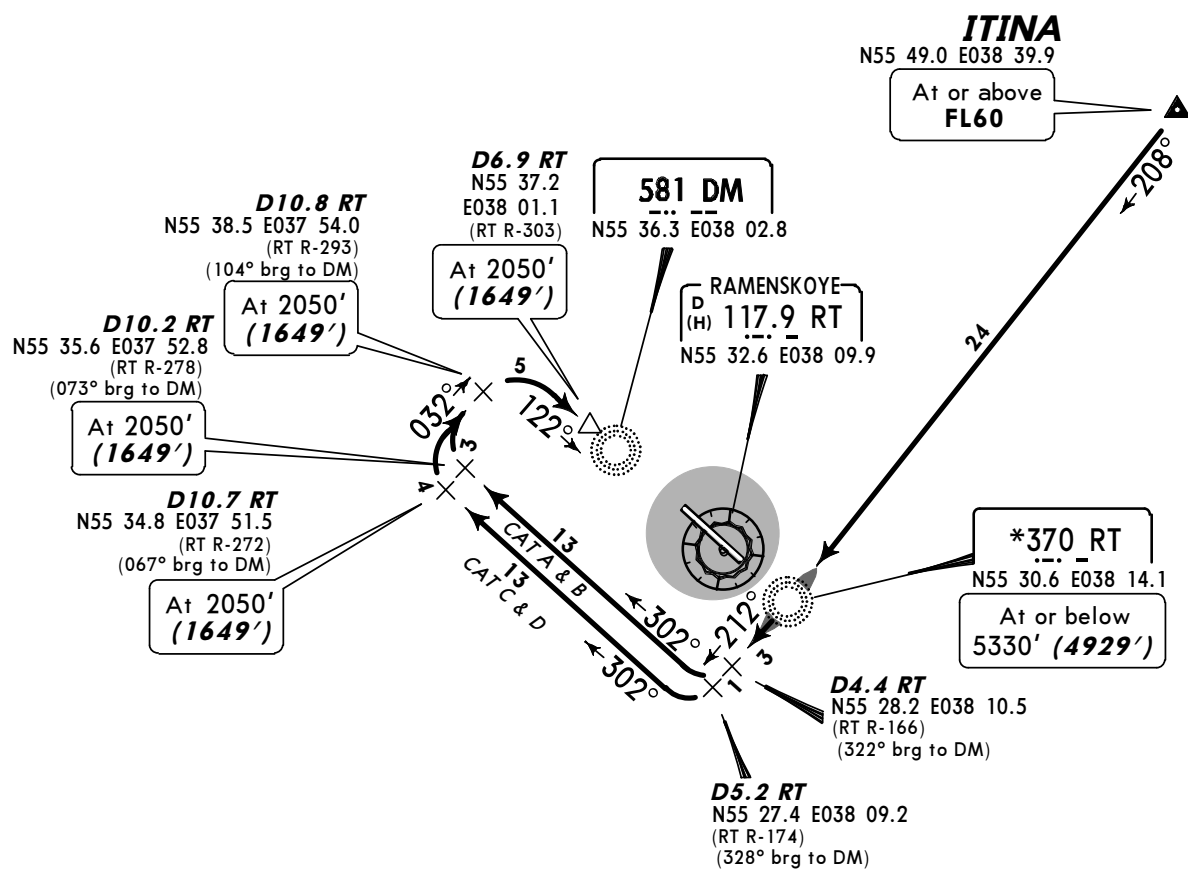
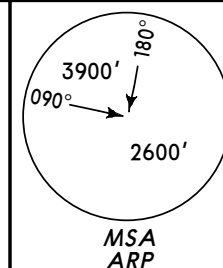
FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' **(3949')**

**ITINA 2A [ITIN2A]**  
**RWY 12 ARRIVAL**

**FOR RUSSIAN USERS ONLY**



ALT/HEIGHT CONVERSION  
QNH (QFE)

|       |                 |
|-------|-----------------|
| 5330' | (4929' - 1500m) |
| 4350' | (3949' - 1200m) |
| 2050' | (1649' - 500m)  |

**HOLDING OVER  
RT LCTR**



\*ATIS  
127.75X

Apt Elev  
404'

Alt Set: MM (hPa on request) QNH on request (QFE)

Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

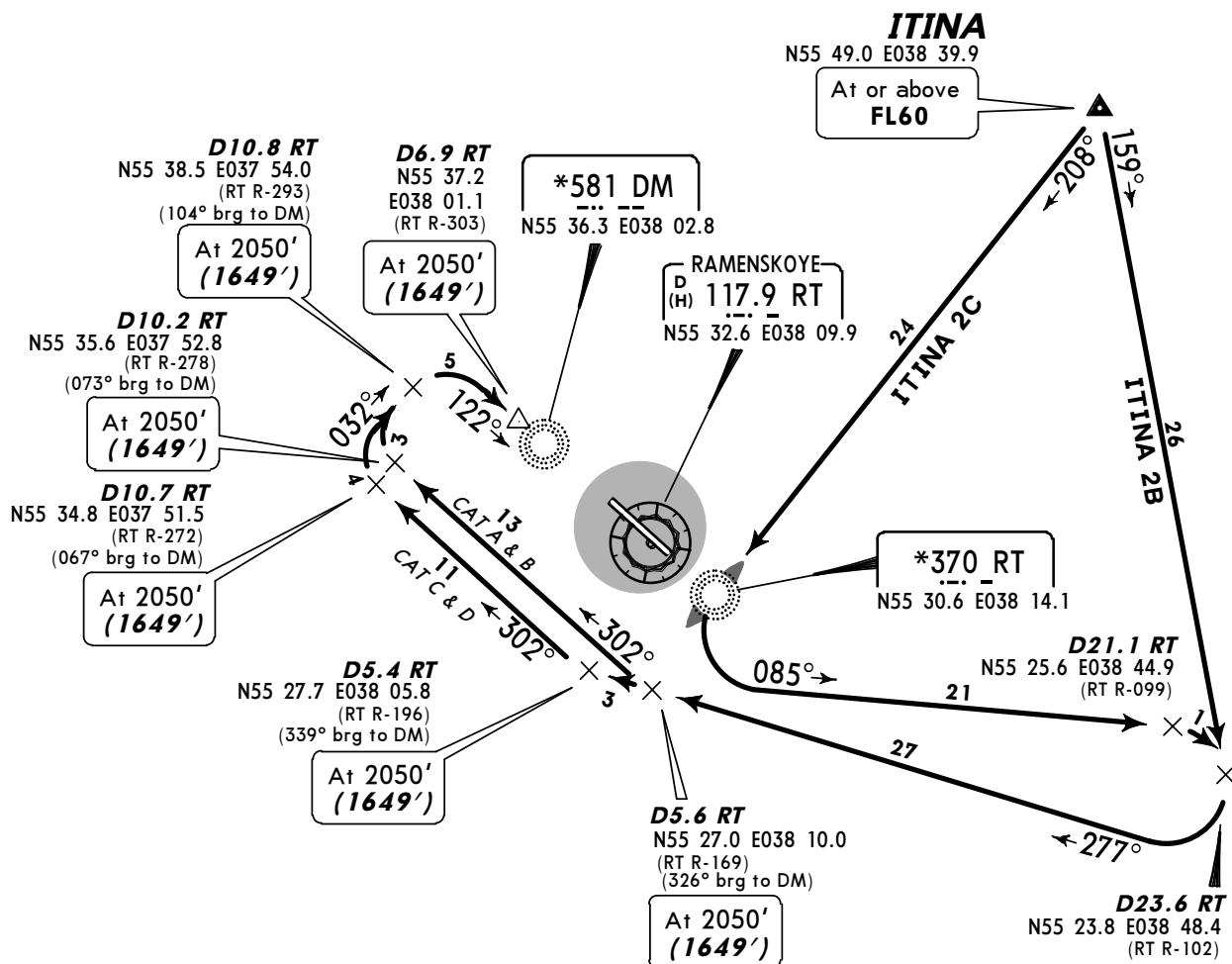
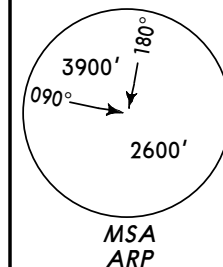
FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3949')

Crossings at airway exit points by ATC.

ITINA 2B [ITIN2B], ITINA 2C [ITIN2C]  
RWY 12 ARRIVALS  
BY ATC

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3949' - 1200m)  
2050' (1649' - 500m)



\*ATIS  
127.75X

*Apt Elev*  
**404'**

Alt Set: MM (hPa on request)    QNH on request    **(QFE)**

Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

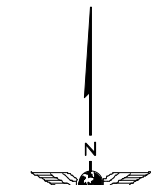
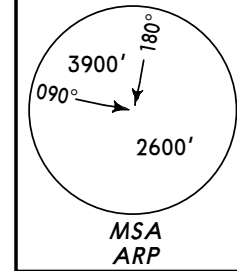
FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' **(3974')**

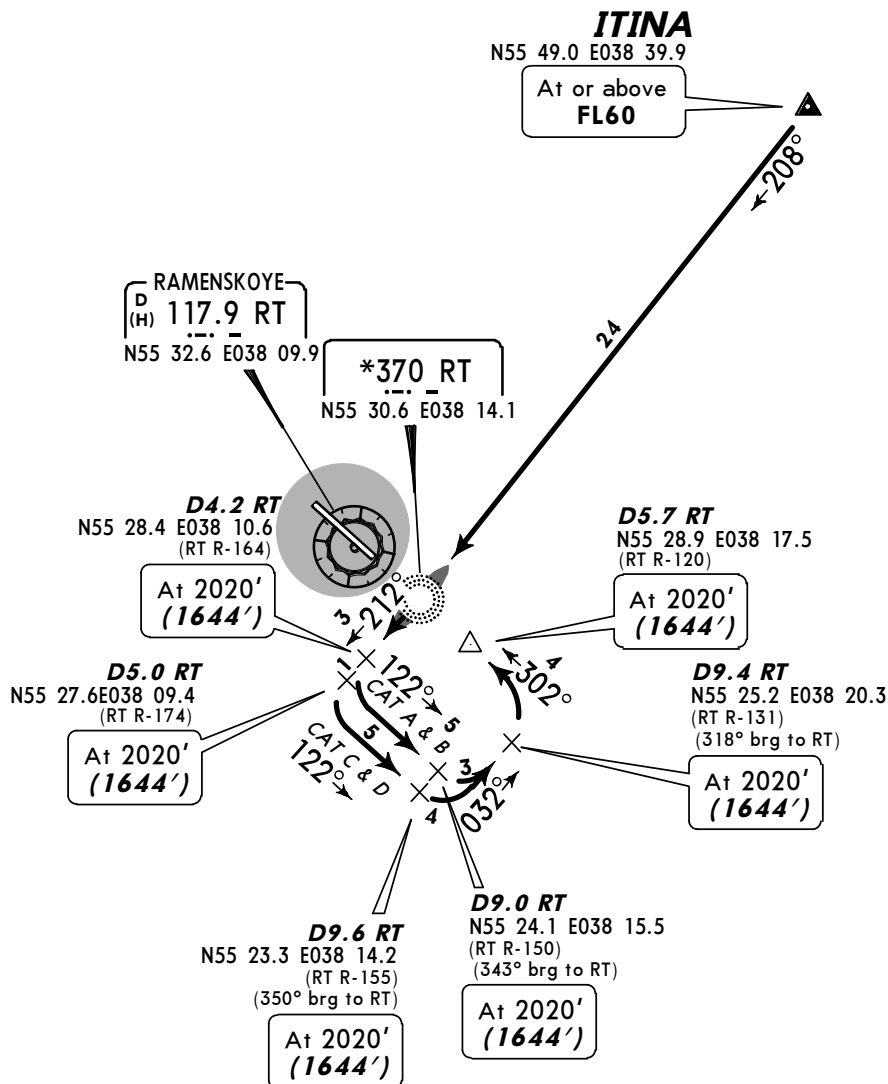
Crossings at airway exit points by ATC.

ITINA 4A [ITIN4A]  
RWY 30 ARRIVAL

## FOR RUSSIAN USERS ONLY



NOT TO SCALE



**HOLDING OVER  
RT LCTR**



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3974' - 1200m)  
2020' (1644' - 500m)

\*ATIS  
127.75X

Apt Elev  
404'

Alt Set: MM (hPa on request) QNH on request (QFE)

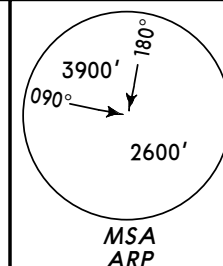
Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

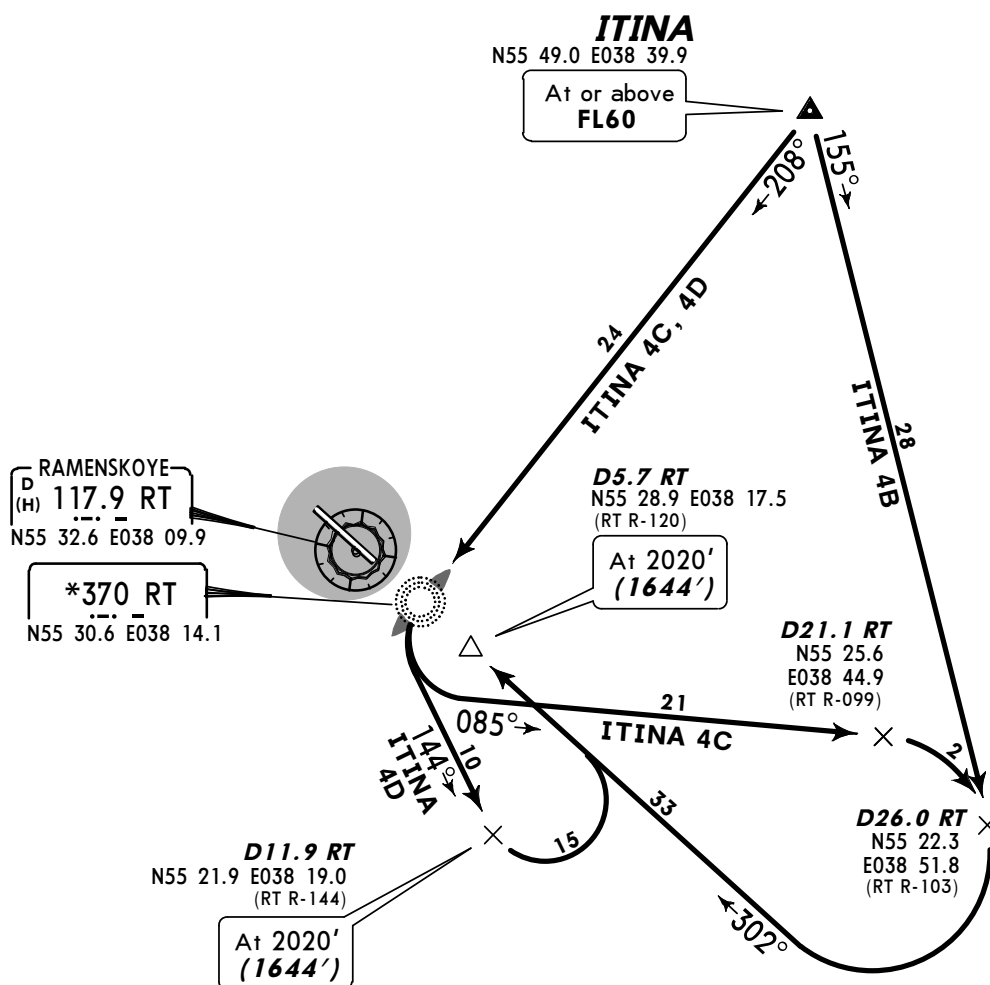
FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3974')

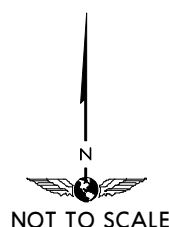
ITINA 4B [ITIN4B], ITINA 4C [ITIN4C]  
ITINA 4D [ITIN4D]  
RWY 30 ARRIVALS  
BY ATC



FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3974' - 1200m)  
2020' (1644' - 500m)



\*ATIS  
127.75X

Apt Elev  
404'

Alt Set: MM (hPa on request) QNH on request (QFE)

Trans level: FL60

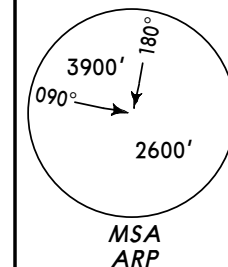
FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

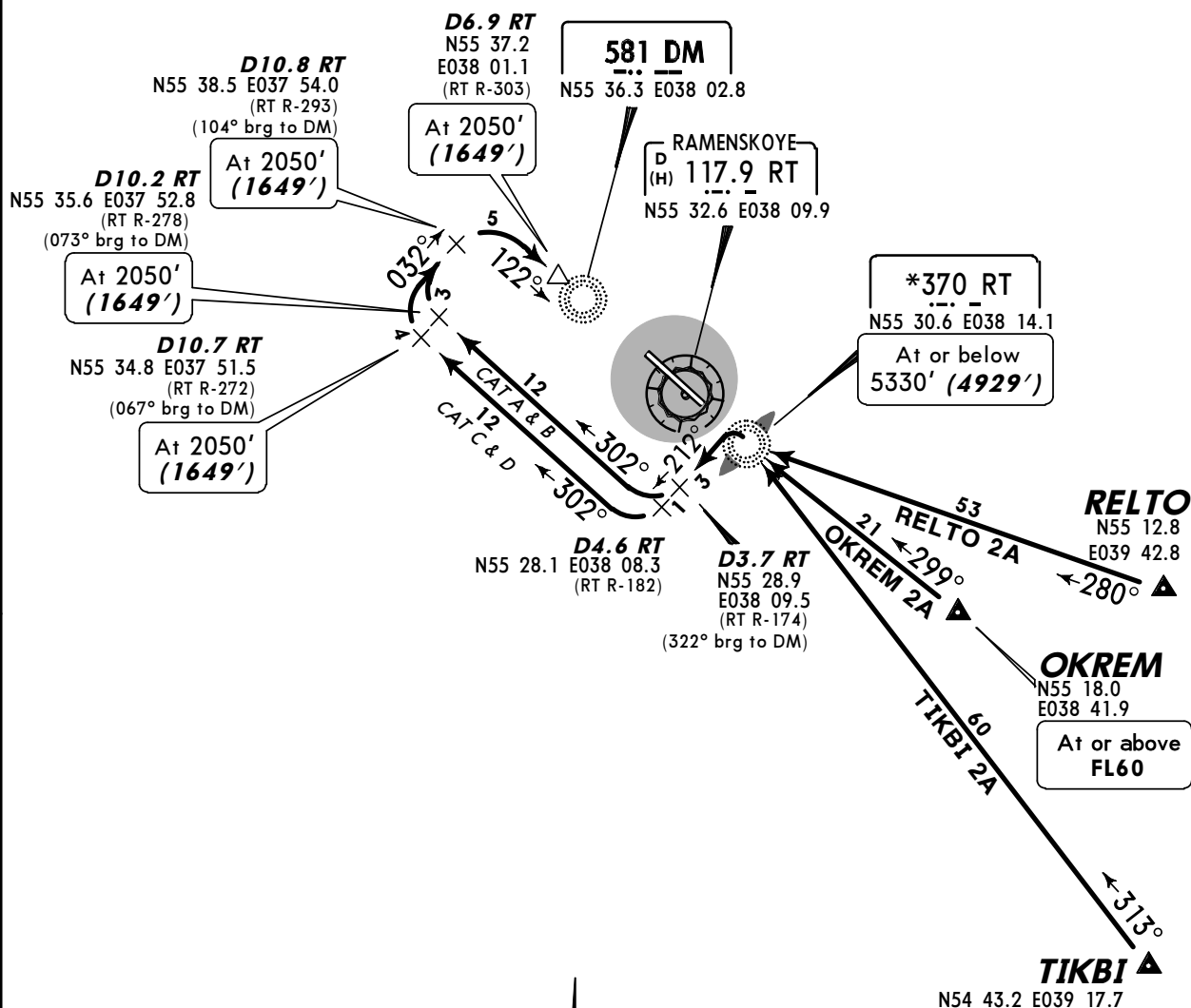
Trans alt (hgt): 4350' (3949')

RELTO and TIKBI: crossings at airway exit points by ATC.

OKREM 2A [OKRE2A]  
RELTO 2A [RELT2A]  
TIKBI 2A [TIKB2A]  
RWY 12 ARRIVALS  
BY ATC



FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
5330' (4929' - 1500m)  
4350' (3949' - 1200m)  
2050' (1649' - 500m)

HOLDING OVER  
RT LCTR

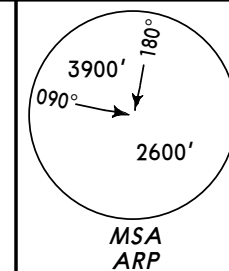


\*ATIS  
**127.75X**

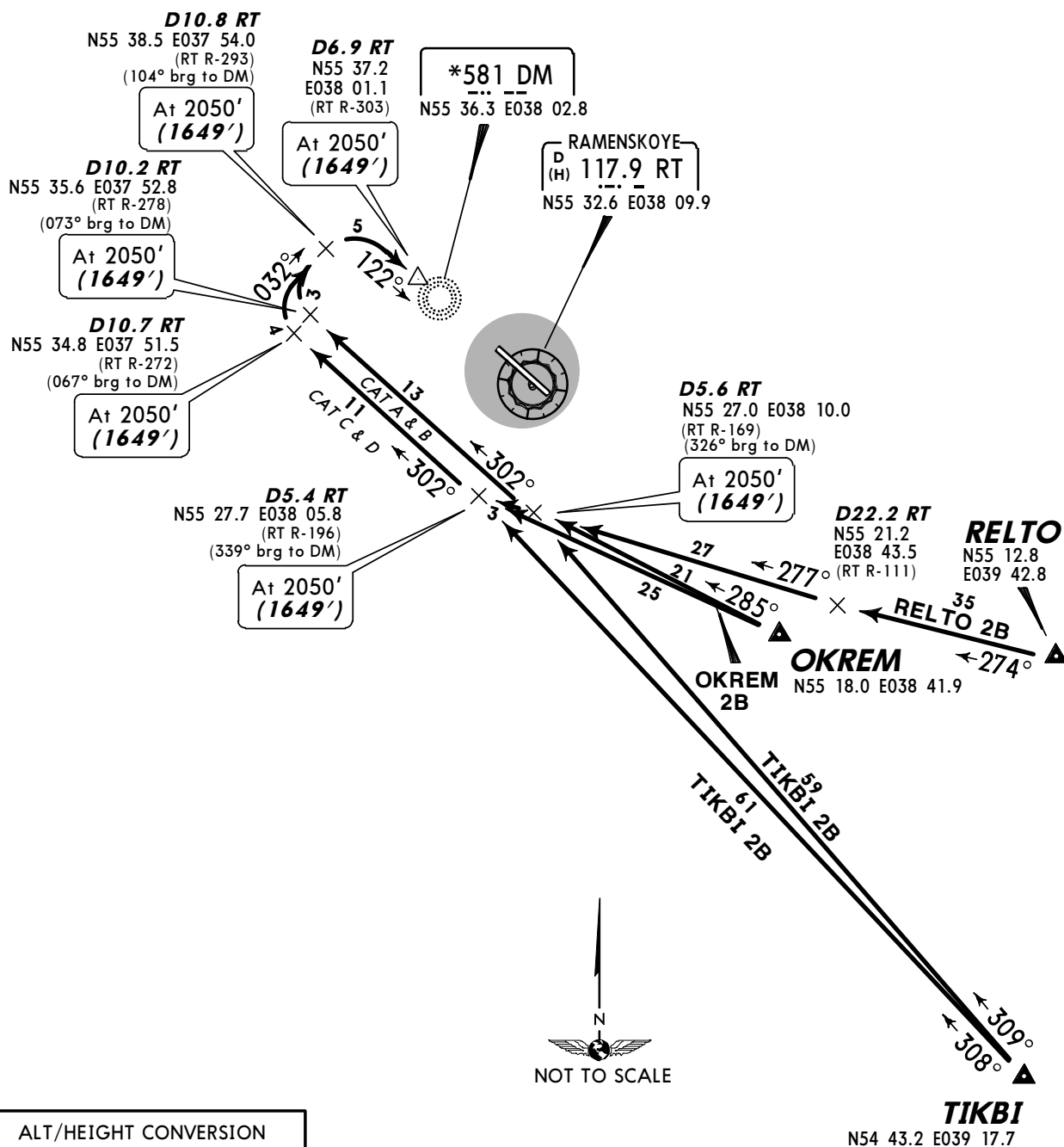
*Apt Elev*  
**404'**

Alt Set: MM (hPa on request) QNH on request **(QFE)**  
Trans level: FL60  
FL70 if pressure is less than 748mm (997.3 hPa)  
FL80 if pressure is less than 721mm (961.3 hPa)  
Trans alt (hgt): 4350' **(3949')**  
Crossings at airway exit points by ATC.

**OKREM 2B [OKRE2B]  
RELTO 2B [RELT2B]  
TIKBI 2B [TIKB2B]  
RWY 12 ARRIVALS  
BY ATC**



**FOR RUSSIAN USERS ONLY**

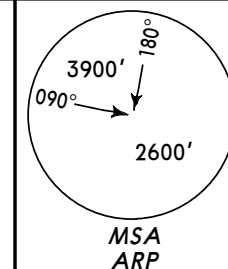


\*ATIS  
127.75X

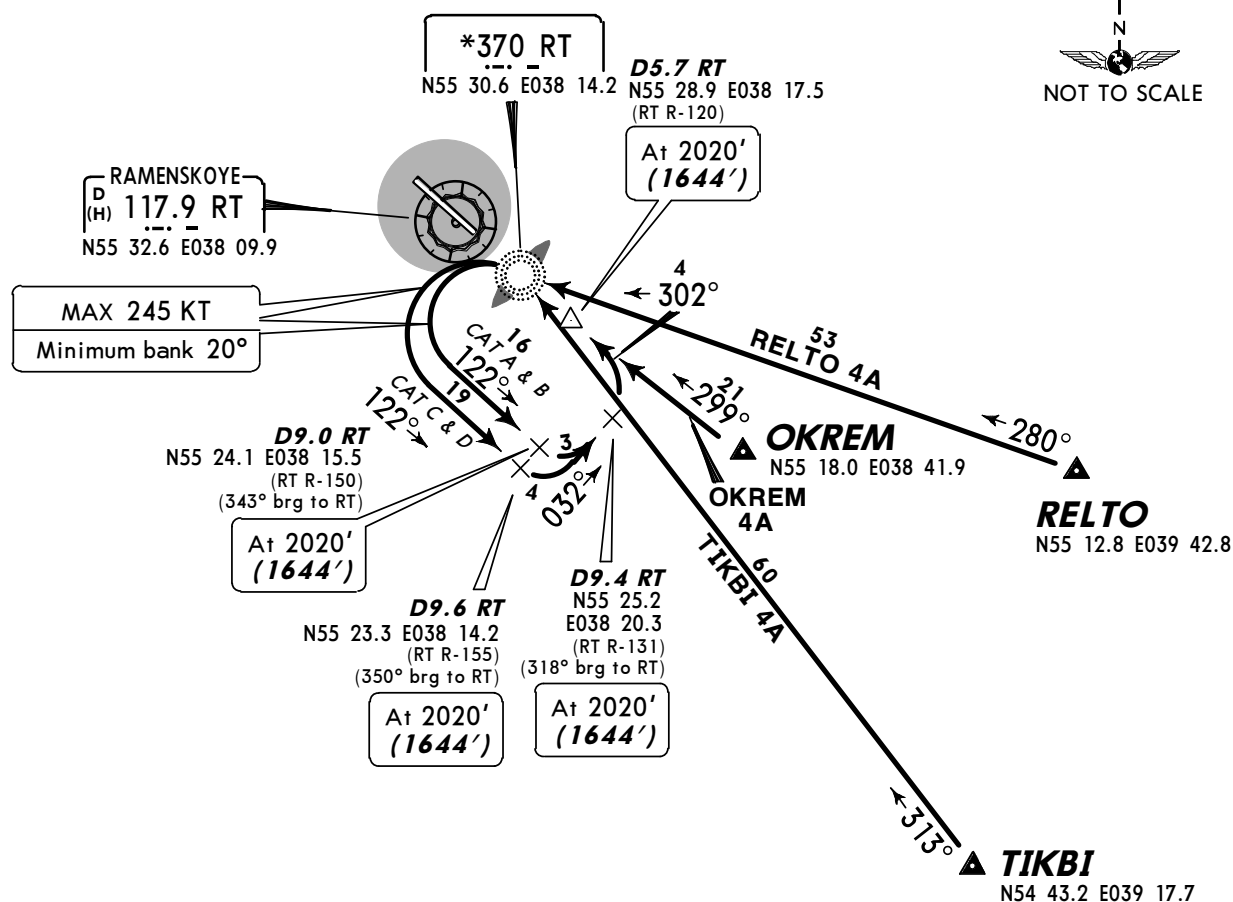
Apt Elev  
404'

Alt Set: MM (hPa on request) QNH on request (QFE)  
Trans level: FL60  
FL70 if pressure is less than 748mm (997.3 hPa)  
FL80 if pressure is less than 721mm (961.3 hPa)  
Trans alt (hgt): 4350' (3974')  
Crossings at airway exit points by ATC.

OKREM 4A [OKRE4A]  
RELTO 4A [RELT4A]  
TIKBI 4A [TIKB4A]  
RWY 30 ARRIVALS  
BY ATC



FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3974' - 1200m)  
2020' (1644' - 500m)

HOLDING OVER  
RT LCTR



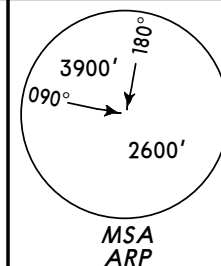


\*ATIS  
127.75X

Apt Elev  
404'

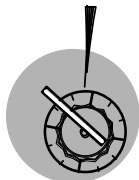
Alt Set: MM (hPa on request) QNH on request (QFE)  
Trans level: FL60  
FL70 if pressure is less than 748mm (997.3 hPa)  
FL80 if pressure is less than 721mm (961.3 hPa)  
Trans alt (hgt): 4350' (3974')

OKREM 4B [OKRE4B]  
RELTO 4B [RELT4B]  
TIKBI 4B [TIKB4B]  
RWY 30 ARRIVALS  
BY ATC



FOR RUSSIAN USERS ONLY

RAMENSKOYE  
D  
(H) 117.9 RT  
N55 32.6 E038 09.9



D5.7 RT  
N55 28.9 E038 17.5  
(RT R-120)

At 2020'  
(1644')

D11.3 RT  
N55 25.1 E038 24.9  
(RT R-121)

D12.0 RT  
N55 24.6 E038 25.7  
(RT R-121)

D12.1 RT  
N55 24.8 E038 26.2  
(RT R-120)

OKREM 4B  
TIKBI 4B

RELTO 4B

OKREM  
N55 18.0 E038 41.9

TIKBI  
N54 43.2 E039 17.7

RELTO  
N55 12.8 E039 42.8

ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3974' - 1200m)  
2020' (1644' - 500m)



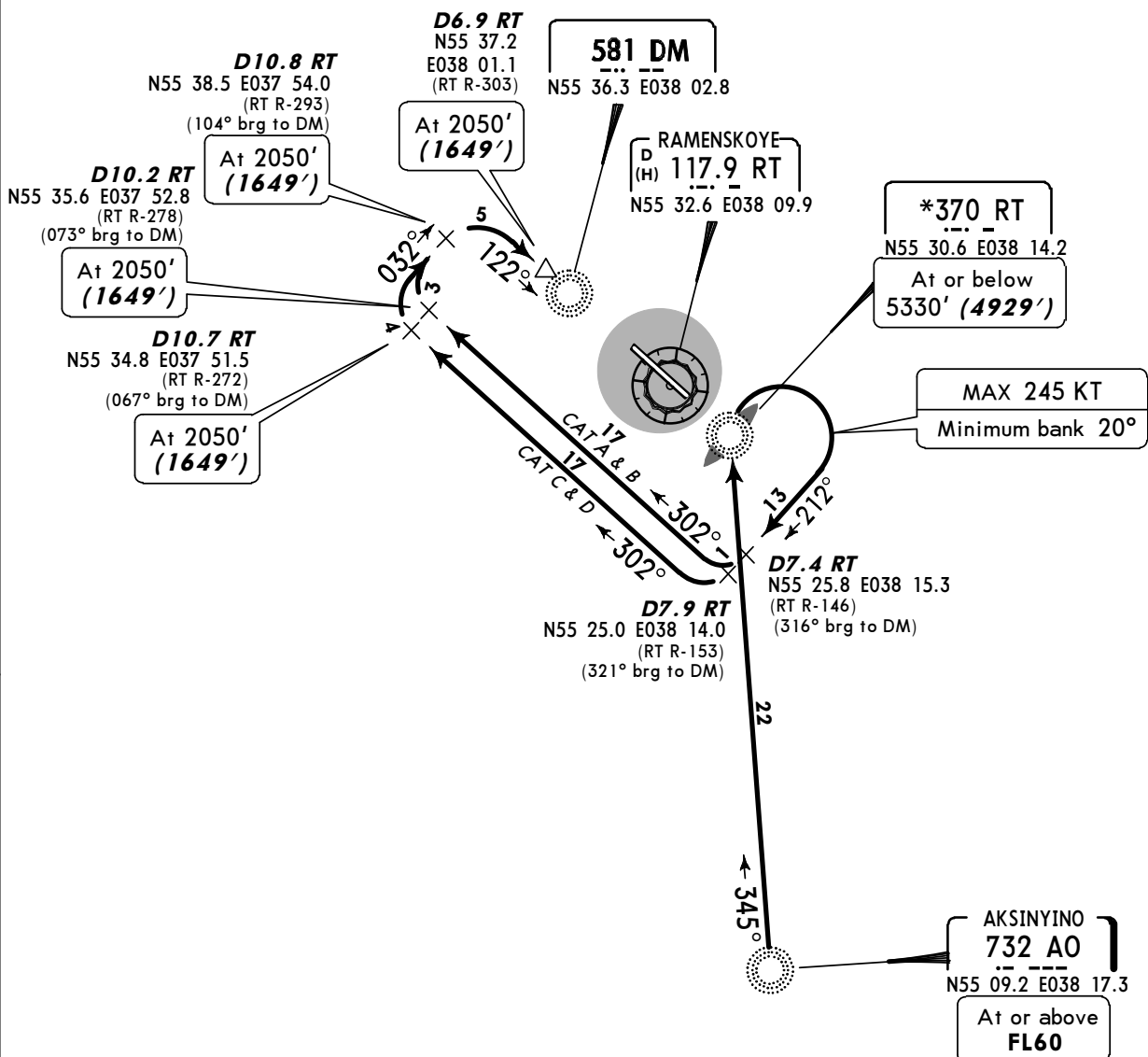
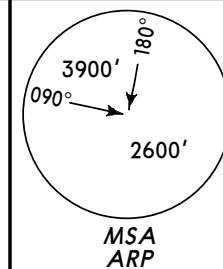
\*ATIS  
**127.75X**

*Apt Elev*  
**404'**

Alt Set: MM (hPa on request) QNH on request **(QFE)**  
Trans level: FL60  
FL70 if pressure is less than 748mm (997.3 hPa)  
FL80 if pressure is less than 721mm (961.3 hPa)  
Trans alt (hgt): 4350' **(3949')**

**AO 2A  
RWY 12 ARRIVAL**

**FOR RUSSIAN USERS ONLY**



| ALT/HEIGHT CONVERSION |                 |
|-----------------------|-----------------|
| QNH                   | (QFE)           |
| 5330'                 | (4929' - 1500m) |
| 4350'                 | (3949' - 1200m) |
| 2050'                 | (1649' - 500m)  |



**HOLDING OVER  
RT LCTR**



\*ATIS  
**127.75X**

*Apt Elev*  
**404'**

Alt Set: MM (hPa on request) QNH on request **(QFE)**

Trans level: FL60

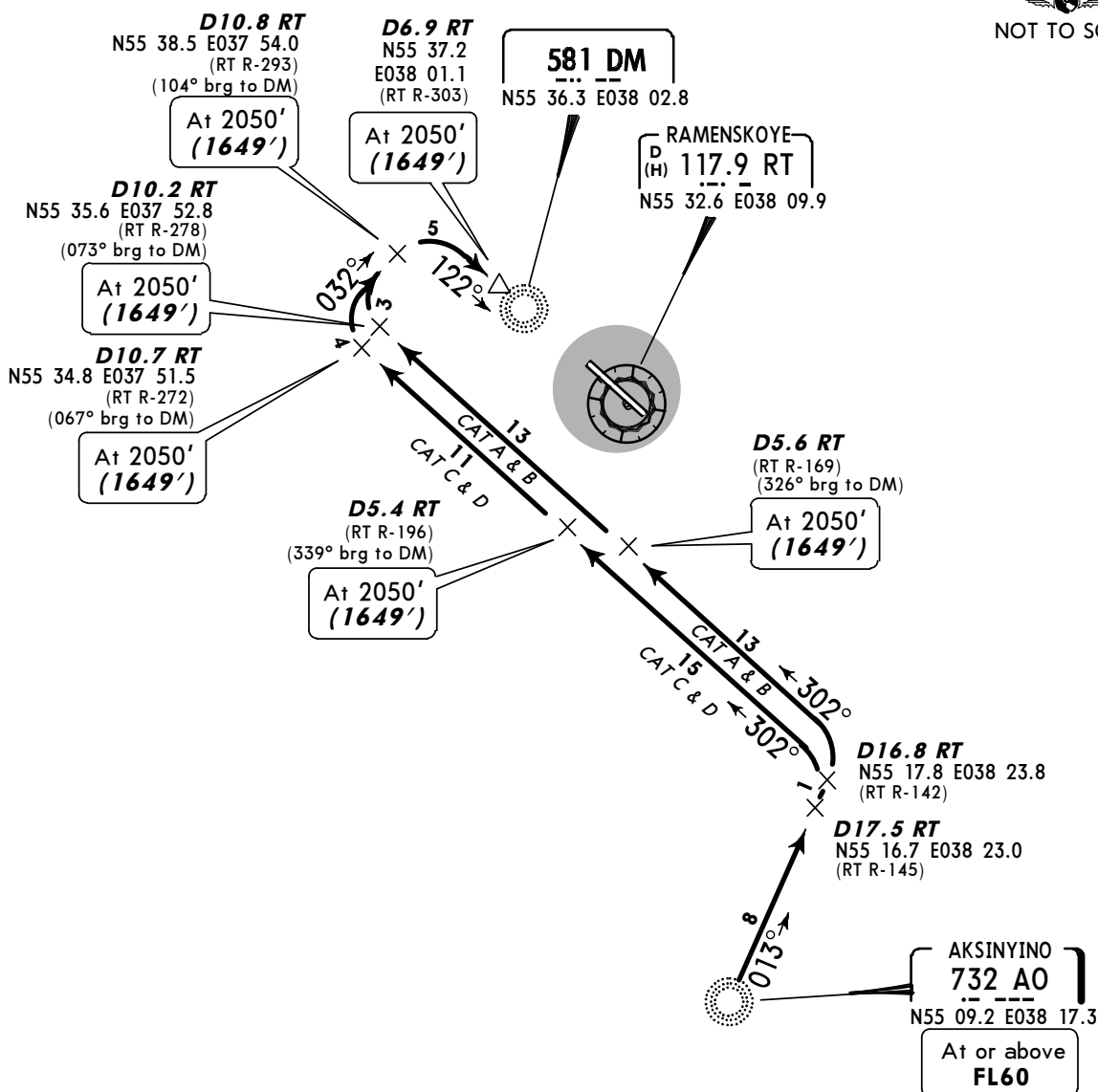
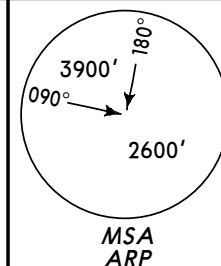
FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' **(3949')**

**AO 2B**  
**RWY 12 ARRIVAL**  
**BY ATC**

**FOR RUSSIAN USERS ONLY**



ALT/HEIGHT CONVERSION  
QNH **(QFE)**  
4350' **(3949' - 1200m)**  
2050' **(1649' - 500m)**

\*ATIS  
127.75X

*Apt Elev*  
**404'**

Alt Set: MM (hPa on request)    QNH on request    **(QFE)**

Trans level: FL60

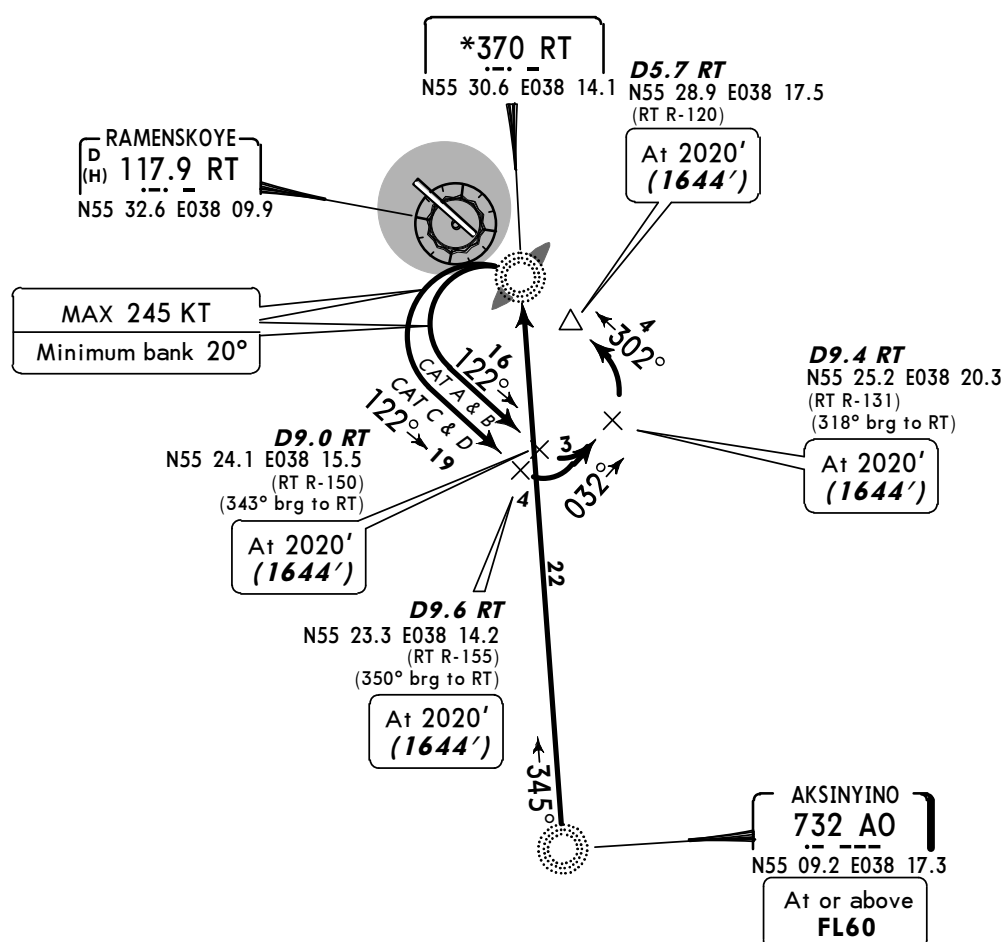
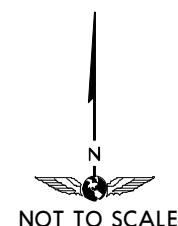
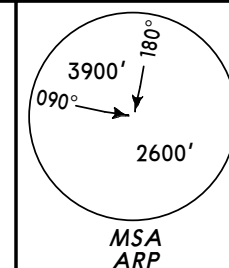
FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' **(3974')**

AO 4A  
RWY 30 ARRIVAL

**FOR RUSSIAN USERS ONLY**



**HOLDING OVER  
RT LCTR**



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3974' - 1200m)  
2020' (1644' - 500m)

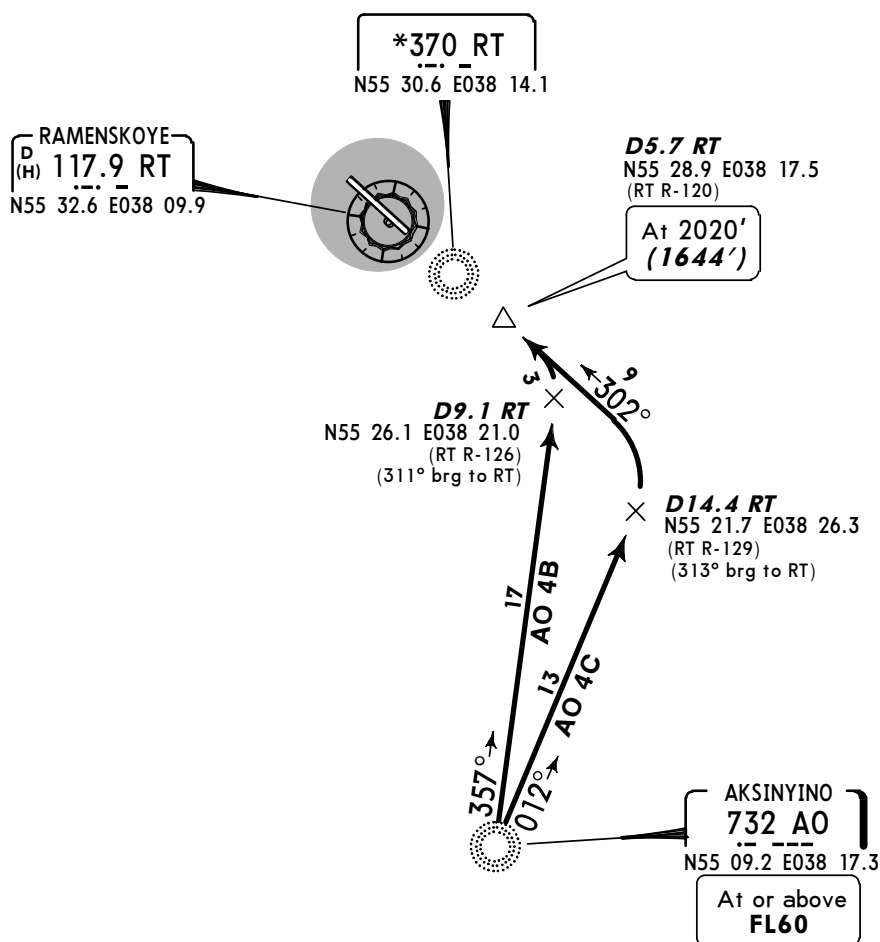
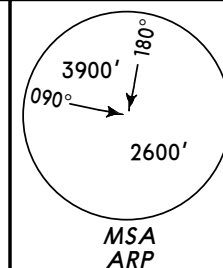
\*ATIS  
127.75X

Apt Elev  
404'

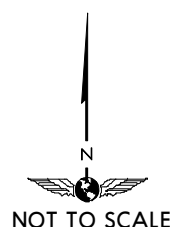
Alt Set: MM (hPa on request) QNH on request (QFE)  
Trans level: FL60  
FL70 if pressure is less than 748mm (997.3 hPa)  
FL80 if pressure is less than 721mm (961.3 hPa)  
Trans alt (hgt): 4350' (3974')

AO 4B, AO 4C  
RWY 30 ARRIVALS  
BY ATC

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3974' - 1200m)  
2020' (1644' - 500m)



\*ATIS  
127.75X

Apt Elev  
404'

Alt Set: MM (hPa on request) QNH on request (QFE)

Trans level: FL60

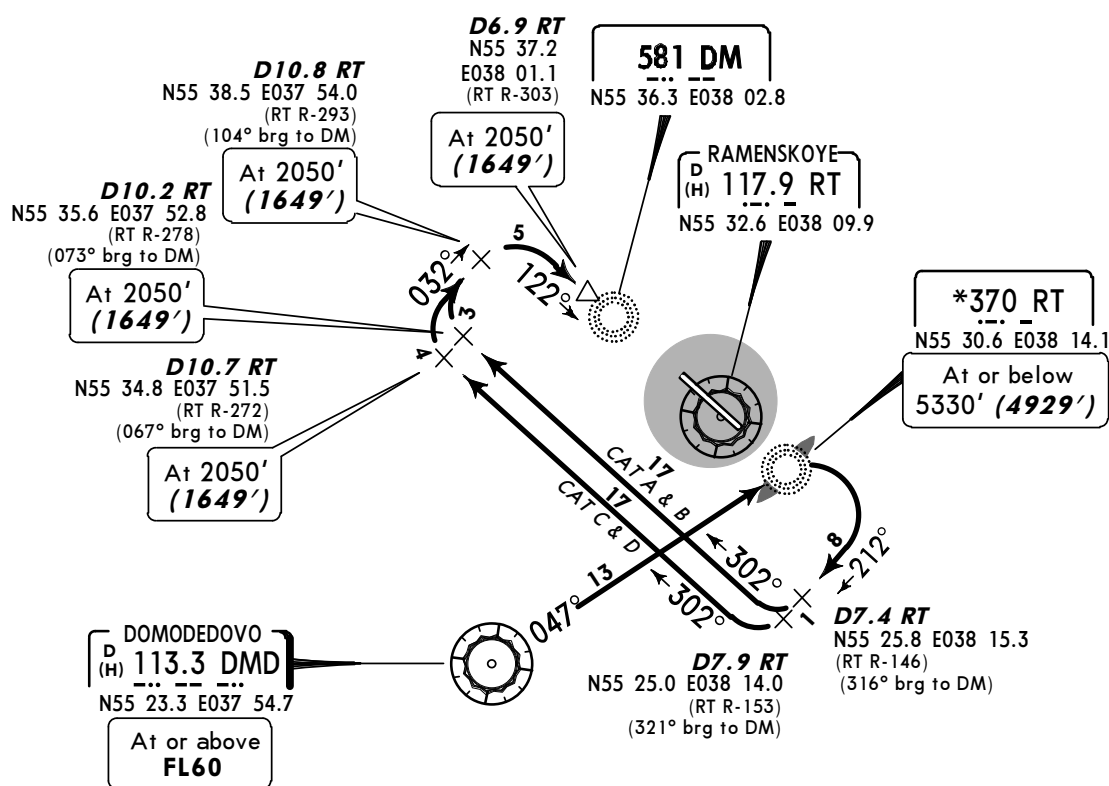
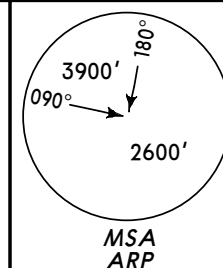
FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3949')

# DMD 2A RWY 12 ARRIVAL

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
5330' (4929' - 1500m)  
4350' (3949' - 1200m)  
2050' (1649' - 500m)



## HOLDING OVER RT LCTR



\*ATIS  
**127.75X**

*Apt Elev*  
**404'**

Alt Set: MM (hPa on request) QNH on request **(QFE)**

Trans level: FL60

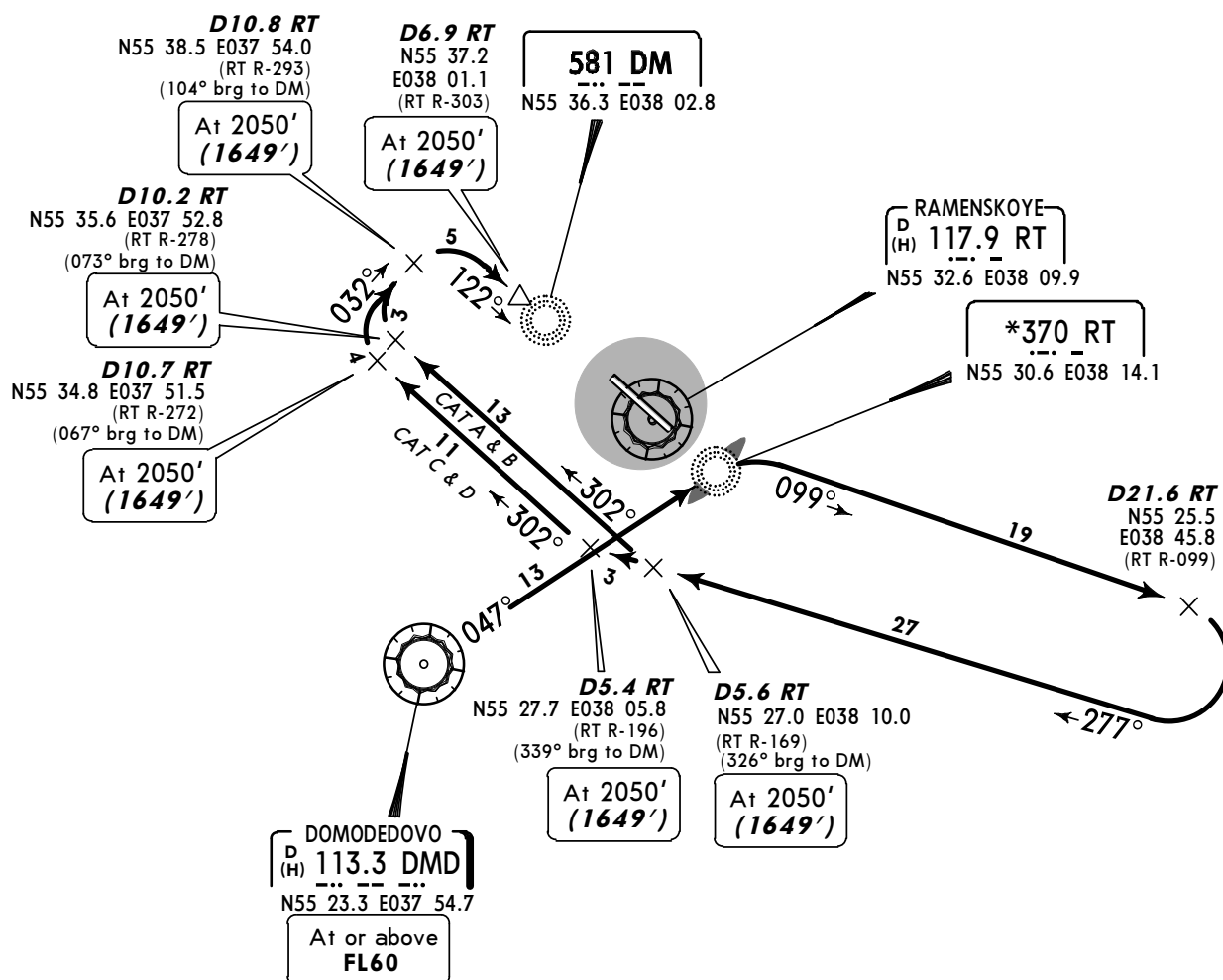
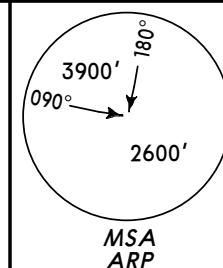
FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

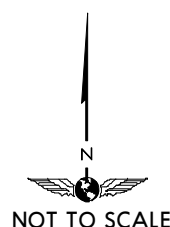
Trans alt (hgt): 4350' **(3949')**

**DMD 2B**  
**RWY 12 ARRIVAL**  
**BY ATC**

**FOR RUSSIAN USERS ONLY**



ALT/HEIGHT CONVERSION  
QNH **(QFE)**  
4350' **(3949' - 1200m)**  
2050' **(1649' - 500m)**



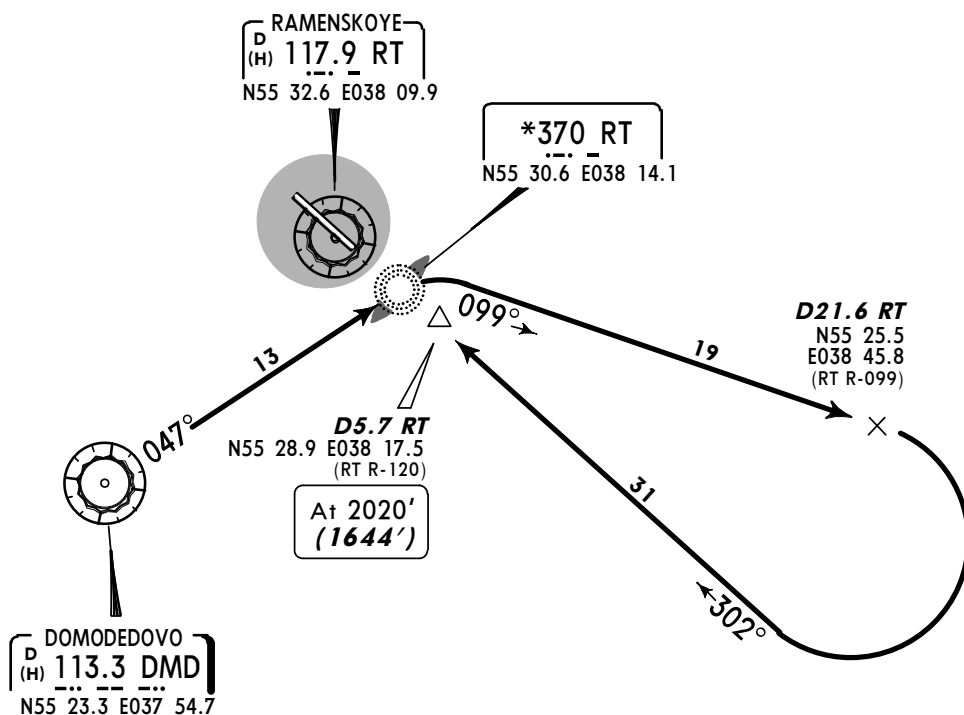
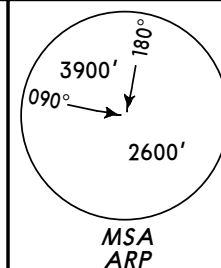
\*ATIS  
127.75X

Apt Elev  
404'

Alt Set: MM (hPa on request) QNH on request (QFE)  
Trans level: FL60  
FL70 if pressure is less than 748mm (997.3 hPa)  
FL80 if pressure is less than 721mm (961.3 hPa)  
Trans alt (hgt): 4350' (3974')

# DMD 4A RWY 30 ARRIVAL

FOR RUSSIAN USERS ONLY



## HOLDING OVER RT LCTR



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3974' - 1200m)  
2020' (1644' - 500m)



\*ATIS  
127.75X

Apt Elev  
404'

Alt Set: MM (hPa on request) QNH on request (QFE)

Trans level: FL60

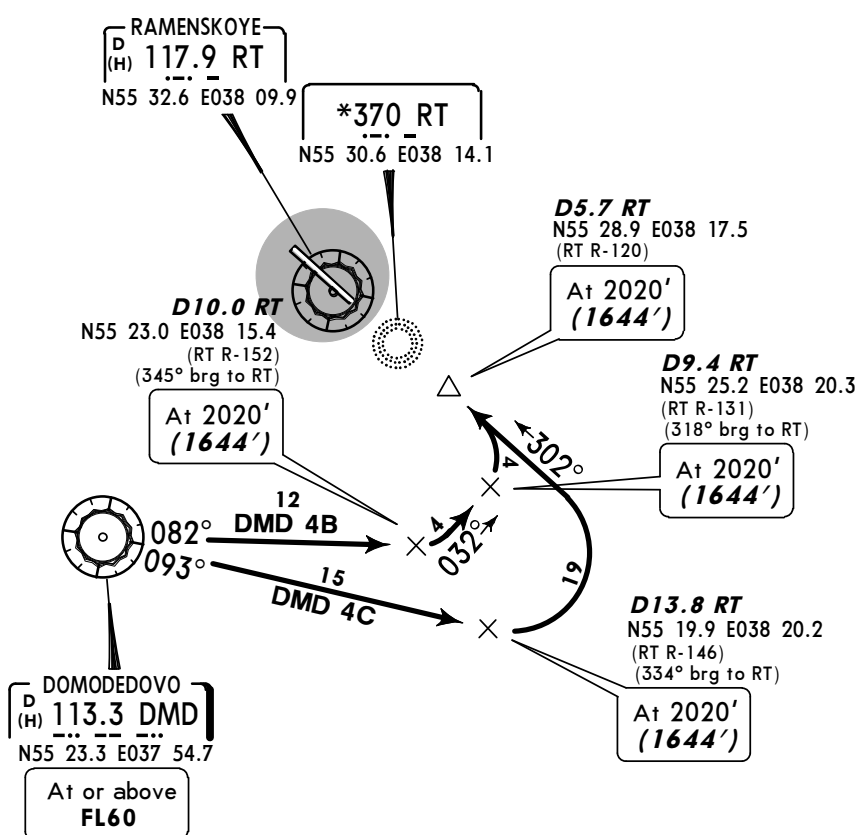
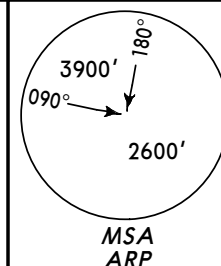
FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

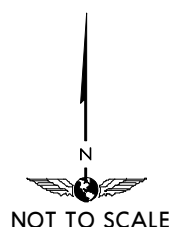
Trans alt (hgt): 4350' (3974')

DMD 4B, DMD 4C  
RWY 30 ARRIVALS  
BY ATC

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3974' - 1200m)  
2020' (1644' - 500m)

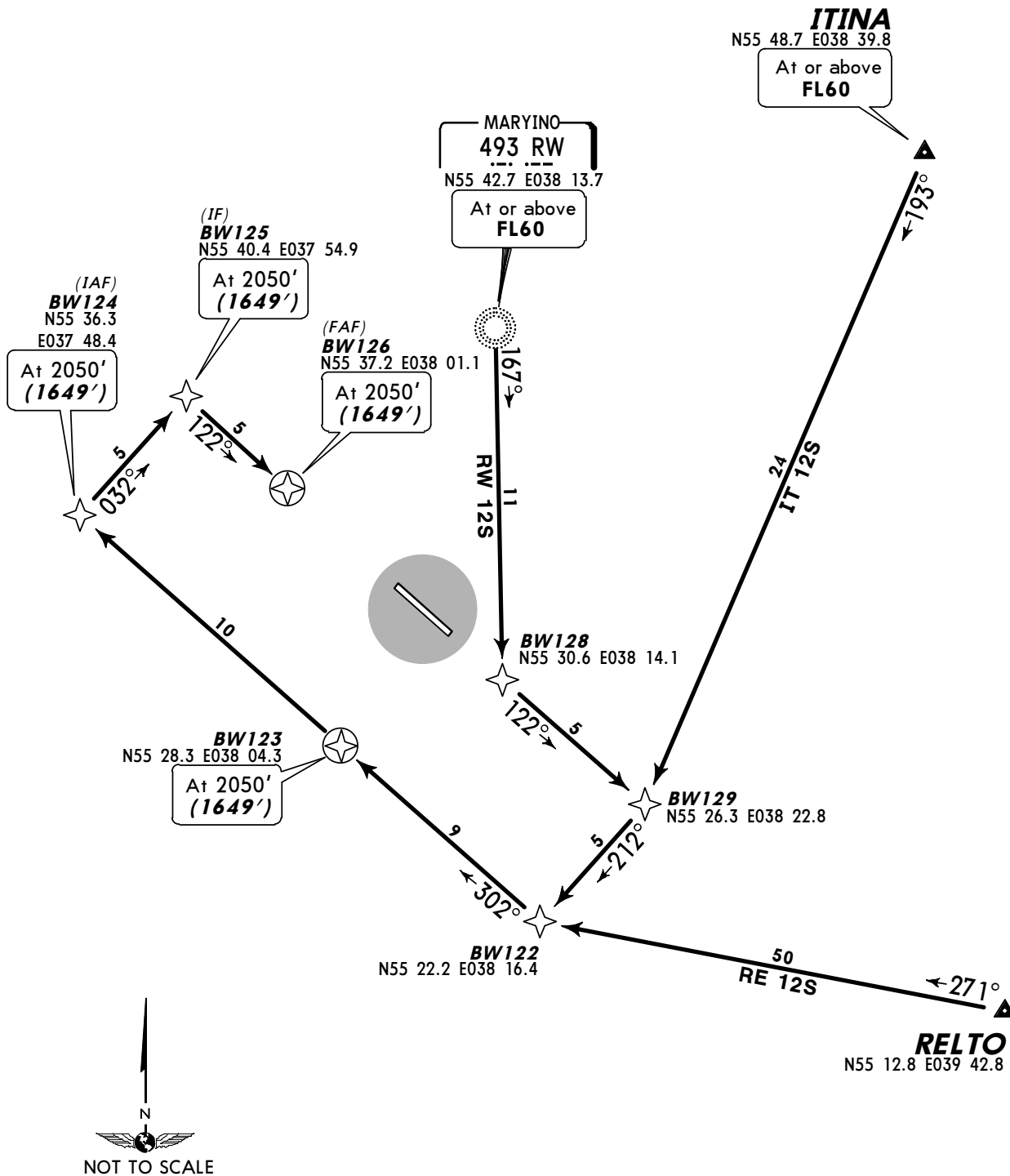
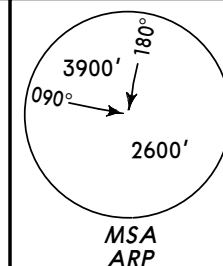


\*ATIS  
**127.75X**

*Apt Elev*  
**404'**

Alt Set: MM (hPa on request) QNH on request **(QFE)**  
Trans level: FL60  
FL70 if pressure is less than 748mm (997.3 hPa)  
FL80 if pressure is less than 721mm (961.3 hPa)  
Trans alt (hgt): 4350' **(3949')**

**IT 12S, RE 12S, RW 12S**  
**RWY 12 RNAV ARRIVALS**  
RNAV (GNSS)  
**FOR RUSSIAN USERS ONLY**



**ALT/HEIGHT CONVERSION**  
QNH **(QFE)**  
4350' **(3949' - 1200m)**  
2050' **(1649' - 500m)**

\*ATIS  
127.75X

*Apt Elev*  
**404'**

Alt Set: MM (hPa on request)    QNH on request    **(QFE)**

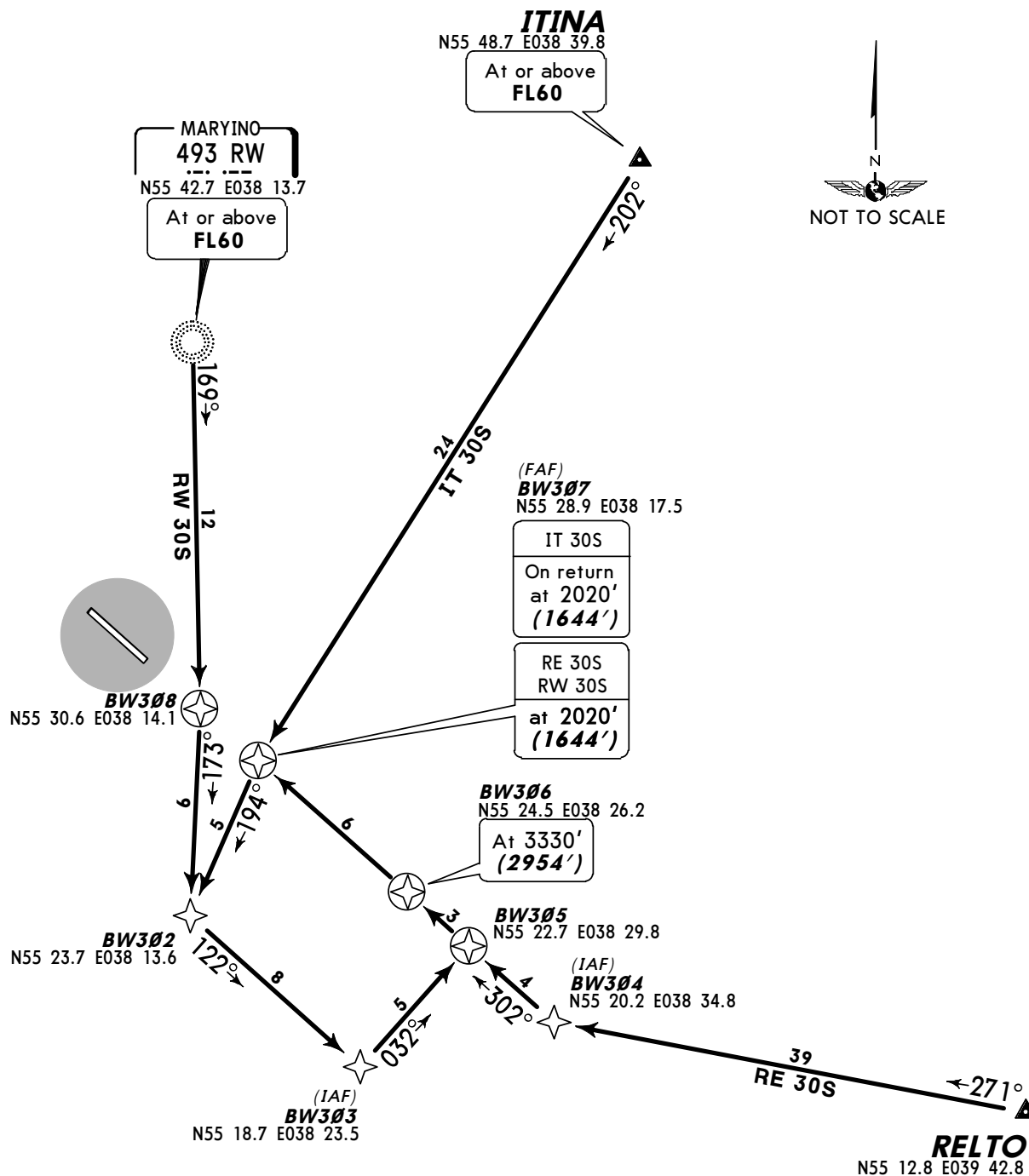
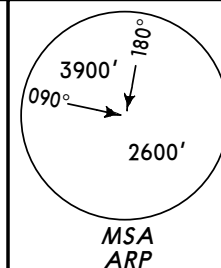
Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' **(3974')**

**IT 30S, RE 30S, RW 30S  
RWY 30 RNAV ARRIVALS  
RNAV (GNSS)  
FOR RUSSIAN USERS ONLY**



**ALT/HEIGHT CONVERSION**  
QNH (QFE)

|       |                 |
|-------|-----------------|
| 4350' | (3974' - 1200m) |
| 3330' | (2954' - 900m)  |
| 2020' | (1644' - 500m)  |

\*ATIS  
127.75X

Apt Elev  
404'

Alt Set: MM (hPa on request) QNH on request (QFE)

Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

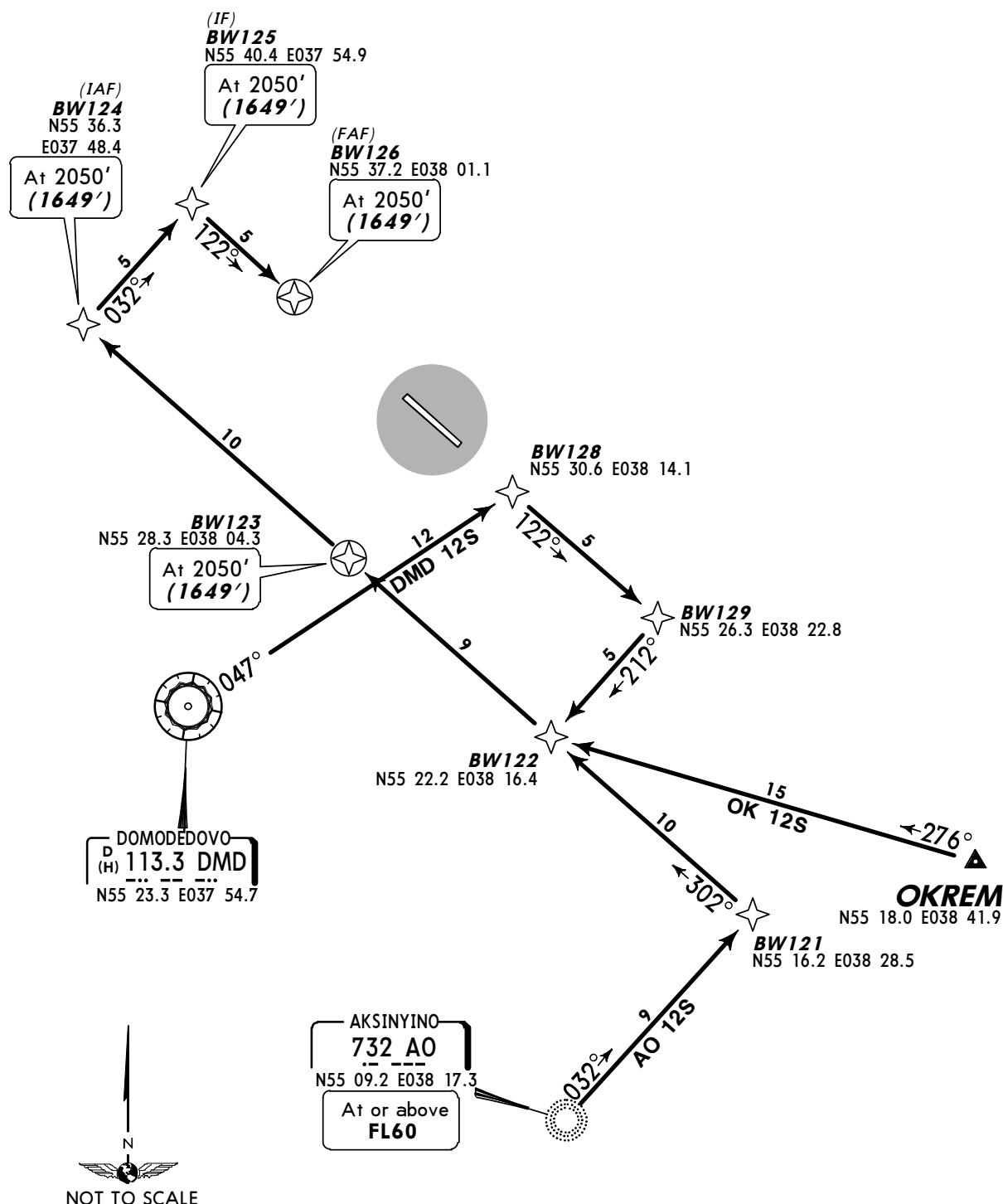
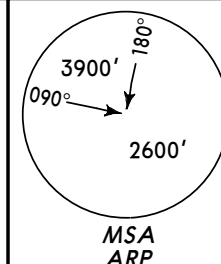
FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3949')

AO 12S, DMD 12S, OK 12S  
RWY 12 RNAV ARRIVALS

RNAV (GNSS)

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3949' - 1200m)  
2050' (1649' - 500m)

\*ATIS  
127.75X

Apt Elev  
404'

Alt Set: MM (hPa on request) QNH on request (QFE)

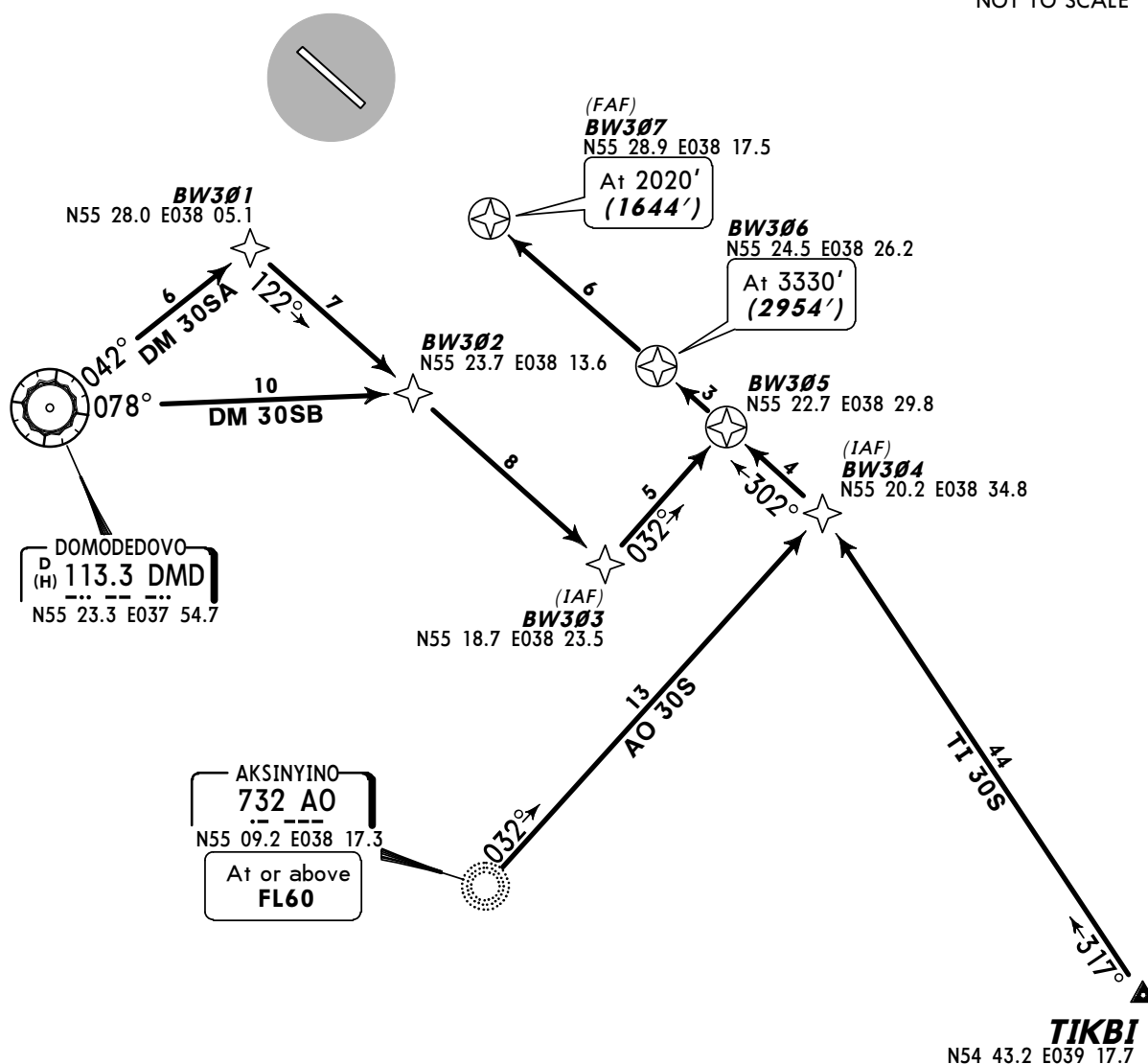
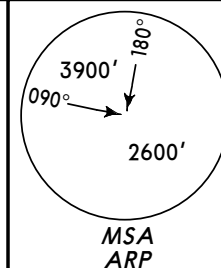
Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3974')

AO 30S, DMD 30SA, DMD 30SB, TI 30S  
RWY 30 RNAV ARRIVALS  
RNAV (GNSS)  
FOR RUSSIAN USERS ONLY



| ALT/HEIGHT CONVERSION |                 |
|-----------------------|-----------------|
| QNH                   | (QFE)           |
| 4350'                 | (3974' - 1200m) |
| 3330'                 | (2954' - 900m)  |
| 2020'                 | (1644' - 500m)  |

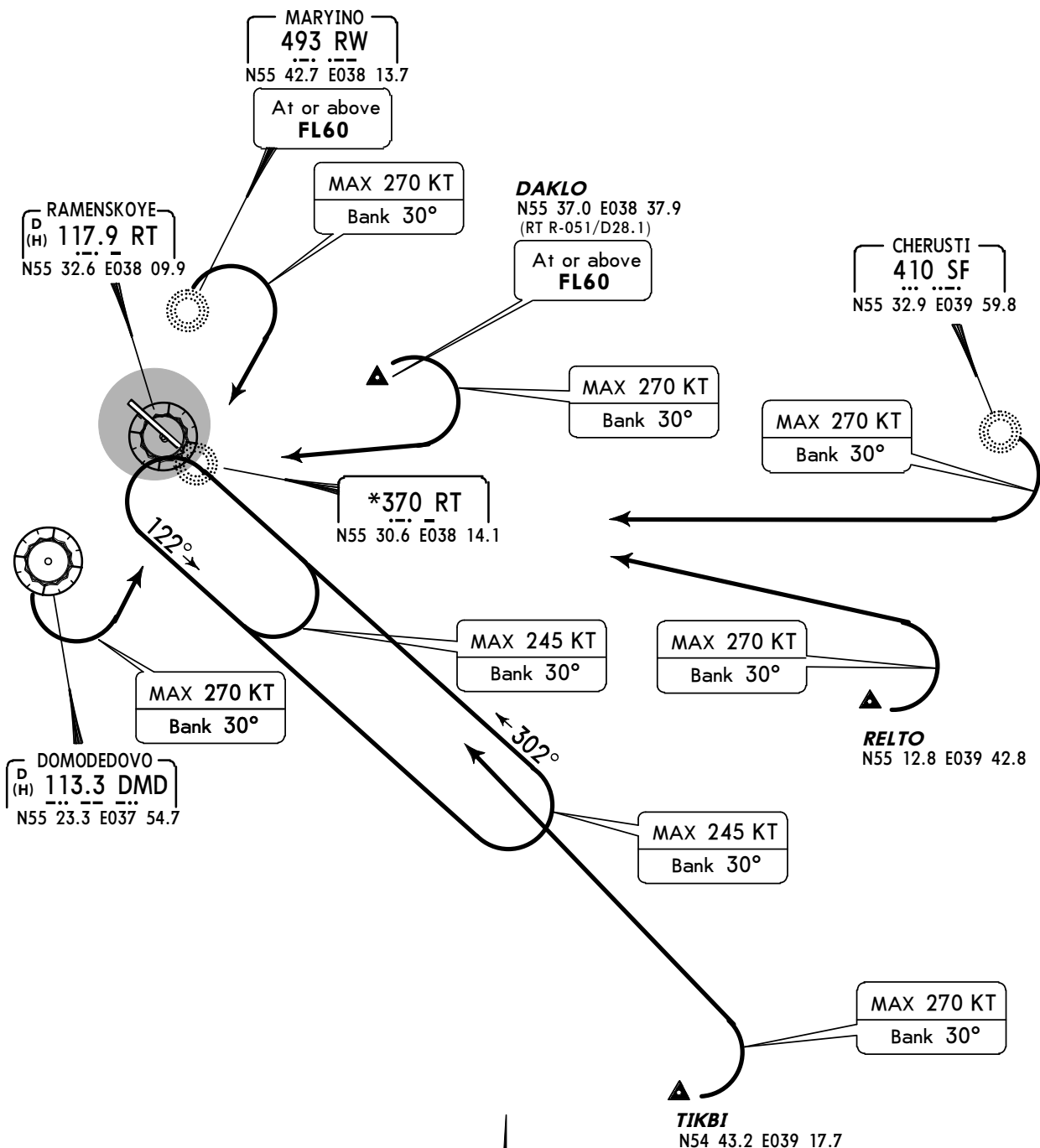
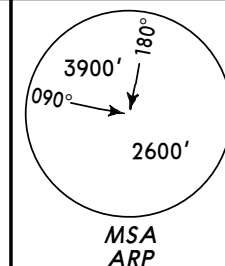
\*ATIS  
127.75X

Apt Elev  
404'

Alt Set: MM (hPa on request) QNH on request (QFE)  
Trans level: FL60  
FL70 if pressure is less than 748mm (997.3 hPa)  
FL80 if pressure is less than 721mm (961.3 hPa)  
Trans alt (hgt): 4350' (3946')

# LOST COMMS PROCEDURES AFTER TAKE-OFF, CLIMB AND EXIT FROM TMA RWYS 12, 30

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3946' - 1200m)



Apt Elev  
404'

QNH on request (QFE)

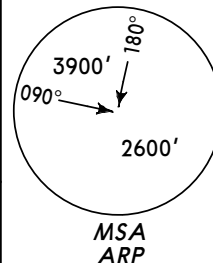
Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3949')

Crossings at airway entry points by ATC.

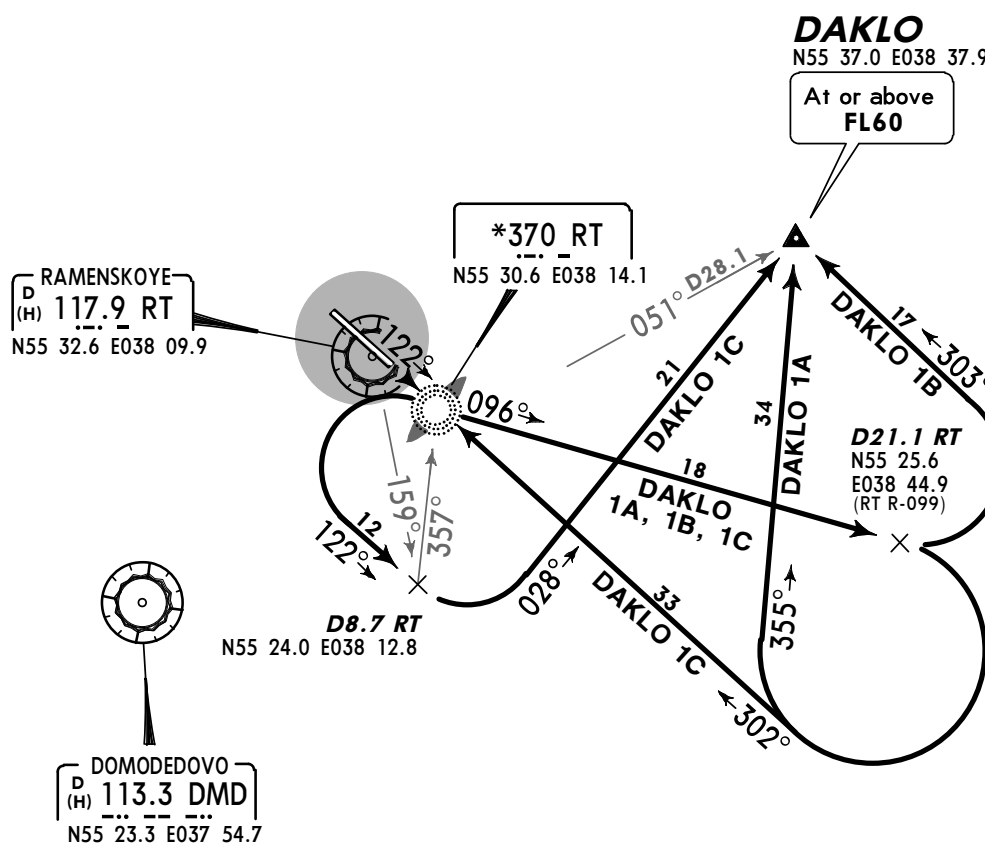


DAKLO 1A [DAKL1A]

DAKLO 1B [DAKL1B], DAKLO 1C [DAKL1C]  
BY ATC

RWY 12 DEPARTURES

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3949' - 1200m)

Apt Elev  
404'

QNH on request (QFE)

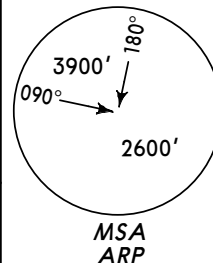
Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3974')

Crossings at airway entry points by ATC.

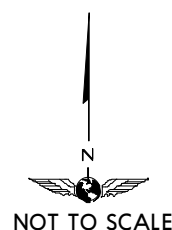
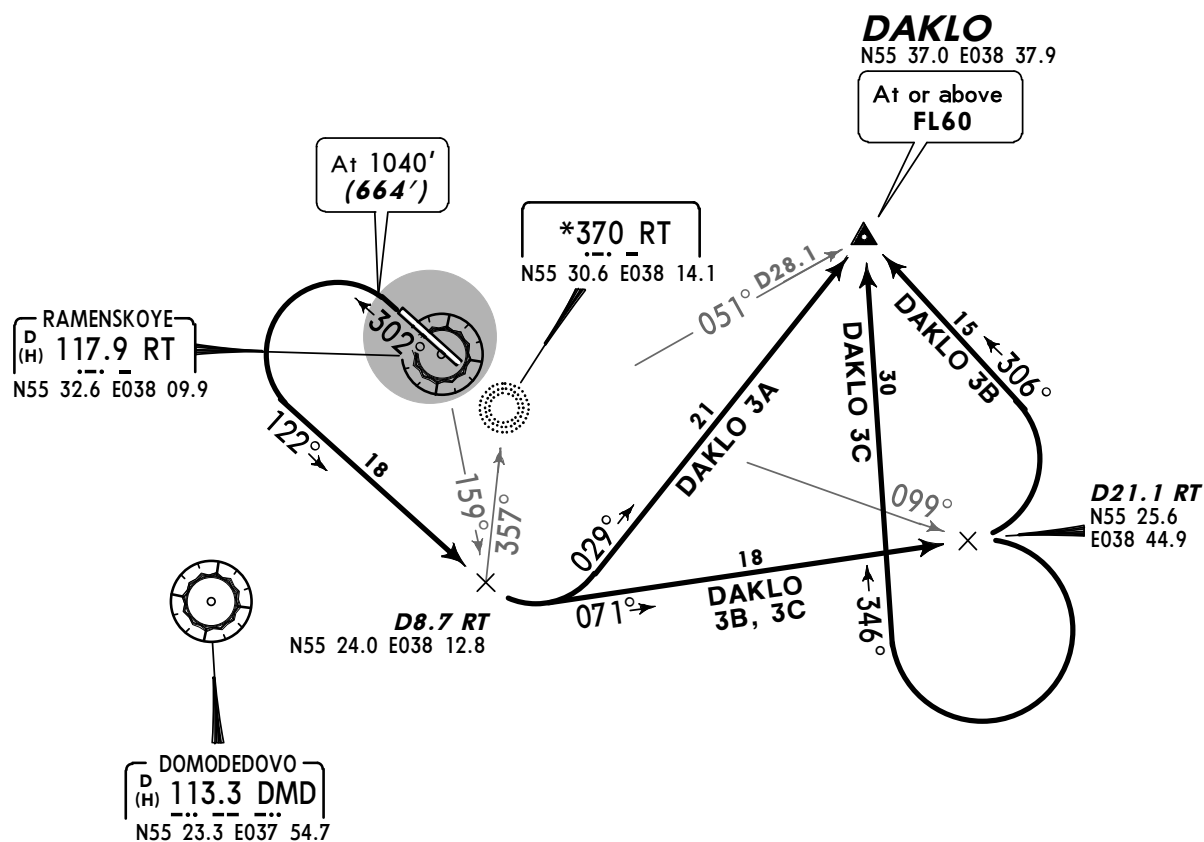


DAKLO 3A [DAKL3A]

DAKLO 3B [DAKL3B], DAKLO 3C [DAKL3C]  
BY ATC

RWY 30 DEPARTURES

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
1040' (664' - 200m)  
4350' (3974' - 1200m)



Apt Elev  
404'

QNH on request (QFE)

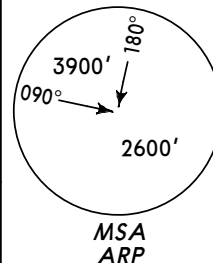
Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3949')

Crossings at airway entry points by ATC.

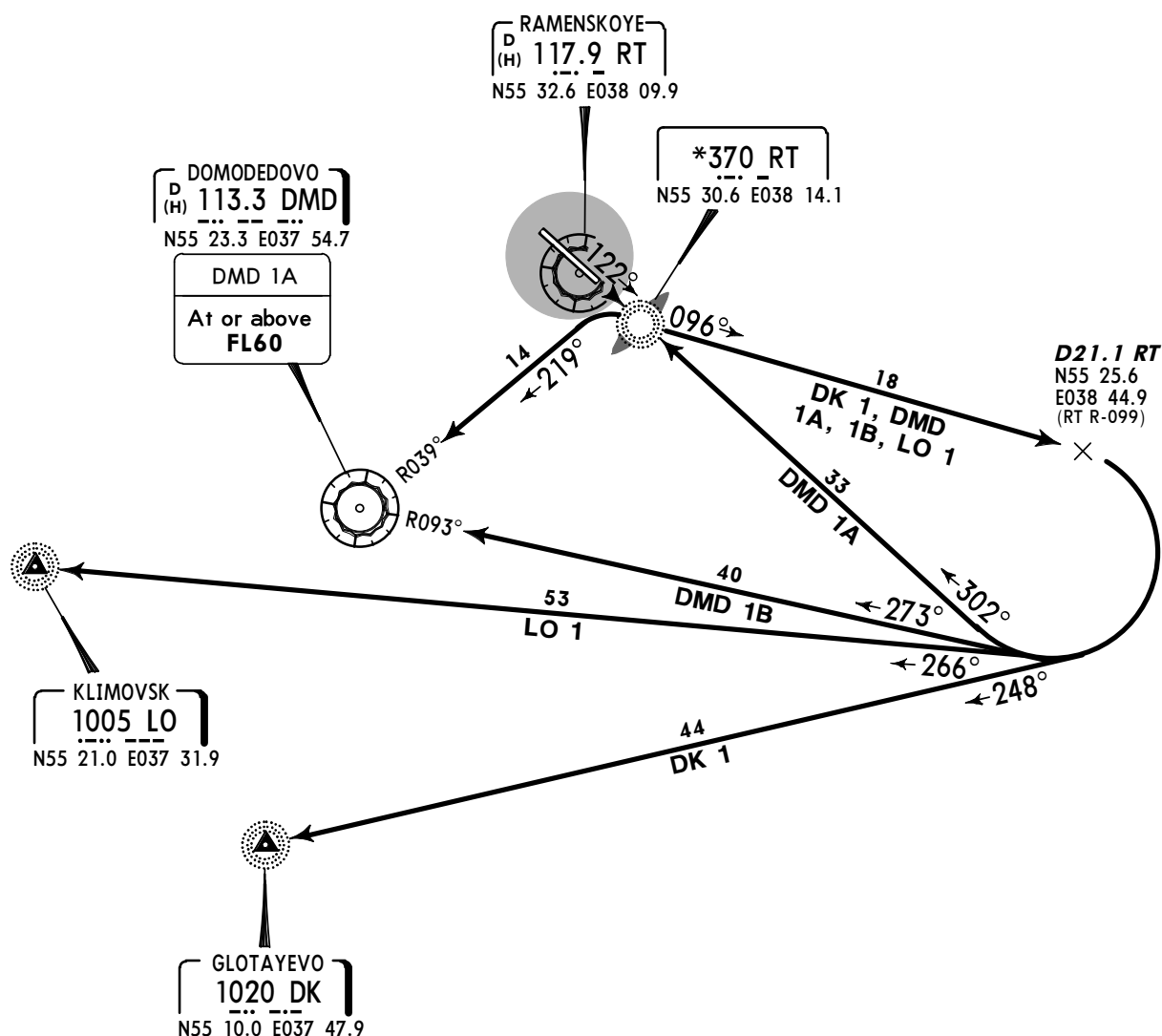


## DMD 1A

DK 1, DMD 1B, LO 1  
BY ATC

RWY 12 DEPARTURES

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3949' - 1200m)

Apt Elev  
404'

QNH on request (QFE)

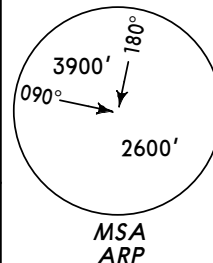
Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3974')

Crossings at airway entry points by ATC.

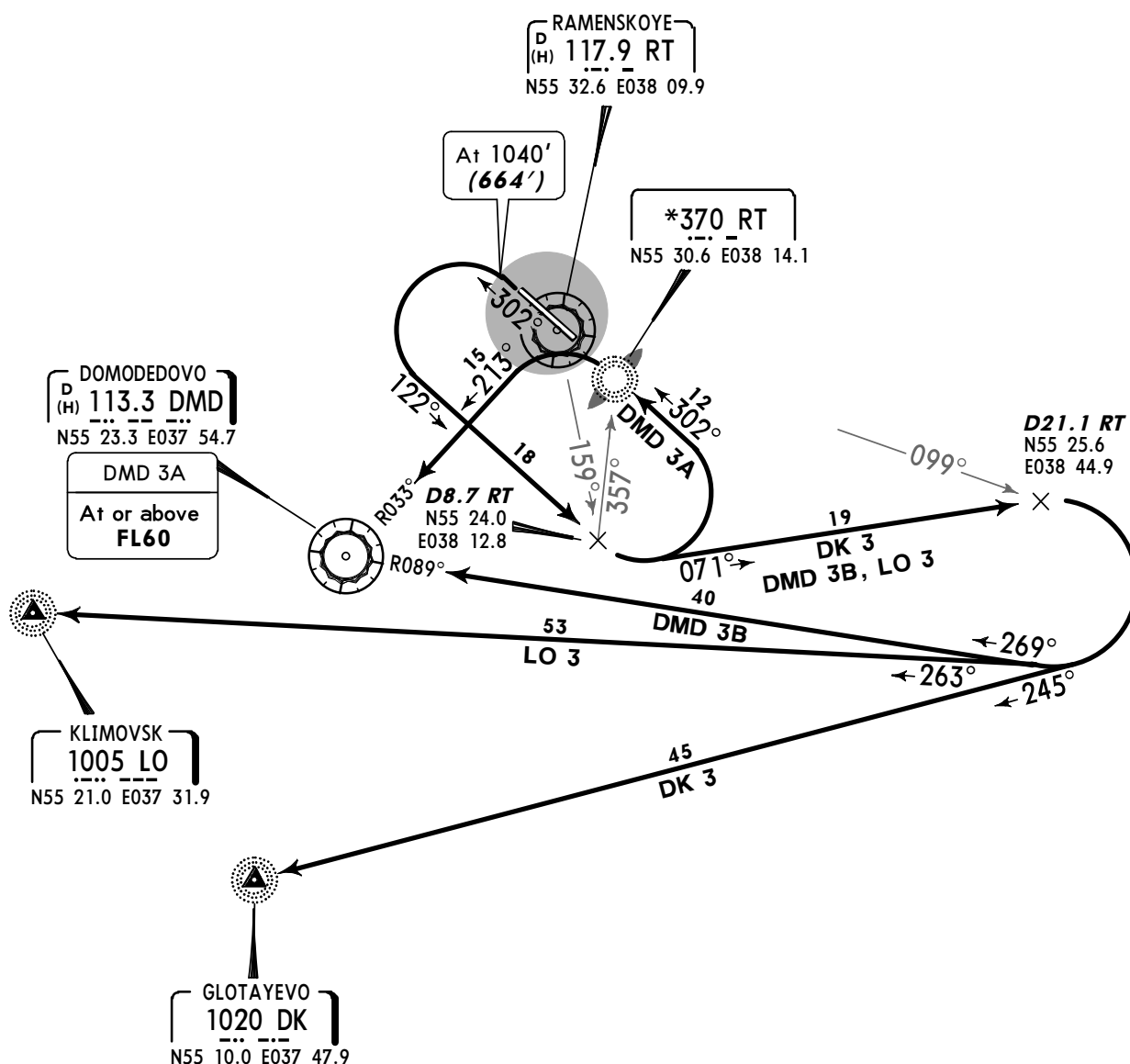


DMD 3A

DK 3, DMD 3B, LO 3  
BY ATC

RWY 30 DEPARTURES

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
1040' (664' - 200m)  
4350' (3974' - 1200m)

Apt Elev  
404'

QNH on request (QFE)

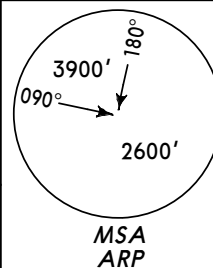
Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

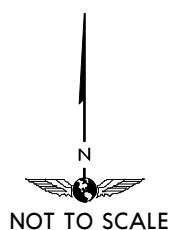
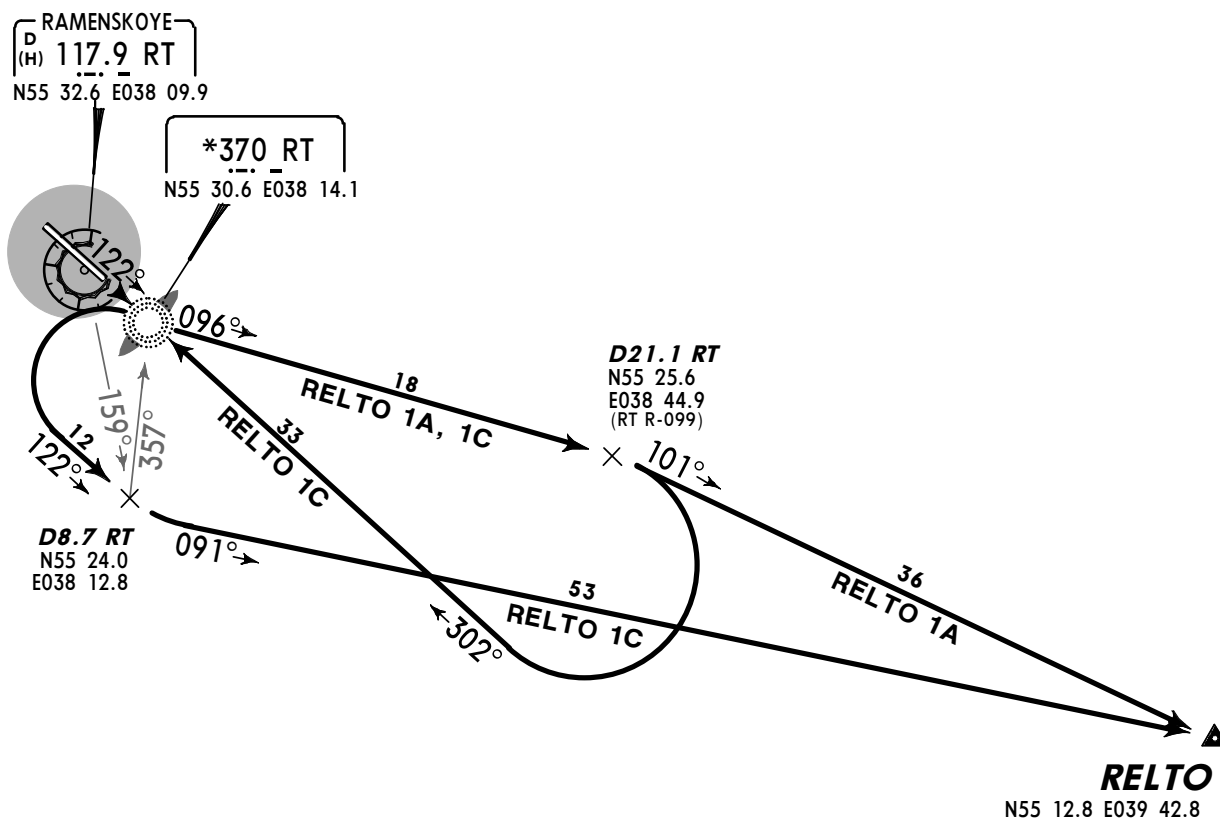
Trans alt (hgt): 4350' (3949')

Crossings at airway entry points by ATC.



RELTO 1A [RELT1A]  
RELTO 1C [RELT1C]  
RWY 12 DEPARTURES  
BY ATC

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3949' - 1200m)

Apt Elev  
404'

QNH on request (QFE)

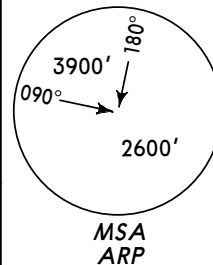
Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3974')

Crossings at airway entry points by ATC.



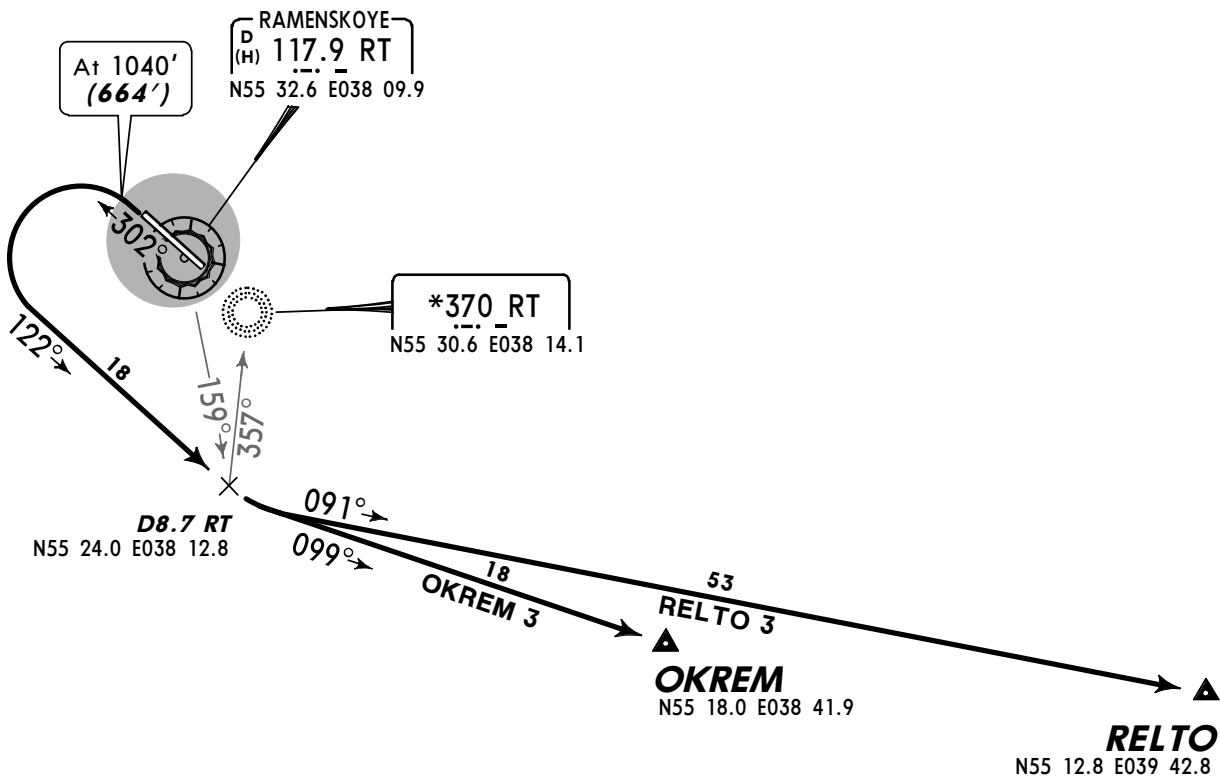
OKREM 3

BY ATC

RELTO 3

RWY 30 DEPARTURES

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
1040' (664' - 200m)  
4350' (3974' - 1200m)



Apt Elev  
404'

QNH on request (QFE)

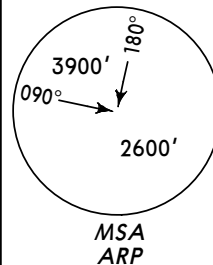
Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3949')

Crossings at airway entry points by ATC.

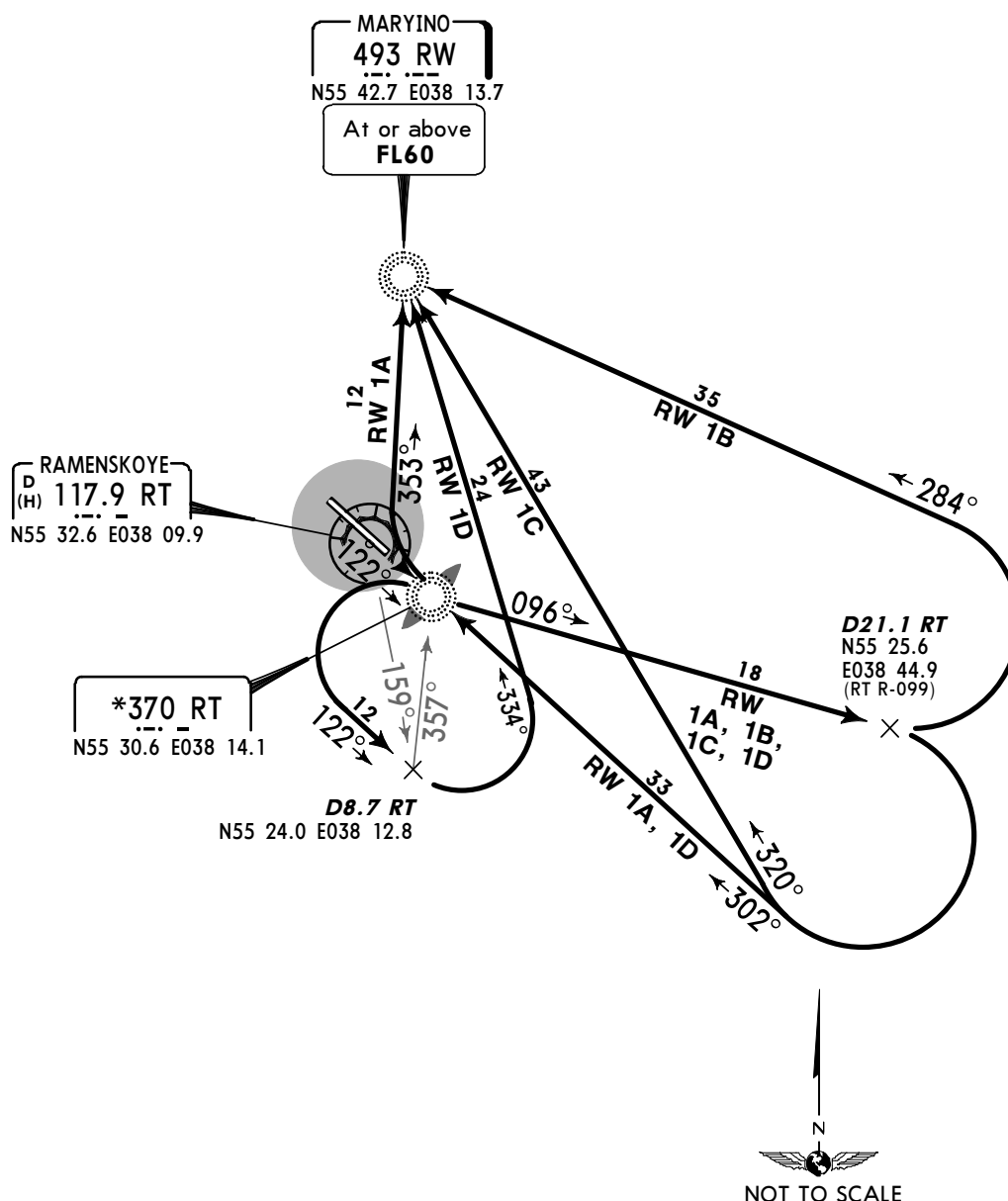


RW 1A

RW 1B, RW 1C, RW 1D  
BY ATC

RWY 12 DEPARTURES

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3949' - 1200m)

Apt Elev  
404'

QNH on request (QFE)

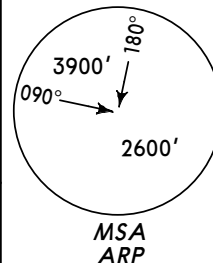
Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3974')

Crossings at airway entry points by ATC.

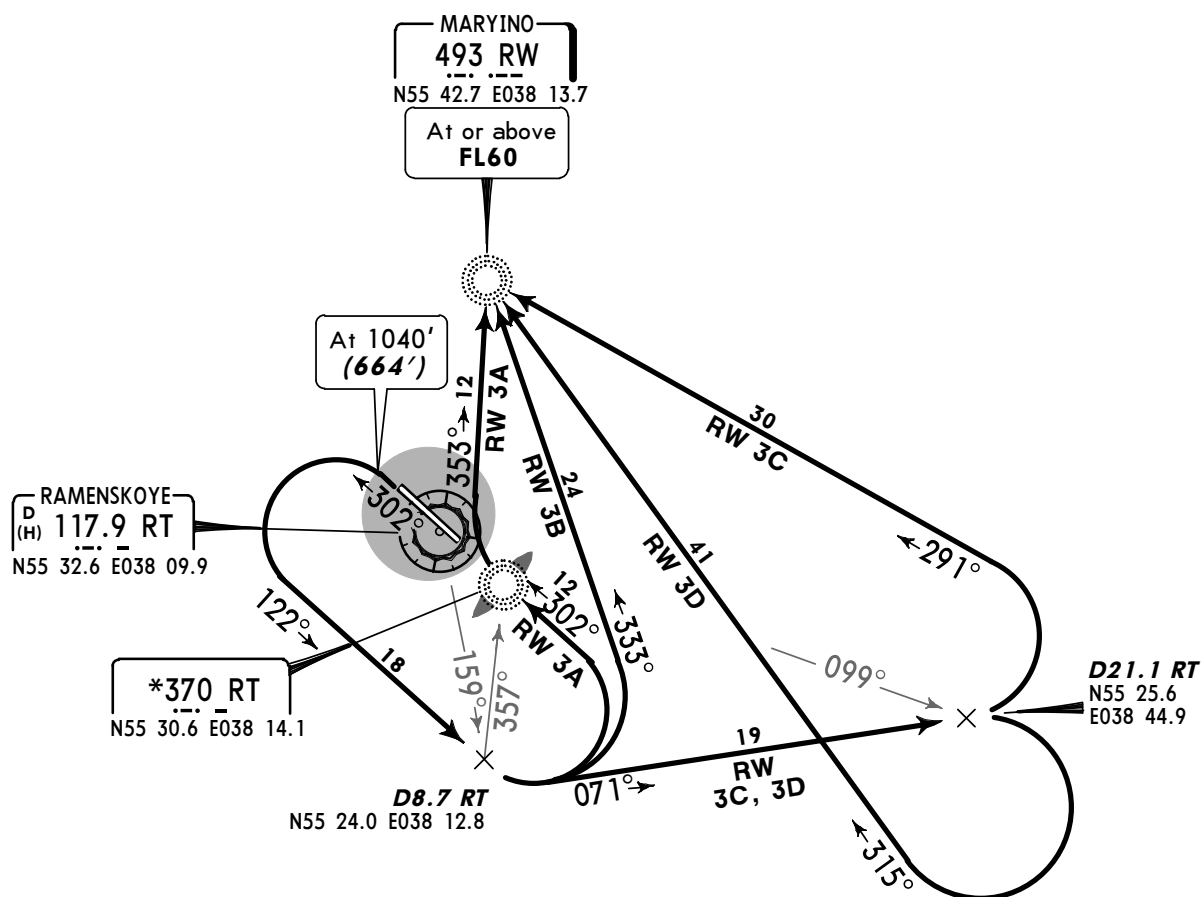


RW 3A

RW 3B, RW 3C, RW 3D  
BY ATC

RWY 30 DEPARTURES

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
1040' (664' - 200m)  
4350' (3974' - 1200m)

Apt Elev  
404'

QNH on request (QFE)

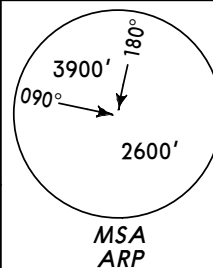
Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3949')

Crossings at airway entry points by ATC.



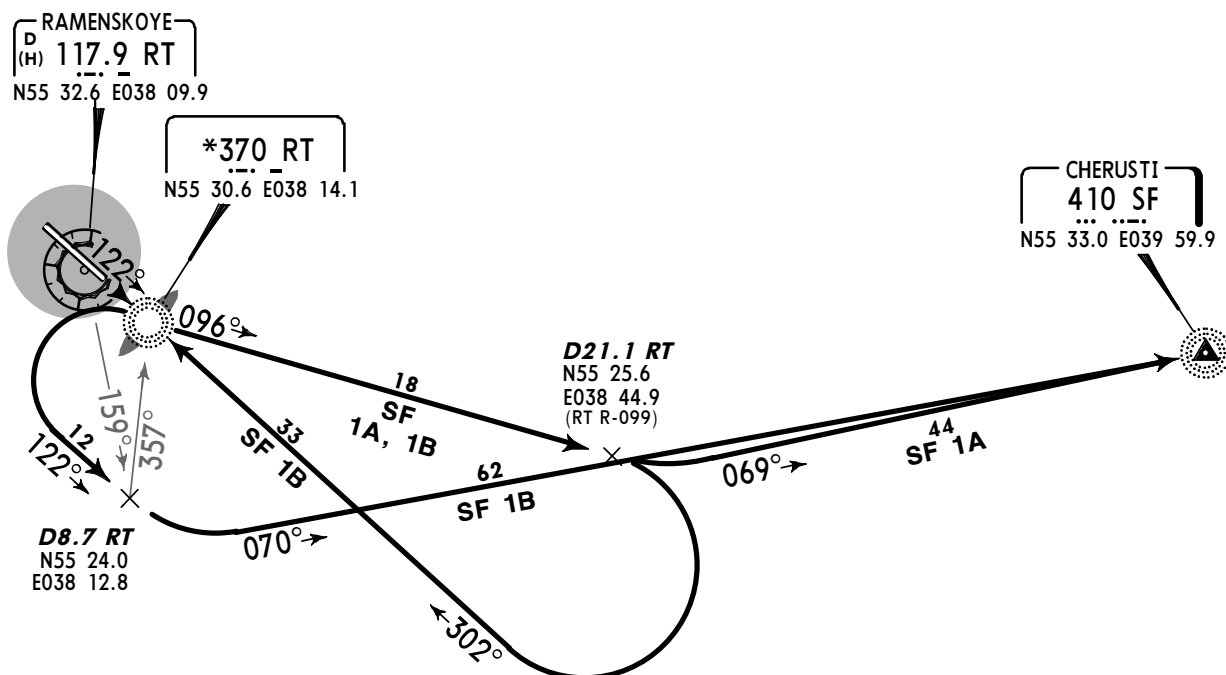
SF 1A

SF 1B

BY ATC

RWY 12 DEPARTURES

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3949' - 1200m)

Apt Elev  
404'

QNH on request (QFE)

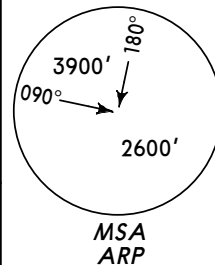
Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

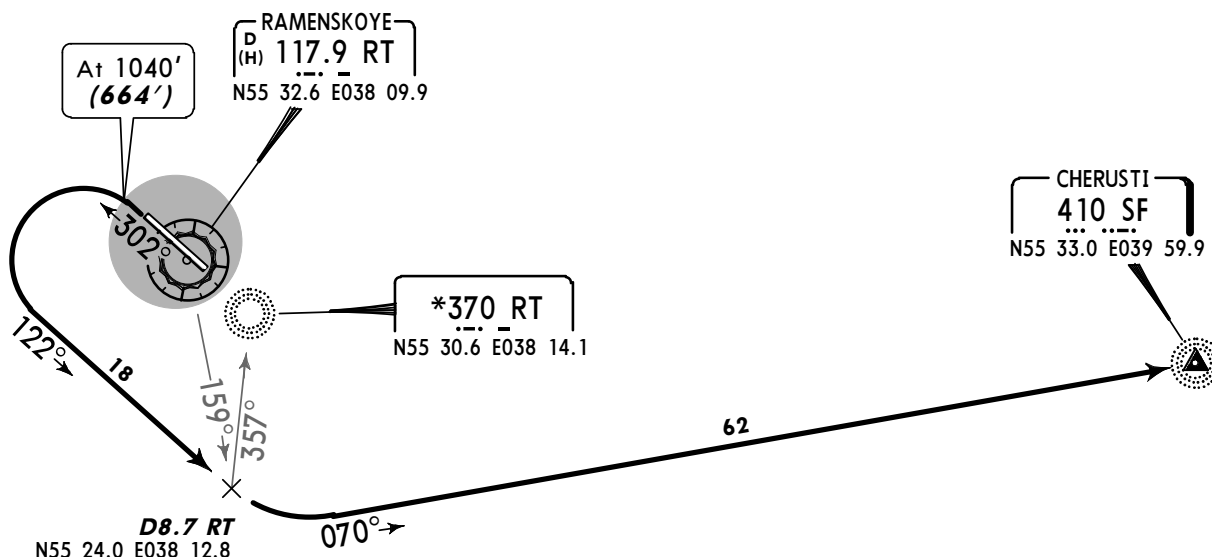
Trans alt (hgt): 4350' (3974')

Crossings at airway entry points by ATC.



# SF 3 RWY 30 DEPARTURE

FOR RUSSIAN USERS ONLY



| ALT/HEIGHT CONVERSION |                 |
|-----------------------|-----------------|
| QNH                   | (QFE)           |
| 1040'                 | (664' - 200m)   |
| 4350'                 | (3974' - 1200m) |



Apt Elev  
404'

QNH on request (QFE)

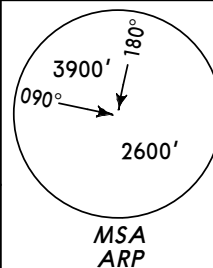
Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3949')

Crossings at airway entry points by ATC.



TIKBI 1A [TIKB1A]  
TIKBI 1B [TIKB1B]  
RWY 12 DEPARTURES  
BY ATC

FOR RUSSIAN USERS ONLY

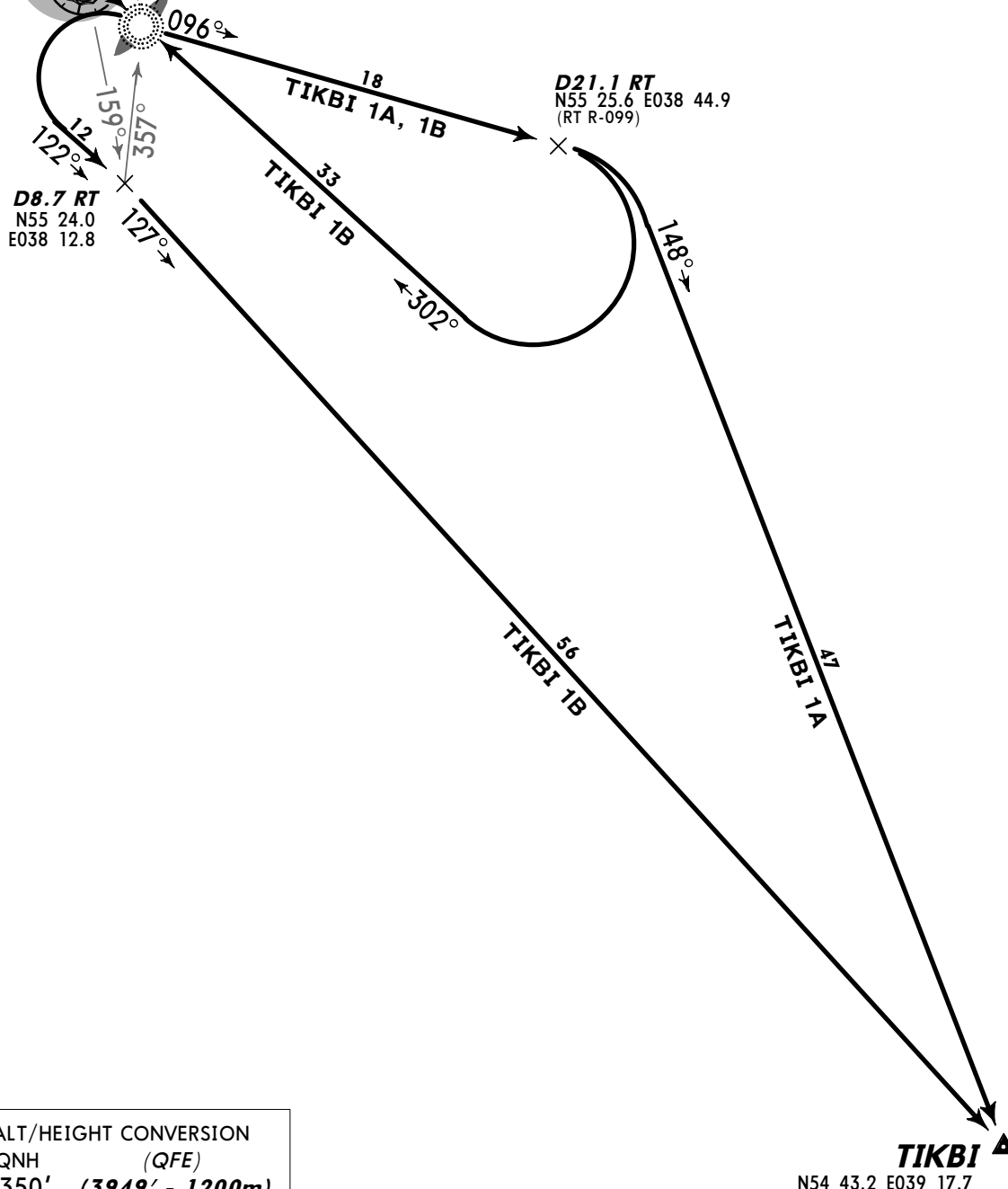
RAMENSKOYE  
D(H) 117.9 RT  
N55 32.6 E038 09.9

\*370 RT  
N55 30.6 E038 14.1



D8.7 RT  
N55 24.0  
E038 12.8

D21.1 RT  
N55 25.6 E038 44.9  
(RT R-099)



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3949' - 1200m)

TIKBI ▲  
N54 43.2 E039 17.7

Apt Elev  
404'

QNH on request (QFE)

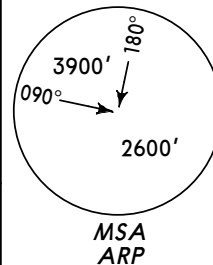
Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

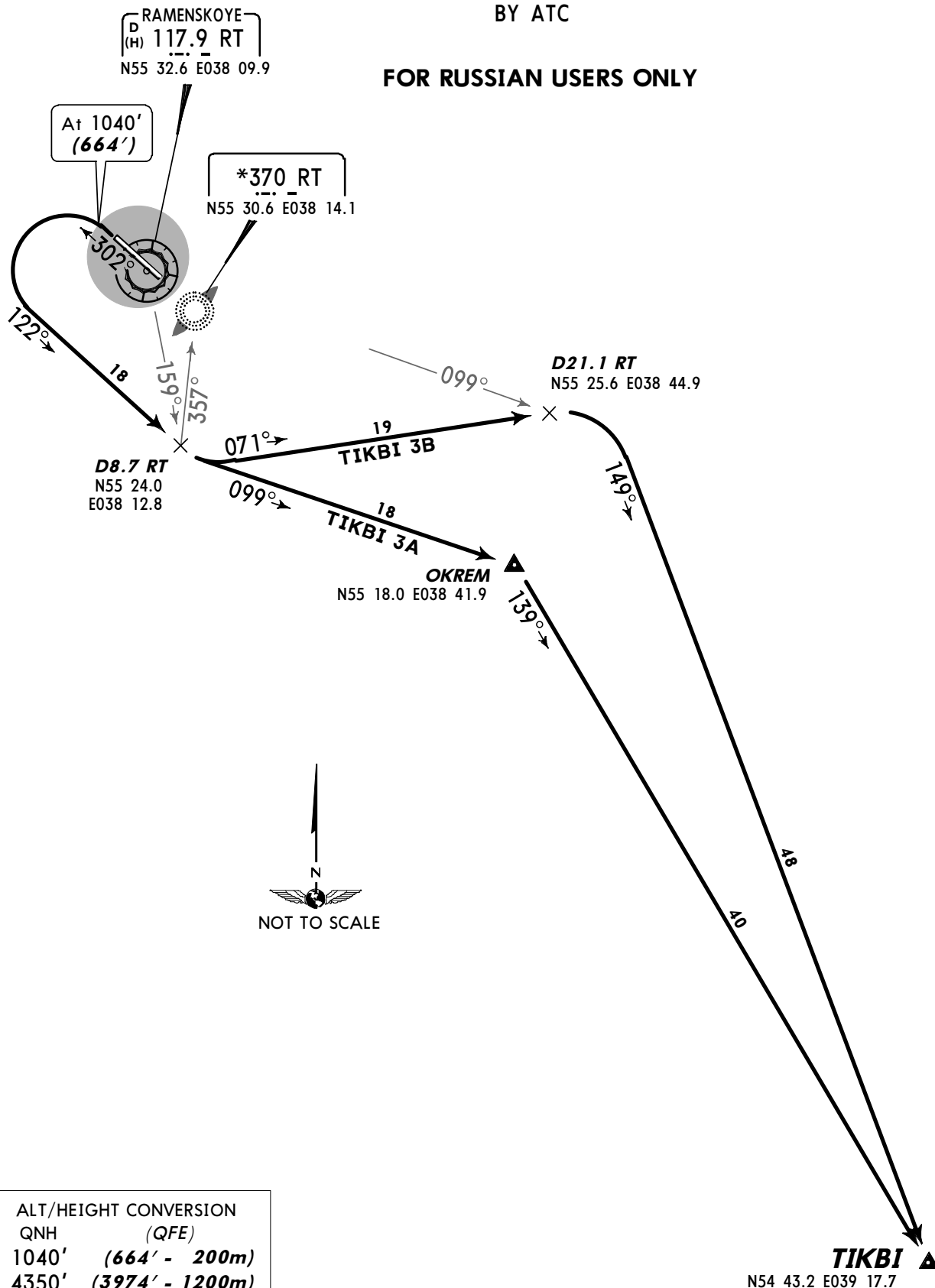
Trans alt (hgt): 4350' (3974')

Crossings at airway entry points by ATC.



TIKBI 3A [TIKB3A]  
TIKBI 3B [TIKB3B]  
RWY 30 DEPARTURES  
BY ATC

FOR RUSSIAN USERS ONLY



| ALT/HEIGHT CONVERSION |                 |  |
|-----------------------|-----------------|--|
| QNH                   | (QFE)           |  |
| 1040'                 | (664' - 200m)   |  |
| 4350'                 | (3974' - 1200m) |  |

Apt Elev  
404'

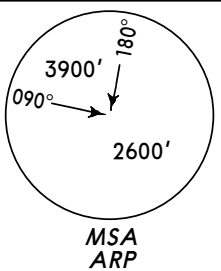
QNH on request (QFE)

Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3946')



NERL  
900 NE  
N57 02.3 E037 59.7

NE 1R  
FROM RW

NE 3R  
FROM DMD

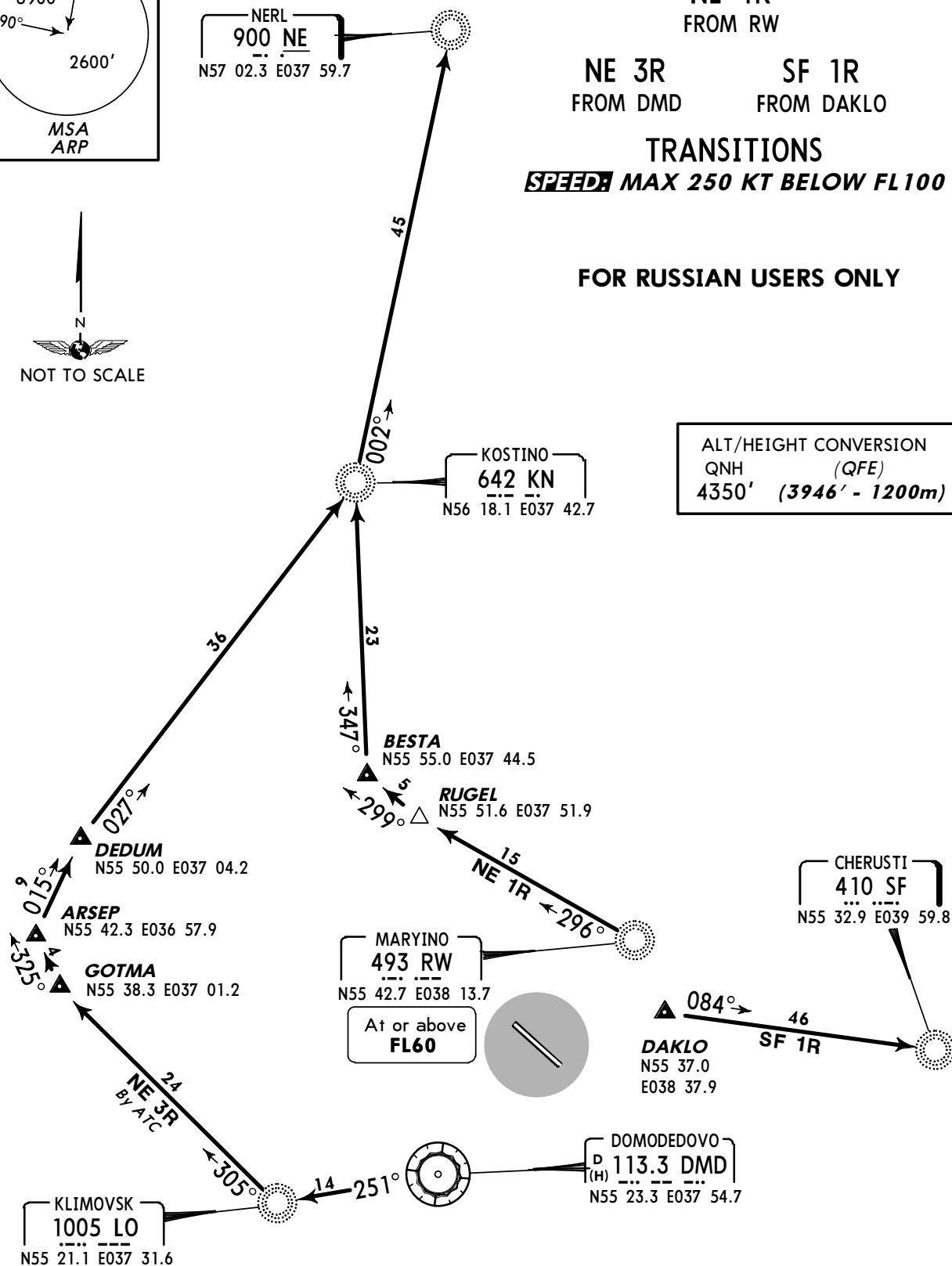
SF 1R  
FROM DAKLO

TRANSITIONS

**SPEED: MAX 250 KT BELOW FL100**

**FOR RUSSIAN USERS ONLY**

ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3946' - 1200m)



| TRANSITION      | ROUTING                                                                              |
|-----------------|--------------------------------------------------------------------------------------|
| NE 1R           | From RW to RUGEL, then to BESTA, then to KN, then to NE.                             |
| NE 3R<br>By ATC | From DMD to LO, then to GOTMA, then to ARSEP, then to DEDUM, then to KN, then to NE. |
| SF 1R           | From DAKLO to SF.                                                                    |

Apt Elev  
404'

QNH on request (QFE)

Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

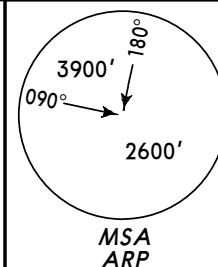
Trans alt (hgt): 4350' (3946')

FV 1R  
FROM DMD

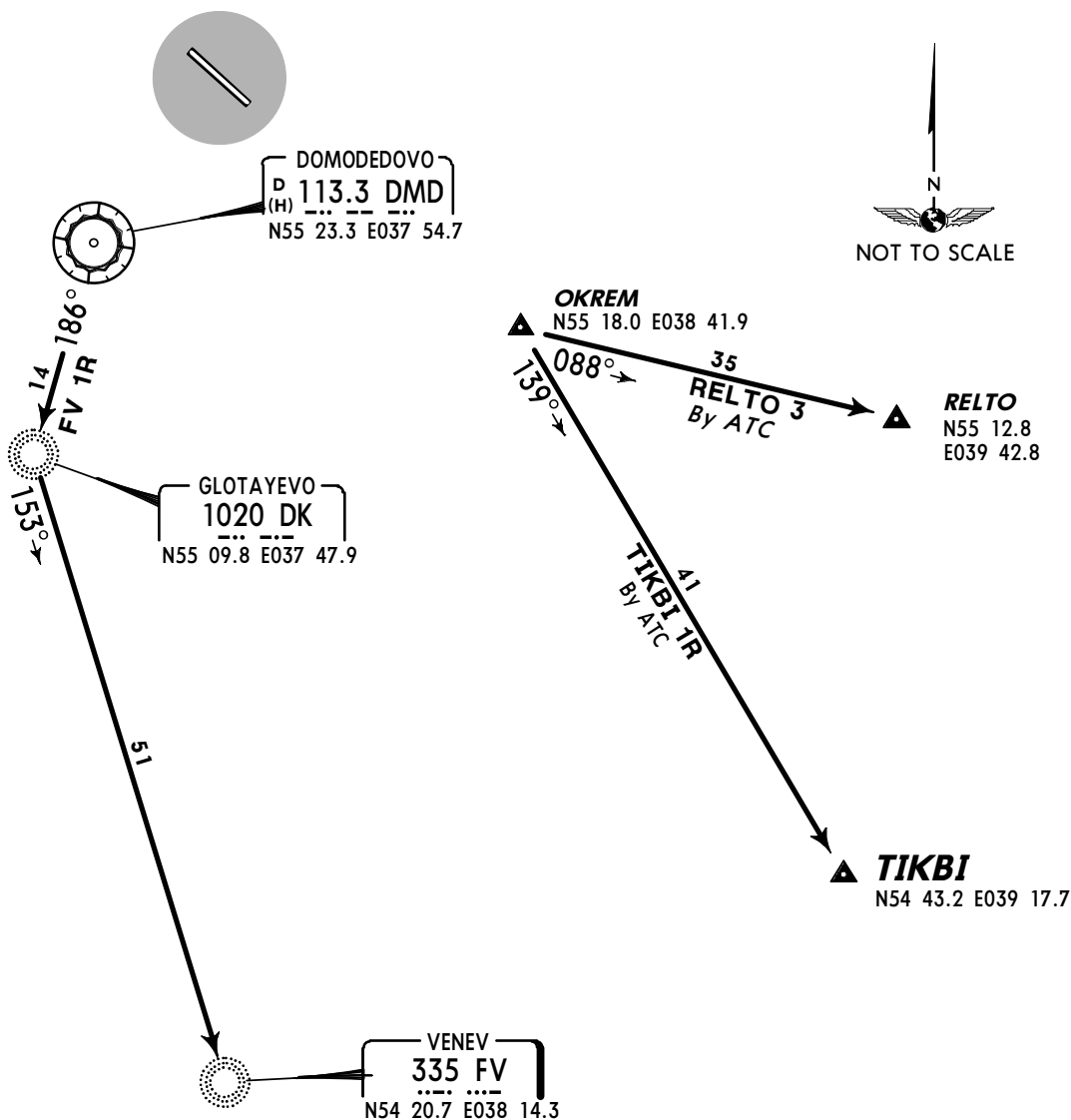
RELTO 3, TIKBI 1R [TIK1R]  
FROM OKREM

TRANSITIONS

**SPEED: MAX 250 KT BELOW FL100**



FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3946' - 1200m)

| TRANSITION         | ROUTING                     |
|--------------------|-----------------------------|
| FV 1R              | From DMD to DK, then to FV. |
| TIKBI 1R<br>By ATC | From OKREM to TIKBI.        |
| RELTO 3<br>By ATC  | From OKREM to RELTO.        |

Apt Elev  
404'

QNH on request (QFE)

Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3946')

KULEG 1R [KUL1R]

SUGIR 1R [SUG1R]

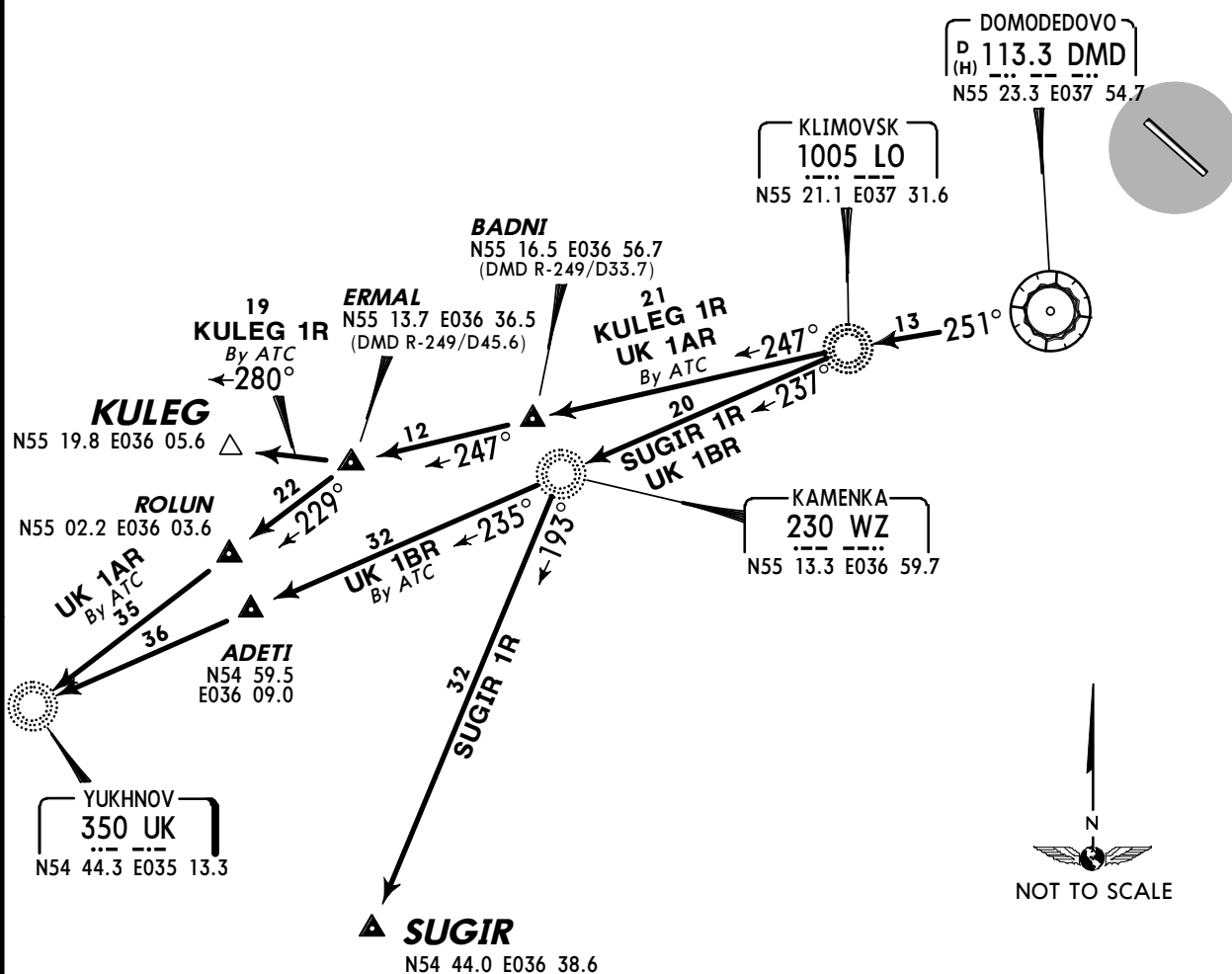
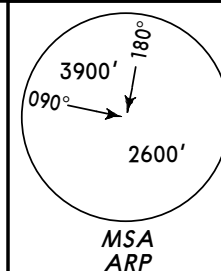
UK 1AR, UK 1BR

TRANSITIONS

FROM DMD

**~~SPEED~~ MAX 250 KT BELOW FL100**

FOR RUSSIAN USERS ONLY



ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3946' - 1200m)

| TRANSITION                | ROUTING                                                                  |
|---------------------------|--------------------------------------------------------------------------|
| <b>KULEG 1R</b><br>By ATC | From DMD to LO, then to BADNI, then to ERMAL, then to KULEG.             |
| <b>SUGIR 1R</b>           | From DMD to LO, then to WZ, then to SUGIR.                               |
| <b>UK 1AR</b><br>By ATC   | From DMD to LO, then to BADNI, then to ERMAL, then to ROLUN, then to UK. |
| <b>UK 1BR</b><br>By ATC   | From DMD to LO, then to WZ, then to ADETI, then to UK.                   |

Apt Elev  
404'

QNH on request (QFE)

Trans level: FL60

FL70 if pressure is less than 748mm (997.3 hPa)

FL80 if pressure is less than 721mm (961.3 hPa)

Trans alt (hgt): 4350' (3946')

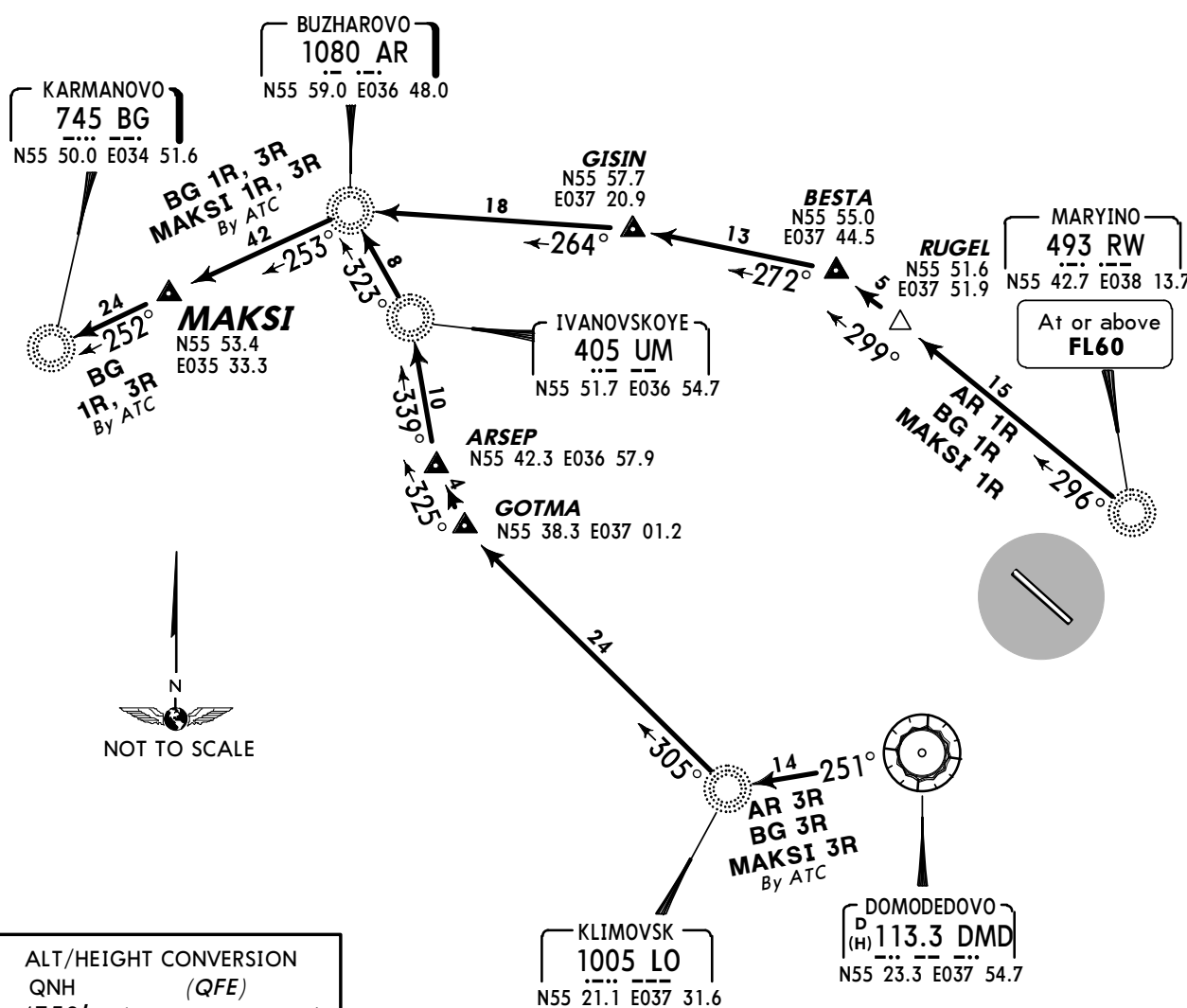
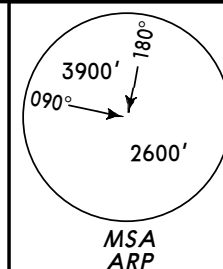
AR 1R, BG 1R, MAKSI 1R [MAK1R]  
FROM RW

AR 3R, BG 3R, MAKSI 3R [MAK3R]  
FROM DMD

### TRANSITIONS

**~~SPEED~~ MAX 250 KT BELOW FL100**

**FOR RUSSIAN USERS ONLY**



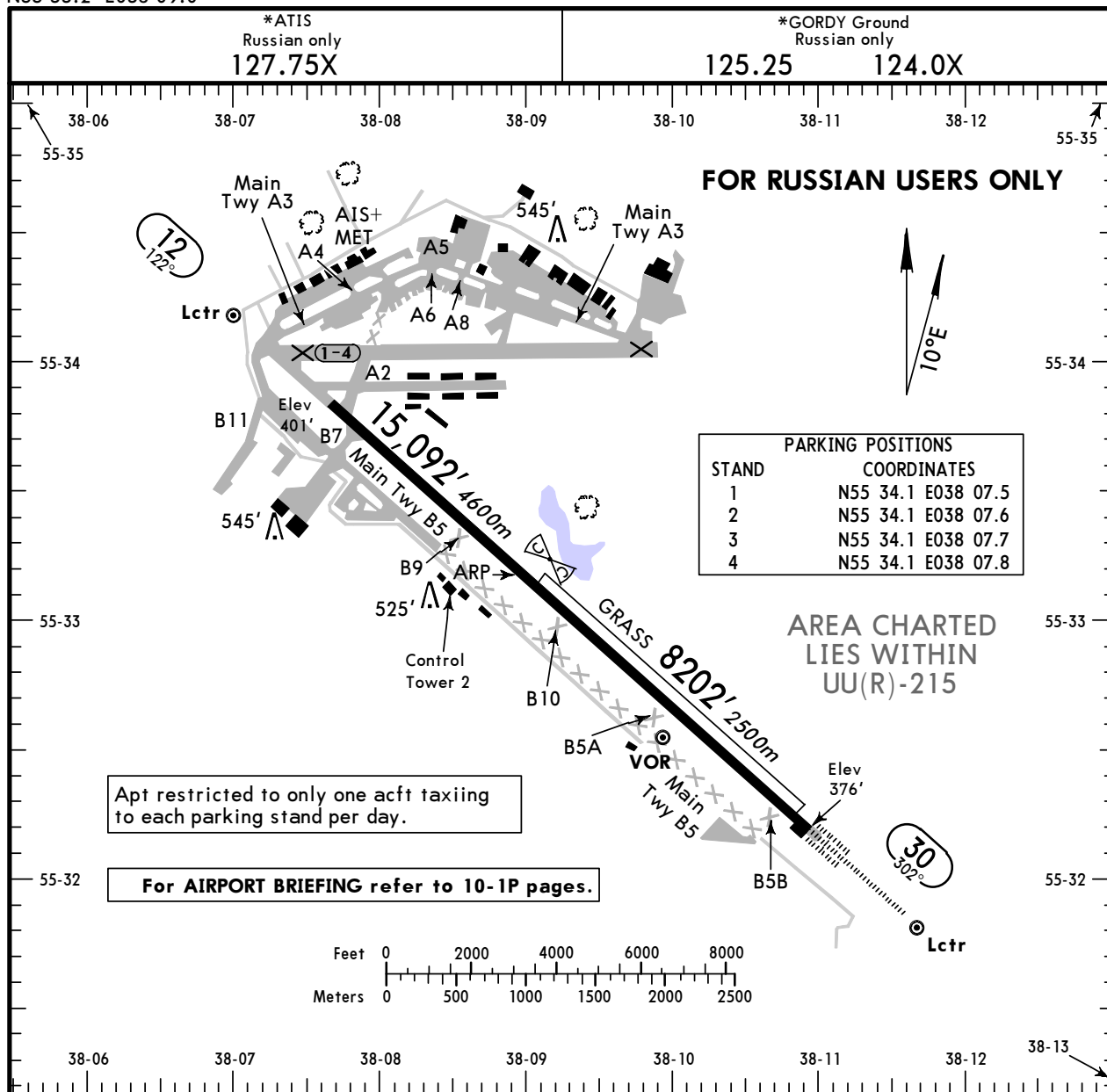
ALT/HEIGHT CONVERSION  
QNH (QFE)  
4350' (3946' - 1200m)

| TRANSITION         | ROUTING                                                                                          |
|--------------------|--------------------------------------------------------------------------------------------------|
| AR 1R              | From RW to RUGEL, then to BESTA, then to GISIN, then to AR.                                      |
| AR 3R<br>By ATC    | From DMD to LO, then to GOTMA, then to ARSEP, then to UM, then to AR.                            |
| BG 1R              | From RW to RUGEL, then to BESTA, then to GISIN, then to AR, then to MAKSI, then to BG.           |
| BG 3R<br>By ATC    | From DMD to LO, then to GOTMA, then to ARSEP, then to UM, then to AR, then to MAKSI, then to BG. |
| MAKSI 1R           | From RW to RUGEL, then to BESTA, then to GISIN, then to AR, then to MAKSI.                       |
| MAKSI 3R<br>By ATC | From DMD to LO, then to GOTMA, then to ARSEP, then to UM, then to AR, then to MAKSI.             |

UUBW  
Apt Elev 404'  
N55 33.2 E038 09.0

JEPPesen  
26 JUL 13 (10-9)

RAMENSKOYE, RUSSIA  
RAMENSKOYE



ADDITIONAL RUNWAY INFORMATION

| RWY |                      | USABLE LENGTHS |             |          | WIDTH |
|-----|----------------------|----------------|-------------|----------|-------|
|     |                      | LANDING BEYOND |             | TAKE-OFF |       |
|     |                      | Threshold      | Glide Slope |          |       |
| 12  | RL PAPI (3.0°)       | RVR            |             |          | 230'  |
| 30  | RL HIALS PAPI (3.0°) | RVR            |             |          | 70m   |
| 12  | Grass runway         |                |             |          | 197'  |
| 30  |                      |                |             |          | 60m   |
|     |                      |                |             |          |       |

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  
C  
D

250m

400m

300m

| STRAIGHT-IN RWY |         | A                     | B                     | C                     | D                     |
|-----------------|---------|-----------------------|-----------------------|-----------------------|-----------------------|
| 12              | RNAV ❶  | 830'(429')<br>R1500m  | 830'(429')<br>R1500m  | 830'(429')<br>R2000m  | 830'(429')<br>R2000m  |
|                 | VOR ❶   | 1060'(659')<br>R1500m | 1060'(659')<br>R1500m | 1390'(989')<br>C4500m | 1390'(989')<br>C4500m |
|                 | PAR     | 1057'(656')<br>R1500m | 1057'(656')<br>R1500m | 1057'(656')<br>C2400m | 1057'(656')<br>C2400m |
|                 | NDB ❶❷  | 1060'(659')<br>R1500m | 1060'(659')<br>R1500m | 1060'(659')<br>C2400m | 1060'(659')<br>C2400m |
|                 | NDB ❶❸  | 1060'(659')<br>C3000m | 1060'(659')<br>C3000m | 1060'(659')<br>C3000m | 1060'(659')<br>C3000m |
| 30              | ILS     | 1032'(656')<br>R1500m | 1032'(656')<br>R1500m | 1032'(656')<br>C2300m | 1032'(656')<br>C2300m |
|                 | ALS out | R1500m                | R1500m                | C2400m                | C2400m                |
|                 | LOC     | NOT<br>AUTH           | NOT<br>AUTH           | NOT<br>AUTH           | NOT<br>AUTH           |
|                 | RNAV ❶  | 740'(364')<br>R1000m  | 740'(364')<br>R1000m  | 740'(364')<br>R1000m  | 740'(364')<br>R1000m  |
|                 | ALS out | R1500m                | R1500m                | R1700m                | R1700m                |
|                 | VOR ❶   | 1040'(664')<br>R1500m | 1040'(664')<br>R1500m | 1360'(984')<br>C3800m | 1360'(984')<br>C3800m |
|                 | ALS out | R1500m                | R1500m                | C4500m                | C4500m                |
|                 | PAR     | 1040'(664')<br>R1500m | 1040'(664')<br>R1500m | 1360'(984')<br>C3800m | 1360'(984')<br>C3800m |
|                 | ALS out | R1500m                | R1500m                | C4500m                | C4500m                |
|                 | NDB ❶❷  | 1040'(664')<br>R1500m | 1040'(664')<br>R1500m | 1040'(664')<br>C2400m | 1040'(664')<br>C2400m |
|                 | NDB ❶❸  | 1140'(764')<br>C2900m | 1140'(764')<br>C2900m | 1140'(764')<br>C2900m | 1140'(764')<br>C2900m |
|                 | ALS out | C3600m                | C3600m                | C3600m                | C3600m                |

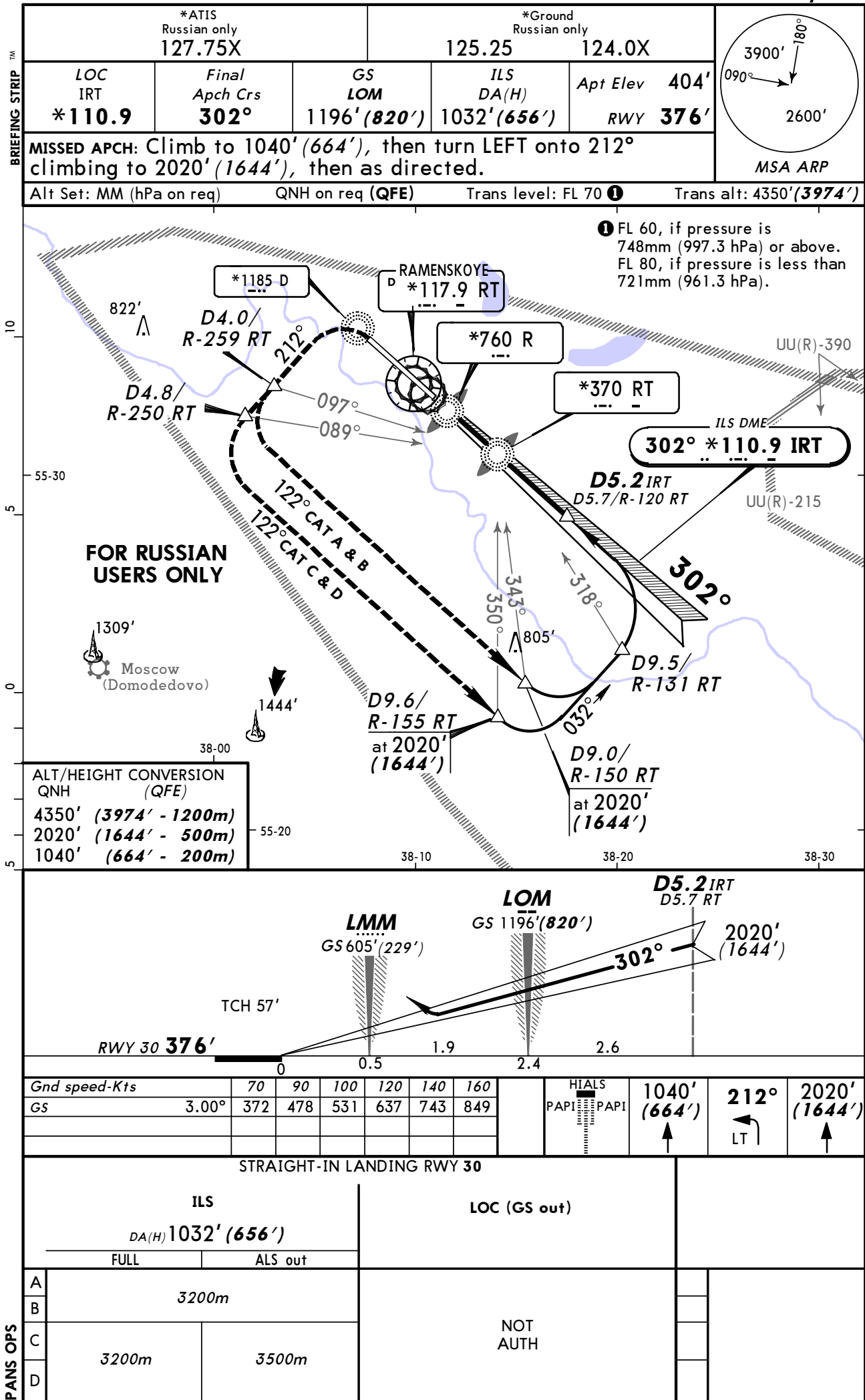
❶ Continuous Descent Final Approach.

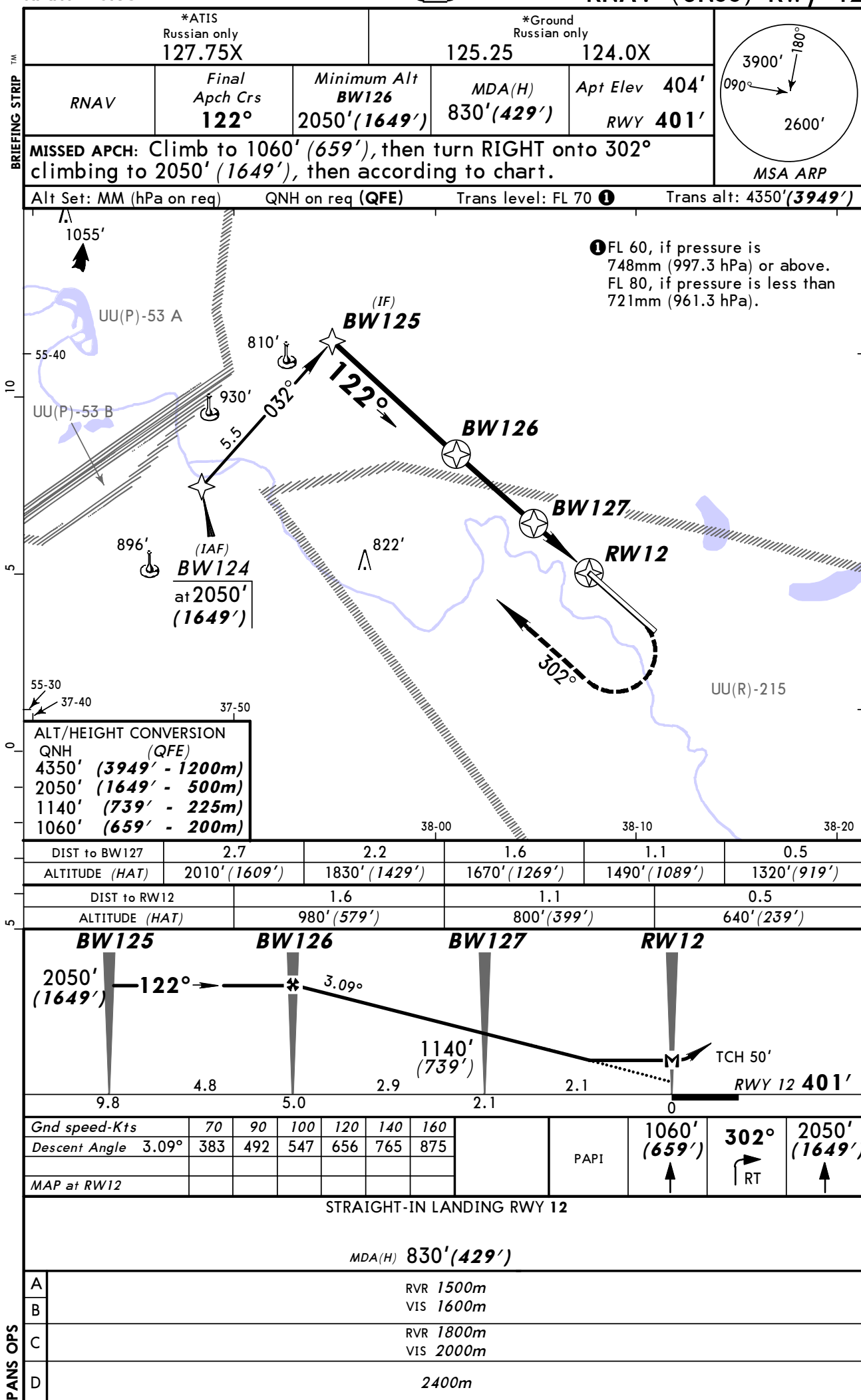
❷ with FAF.

❸ w/o FAF.

| TAKE-OFF RWY 12, 30      |      |                          |
|--------------------------|------|--------------------------|
| LVP must be in Force     |      |                          |
| RCLM (DAY only)<br>or RL |      | RCLM (DAY only)<br>or RL |
|                          |      | NIL<br>(DAY only)        |
| A                        | 250m | 400m                     |
| B                        |      |                          |
| C                        |      |                          |
| D                        | 300m | 500m                     |

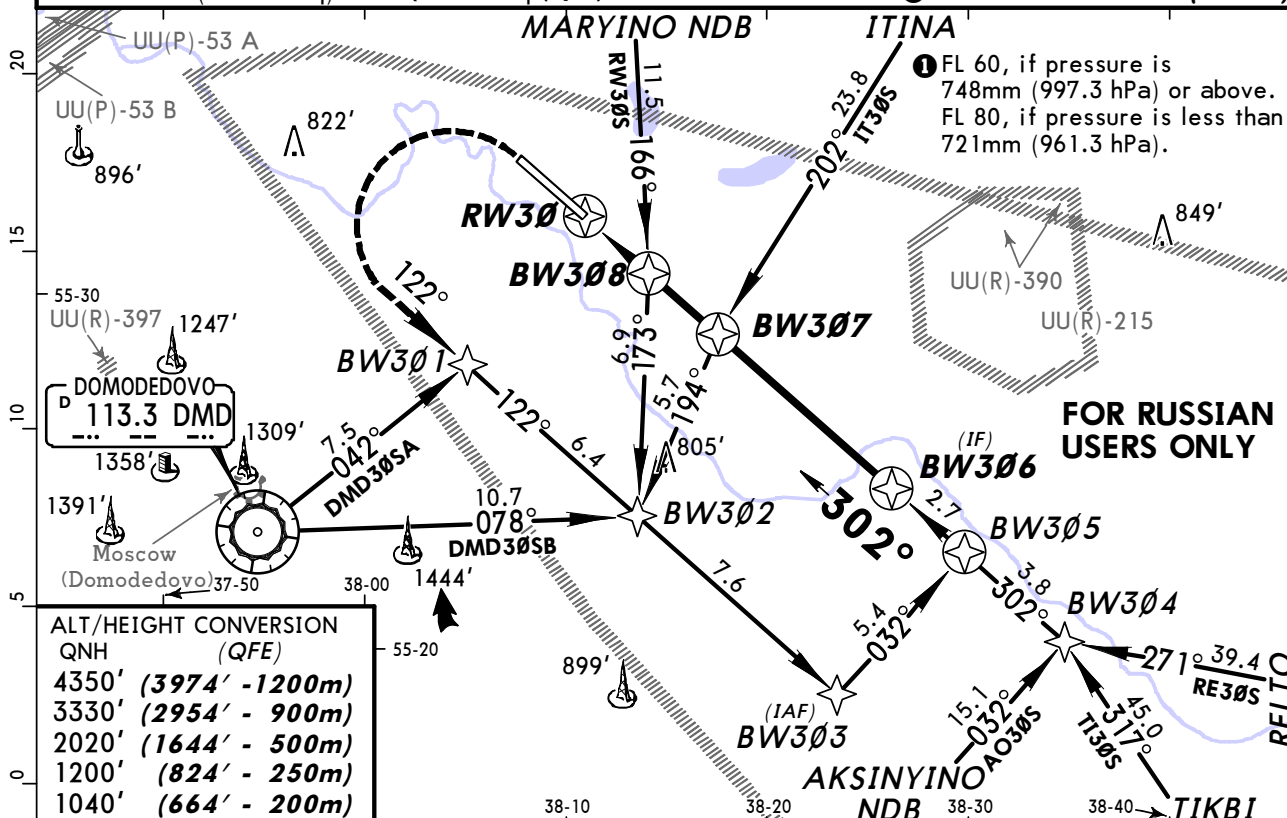




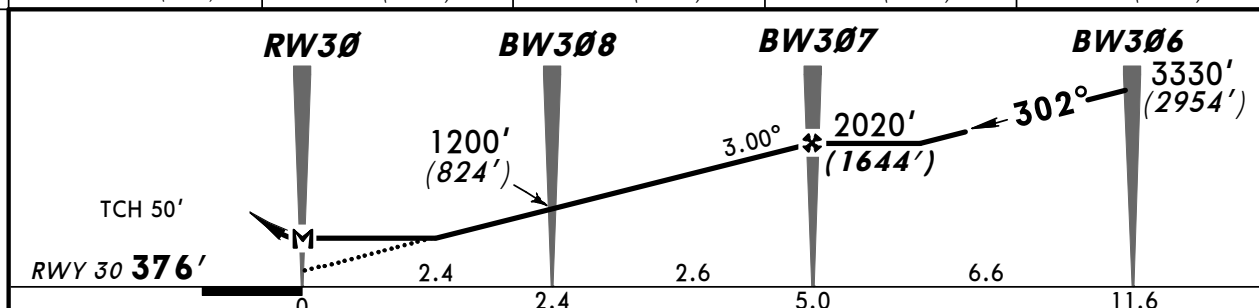


**BRIEFING STRIP** <sup>TM</sup>

**MISSED APCH:** Climb to 1040' (664'), then turn LEFT onto 122° climbing to 2020' (1644'), then according to chart.

Alt Set: MM (hPa on req)      QNH on req (**QFE**)      Trans level: FL 70 **①**      Trans alt: 4350' (**3974'**)

|                |              |               |               |               |
|----------------|--------------|---------------|---------------|---------------|
| DIST to BW308  | 0.5          | 1.1           | 1.6           | 2.2           |
| ALTITUDE (HAT) | 1360' (984') | 1550' (1174') | 1730' (1354') | 1890' (1514') |
| DIST to RW30   | 0.5          | 1.1           | 1.6           | 2.2           |
| ALTITUDE (HAT) | 610' (234')  | 770' (394')   | 950' (574')   | 1120' (744')  |



|                            |     |     |     |     |     |     |  |
|----------------------------|-----|-----|-----|-----|-----|-----|--|
| <i>Gnd speed-Kts</i>       | 70  | 90  | 100 | 120 | 140 | 160 |  |
| <i>Descent Angle</i> 3.00° | 372 | 478 | 531 | 637 | 743 | 849 |  |
|                            |     |     |     |     |     |     |  |
| <i>MAP at RW30</i>         |     |     |     |     |     |     |  |

STRAIGHT-IN LANDING RWY 30

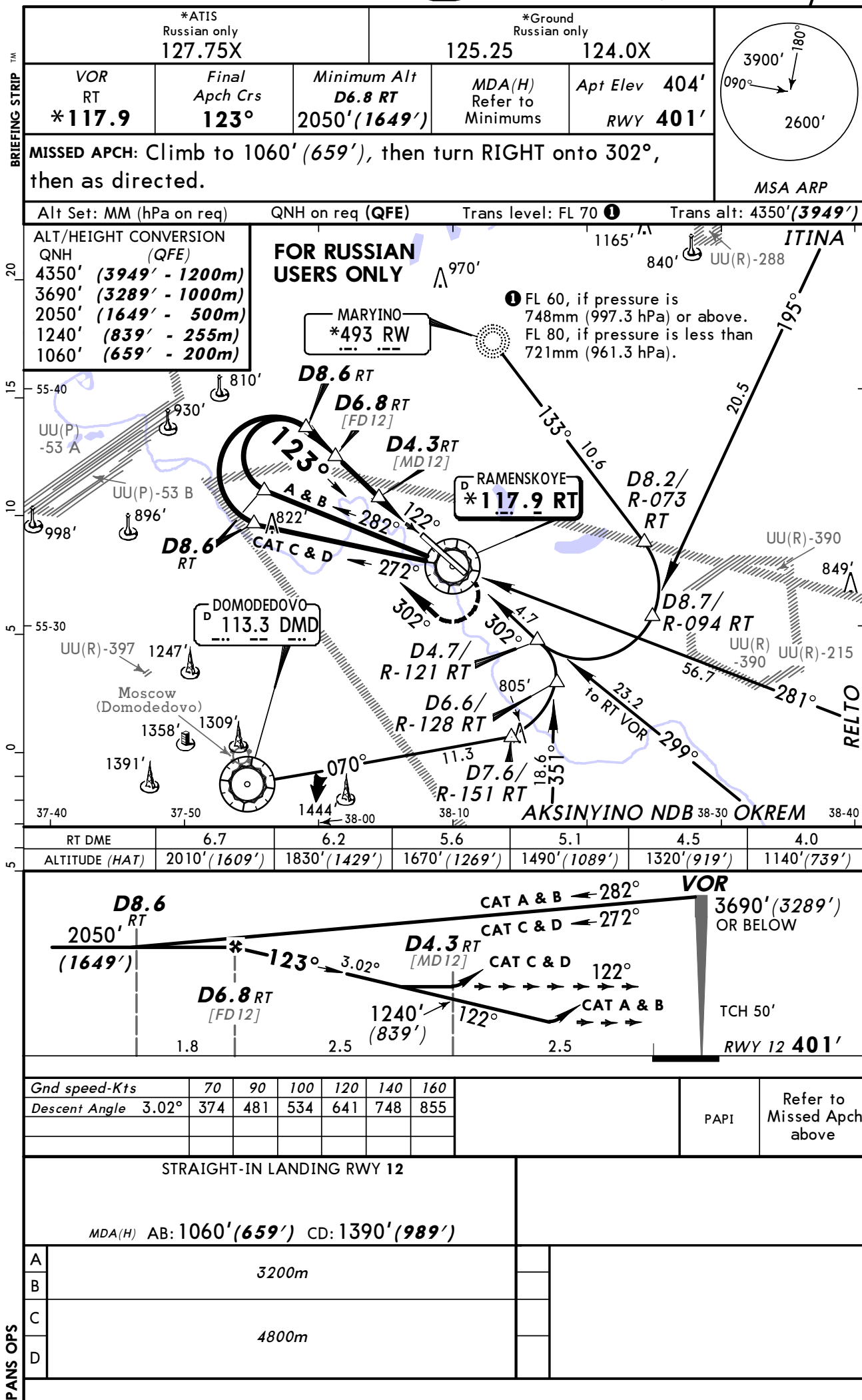
$MDA_{(H)}$  **740' (364')**

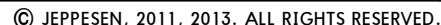
---

ALS out

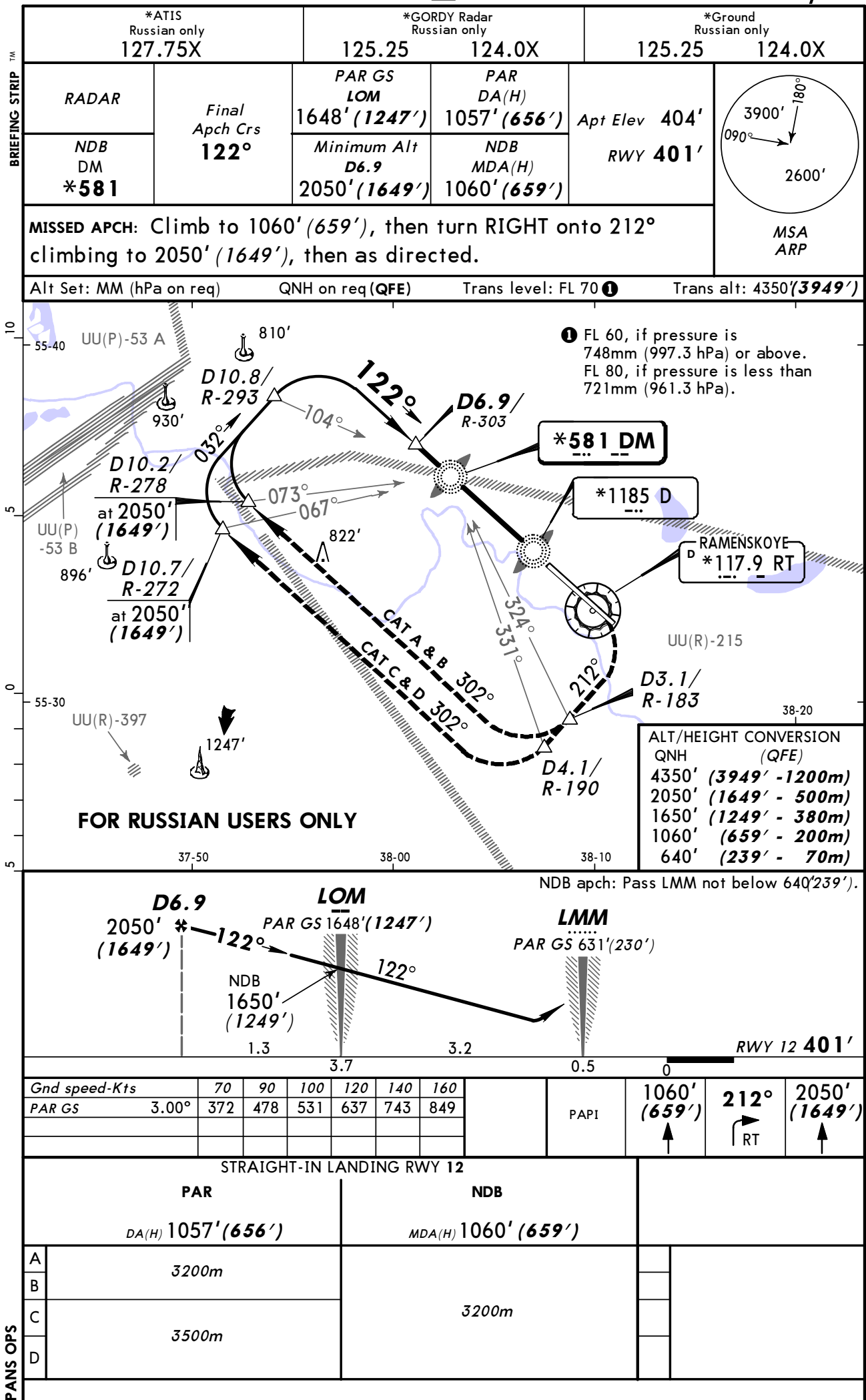
|   |                        |                        |
|---|------------------------|------------------------|
| A |                        |                        |
| B | RVR 720m<br>VIS 800m   | RVR 1500m<br>VIS 1600m |
| C |                        |                        |
| D | RVR 1500m<br>VIS 1600m | RVR 1800m<br>VIS 2000m |

## PANS OPS

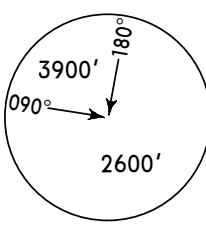




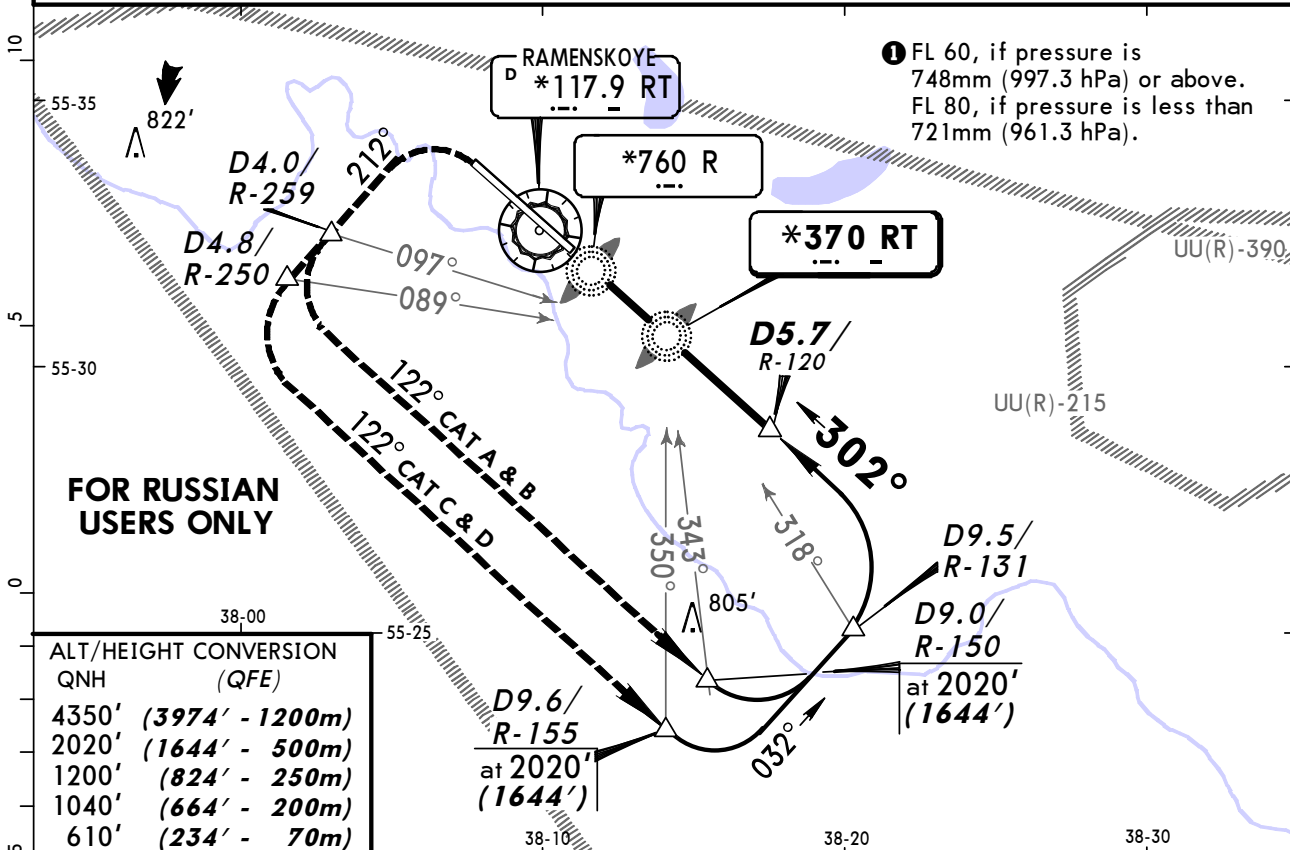




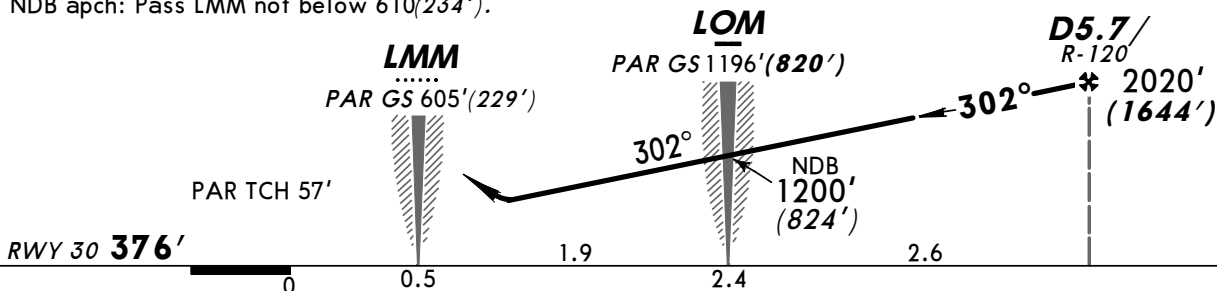
BRIEFING STRIP™

|                                                                                                           |                           |                                                    |                                                |                                               |                                                                                     |
|-----------------------------------------------------------------------------------------------------------|---------------------------|----------------------------------------------------|------------------------------------------------|-----------------------------------------------|-------------------------------------------------------------------------------------|
| *ATIS<br>Russian only<br>127.75X                                                                          |                           | *GORDY Radar<br>Russian only<br>125.25      124.0X |                                                | *Ground<br>Russian only<br>125.25      124.0X |                                                                                     |
| RADAR                                                                                                     | Final<br>Apch Crs<br>302° | PAR GS<br>LOM<br>1196' (820')                      | PAR<br>DA(H)<br>1032' (656')                   | Apt Elev 404'<br><br>RWY 376'                 |  |
| NDB<br>RT<br>*370                                                                                         |                           | Minimum Alt<br>D5.7<br>2020' (1644')               | NDB<br>MDA(H)<br>(CONDITIONAL)<br>1040' (664') |                                               |                                                                                     |
| MISSED APCH: Climb to 1040' (664'), then turn LEFT onto 212° climbing to 2020' (1644'), then as directed. |                           |                                                    |                                                |                                               |                                                                                     |

Alt Set: MM (hPa on req) QNH on req (QFE) Trans level: FL 70 ① Trans alt: 4350' (3974')



NDB apch: Pass LMM not below 610' (234').



|               |       |     |     |     |     |     |                    |              |            |               |
|---------------|-------|-----|-----|-----|-----|-----|--------------------|--------------|------------|---------------|
| Gnd speed-Kts | 70    | 90  | 100 | 120 | 140 | 160 | HIALS<br>PAPI PAPI | 1040' (664') | 212°<br>LT | 2020' (1644') |
| PAR GS        | 3.00° | 372 | 478 | 531 | 637 | 743 |                    |              |            |               |

| STRAIGHT-IN LANDING RWY 30 |       |                                 |       |                                |       |
|----------------------------|-------|---------------------------------|-------|--------------------------------|-------|
| PAR                        |       | NDB                             |       |                                |       |
| DA(H) 1032' (656')         |       | with FAF<br>MDA(H) 1040' (664') |       | w/o FAF<br>MDA(H) 1140' (764') |       |
| ALS out                    |       | ALS out                         |       | ALS out                        |       |
| A                          | 3200m |                                 | 3200m |                                |       |
| B                          | 3200m |                                 | 3200m |                                |       |
| C                          | 3200m |                                 | 3200m |                                | 3600m |
| D                          | 3200m |                                 | 3600m |                                | 4000m |



**Chart changes since cycle 16-2013**

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

ACT    PROCEDURE IDENT

INDEX

REV DATE

EFF DATE

**RAMENSKOYE, (RAMENSKOYE - UUBW)**



## **TERMINAL CHART CHANGE NOTICES**

### **No Chart Change Notices for Airport UUBW**