

ATC SURVEILLANCE MINIMUM  
ALTITUDE CHART - ICAO

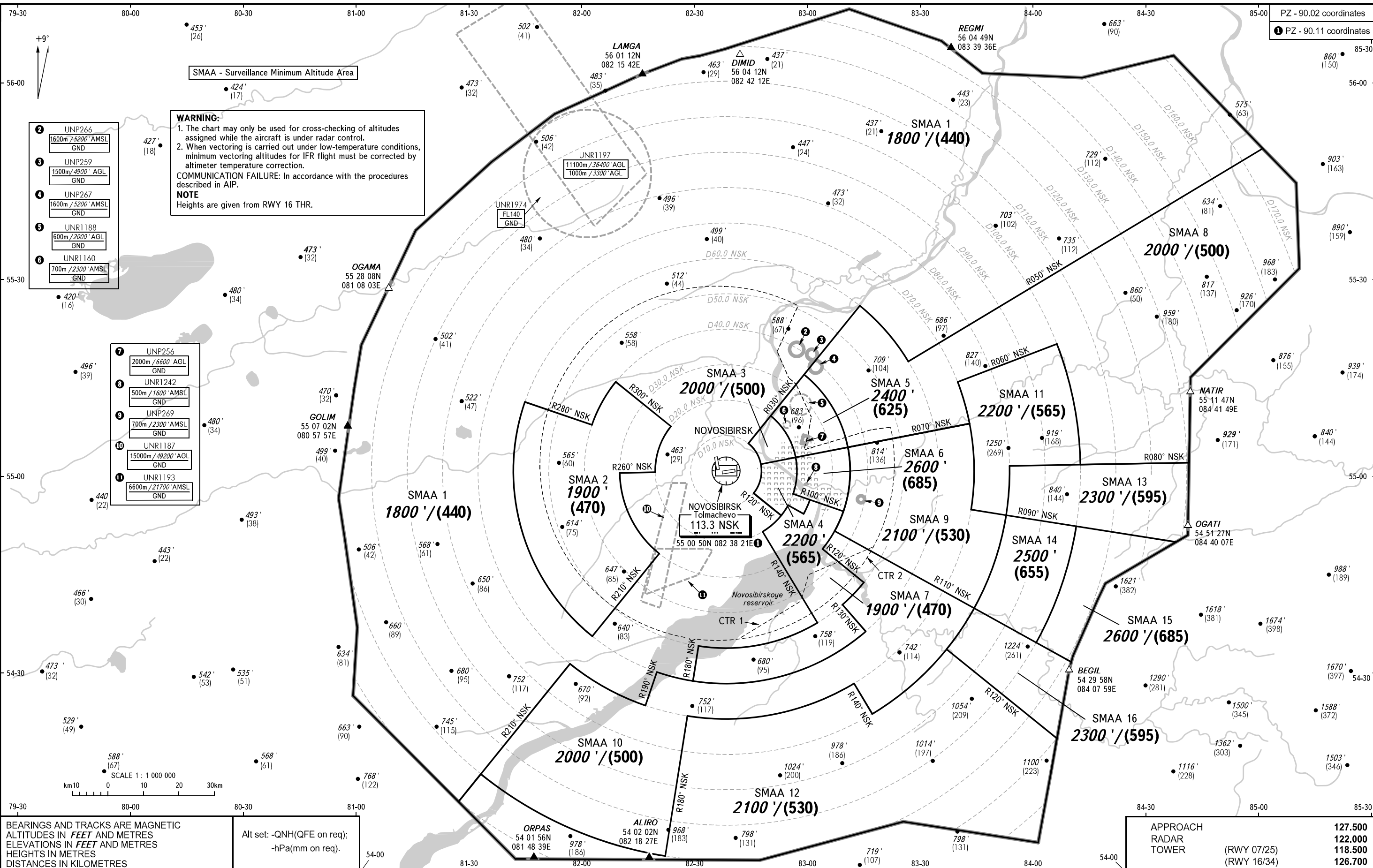
NOVOSIBIRSK, RUSSIA

TOLMACHEVO

ELEV  
368' / 112m

TRANSITION ALT: 6000'  
TRANSITION HGT: (1720)

PZ - 90.02 coordinates  
PZ - 90.11 coordinates



**WARNING:**

- The chart may only be used for cross-checking of altitudes assigned while the aircraft is under radar control.
- When vectoring is carried out under low-temperature conditions, minimum vectoring altitudes for IFR flight must be corrected by altimeter temperature correction.

COMMUNICATION FAILURE: In accordance with the procedures described in AIP.

**NOTE**  
Heights are given from RWY 16 THR.

- 2 UNP266  
1600m / 5200' AMSL  
GND
- 3 UNP259  
1500m / 4900' AGL  
GND
- 4 UNP267  
1600m / 5200' AMSL  
GND
- 5 UNR1188  
600m / 2000' AGL  
GND
- 6 UNR1160  
700m / 2300' AMSL  
GND

- 7 UNP256  
2000m / 6600' AGL  
GND
- 8 UNR1242  
500m / 1600' AMSL  
GND
- 9 UNP269  
700m / 2300' AMSL  
GND
- 10 UNR1187  
15000m / 49200' AGL  
GND
- 11 UNR1193  
6600m / 21700' AMSL  
GND

BEARINGS AND TRACKS ARE MAGNETIC  
ALTITUDES IN FEET AND METRES  
ELEVATIONS IN FEET AND METRES  
HEIGHTS IN METRES  
DISTANCES IN KILOMETRES

Alt set: -QNH(QFE on req);  
-hPa(mm on req).

APPROACH	127.500
RADAR	122.000
TOWER (RWY 07/25)	118.500
TOWER (RWY 16/34)	126.700

CHANGE: New chart

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<b>SURVEILLANCE MINIMUM ALTITUDE AREAS</b>		
<b>IDENT</b>	<b>MNM ALT/HGT (ft/m)</b>	<b>LATERAL LIMITS (PZ-90.11 coordinates)</b>
SMAA 1	1800' (440)	541012N 0812857E, 543123N 0815731E, then anticlockwise by arc of a circle radius of 70 km centred at 550050N 0823821E to 542507N 0821717E, 543013N 0822015E, then anticlockwise by arc of a circle radius of 60 km centred at 550050N 0823821E to 542852N 0822940E, 543412N 0823106E, then anticlockwise by arc of a circle radius of 50 km centred at 550050N 0823821E to 543741N 0830217E, 545135N 0824759E, then anticlockwise by arc of a circle radius of 20 km centred at 550050N 0823821E to 545402N 0825254E, 545726N 0824538E, then anticlockwise by arc of a circle radius of 10 km centred at 550050N 0823821E to 550501N 0824416E, 552552N 0831409E, then clockwise by arc of a circle radius of 60 km centred at 550050N 0823821E to 551719N 0832656E, 554826N 0850319E, then along the border to TMA to 541012N 0812857E. Excluding SMAA 2.
SMAA 2	1900' (470)	551420N 0820901E, 550736N 0822344E, then anticlockwise by arc of a circle radius of 20 km centred at 550050N 0823821E to 550037N 0821936E, 550029N 0821013E, then anticlockwise by arc of a circle radius of 30 km centred at 550050N 0823821E to 544814N 0822044E, 543536N 0820318E, then clockwise by arc of a circle radius of 60 km centred at 550050N 0823821E to 551109N 0814455E, 550746N 0820246E, then clockwise by arc of a circle radius of 40 km centred at 550050N 0823821E to 551420N 0820901E.
SMAA 3	2000' (500)	550501N 0824416E, 550912N 0825012E, then clockwise by arc of a circle radius of 20 km centred at 550050N 0823821E to 550252N 0825647E, 550151N 0824734E, then anticlockwise by arc of a circle radius of 10 km centred at 550050N 0823821E, 550501N 0824416E.
SMAA 4	2200' (565)	550151N 0824734E, 550252N 0825647E, then clockwise by arc of a circle radius of 20 km centred at 550050N 0823821E to 545718N 0825604E, 545624N 0830029E, then clockwise by arc of a circle radius of 25 km centred at 550050N 0823821E to 545416N 0825849E, 545535N 0825444E, then clockwise by arc of a circle radius of 20 km centred at 550050N 0823821E to 545402N 0825254E, 545726N 0824538E, then anticlockwise by arc of a circle radius of 10 km centred at 550050N 0823821E to 550151N 0824734E.
SMAA 5	2400' (625)	550912N 0825012E, 551527N 0825909E, then clockwise by arc of a circle radius of 35 km centred at 550050N 0823821E to 550421N 0831038E, 550252N 0825647E, then anticlockwise by arc of a circle radius of 20 km centred at 550050N 0823821E to 550912N 0825012E.
SMAA 6	2600' (685)	550252N 0825647E, 550421N 0831038E, then clockwise by arc of a circle radius of 35 km centred at 550050N 0823821E to 545437N 0830919E, 545718N 0825604E, then anticlockwise by arc of a circle radius of 20 km centred at 550050N 0823821E to 550252N 0825647E.
SMAA 7	1900' (470)	545624N 0830029E, 545437N 0830919E, then clockwise by arc of a circle radius of 35 km centred at 550050N 0823821E to 544854N 0830345E, 544346N 0831433E, then clockwise by arc of a circle radius of 50 km centred at 550050N 0823821E to 544025N 0830852E, 543619N 0831455E, then clockwise by arc of a circle radius of 60 km centred at 550050N 0823821E to 542852N 0822940E, 543412N 0823106E, then anticlockwise by arc of a circle radius of 50 km centred at 550050N 0823821E to 543741N 0830217E, 545135N 0824759E, then anticlockwise by arc of a circle radius of 20 km centred at 550050N 0823821E to 545535N 0825444E, 545416N 0825849E, then anticlockwise by arc of a circle radius of 25 km centred at 550050N 0823821E to 545624N 0830029E.
SMAA 8	2000' (500)	551527N 0825909E, 552552N 0831409E then clockwise by arc of a circle radius of 60 km centred at 550050N 0823821E to 551719N 0832656E, 554826N 0850319E, then along the border to TMA to 550101N 0844055E, 550110N 0841210E, then anticlockwise by arc of a circle radius of 100 km centred at 550050N 0823821E to 551936N 0840637E, 551405N 0834000E, then clockwise by arc of a circle radius of 70 km centred at 550050N 0823821E to 550744N 0834300E, 550421N 0831038E, then anticlockwise by arc of a circle radius of 35 km centred at 550050N 0823821E to 551527N 0825909E.

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SMAA 9	2100' (530)	550421N 0831038E, 550744N 0834300E, then clockwise by arc of a circle radius of 70 km centred at 550050N 0823821E to 545438N 0834303E, 545342N 0835215E, then clockwise by arc of a circle radius of 80 km centred at 550050N 0823821E to 543938N 0834325E, 545137N 0830658E, then anticlockwise by arc of a circle radius of 35 km centred at 550050N 0823821E to 550421N 0831038E.
SMAA 10	2000' (500)	545137N 0830658E, 543938N 0834325E, then clockwise by arc of a circle radius of 80 km centred at 550050N 0823821E to 542345N 0831626E, 542824N 0831144E, then clockwise by arc of a circle radius of 70 km centred at 550050N 0823821E to 542333N 0822814E, 540214N 0822235E, then clockwise by arc of a circle radius of 110 km centred at 550050N 0823821E to 541427N 0813437E, 543123N 0815731E, then anticlockwise by arc of a circle radius of 70 km centred at 550050N 0823821E to 542507N 0821717E, 543013N 0822015E, then anticlockwise by arc of a circle radius of 60 km centred at 550050N 0823821E to 543619N 0831455E, 544025N 0830852E, then anticlockwise by arc of a circle radius of 50 km centred at 550050N 0823821E to 544346N 0831433E, 544854N 0830345E, then anticlockwise by arc of a circle radius of 35 km centred at 550050N 0823821E to 545137N 0830658E.
SMAA 11	2200' (565)	551405N 0834000E, 551936N 0840637E, then clockwise by arc of a circle radius of 100 km centred at 550050N 0823821E to 550110N 0841210E, 550111N 0835324E, then clockwise by arc of a circle radius of 80 km centred at 550050N 0823821E to 545342N 0835215E, 545438N 0834303E, then anticlockwise by arc of a circle radius of 70 km centred at 550050N 0823821E to 551405N 0834000E.
SMAA 12	2100' (530)	543327N 0833602E, 541936N 0840423E, then along TMA boundary to 541012N 0812857E, 541427N 0813437E, then anticlockwise by arc of a circle radius of 110 km centred at 550050N 0823821E to 540214N 0822235E, 542333N 0822814E, then anticlockwise by arc of a circle radius of 70 km centred at 550050N 0823821E to 542824N 0831144E, 542345N 0831626E, then anticlockwise by arc of a circle radius of 80 km centred at 550050N 0823821E to 543327N 0833602E.
SMAA 13	2300' (595)	550111N 0835324E, 550101N 0844055E, then along TMA boundary to 544901N 0843654E, 545342N 0835215E, then anticlockwise by arc of a circle radius of 80 km centred at 550050N 0823821E to 550111N 0835324E.
SMAA 14	2500' (655)	545342N 0835215E, 545148N 0841040E, then clockwise by arc of a circle radius of 100 km centred at 550050N 0823821E to 543414N 0835931E, 543938N 0834325E, then anticlockwise by arc of a circle radius of 80 km centred at 550050N 0823821E to 545342N 0835215E.
SMAA 15	2600' (685)	545148N 0841040E, 544901N 0843654E, then along TMA boundary to 543110N 0840835E, 543414N 0835931E, then anticlockwise by arc of a circle radius of 100 km centred at 550050N 0823821E to 545148N 0841040E.
SMAA 16	2300' (595)	543938N 0834325E, 543110N 0840835E, then along TMA boundary to 541936N 0840423E, 543327N 0833602E, then anticlockwise by arc of a circle radius of 80 km centred at 550050N 0823821E to 543938N 0834325E.