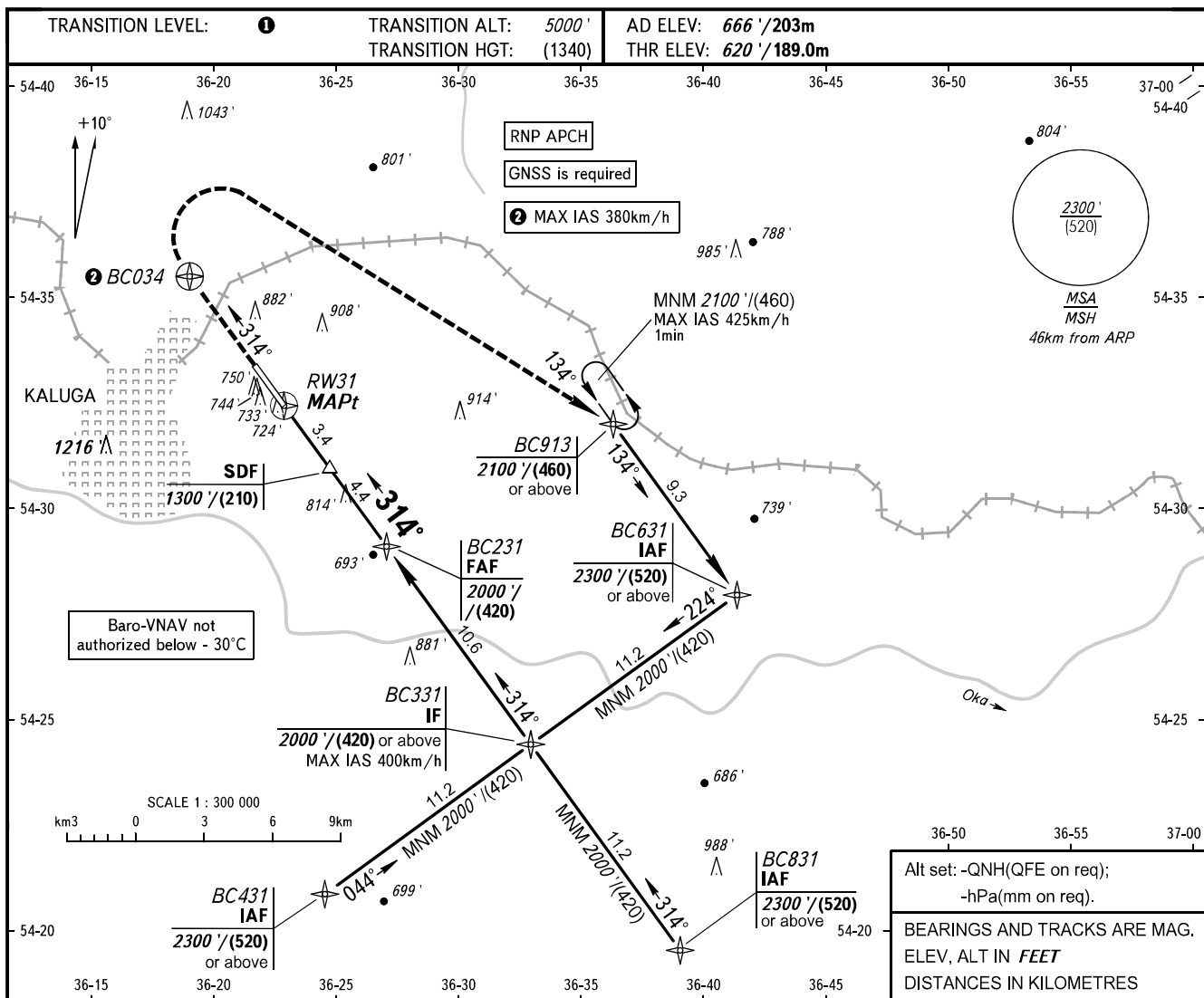


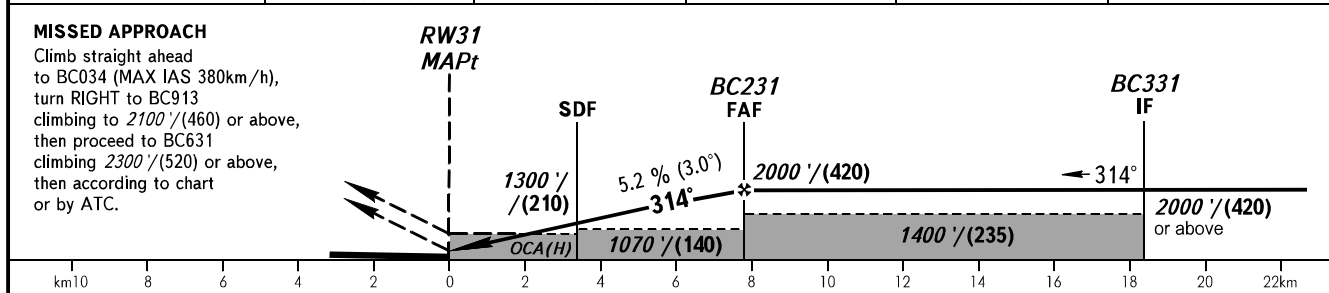
**INSTRUMENT
APPROACH
CHART - ICAO**

KALUGA TOWER 120.300

**KALUGA, RUSSIA
GRABTSEVO
RNAV RWY 31**



DIST to RW31	2.0	3.0	5.0	7.0	7.8
ALTITUDE	1015' / (120)	1185' / (175)	1525' / (275)	1870' / (385)	2000' / (420)



OCA(H)		A	B	C	D	1 TRANSITION LEVEL: - FL060 when QNH is 1013 hPa (760mm mercury column) or above; - FL070 when QNH is 977 hPa (733mm mercury column) or above, but less than 1013 hPa (760mm mercury column); - FL080 when QNH is less than 977 hPa (733mm mercury column). WARNING Visual manoeuvring WEST of AD is PROHIBITED.					
Straight-in Approach	LNAV	980' (360') / (110)	980' (360') / (110)	980' (360') / (110)	980' (360') / (110)						
	LNAV / VNAV	865' (245') / (75)	875' (255') / (80)	896' (276') / (85)	911' (291') / (90)						
Circling		1180' (520') / (160)*	1210' (550') / (170)*	1310' (650') / (200)*	1360' (700') / (220)*						
GROUND SPEED		km/h	150	180	210	240	270	300	330	360	390
RATE OF DESCENT		m/s	2.2	2.6	3.0	3.5	3.9	4.3	4.8	5.2	5.6
RATE OF DESCENT		ft/min	427	512	597	682	768	853	938	1024	1109