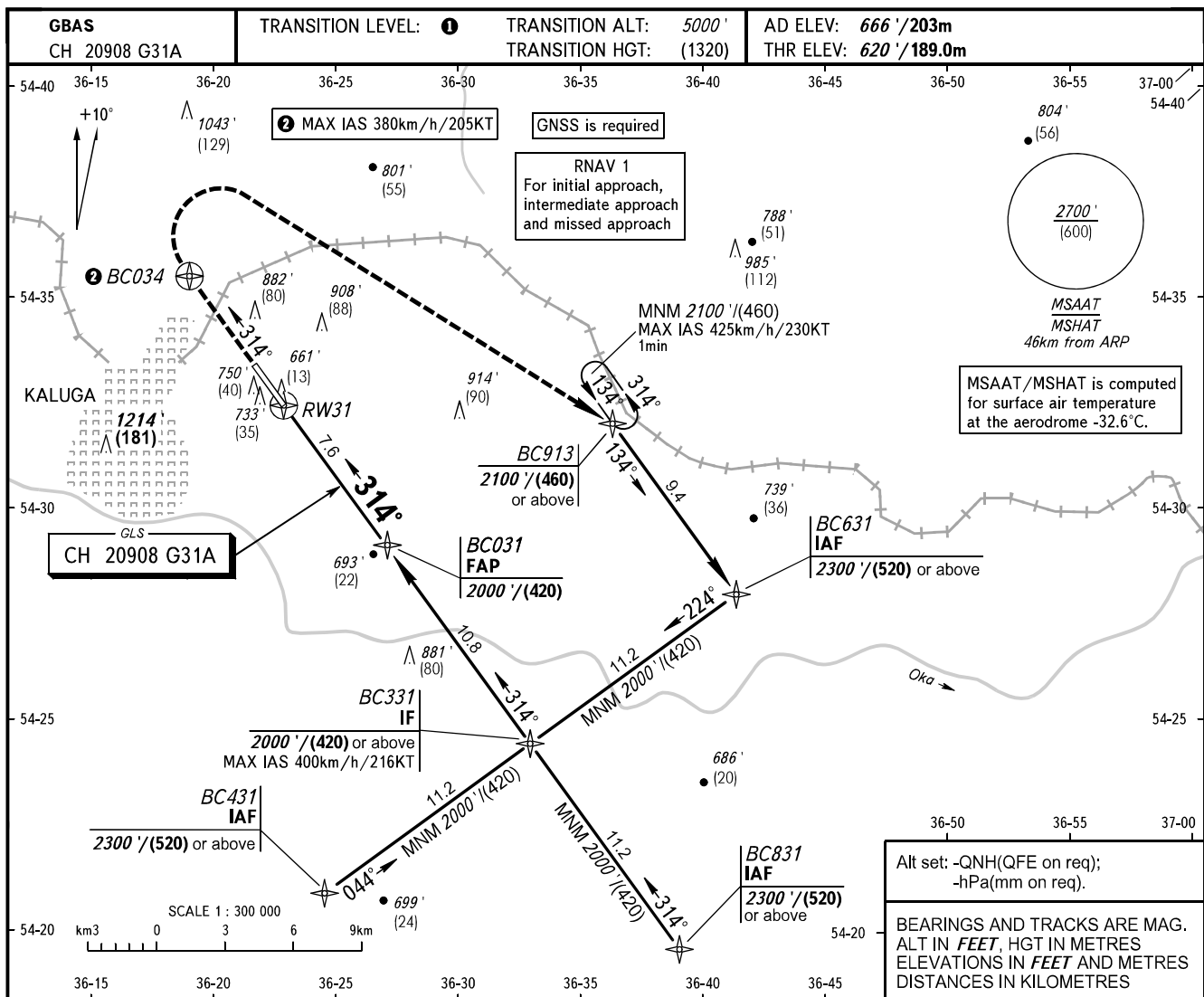


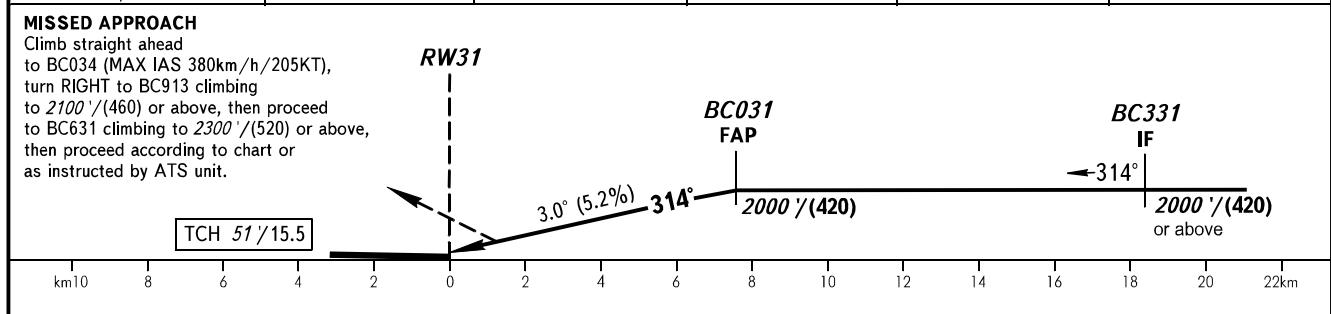
**INSTRUMENT  
APPROACH  
CHART - ICAO**

KALUGA TOWER 120.300

**KALUGA, RUSSIA**  
GRABTSEVO  
GLS RWY 31



DIST to RW31	2.0	3.0	5.0	7.0	7.6
ALTITUDE/HEIGHT	1015'/(120)	1190'/(175)	1535'/(280)	1885'/(390)	2000'/(420)



OCA(H)		A	B	C	D					
Straight-in Approach	CAT I	761' (141') (43)	773' (153') (47)	783' (163') (50)	797' (177') (54)					
	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
	kt	81	97	113	130	146	162	178	194	211
RATE OF DESCENT	m/s	2.2	2.6	3.0	3.5	3.9	4.3	4.8	5.2	5.6
	ft/min	427	512	597	682	768	853	938	1024	1109

**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.