

AGAP-S

C-FSJB

December 2008/January 2009

OPERATOR FLIGHT LOG

Flight Number	F05
Date (ZULU)	Dec 26, 2008
Pilot/Co-Pilot	B Brian, Rebecca
Operator(s)	Michael
Line Numbers	mag compass -

Start GPS and magnetic base stations at least 30 mins before takeoff. Start recording with aircraft GPS receivers at least 30 mins before takeoff.

Event	GPS Time	Comments
GPS SJB-1	still	Start recording. CF Card: Job name:
	runny.	Battery charge: A: % B: % External: %
	hm	Available memory: KB.
	previous	No Sat tracked: L1: L2:
GPS SJB-2	right	Start recording. CF Card: Job name:
		Battery charge: A: % B: % External: %
		Available memory: KB.
		No Sat tracked: L1: L2:

Operator Flight Log | F05

AGIS on	Nich 03:23	Start recording. Project name: AGAP_F05
		Engines on still running.
	03:24	Taxi
	03:25	Takeoff
Laser on	Nich started	Start recording. Project name:
Radar on	it	Start recording. Filename(s):
Event	GPS Time	Comments
	03:26	radar Tx on Line 550
827		first null
917		yan 1
937		second 2
958		yan 3
981		yan 4
1001		yan 5
1058		pitch 1
075		pitch 2
1099		pitch 3
		T 10020

Event	GPS Time	Comments
1385		2nd segment roll 1 Line T10020 in A61S
		—
1420		2nd roll
1480		Yaw 4
1499		Yaw 2
1520		Yaw 3
1564		pitch 1
1584		pitch 2
1597		pitch 3
1617		pitch 4?
		turn to line 620
1842		at line 620
1870		roll 1 3rd segment.
1898		roll 2
1920		roll 3
1970		Yaw 1
1992		Yaw 2
2018		Yaw 3
2073		pitch 1
2096		pitch 2
2120		pitch 3

Event	GPS Time	Comments
2185		turn to Lim T10010
2285		on lim T10010
2330		roll 1 4rd segm
2355		roll 2
2380		roll 3
2428		yaw 1
2452		yaw 2
2476		yaw 3
2519		pitch 1
2544		pitch 2
2568		pitch 3
2615		return to AGAP-S
	04:10	lose reflection is back.
	04:12	radar Tx off
		camp over flight, may not
		see laser on camp.
	04:17	touch down
	04:19	at fuel position

[illegible]

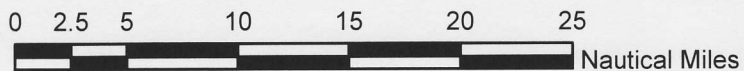
MAGNETIC COMPENSATION FLIGHT AGAP-S

OPERATOR

C-FSJB

WP	LATITUDE			LONGITUDE			DISTANCE ALONG FLIGHT (NM)	AGIS LINE LINE NUMBER
1	84°	29.40'	S	77°	21.18'	E	0.00	AGAP-S
2	84°	15.76'	S	77°	19.01'	E	13.74	L540
3	83°	57.67'	S	77°	26.95'	E	31.97	T10100
4	83°	58.01'	S	79°	34.48'	E	45.47	L590
5	84°	16.12'	S	79°	33.15'	E	63.69	T10090
6	84°	15.76'	S	77°	19.01'	E	77.19	TRANSIT TO AGAP-S
7	84°	29.40'	S	77°	21.18'	E	90.93	AGAP-S

TOTAL FLIGHT DISTANCE: 91 nm



Compensation Flight:
Total flight distance: 91 nm

Mission Profile for Magnetic Compensation Flights

flight elevation: > 2500 m AGL (8200 ft) in a magnetically quiet area (low gradients).

also: only minor diurnal variation

orientation: parallel to flight lines and tie lines, does not have to be located on survey lines, just parallel.

itches: $\pm 5^\circ$ minimal use of rudder

rolls: $\pm 10^\circ$ make sure not to increase 10° so Cs sensor does not enter the dead zone

yaws: $\pm 5^\circ$ rudder only

auto pilot turned off

10 Hz sampling, 2Hz bandwidth

turn off systems that consume large amounts of power (heaters etc)

other equipment in normal operating conditions

prepare flight log

Compensation Maneuvers

Period of each maneuver: 5 - 10 seconds

Each orientation: 3 roll, 3 yaw, 3 pitch with level flight in between

keep order of motions consistent.

no rough movements

altitude change less than 50 m

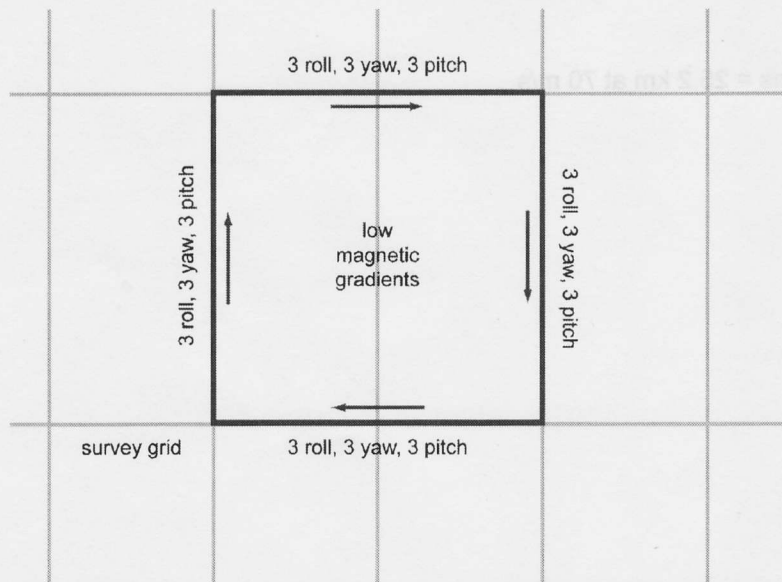


Figure 1: Flight pattern for magnetic compensation flights. The flight directions are parallel to the orientations of the survey grid lines.

09EJATOIS

estimated flight duration for 1 segment:

level flight after turn: > 10 sec better 60 sec

stable flight in between maneuvers: 3 sec. better 10.

1 sequence:

Turn	45 sec
level flight:	30 sec
1x roll:	10 sec
stable flight:	10 sec
1 x roll	10 sec
stable flight:	10 sec
1 x roll	10 sec
level flight:	30 sec
1x yaw:	10 sec
stable flight:	10 sec
1 x yaw	10 sec
stable flight:	10 sec
1 x yaw	10 sec
level flight:	30 sec
1x pitch:	10 sec
stable flight:	10 sec
1 x pitch	10 sec
stable flight:	10 sec
1 x pitch	10 sec
level flight:	30 sec
turn	45 sec

total: 360 sec = 6 mins = 25.2 km at 70 m/s