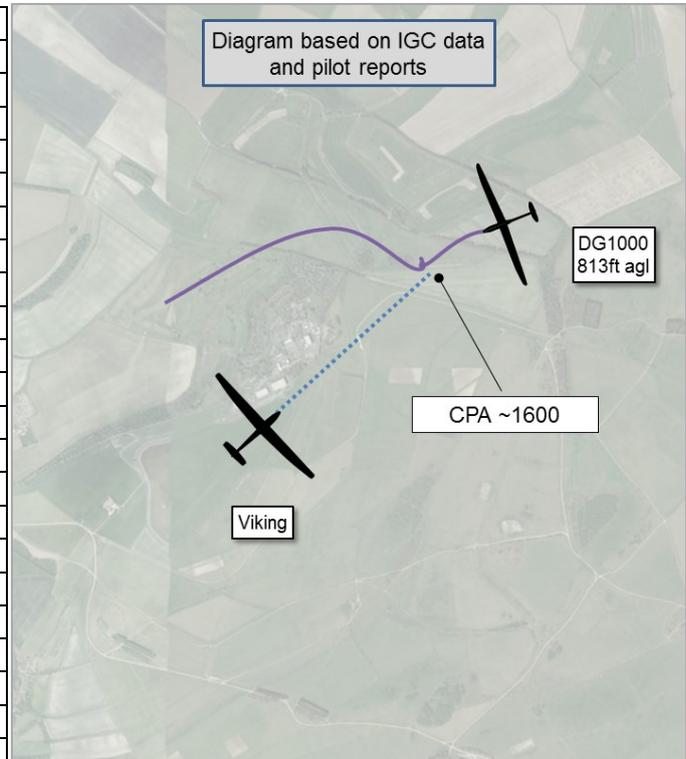


AIRPROX REPORT No 2018017

Date: 04 Feb 2018 Time: 1600Z Position: 5117N 00146W Location: Upavon Glider Site

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Viking	DG1000
Operator	HQ Air (Trg)	Civ Club
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Upavon Radio	Upavon Radio
Altitude/FL	NK	813ft agl
Transponder	Not Fitted	Not Fitted
Reported		
Colours	White	White
Lighting	None	None
Conditions	VMC	VMC
Visibility	>10km	Not reported
Altitude/FL	1100ft	813ft
Altimeter	QFE	QFE
Heading	050°	Not reported
Speed	50kt	Not reported
ACAS/TAS	FLARM	FLARM
Alert	Alert	None
Separation		
Reported	50m H	Not reported
Recorded	NK	



THE VIKING PILOT reports that they launched from RW05. At 1300ft at the top of the climb they selected the glide attitude. They were visual with a DG1000 performing a loop in their 10 o'clock in the direction of the upwind leg of the circuit. The Viking pilot was instructing and started the exercise. During the first element the DG1000 entered a spin, recovering above them and still in their 10 o'clock but drifting downwind. The DG1000 climbed to enter a second spin heading upwind but then turned towards the Viking aircraft. At this stage, the Viking was at 1100ft maintaining runway heading. The DG1000 span towards them, passing their left-wing tip within a distance judged to be approximately 50m. This triggered a rapid, loud, FLARM alert. The DG1000 recovered from the spin beneath them at a possible height of approximately 500 to 600ft AGL, climbed up and turned downwind before landing long on the airfield. They turned back to the airfield, joined the circuit and landed.

They assessed the risk of collision as 'High'.

THE DG1000 PILOT reports that the Viking pilot raised the issue after the flight. Their opinions differed on the position of where he conducted his spinning practice and the heights involved. DASOR states 500/600 QFE [the Viking pilot's estimate]. His secure FLARM logger file was downloaded and the position of the low point was noted as 1.1km away from the location of the winches at the eastern end of the field, and at a height of 813ft QFE. He had seen the Viking as he was turning away and, in his opinion as a glider pilot, he did not consider there to be a risk of collision. His FLARM did not raise an alarm to that effect.

He assessed the risk of collision as 'Low'.

THE DUTY INSTRUCTOR reports that he was the Duty Instructor and Duty Authoriser. There were small scattered pockets of lift in the area prolonging some flights but most flying was conducted within the circuit area all day. The task was coming to a close around 1600 and a final consolidation flight

was to be flown with an extended base leg to join long finals for the hangar on the south side. The DG1000 took off first and headed upwind, the Viking took off shortly afterwards and also headed upwind. Whilst he monitored the operation there were no radio calls heard until the DG1000 pilot and then the Viking pilot called downwind in rapid succession. The Viking landed at the launch point and the aircraft commander approached the tower visibly concerned and relayed to him that an aircraft had just carried out intentional spinning within the area defined as the normal RW05 circuit as they approached the crosswind leg passing their left wing by around 50m lateral separation. The pilot went to talk to the DG1000 pilot and later all three of them reviewed the logger FLARM trace from the DG1000 which showed it spinning just to the east of Trenchard Lines Camp at the area of the crosswind leg of the RW05 circuit. It was stated by the DG1000 crew that they did not see the Viking before or during the spins.

Factual Background

The weather at Boscombe Down was recorded as follows:

METAR EGDM 041550Z 01015KT 9999 FEW027 BKN048 04/M03 Q1026 BLU NOSIG

Analysis and Investigation

UKAB Secretariat

The Viking and DG1000 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard¹. An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation².

The DG1000 pilot provided a copy of his IGC FLARM logger file but there is no record of the Viking glider's flight. Neither glider appears on radar for a period close to the Airprox, therefore the time, position and altitude of the CPA cannot be verified.

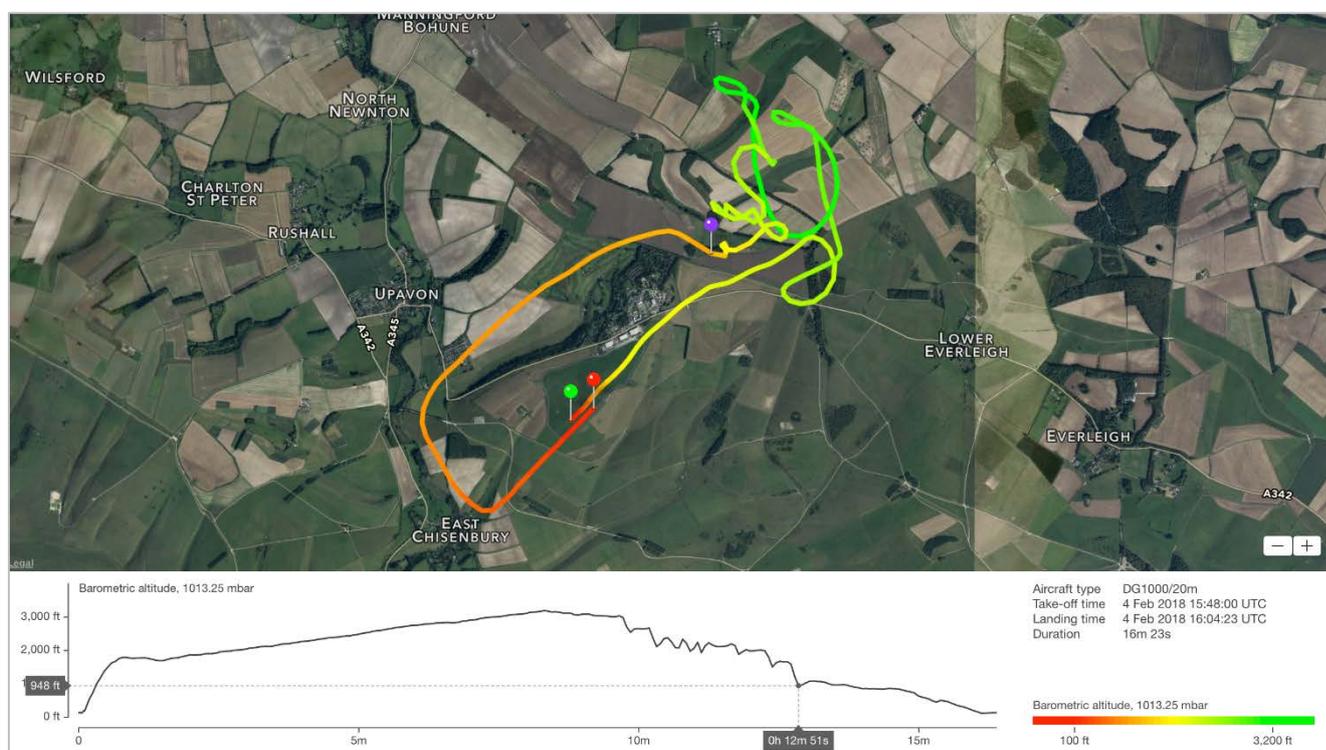


Figure 1: DG1000 IGC file

¹ SERA.3205 Proximity.

² SERA.3225 Operation on and in the Vicinity of an Aerodrome.

Occurrence Investigation

The initial investigation by the DG1000 pilot's gliding club identified the following points that are germane to the Airprox:

1. The final spin exercise was conducted 1.1km upwind of the peritrack where the winches were located, the other exercises were further away up to 2.6km and not as stated in the DASOR 'at the top of the winch launch'. Also, the exercises were conducted well away from the Upavon FOB sterile area.
2. The low point of the exercise was 1327ft (1013mb) which is 813ft above airfield elevation, and above the circuit height.
3. The crew of the Viking indicates they identified the DG1000 manoeuvring when they completed the winch launch. For the 2 aircraft to have been in close proximity the Viking crew must have flown towards the previously identified manoeuvring aircraft for approximately 1km. The separation in the opinion of the DG1000 pilot was that he was well over the 50m stated in the DASOR.

Comments

HQ Air Command

The Viking crew were visual with the DG1000 throughout this Airprox and were uncomfortable with the distance from the airfield that the DG1000 pilot had selected to conduct his manoeuvring. However, given that the Viking pilot could see the DG1000 manoeuvring then the location of that manoeuvring is not germane to this encounter. Whilst the Viking crew did not expect the DG pilot to conduct a spinning exercise close to the airfield, they were visual with the DG from the top of the Viking's launch and so it may have been wiser to have given a wider berth to the manoeuvring aircraft, even if it meant sacrificing their own exercise.

Army Gliding Association

The Army Gliding Association found the Airprox process fair and reasonable. It was particularly reassured that its initial investigation into the occurrence was considered by the board. The incident took place outside the sterile area previously published in the Upavon DAM which was primarily in place to protect aircraft in the circuit. The AGA quickly developed an airspace brief to define what activities should be conducted in the airspace close to Upavon and provide provision for non-standard manoeuvres, including those in the BGA syllabus, to ensure that there is an area within gliding range of the airfield to conduct these serials: this was welcomed by the ACO and adopted by the Airfield Manager into the DAM. We look forward to the Air Cadet Organisation enabling the flight recording function in their recently fitted FLARM units to enable better analysis of occurrences, enhance lesson learnt process and improve the flight safety environment.

Summary

An Airprox was reported when a Viking and a DG1000 flew into proximity at Upavon at about 1600hrs on Sunday 4th February 2018. Both pilots were operating under VFR in VMC and in receipt of an Air/Ground Service from Upavon Radio.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft and an IGC logger file.

The Board began by looking at the actions of the DG1000 pilot. Members noted that he had been conducting his exercise very close to the airfield boundary, and they wondered if he had carried out sufficient lookout for aircraft operating in the pattern of traffic prior to commencing his spinning exercise.

Looking then at the actions of the Viking pilot, the Board were disappointed that the FLARM fitted to the Viking was not able to record flight details, which meant that there was no igc file to compare to the DG1000's. Had this been available, it would have enabled a definitive comparison between the two aircrafts' flights that would have ensured that the incident could be fully investigated and separation determined. Notwithstanding, the Board agreed that the Viking pilot had had the DG1000 in sight at all times, albeit the Viking pilot could not be sure of the DG1000 pilot's intentions. Members were therefore somewhat surprised that the Viking pilot had continued to fly towards the DG1000 when it was apparent that the DG1000 pilot was conducting aerobatic and spinning manoeuvres.

In reviewing the incident, members wondered whether there could have been better liaison between the 2 pilots before they launched so that they could ensure deconfliction, or at least situational awareness; it appeared to the Board that there were opportunities for their respective hierarchies to improve the inter-organisational relationship between the two gliding clubs in order to effect closer liaison and mutual understanding. Nevertheless, the Board were heartened to hear that since this incident the gliding clubs have determined areas for carrying out spinning and other non-standard manoeuvres that are away from the visual circuit.

Turning to the cause of the Airprox, the Board agreed that the Viking pilot had had the DG1000 in sight and had had the opportunity to avoid its location. Notwithstanding that the DG1000 pilot also bore a responsibility to take into account the other aircraft operating at the glider site, the Board determined that the cause of the incident was that the Viking pilot had flown into conflict with the DG1000. Turning to the risk, the Board noted that there had been no alarm from the DG1000's FLARM, but that the Viking pilot had reported that their FLARM had alerted. Glider members found this hard to reconcile given the mutual nature of FLARM operation, and wondered whether either the Viking pilot's FLARM had generated a spurious alarm; the DG1000 FLARM had spuriously not alerted; or whether the Viking FLARM had alerted somehow on another source. Even with this FLARM anomaly in mind, members agreed that the Viking pilot had been visual with the DG1000 at all times and that, although safety had been degraded because of the dynamic nature of the DG1000 pilot's manoeuvres, there had been no risk of collision because the Viking pilot would have been able to have avoided the DG1000 if necessary; accordingly, they agreed that the risk was Category C.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Viking pilot flew into conflict with the DG1000

Degree of Risk: C.

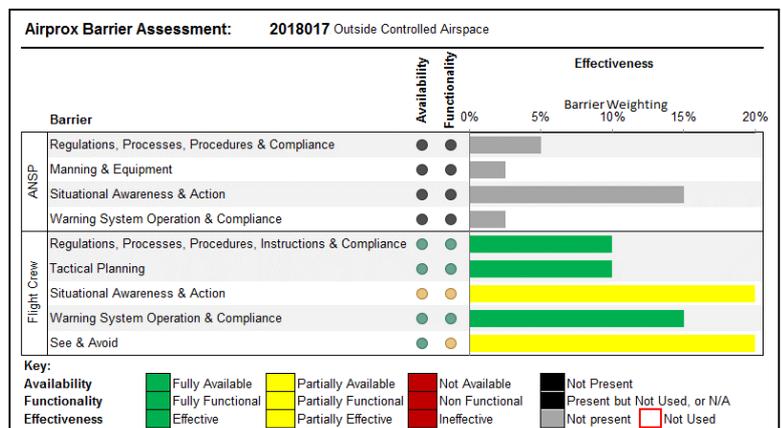
Safety Barrier Assessment³

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Flight Crew:

Situational Awareness and Action were assessed as **partially effective** because the Viking pilot saw the DG1000 spinning but did not ensure they were sufficiently separated in the event the DG1000 pilot carried out an unexpected manoeuvre.

See and Avoid were assessed as **partially effective** because the DG1000 pilot did not see the Viking.



³ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).