

AIRPROX REPORT No 2012119

Date/Time: 9 Aug 2012 1408Z

Position: 5408N 00135W
(ivo Ripon)

Airspace: Lon FIR (Class: G)
Vale of York AIAA

Reporting Ac Reported Ac

Type: Hawk T Mk1 Untraced

Operator: HQ Air (Ops) NK

Alt/FL: ↓3600ft↓ NK
QNH (1026hPa)

Weather: Intermittent VMC NK

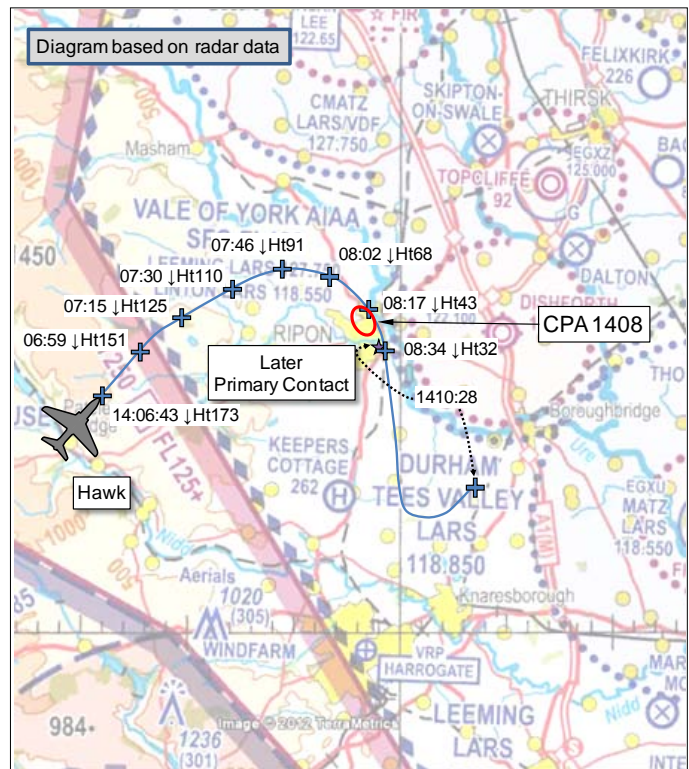
Visibility: 40km NK

Reported Separation:

0ft V/300m H NK

Recorded Separation:

NR



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE HAWK T Mk1 PILOT reports conducting a Radar to PAR approach at RAF Leeming operating under VFR with a 'reduced' TS from Leeming Director [262.950MHz].

[UKAB Note(1): Leeming Director had radar suppression selected in order to reduce clutter. As this may also suppress some primary contacts, a full TS is not provided, iaw the RAF Leeming FOB]

The Hawk ac was overall black in colour with external lights, HISLs and nose light selected on. The SSR transponder was selected on with Modes 3/A and C. The ac is not fitted with Mode S or an ACAS. The reporting pilot (PF) was flying with reference to ac instruments with the ac captain [PNF] acting as safety lookout. Meteorological conditions were assessed as FEW-SCT Cu, base 3500ft, estimated tops 5000ft, with a Cu cell to the L of the ac's track, over the centre and W of Ripon, he thought.

[UKAB Note(2): The Dishforth and Leeming METARs were reported as follows:
METAR EGXD 091350Z 27005KT 9999 FEW042 BKN250 21/12 Q1026 BLU NOSIG
METAR EGXE 091350Z 25008KT 9999 FEW045 SCT180 23/13 Q1026 BLU NOSIG]

While the ac's flight path remained clear of cloud in 40km visibility, VMC (1500m H and 1000ft V clear of cloud) could not be maintained at all times due to cloud disposition in the Leeming radar pattern. Shortly after hand over from London Mil to RAF Leeming, in the descent from FL80 to height 3000ft [QFE 1021hPa, from the ATC tape transcript], he was instructed to turn R onto heading 180° to intercept the radar pattern. A standard IF descent profile was flown with the pilot reducing the descent rate to level-off at height 3000ft. Passing 3600ft, clear of, but adjacent to, the E edge of a Cu cell, the PNF became aware of a paraglider with a light green/yellow canopy at the base of cloud in the 3 o'clock position, co-altitude at a range of approximately 300m. As the PF continued the descent an estimated 4 more paragliders were observed up to ¼nm W of the first contact. Some appeared to be operating near to or within the base of cloud. ATC were informed of the paraglider activity and the Radar Controller responded to the effect that no activity was apparent on radar.

He assessed the risk of collision as 'Medium'.

[UKAB Note(2): Due to the help and full cooperation of the local paragliding community it has been possible to trace 6 individuals who were 'overhead Ripon' at the Airprox time and at altitudes between 3370ft and 4085ft. However, none were flying a light green/yellow coloured canopy and none recall seeing or hearing another ac at that time and position. It has therefore not been possible to trace the other 'aircraft'.]

THE LEEMING DIRECTOR reports working 2 ac, one of which was the subject Hawk. During the ac handover from LJAO, an unknown contact was observed in the Hawk's 12 o'clock position at a range of approximately 5nm. The contact was called to the Hawk pilot via London Mil (prior to Leeming accepting the ac) on receipt of which the Hawk pilot initiated a 30° R turn [to heading 070°]. Once the Hawk pilot was on frequency, a [R] turn to heading 180° and descent to height 3000ft [QFE 1021hPa] was initiated for positioning. As the Hawk pilot levelled at 3000ft, he advised that he had passed 3 parachutists. There were no radar returns at that time, nor had Leeming ATC received any pre-notification of activity ivo Ripon.

He assessed the severity of the occurrence as 'High'.

THE LEEMING SUPERVISOR reports that he was present in the ACR and that the Director's routing of inbound ac for RW34 was the most suitable route considering their positions and heights in relation to the A/D. The paragliders were not visible on the radar screen at the time of the incident which may have been as a result of radar suppression, selected due to an increased amount of displayed radar clutter. Having been made aware of the location of the gliders all further inbound ac were directed around the area to prevent any possible conflict. He assessed the controller workload as 'Low'.

BM SAFETY MANAGEMENT reports that the Airprox occurred on 9 Aug 12 between a Hawk in receipt of a TS from Leeming APP and an untraced paraglider. The Airprox was not observed on the NATS radar replay; consequently, the BM SM investigation has been based wholly on the reports from Leeming APP, the Hawk pilot and the tape transcript.

The Hawk pilot reported 40km visibility with 'FEW-SCT Cu, base 3500ft, tops estimated at 5000ft, with a Cu cell inside [the ac's] track over the centre/west of Ripon'. At 1408:17, the Hawk pilot reported to Leeming APP that they had, "*just gone past 3 parachutists.*". Leeming APP reported that there was no radar return in the Hawk's reported position, a view supported by the Supervisor. The Hawk pilot and Leeming APP also reported that there was no notified paraglider activity in the vicinity of Ripon. The Supervisor added that a processed radar channel had been selected in order to control the level of radar clutter that was observable on the surveillance display. Following the Hawk pilot's report at 1408:17, the processed channel was de-selected and the paragliders remained undetected by radar.

The RAF Leeming FOB, Order A2 Para 3, states that 'Whenever radar suppression causes the controller to reduce the radar service the phrase "identified DS/TS reduced" will be used to minimise R/T'. Analysis of the transcript demonstrated that APP had reduced the ATS in line with the guidance within the FOB and the Hawk pilot acknowledged in his report that they were receiving a reduced TS.

Given that the paragliders were not displayed on Leeming's surveillance display, and that no paraglider activity had been notified to Leeming APP, they were not in a position to affect the outcome of the incident. This Airprox represents additional evidence to support the argument for pan-platform electronic conspicuity for Class G airspace users.

[UKAB Note(3): The Hawk pilot reported passing altitude 3600ft at the time of the Airprox, although from the tape transcript he was passed and acknowledged the Leeming QFE on initial contact. It is therefore assumed that he was passing height 3600ft at the time of the Airprox. Radar replays from 2 different radar heads and from a wider composite picture all show the Hawk pilot descending through that height between 14:08:26 and 14:08:27. It is therefore assumed that a small timing error

of approximately 10sec exists in the Leeming tape transcript timings. The error does not have a material effect on the Airprox chronology.]

HQ AIR (OPS) comments that, given the Hawk pilot could not maintain VMC, perhaps a DS would have been more appropriate. However, in this case it was likely that the outcome would have been the same because the paragliders were not painting on ATC radar. In this instance it seemed they chose not to notify their activity via NOTAM and did not, or were not able to, carry an electronic conspicuity device. Additionally, a paraglider has little energy to manoeuvre away from a fast closing ac; therefore, the paraglider pilots were relying on the lookout of other airspace users to avoid them. This is not a robust mitigation for mid-air collision given air traffic levels in that area and the limitations of the human eye.

THE BHPA comments that, as all the ac were operating legitimately and normally within Class G airspace, collision avoidance remained the responsibility of the pilots. In some quarters there seemed to be an over reliance on primary radar for collision avoidance, to the extent as to question whether the known limitations are as widely understood as they should be. There are many more ac in use now than there used to be that, due to one or more of the following, give poor if any primary returns; smaller, and/or slower, and/or modern construction materials. There remains no suitable electronic conspicuity device for hang gliders or paragliders at any price.

The paraglider pilots were on cross country flights and so, within airspace constraints, were using the best available lift. Therefore it would have been impossible to issue a meaningful NOTAM. At first look Leeming Supervisor's action of directing all further inbound ac around the area seemed sensible, however as the paragliders were thermal soaring they would have been constantly moving on, both vertically and horizontally. Thus after a short period of time the action could actually have increased the likelihood of another conflict elsewhere. The best action would probably have been to have raised the awareness of soaring activity with the pilots they were in communication with.

Any suggestion that the current Rules for Class G are not robust mitigation for mid-air collision goes against the currently agreed and legislated UK position, and the possible ramifications for all airspace users should be carefully considered by any proponents considering a change to such a position.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included a report from one of the pilots involved, radar video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board were unanimous in agreeing that both pilots were operating in class G airspace and that as such the Hawk pilot was required to give way to the paraglider under Rule 9 (Converging) of the RoA: para 9(1)(a), 'flying machines shall give way to airships, gliders and balloons', and 9(3), 'when two aircraft are converging in the air at approximately the same altitude, the aircraft which has the other on its right shall give way'. Notwithstanding current legislation, the Board also agreed that the provisions of Rule 9 were written at a time when ac operated at slower speeds and with smaller speed differential and consequently had more time to 'see and be seen'. The Mil Pilot Members opined that avoidance of microlights and paragliders had historically been regarded as a normal operating hazard but that modern risk appetites required a more robust mechanism to reduce the risk of mid-air collision. In the absence of any form of electronic conspicuity, they suggested that paraglider notification of likely routeing and education of the paraglider communities to traffic patterns local to RAF stations would be useful as an interim measure.

Mil and Civ Pilot Members agreed that technological improvements had resulted in relatively modern flying equipment, such as microlights and hang-gliders attaining levels of performance that now took them potentially in to conflict with much larger, heavier and faster classes of ac. An added complexity was that they were also less constrained in their points of departure and arrival than larger ac and so could be more difficult to integrate into the airspace traffic environment.

In assessing the cause and risk, all Members agreed that the Hawk pilot's sighting of the paraglider in his 3 o'clock was so late as to be effectively a non-sighting and that the miss-distance was therefore somewhat providential; however, the majority agreed that the paraglider pilot was under the base of cloud due to the thermal lift and the Hawk pilot was skirting around the Cu cell and that there was therefore an element of deconfliction, even though they weren't aware of each other's presence. Moreover, it seemed likely that if the ac had not been hidden from each other by the Cu cell, there was a possibility that earlier visual contact would have been achieved. Therefore, in this case by a majority, it was agreed that safety margins were reduced below normal but not to the extent that a degree of risk of 'A' was justified.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Effectively a non-sighting by the Hawk pilot.

Degree of Risk: B.