

AIRPROX REPORT No 2011121

Date/Time: 8 Sep 2011 1025Z

Position: 5418N 00152W
(10nm W Leeming)

Airspace: Lon FIR (Class: G)

Reporting Ac Reported Ac

Type: Hawk TMk2 Grob Tutor

Operator: HQ Air (Trg) HQ Air (Trg)

Alt/FL: NR NR
RPS (999mb) NR

Weather: VMC CLBC VMC

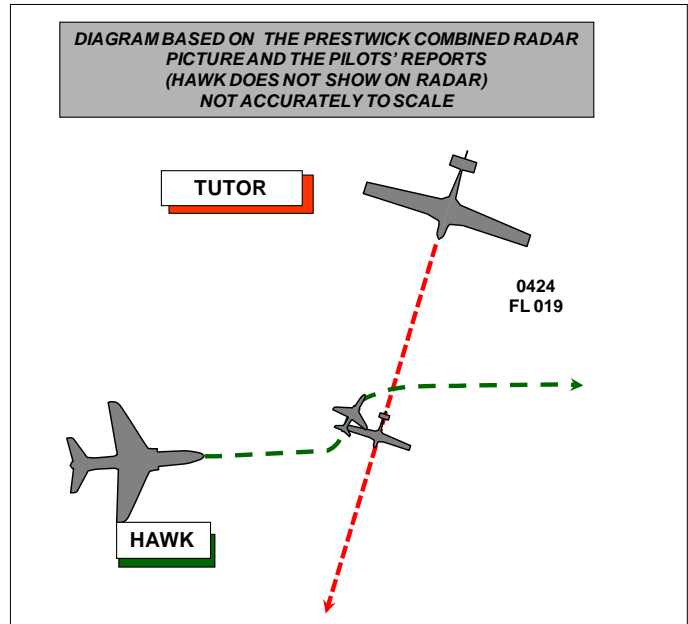
Visibility: 20km NR

Reported Separation:

50ft V/500ft H NR

Recorded Separation:

See UKAB Note (1).



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE HAWK TMK2 PILOT reports flying dual in a black ac with all external lights (including the nose light) switched on, squawking 7001 with Mode C conducting LL Close Air Support training in support of Forward Air Controller (FAC) training and in communication with them. They were heading 089° out of sun, at 360kt 'heads in' in good weather below cloud, awaiting the RT brief for the second target from the FAC when their TCAS gave a TA; on hearing the alert, the front seat HP looked up and saw a military Grob Tutor crossing from L to R straight and level, on a heading about 240° so he took avoiding action by initiating a 4G descending left turn. The separation between ac was visually judged as being less than 500ft laterally and about 50ft vertically. He assessed the risk as being medium and reported the incident to the Sqn Ops and the SFSO on landing.

On reviewing the mission tape, the Grob Tutor appeared on TCAS as the TA sounded.

THE GROB TUTOR TMK1 PILOT reports that he was contacted on the day after the event. At the time of the reported incident he was flying a white ac with strobes switched on squawking with Modes C and S on a local, dual, sortie from Leeming and in receipt of a TS from Leeming. Although in the area at the time he has no recollection of the incident.

THE LEEMING APP controller reports that he was providing a TS to 3 RAF Leeming-based Tutor ac conducting GH in the local area and the resulting workload was of medium intensity. Two of the ac were operating in a position relatively close to the RAF Leeming overhead and a further ac (visually confirmed by one of the Tutor pilots to be a Tucano) appeared to be conducting general handling autonomously in a similar area and was called to the Tutor ac on several occasions. The 3rd Tutor was operating to the W of RAF Leeming; a fast moving contact squawking 7001 was seen operating in the same area and he thought that it was likely to be operating in and around a NOTAM'd Close Air Support Exercise area. Radar contact with this ac was intermittent but TI on the contact was passed to the Tutor ac during initial climb out although the unidentified ac soon turned away and faded from radar. At the time of the incident, the Tutor ac was approx 11nm W of Leeming. At that point an unknown pop-up contact squawking 7001 appeared on a directly conflicting E track within 3nm of the Tutor; TI was passed to the Tutor ac at that point. The Tutor pilot reported that he had the conflicting ac on TCAS (but did not have visual contact). TI on the unknown contact was then

repeated. Based on SSR Mode C, the Tutor ac appeared to maintain level flight while the unknown ac appeared to descend close to the point of conflict. TI on the unknown traffic was passed several more times and the Tutor achieved visual contact, reporting it to be a Hawk.

BM SAFETY MANAGEMENT reports that this Airprox took place between a Hawk T2 operating VFR in VMC conducting a FAC exercise within a NOTAM'd area in the URE Valley, just to the S of EGD442 and a Tutor T1 operating VFR in receipt of a TS from Leeming APP.

Although the Tutor was visible on the radar replay throughout the incident sequence, the Hawk was not (at the time of the incident); as a result, the investigation was completed based upon the pilots' and controller's reports and the tape transcript from RAF Leeming.

The radar replay commences at 1018:30 and shows an ac with an SSR code of 7001 operating in the vicinity of EGD442 and the Tutor 2.8nm W of Leeming and tracking W. Based upon the reports of those involved, the ac squawking 7001 was almost certainly the reporting Hawk. APP stated in their report that radar contact of the Hawk was intermittent throughout the incident sequence.

At 1018:05, prior to the start of the radar replay and in accordance with their report, APP passed TI to the Tutor on the Hawk before "*the unidentified aircraft...turned away and faded from radar*". APP again passed TI to the Tutor regarding the Hawk at 1024:32, after the Hawk 'popped-up' into radar coverage within 3nm of the position of Tutor, stating, "*traffic west, two miles, tracking east, indicating similar levels, fast moving*". Although the Tutor pilot had no recollection of the incident, he responded to APP that they had 'got TCAS on him, can't see him though'. APP immediately updated this TI at 1024:41, stating "*traffic indicates 100ft below on Charlie, west half a mile*". APP provided a final update at 1024:58 stating that, "*traffic now clearing to the east, north-east, by one mile tracking east, indicating five hundred feet below*" and the pilot replied, "*thank you, nothing seen at all.*"

Based upon the Hawk pilot's report of their and the Tutor's respective bearings, the radar replay and the TI passed by APP, it is apparent that the CPA occurred between 1024:41 and 1024:58. The Hawk pilot has reported subsequently that having received the TCAS TA, it is assessed that they first sighted the Tutor at 2000ft laterally and 100ft vertically.

From an ATM perspective, APP provided a good level of TI and discharged their responsibilities under a TS appropriately.

UKAB Note (1): The Great Dun Fell radar was not available but the single source Claxby radar at commencing at 1021 shows both ac; the Hawk squawking 7001 with Modes C (FL018) is in a RH racetrack to the S and W of the incident position and the Tutor squawking 0424 (Leeming) also with Modes C (FL019) and S is manoeuvring to the NE of the position. At 1022.35 the Tutor rolls out on a W'ly track at FL021, 3.5nm ENE of the CPA and the Hawk is tracking 330° about 4.5nm S of the CPA. At 1023:13 both ac disappear from the recording and the Tutor reappears 20sec later at FL019, 2nm NE of the CPA turning L onto 250° directly towards the reported position of the CPA (the Hawk is still not showing). At 1024:54 the Hawk reappears for 1 sweep only in the Tutor's 1 o'clock at 0.4nm, crossing from its R to L and 100ft below it at FL018. The CPA therefore does not show but by projection is 100ft V and about 0.2nm H.

UKAB Note (2): The FAC training exercise was NOTAM'd as follows:

08 0824 EGXTYXYW
xxxx/11 NOTAMN

Q) EGTG/QXXXX/IV/NO/EW/000/020/5417N00204W005

- A) EGTG
- B) 1109080930
- C) 1109081415
- E) LFA 17.

WARNING. FORWARD AIR CONTROL EXERCISE.

2X HAWK ACFT WILL PARTICIPATE IN A
FORWARD AIR CONTROL EXERCISE WITHIN A 5NM RADIUS
OF POSITION:

N5417 W00204, HAWES VALLEY

AIRCRAFT WILL BE CONDUCTING INTENSIVE TRAINING
MANOEUVRES AND MAY BE UNABLE TO COMPLY WITH
THE NORMAL RULES OF THE AIR. CREWS INTENDING
TO TRANSIT THIS AREA ARE STRONGLY ADVISED TO
CONTACT JACKPOT CONTROL ON 297. 725 MHZ

POC: JFACTSU LEEMING 01677 456161 OR MOBILE 07855 423912.

F) 250FT AGL

G) 2000FT AGL, ACTIVITY EXTENDS ABOVE)

The CPA however was about 2nm outside the NOTAMed area.

HQ AIR (TRG) comments that crews operating outside of their NOTAM'd area should avoid going 'heads in' unnecessarily. Equally, others should avoid the area if at all possible but there may be pressing needs to operate in the vicinity of such a warning. In the event, both aircraft were equipped with TCAS or traffic alerting equipment and it served its purpose. Had they not been so fitted it is likely that this event would have been much more serious. The Hawk pilot resolved the confliction in a timely manner.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac, transcripts of the relevant RT frequencies, radar recordings, reports from the air traffic controller involved and reports from the appropriate ATC and operating authorities.

Members were briefed that several NOTAMs, both Medium and Low level, were issued that week for a series of FAC training exercises in the area concerned (the one above is one of two for the period).

The Board noted that both ac were operating legitimately under VFR in Class G airspace, the Hawk both in and above the UKDLFS. Due to the nature of his exercise the Hawk pilot had been necessarily 'heads in' in the lead up to the CPA but, prompted by his TCAS, he looked up and saw the Tutor. A Member counselled that such 'heads in' periods should be minimised and interspersed with short periods of lookout.

Due to his very short report, submitted 2 months after the event due to his being overseas, it was not clear whether the Tutor pilot was aware of the NOTAMed activity; the HQ Air Member thought that had he been aware he would have recalled it. He went on to advise that it is wise to remain well clear of such activity as the participating ac often fly outside the promulgated area of the NOTAM.

Members were reassured that in this instance the Hawk (Mk2) TCAS had revealed the Tutor and (apparently from the controller's report) the Tutor TAS had warned its pilot about the Hawk, thus proving the system.

Although the pilots report stated that there were 2 people in the Hawk, it was not clear to Members whether the rear seat occupant was a crew-member or a passenger; that being the case they

assumed that he had no formal lookout responsibility. Since the same applying to the Tutor the Board assumed that only the HPs had a formal lookout responsibility.

Since the Tutor pilot did not recall the event, the Board assumed that he did not see the Hawk; the Hawk pilot saw the Tutor later than he would have wished, but still in time to initiate an effective 4G avoiding manoeuvre and due to the lateness of this manoeuvre the Board agreed that normal safety margins had been slightly eroded.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A non-sighting by the Tutor pilot and a late sighting by the Hawk pilot.

Degree of Risk: B.