

AIRPROX REPORT No 2010036

Date/Time: 29 Apr 2010 (Thursday) 1058Z

Position: 5220N 00010E
(7NM N CAM)

Airspace: Lon FIR (Class: G)
Reporting Ac Reported Ac

Type: E3D Sentry Harrier

Operator: HQ AIR (OPS) HQ AIR (OPS)

Alt/FL: FL180↑ FL90

Weather: IMC CLBL VMC

Visibility: 2000m 5.0km

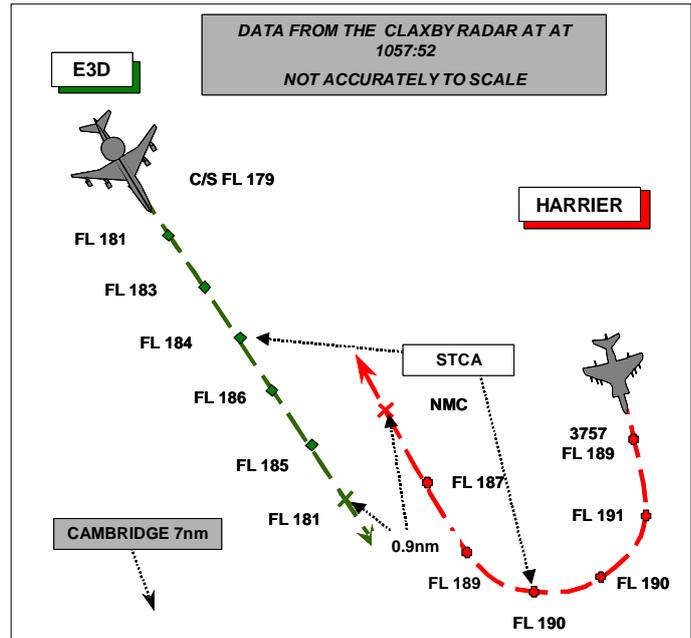
Reported Separation:

NK NR

Recorded Separation:

NR V / 1.0nm H at 1057:52 (100ft V /1.0 H on previous sweep at 1057:49)

UKAB Note (1): Several radars were checked, but all showed that the Harrier Mode C dropped out at the CPA, reappearing about 20-30sec later several hundred feet lower.



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE E3D PILOT reports flying an exercise support mission from RAF Waddington. During the climbout they were handed over to London (Mil), given a TS, cleared to FL190, while heading 180° at 280kt, given their airways joining clearance, via a point NE of BKY, and were routing direct to that point. As they approached top of climb a TCAS contact was observed overtaking them to their left, on a similar heading and climbing, appearing to maintain about 1000ft above them. The range of the contact increased to about 7nm in their 11 o'clock. London (Mil) called a contact in their 1 o'clock at a similar range, so he called their TCAS contact to them; London (Mil) reported that they now had this contact 'on radar' and that it was 'a Harrier'. As they were passing FL185 about to level off, the TCAS contact also seemed to level and then to manoeuvre towards them. London (Mil) called again reporting that the traffic was manoeuvring as they received first a TA ('Traffic, Traffic') followed by an RA 'monitor vertical speed', first directing a level off and then rapidly a RA descent, which they followed and called the RA to London (Mil). The conflict cleared from TCAS as they transitioned from a climb to a descent and they levelled at FL180 before once more climbing to FL190 and continuing to their airways joining point. London (Mil) confirmed via landline that the other ac had been squawking 3737 and was believed to be working with Cottesmore ATC. Their in-flight conditions were IMC as they were climbing through thin cloud layers and they did not see the other ac at any point during the incident.

The resolution of the TCAS display does not allow an accurate assessment of the closest distance between ac, nor of accurate plotting of the manoeuvring of the other ac relative to them.

He assessed the risk as being low.

THE HARRIER PILOT provided a brief report 2 months after the incident stating that he was carrying out a local dual GH from RAF Wittering in the Lincolnshire MTA, he thought, in receipt of a TS from Wittering APP, he thought, squawking as directed with Mode C. While at FL90, [actually F/L190], heading 350°, out of sun, at 350kt, he was passed TI on an E3D, which he saw immediately. He continued his turn, which was taking him clear of the E3, and he assessed the risk as being low.

THE LONDON MIL CONTROLLER reported that he was controlling as the GP14 position with a UT assistant and assistant mentor. The E3D was cleared on his own navigation to 16 miles NE of BKY climbing to FL190, en route to join CAS under a TS. At 1057, the E3D pilot requested TI on traffic in his 11 o' clock, at 4nm, indicating 1500 feet above on TCAS. The conflicting traffic was called to the E3D as tracking SE at FL190 and appeared to be on a diverging heading from the E3D. The conflictor then executed a 'sharp' right hand turn to track N and began to descend, passing about 1nm to the east of the E3D. The E3D reported taking a TCAS RA and descended to FL180. The conflictor was called once more and the RA acknowledged. Once clear of the traffic, the E3D resumed his climb and joined CAS. The conflicting aircraft was squawking 3757 [Cottesmore].

THE LONDON MIL SUPERVISOR reported that he did not witness the incident.

HQ AIR ATM Safety Management reports that an E3D departed RAF Waddington and was handed to London (Mil) to transit to CAS and join N of BKY. At 1053 the pilot reported, "*London military good morning C/S out of Waddington in the climb passing flight level nine five cleared one nine zero*"; the ac was identified and placed on TS. The controller then confirmed that the E3D was to join airways at BKY and released it saying, "*own navigation fifteen miles North East of Barkway*". At 1054 the pilot was asked his estimate for BKY, enabling the controller to obtain a joining clearance. At 1055:17 the conflicting traffic, the subject Harrier, can be seen SE of the E3D indicating FL93, 4100ft below the E3D, and 8sec later its Mode C drops out but it continues to track SE, diverging from the E3D. At 1055:46 the E3D is tracking SE, indicating FL144, climbing, and the Harrier is about 5nm SE and still on a diverging track, indicating 700ft below. London (Mil) then passed TI at 1056Z on a contact 10nm S of the E3D, which was tracking NE with no Mode C and the pilot replied, "*C/S has got TCAS traffic eleven o'clock for five miles*". The TCAS contact was the subject Harrier and London (Mil) then reported, "*C/S previously reported traffic is now five miles south er manoeuvring no height information*" to which the pilot replied, "*C/S shows at fifteen hundred feet above*". This discrepancy would appear to have made the controller scan again and he reported, "*Apologies C/S er traffic now on radar in your twelve o'clock five miles tracking southeast at FL one eight five*".

Based on the SSR code, LATCC Mil reported the ac as a Harrier and the E3D pilot, "*C/S R A we're levelling this level*". Then, as the Harrier appeared to start a right hand turn towards the E3D at FL 191, the latter reports, "*C/S following TCAS descent*"; simultaneously the Harrier tightens the right hand turn and passes to the E of the E3D. Once clear of the conflicting traffic the E3D continues its climb to FL190 towards BKY.

This Airprox happened in busy Class G airspace with the E3D receiving a TS from London (Mil) and, although the conflicting traffic was displaying a Mode 3A code allocated to RAF Cottesmore, investigation showed that the ac was operating VFR and not receiving a service from Cottesmore at the time.

The London (Mil) controller passed TI on an ac S of the E3D as at that time it looked like the most likely conflicting traffic, having a course which would cut across E3D's track. When the controller was passing this TI the Harrier was SE of the E3D and heading away from it; therefore this would have excluded it from the controller's initial scan. Even when the E3D pilot later requested an update, it was heading away and would not have been considered to be a hazard. The controller had already called the Harrier before it turned towards the E3D at a similar altitude. That being the case, it is considered that the controller acted IAW requirements for the provision of a TS.

HQ AIR (OPS) comments that as the Harrier was manoeuvring VMC in Class G airspace, was visual with the E3D and did not get closer than 1 nm it is unsurprising that his recollection of this non-event was vague. TCAS II equipped ac operating in class G airspace will occasionally be subject to RAs, which should continue to be followed to maximise separation and enhance visual lookout.

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.

The Board noted the significant errors in the report provided by the Harrier pilot and observed that reports made immediately after the event are generally significantly more accurate as detail fades with time and it is that detail that can be significant.

In this case both ac had been operating legitimately and conducting their respective tasks in Class G airspace, one joining CAS and the other apparently conducting GH. The E3D had been receiving a service from London (Mil) but, despite that he reported otherwise, the Harrier pilot had not been in receipt of a ATC service from any unit; had he been, he would most likely have been warned of the E3D's presence behind him. The HQ Air (Ops) Member pointed out that TCAS can be very valuable as an aid to assist pilots with their responsibility to see and avoid other traffic in class G airspace. If this avoidance is as a result of following a TCAS RA, it is nonetheless avoidance and, as in this case, the safety of both ac is assured.

Although procedures and practices for the operation of TCAS in Class G airspace can be problematical, the Board welcomed reports of such occurrences as they can contribute to a fuller understanding of the operational difficulties.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Sighting report (TCAS).

Degree of Risk: C.