

## AIRPROX REPORT No 2011149

Date/Time: 21 Oct 2011 1207Z

Position: 5221N 00031W (2nm SW of the Daventry RC E'ly waypoint)

Airspace: London FIR (Class: G)

Reporting Ac Reported Ac

Type: C130J PA31

Operator: HQ Air (Ops) Civ Comm

Alt/FL: FL100 FL100

Weather: VMC CLAC VMC CLBL

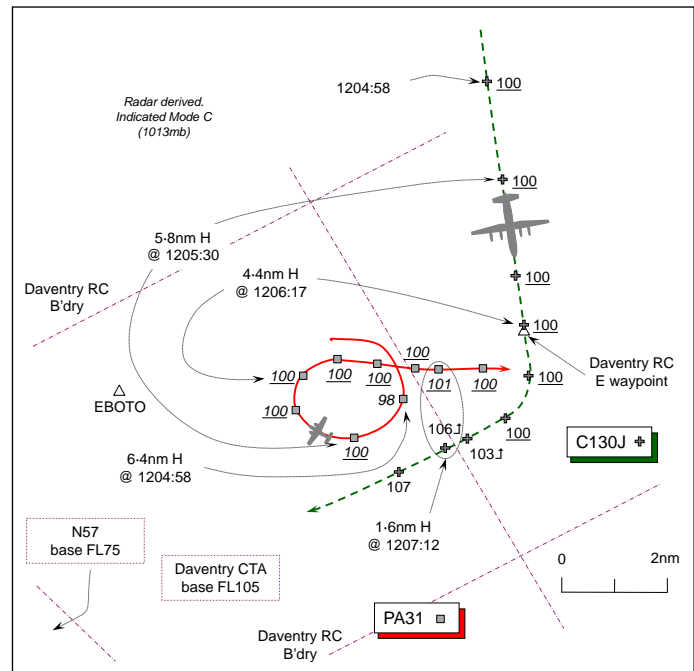
Visibility: 10km >50km

Reported Separation:

200ft V/0.5-1nm H Nil V/2nm H

Recorded Separation:

500ft V/1.6nm H



## PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

**THE LOCKHEED C130J PILOT** reports that during this VFR training flight, following an approach to RW20 at Waddington, ATC handed them back to LATCC (Mil) for a transit through the Daventry Radar Corridor (DAV RC) to return to Brize Norton. The assigned squawk was selected with Modes C and S on; TCAS is fitted. They were 'cleared' to climb to FL100 with own navigation for the DAV RC under a TS. Whilst in the climb, London MILITARY passed TI about traffic 6nm away which was in the vicinity of the DAV RC. This ac was acquired visually at FL100 and appeared to be manoeuvring at the northern edge of the RC. As they approached the entry point to the RC at 210kt he positioned his C130 so that the conflicting ac [the PA31] would not cause a TCAS confliction vector. This was achieved and they transitioned the DAV RC eastern waypoint, although still under a TS before turning onto the heading of 247° to transit the DAV RC. The conflicting PA31 then turned S towards his C130 and triggered a TCAS CLIMB RA, which was complied with. The PA31 was observed to pass about ½ - 1nm behind his C130 immediately before they were placed under a RCS for the transit of Class A CAS. Both ac were in Class G airspace at the time of the Airprox which occurred at about 1207Z in a position about 52° 21'N 000° 32'W. London MILITARY was informed and passed the details of the conflicting PA31 after recovery to Brize Norton. The conflicting ac was not working London MIL's frequency.

The ac has a grey/green camouflage scheme but the 'strokes' and wingtip taxi lights were on.

**THE PA31 PILOT** reports he was conducting a local flight from Northampton/Sywell under VFR; he was not in receipt of any ATS. A squawk of A7000 was selected with Mode C; elementary Mode S is fitted but TCAS is not.

Whilst in the cruise at FL100 in VMC with an in-flight visibility of >50km, heading 090° at 170kt, he saw a large grey high-wing 4-engine military ac [the C130] about 3-4nm ahead of his ac. The C130 passed from L - R across his nose straight and level initially and then turned right to pass down his right hand side 2-3nm away. At the closest point, which was when the C130 passed down his starboard side, he estimates that it was at least 2nm away at the same level. There was no Risk of collision as he had seen the other ac; it was a considerable distance away at all times and was obviously going to pass well clear.

**THE LJAO CENTRAL TACTICAL CONTROLLER (CEN TAC)** reports that the C130 was about 2nm NE of the DAV RC under a TS proceeding SW'ly for the RC at FL100. Traffic information was passed to the crew on two conflicting ac, the first being 5nm South, tracking N, without any height information (no SSR). The second unknown ac was squawking A7000, 8nm SW, manoeuvring, indicating FL96 and climbing. The TI was acknowledged by the C130 crew and after a short delay reported visual with the conflicting ac – the PA31. The Area South Bank Supervisor then instructed him to ask the C130 crew if they could identify the type of the conflicting ac, which the crew was unable to do. The conflicting PA31 continued to manoeuvre in the same general area and as the C130 turned onto a track of about 250° degrees, he queried whether the crew was still visual as the PA31 continued to present a definite hazard. The C130 pilot advised he was no longer visual with the PA31 that was to the W at a range of 2nm at the same level, so he provided TI. Subsequently, the C130 crew reported visual and that they were taking a TCAS CLIMB, which was acknowledged.

**BM SAFETY MANAGEMENT** reports that this Airprox occurred 7.8nm E of the Class A CAS boundary associated with the DAV RC, between a C130 in receipt of a TS from LJAO CEN TAC and a PA31. Both ac were operating VFR in VMC. The LJAO RT transcript timings were found to be 8min 3sec removed from the radar replay and, where referred to in this report, have been corrected to reflect the radar recording timings.

The C130 was manoeuvring towards the DAV RC and at 1203:40, CEN TAC passed TI on unrelated traffic. At 1204:57 CEN TAC passed TI on the PA31 stating, *“traffic south-west, 8 miles [6.4nm on radar replay] tracking south flight level 9-7 climbing I'll keep you updated”* which was acknowledged. At 1205:31 the C130 crew reported that they were, *“visual with traffic”* which prompted CEN TAC to ask whether they were visual with the reported unrelated traffic. The C130 reported, *“..negative 1 o'clock..1 hundred foot above and..passing 6 miles”* which was the PA31. At this point, the PA31 was 5.8nm SW of the C130, in a RH turn, passing through a heading of approximately 260°, at FL100. CEN TAC then passed updated TI on the unrelated traffic. At 1206:17, as the C130 crossed the DAV RC E'ly waypoint, the PA31 was turning R passing through a heading of about 030°; CEN TAC updated the TI to the C130 on the PA31 stating, *“traffic due west of you by..6 miles now [4.4nm on radar recording], tracking north, similar altitude, what type of aircraft is it?”* The C130 replied that they were, *“unable to identify that as it's a bit far away.”* At 1206:33 the C130 commenced a R turn onto the RC track to position along the southern portion of the DAV RC, whilst the PA31 steadied on an E'ly track, which was maintained for the remainder of the incident sequence. At 1206:45 CEN TAC asked the C130 crew whether they were, *“still visual with the traffic [the PA31]?”* The C130 crew replied that they had, *“lost visual at the moment, now looking”* prompting CEN TAC to update the TI, stating *“roger, it's northwest of you by 3 miles, tracking southeast.”* The C130 crew immediately replied, *“okay, we're TCAS resolution climbing”* adding about 2sec later at 1207:08, that they were, *“visual with the traffic, it's going down our right hand side now.”*

Based upon the PA31 pilot's report, the radar recording reflects he acquired the C130 visually at about 1206:42, when the range had reduced to 3nm and remained visual throughout the incident sequence. The CPA occurred at 1207:09, as the PA31 passed 1.6nm N of the C130 and 500ft below it following the C130 crew's response to the TCAS CLIMB RA.

[UKAB Note (1): Horizontal separation reduced to 2.7nm at the same level before the C130 is shown climbing in response to the demanded RA. The C130 ascended to a maximum of FL107 before a descent is evident to the assigned DAV RC level of FL100, after the range has increased to 2.5nm at 1207:28. When informed of the TCAS RA the CEN TAC ensured LTC MIDS Sector was fully aware, who had no traffic to affect the C130's climb into the DAV CTA.]

CEN TAC provided a high level of service allowing the C130 crew to develop their situational awareness to visually acquire the PA31. By both confirming which ac the C130 had reported visual with and by confirming that the C130 crew was still visual once the incident geometry had changed at 1206:33, CEN TAC displayed a high level of situational and professional awareness and should be commended as such.

On the basis of the geometry of the event, BM SM contends that this was a TCAS sighting report.

**HQ AIR (OPS)** comments this was a benign event where effective lookout from both parties meant that collision was never an issue. The TCAS RA was nevertheless complied with as there was no reason not to do so (iaw C130 SOPs).

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available included reports from the pilots of both ac, a transcript of the relevant RT frequency, radar video recordings, a report from the air traffic controller involved and reports from the appropriate ATC and operating authorities.

The Board agreed that the LJAO CEN TAC controller had provided a good service to the C130 crew, through the timely flow of TI. This, coupled with TCAS information, ensured the C130 crew was continually apprised of the position of the manoeuvring PA31. The C130 crew subsequently saw the PA31 from a range of over 5nm and was content that it did not pose a threat, endeavouring to manoeuvre so as to minimise the potential for a TCAS RA. However, despite affording the PA31 what they considered to be a sufficient margin, a TCAS RA was triggered and the C130 crew was duly bound to comply with the CLIMB RA until CLEAR OF CONFLICT was enunciated.

Without the benefit of a radar service to assist his lookout, the PA31 pilot saw the C130 from a range of 2-3nm, watched it cross ahead and subsequently pass 1.6nm to starboard on a diverging heading without concern. It was unfortunate that the PA31 pilot chose to manoeuvre at the eastern end of the RC, at the corridor level, just as the C130 crew was commencing their westbound transit; however, the PA31 pilot was operating here under VFR quite legitimately in Class G airspace. Despite the resultant TCAS RA, both the C130 crew and the PA31 pilot were visual with each other's ac and both had afforded what they considered to be a reasonable margin under VFR. Whilst it was evident that the C130 had just penetrated the lower limit of the DAVENTRY CTA during the RA manoeuvre, CEN TACs swift liaison call to LTC MIDS confirmed that this had not resulted in a problem. The Board concluded that whilst this occurrence met the criteria for an Airprox report, it was nonetheless a sighting of traffic operating in Class G airspace and Members agreed unanimously that normal safety parameters had not been breached.

The Board suggested that more publicity should be afforded to the various RCs, which are regularly used by military traffic and civil ac operating as OAT to transit CAS. They are not marked on civil charts and there is little reference to them in the UK AIP, but it would be helpful to pilots that regularly operate VFR outside CAS in the vicinity of RCs to draw attention to the increased potential for meeting fast-jets and other military ac on a regular basis at the established RC levels where the corridor abuts Class G airspace.

## **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: Sighting report.

Degree of Risk: E.