

## **AIRPROX REPORT No 2014005**

Date/Time: 15 Jan 2014 1325Z

Position: 5156N 00152W  
(11.5nm E Gloster)

Airspace: Lon FIR (Class: G)

Aircraft 1 Aircraft 2

Type: EC135 C172

Operator: NPAS Civ Trg

Alt/FL: 700ft 2000ft  
Rad Alt QNH (995hPa)

Conditions: VMC VMC

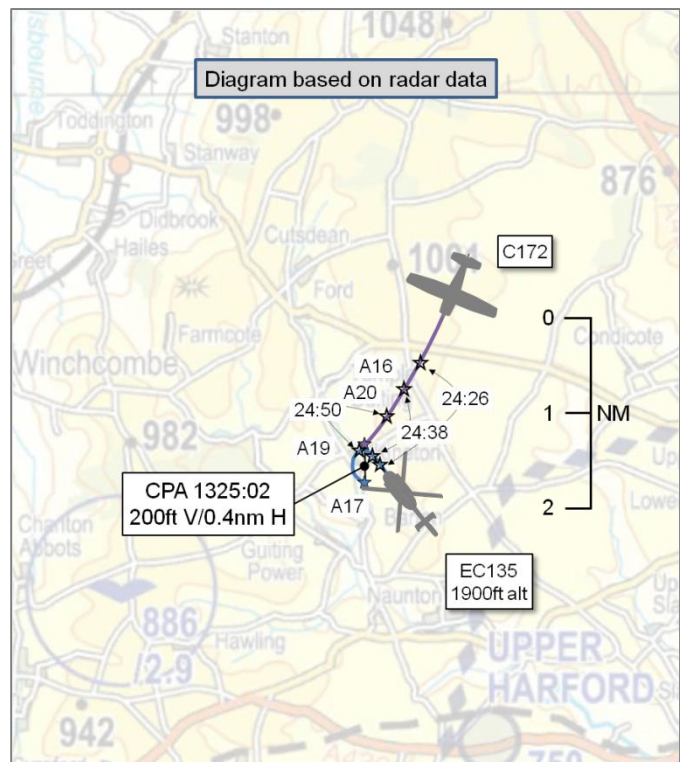
Visibility: 1.5nm/30nm NK

Reported Separation:

300ft V/0.5nm H NK V/2nm H

Recorded Separation:

200ft V/0.4nm H



## **PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

**THE EC135 PILOT** reports conducting a search operation. The black and yellow helicopter had HISLs and strobes selected on, as was the SSR transponder with Modes A, C and S. The aircraft was fitted with a TCAD<sup>1</sup>. The pilot was operating under VFR in VMC, in receipt of a Basic Service from London Information. The visibility to the east and south was reported as 'very poor' with the cloudbase almost on the surface. The visibility to the west and north was excellent at greater than 30km with no significant cloud. The operating area was on the edge of the poor weather, which was slowly moving southeast, leaving the desired operating area in good conditions. He had been in a series of low-speed orbits, searching areas around a village. He was adjusting height quite frequently for the early part of the search to remain clear of the low cloud. Whilst on the scene, a Police Officer on the ground reported a light aircraft coming towards the EC135 from the east at about the same level. The pilot looked from right to left and saw nothing so turned the aircraft to the south, started a climb and continued to look for the other aircraft, but still saw nothing. The Traffic Collision Alert Device (TCAD) then gave a traffic advisory at a range of 0.5nm. The rear seat Tactical Flight Officer reported that he could see the other aircraft in the distance so the pilot maintained a southerly course to ensure no conflict. After a minute or so, he saw the other aircraft on an almost parallel course but about two to three miles away at approximately the same altitude. He believed it was a low-wing single-engine monoplane but that he may have been mistaken. Given the direction that he saw the other aircraft travelling, he was fairly happy that the risk to his aircraft was minimal, and continued on task without reporting the incident to London Information. The following day he received a telephone call from the Police Officer who had originally reported the conflicting aircraft, who reported that the two aircraft had come within about 600m at CPA and that he had submitted a 'Near Miss' report. On that basis the EC135 pilot decided to file an Airprox report.

The EC135 pilot stated that it was disappointing that the TCAD did not pick up the conflicting aircraft earlier, but with both aircraft at fairly low levels, and his aircraft turning regularly thus screening the TCAD aerials, that it was probably not surprising. He believed that when first reported, the conflicting aircraft was behind him and that other than the reporting Officer and the single TA from the TCAD, he would have been unaware of any risk of potential collision.

He assessed the risk of collision as 'Medium'.

<sup>1</sup> Traffic Collision Avoidance Device.

**THE C172 PILOT** reports conducting an instructional sortie with the student as handling pilot at the time. The white and blue aircraft lighting state was not reported; the SSR transponder was selected on with Modes A, and S<sup>2</sup>. The aircraft was fitted with TCAS. The pilot was operating under VFR in VMC, not in receipt of an ATS. Whilst heading 215° at 110kt and altitude 2000ft, the TCAS showed a 'Traffic Advisory at 20 miles' and +20' (2000ft above). The Instructor became visual with helicopter traffic at between 5 and 8 miles at a similar altitude. TCAS then showed traffic at 5 miles still at +20. He observed the helicopter moving from his 12 o'clock position to his 9 o'clock position and felt it was no longer a factor or threat. This was confirmed with the TCAS traffic symbol also moving from the 12 o'clock to the 9 o'clock position at a range of 2 miles. Believing the TCAS altitude data to be incorrect he initiated a climb to 2300ft and observed the helicopter in a left turn, flying towards the left side of his aircraft at a range of between 1 and 2 miles.

He assessed the risk of collision as 'Medium'.

## Factual Background

The weather at Gloucester was recorded as follows:

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METAR EGBJ 151320Z 20010KT 9999 FEW010 12/07 Q0995
METAR EGBJ 151350Z 20010KT 170V230 9999 FEW010 SCT016 12/07 Q0994
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## Analysis and Investigation

### CAA ATSI

An Airprox was reported by the pilot of a Eurocopter EC135 when it came into proximity with a Cessna 172 approximately 12nm to the east-northeast of Gloucester Airport. ATSI had access to area radar recordings, written reports from both pilots together with RTF recording and transcript of the London Information frequency. The EC135 pilot was operating under VFR on a local flight, was in receipt of a Basic Service from London Information, and was displaying SSR code 0060<sup>3</sup>. The C172 pilot was operating under VFR and was not in receipt of an ATS.

At 1259:36, the EC135 pilot contacted London Information, stating that he would be operating approximately 8nm to the east of Cheltenham and a Basic Service was agreed. At 1321:58, the radar recordings showed an aircraft 4.8nm northeast of the EC135 (see Figure 1). The other aircraft was tracking southwest at 2000ft and the E1C35 was at FL021 (1587ft using 1 hPa=27ft).

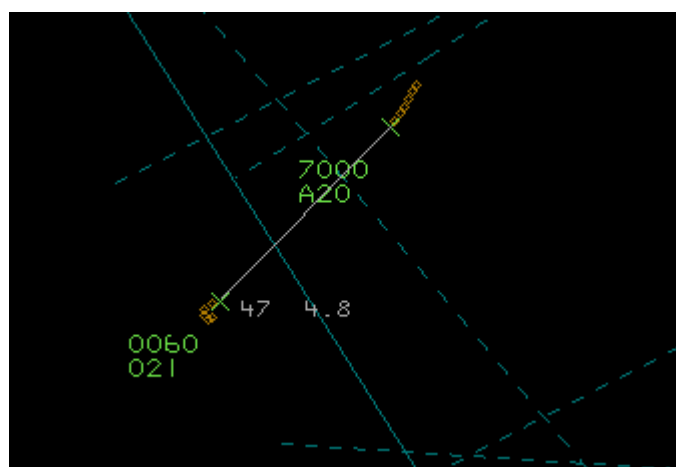


Figure 1: 1321:58

<sup>2</sup> The Mode C was reported as 'Off' but the radar replay showed a Mode C return.

<sup>3</sup> An NPAS discrete squawk.

The two aircraft continued to converge. The EC135 pilot climbed to FL024 (1882ft) and the traffic squawking 7000 descended to 1800ft (see Figure 2).

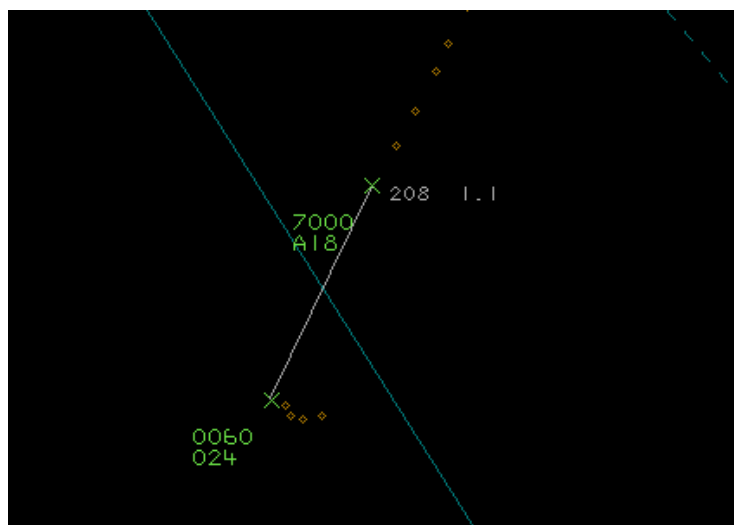


Figure 2: 1324:25

The aircraft squawking 7000 passed behind the EC135 at a range of 0.4nm, 200ft apart (CPA, see Figure 3). The track of the EC135 paralleled that of the 7000 squawking aircraft for a short time before the EC135 pilot turned to the left and the two aircraft diverged.

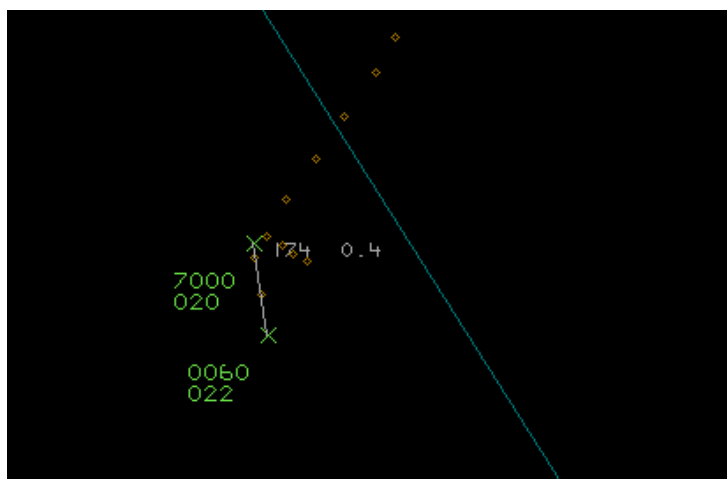


Figure 3: 1325:02

Although it was not possible to identify the aircraft squawking 7000 as the C172, the time of the incident, place of occurrence and geometry of the reported Airprox correlate with that observed on the radar recordings.

The EC135 pilot was in receipt of a Basic Service. Under the terms of a Basic Service there is no requirement to pass traffic information and pilots remain responsible for their own collision avoidance.

### UKAB Secretariat

Both pilots shared an equal responsibility for collision avoidance<sup>4</sup>. If the geometry is considered to be 'converging' then the EC135 pilot was required to give way<sup>5</sup>, if considered overtaking the EC135 pilot had right of way<sup>6</sup>.

<sup>4</sup> Rules of the Air 2007 (as amended), Rule 8 (Avoiding aerial collisions).

<sup>5</sup> *ibid.*, Rule 9 (Converging).

<sup>6</sup> *ibid.*, Rule 11 (Overtaking).

## Summary

An EC135 and a C172 flew into proximity at 1325 on 15<sup>th</sup> January 2014 in Class G airspace. Both pilots were operating under VFR in VMC, the EC135 pilot in receipt of a Basic Service from London Information and the C172 pilot not in receipt of an ATS.

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

Information available included reports from the pilots of both aircraft, radar photographs/video recordings and a report from the appropriate ATC operating authority.

The Board first considered the actions of the EC135 pilot. He was engaged on an operational task, on the edge of poor weather, and received an RT warning of an approaching light-aircraft from a police officer on the ground. He did not initially see the aircraft, manoeuvred to head south, received a TCAD warning and was then given traffic information by a crew member who had the aircraft in sight. The pilot then saw the other aircraft, at a point that the Board opined was after CPA. The Board noted that the EC135 pilot was in receipt of a Basic Service from London Information, and members agreed that the nature of search operations was such that the risk of becoming task-focused versus maintaining an effective look-out meant that he could have been better assisted by a surveillance based service, if available.

The Board noted that the C172 pilot, conducting an instructional sortie, had elected not to obtain an ATS. In mitigation of this (against other SSR-equipped aircraft at least), the Board also noted that the aircraft was, unusually, equipped with TCAS which enabled the pilot to gain visual contact with the helicopter at extended range, albeit with an apparently erroneous TCAS altitude indication. The pilot stated that he achieved 2nm horizontal separation on the EC135. The Board were unable to reconcile this figure with the radar-derived CPA and opined that, in any case, it was good practice to avoid orbiting helicopters by a more significant margin whenever able given that many are conducting emergency services tasking that may compromise their ability to maintain a robust look-out, or may require them to manoeuvre unexpectedly.

In the event, both pilots were operating in Class G airspace and, through a combination of ground based observation and onboard equipment, were able to take action to avoid a collision, in accordance with the principle of 'see-and-avoid'. Although the Board classified this Airprox as a sighting report, they reiterated that the criteria for an Airprox report had been met because, in the opinion of the EC135 pilot, the safety of the aircraft may have been compromised. That this was prompted in turn by a report from a ground observer did not change the fact that the pilot was concerned, and the Board commended him for filing.

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

Cause: A sighting report.

Degree of Risk: E.

ERC Score<sup>7</sup>: 2.

<sup>7</sup> Although the Event Risk Classification (ERC) trial had been formally terminated for future development at the time of the Board, for data continuity and consistency purposes, Director UKAB and the UKAB Secretariat provided a shadow assessment of ERC.