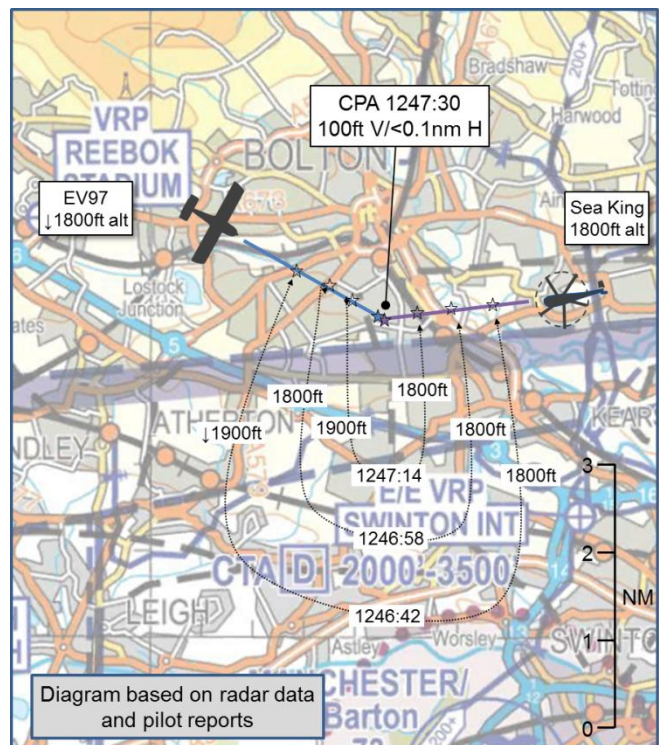


AIRPROX REPORT No 2014179Date/Time: 24 Sep 2014 1347ZPosition: 5333N 00225W
(S Bolton)Airspace: Lon FIR (Class: G)Aircraft 1 Aircraft 2Type: Sea King EV97 MicrolightOperator: HQ Air (Ops) Civ PteAlt/FL: 1700ft 1750ft
QNH (1014hPa) QNH (1013hPa)Conditions: VMC VMCVisibility: >10km >10kmReported Separation:

100ft V/0ft H 100ft V/80m H

Recorded Separation:

100ft V/<0.1nm H

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

THE SEA KING PILOT reports flying a yellow helicopter with all lights illuminated and transponder selected on with Modes 3A, C and S. He was flying VFR at 1700ft QNH under a Basic Service with Manchester. When approaching the north of the Manchester low-level corridor, the PF spotted a small light aircraft emerging from behind the pilot's window frame. Evasive action was taken and the light aircraft flew overhead. At its closest point, the distance between the two aircraft was judged to be within 100ft. An Airprox was declared to Manchester, who reported that the other aircraft was not speaking to them, but believed that it was out of Barton airfield. The pilot reported that the window frame obscured the view of the aircraft to the PF, and the PF obscured it to the non-handling pilot.

He assessed the risk of collision as 'High'.

THE EV97 PILOT reports flying a silver aircraft with red and black markings, the nose-mounted landing light was on. The transponder was selected on with Modes 3A, C and S, but the aircraft was not fitted with ACAS. He was flying VMC well-below scattered cloud, with the sun behind him and there was a strong visual contrast between the sunlit areas and those in cloud shadow. The student was flying as they were nearing the end of a general handling lesson and descending from 2500ft to 1750ft when the instructor saw a yellow helicopter slightly lower, on their nose, and closing fast. He took control and immediately climbed and turned left to avoid it. He then looked back behind and below and was able to identify it as a Sea King tracking to the west. He was mid-call to Barton so informed them of the incident.

He assessed the risk of collision as 'High'.

Factual Background

The weather at Manchester was reported as:

METAR EGCC 241250Z 31011KT 280V340 9999 FEW036 15/07 Q1014 NOSIG

Analysis and Investigation

CAA ATSI

The EV97 reported conducting general handling and, having descended from 2500ft to 1750ft, was about to head back to Barton when they saw a helicopter slightly lower on their nose, closing fast. The pilot of the EV97 climbed and manoeuvred left to avoid. The pilot of the EV97 reported a high risk of collision. No report was received from Barton but, because the EV97 was on a Basic Service from Barton Information and the Airprox occurred 6nm north-northwest, it is unlikely that the FISO would be able to add anything to the report. The Sea King reported that while in receipt of a Basic Service from Manchester Radar they saw a small light aircraft as it emerged from behind the pilot's window frame. Evasive action was taken and the light aircraft flew overhead the Sea King. The pilot estimated the distance between the two aircraft to be within 100ft. The Manchester controller was busy with IFR traffic at the time of the Airprox and was not required to monitor the Sea King under a Basic Service. The controller only saw the EV97 on radar after the incident and therefore traffic information was not passed to the Sea King. CPA occurred between radar sweeps – at 1247:31 the Sea King (Squawking 7353) and the EV97 (squawking 7000) were converging 0.1nm apart at the same level (Figure 1). At the next sweep the two aircraft had passed each other and were 0.1nm apart with the Sea King indicating 100ft lower (Figure 2).

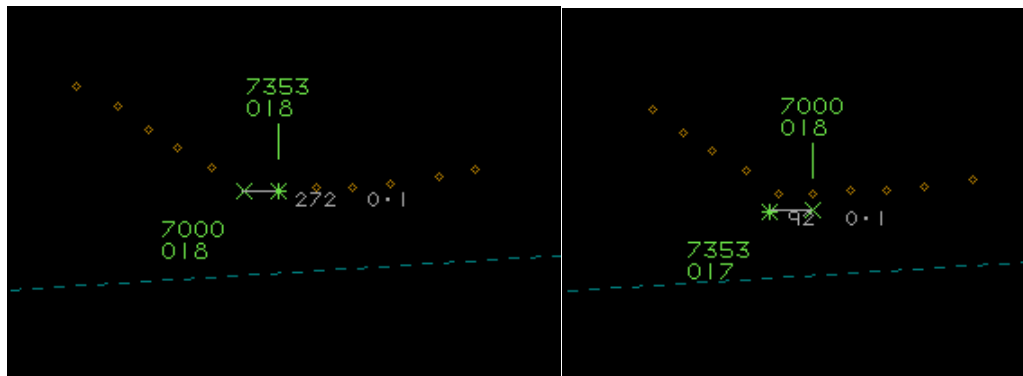


Figure 1 - 1247:31

Figure 2 - 1247:36

UKAB Secretariat

Both pilots shared an equal responsibility for collision avoidance and for not flying into such proximity as to create a danger of collision¹. The geometry of the two aircraft is converging, therefore the Sea King pilot was required to give way².

Comments

HQ Air Command

The habit of systematically searching the sky, including movement of the head and eyes to clear areas that are obstructed by the airframe, is critical to the safe operation of the aircraft. However, there are known limitations to the see-and-avoid operations in Class G airspace and this may be another example where 2 aircraft came into close proximity, only becoming visual and achieving separation at the last moment.

Both aircraft had serviceable transponders, therefore the fitment of a collision avoidance system on one or both of the aircraft could have improved situational awareness and allowed for more timely separation. Additionally, the decision for the crews to operate under a Traffic Information Service from Manchester may also have provided an additional barrier to avoid the conflict.

¹ Rules of the Air 2007 (as amended), Rule 8 (Avoiding aerial collisions).

² Ibid., Rule 9 (Converging).

Summary

An Airprox was reported on 24th September at 1347 between a Sea King and an EV97 microlight. The Sea King was at 1700ft and receiving a Basic Service from Manchester; the EV97 was descending to 1700ft and speaking to Barton. Neither pilot received any traffic information. The radar replay indicates that the separation was 100ft and less than 0.1nm.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings, and reports from the appropriate ATC and operating authorities.

The Board first looked at the actions of the Sea King pilot; some members of the Board wondered whether he would have been better served requesting a Traffic Service from Manchester ATC, although it was recognised that Manchester were busy at the time and may have refused this request. They also noted that the canopy arch had obscured the view of the pilot and opined that this highlighted the need for pilots to be mindful of such blind-spots and ensure that their look-out technique compensated for them. The Board endorsed the HQ Air Command comments that a TAS may have provided the Sea King pilot with an earlier warning given that both aircraft had serviceable transponders.

Turning to the EV97 pilot's actions, the Board noted that he was also not receiving a radar service, although they recognised that the likelihood of a microlight receiving a consistent radar service from Manchester was also remote. The Board noted that the Sea King had been on constant bearing to him which, together with the dappled light of sun and cloud, probably explained why he didn't see the helicopter earlier.

In the end, the Board agreed that both pilots were operating in Class G airspace where see-and-avoid was the main barrier to preventing a collision. In turning to the cause, they swiftly agreed that the incident had occurred because of a late sighting by both pilots. They also noted that, although both pilots took action, the radar derived separation indicated less than 0.1nm, and so they assessed the risk as Category B, safety margins had been much reduced below the normal.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A late sighting by both pilots.

Degree of Risk: B.

ERC Score³: 20.

³ 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.