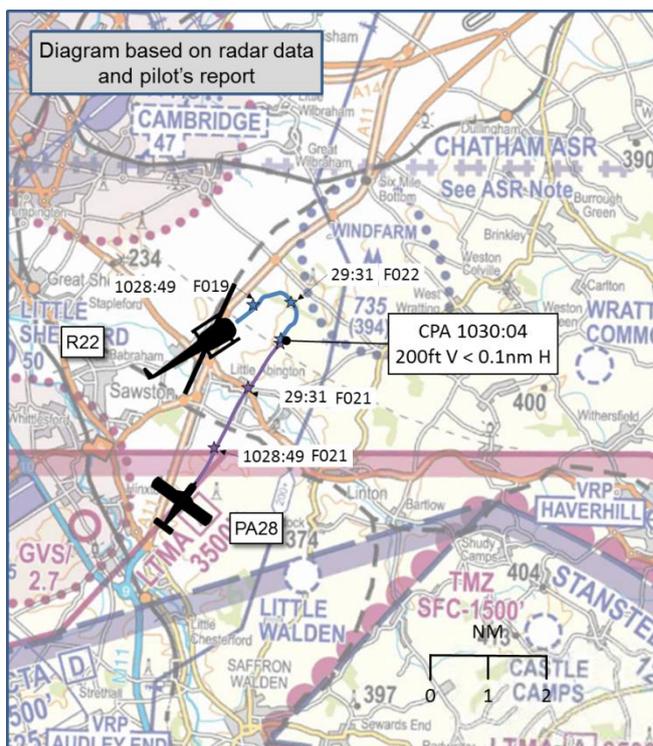


AIRPROX REPORT No 2014045Date/Time: 10 Apr 2014 1030ZPosition: 5208N 00015E
(5nm SE of Cambridge Airport)Airspace: London FIR (Class: G)Aircraft 1 Aircraft 2Type: Robinson R22 Piper PA28Operator: Civ Trg Civ TrgAlt/FL: 2000ft QNH NKConditions: VMC NKVisibility: 10km NKReported Separation:
100ft V/100m H NKRecorded Separation:
200ft V/0.1nm H**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

THE R22 PILOT reports flying a predominantly yellow helicopter, VFR, into sun, with navigation and strobe lights illuminated and squawking Mode 3/A. The instructor was flying with a student on an advanced auto-rotation training flight; this activity required repeated auto-rotation entries with exactly the same parameters commencing from the same position. On this occasion, the crew had chosen a hedge-line as their entry-point visual cue, heading 210° at 75kt, commencing from 2000ft. On their sixth auto-rotation entry, the student was the handling pilot and the instructor was looking down to 'call the entry point' and ensure that they were clear to descend. Just as the instructor called 'Practice Auto-rotation... Go!', the student spotted another aircraft 'on a head-on collision course at the same altitude'. The student took evasive action by rolling the helicopter sharply right, descending and at the same time alerted the instructor. The crew contacted Cambridge ATC to identify the other aircraft and, shortly afterwards, its pilot reported on the frequency and requested a Basic Service.

He assessed the risk of collision as 'Medium'.

THE PA28 PILOT chose not to submit a report.

Factual Background

The weather at Cambridge at 1020 was recorded as:

METAR EGSC 101020Z VRB02KT 9999 FEW031 14/06 Q1022=

Analysis and Investigation**CAA ATSI**

Cambridge ATSU were operating a split ADC¹ & APP² service without the aid of surveillance equipment.

¹ Aerodrome Control

² Approach Procedural

The R22 crew departed Cambridge, planning to conduct an advanced auto-rotation training exercise to the southeast of Cambridge. At 1015:02 the R22 crew contacted Cambridge Approach and requested a Basic Service, which was agreed. The R22 pilot reported operating up to a maximum altitude of 2300ft and at 1020:56 the controller passed a new QNH 1022hPa.

At 1031:00 the R22 pilot asked the controller if he was aware of a light single-engine aircraft operating in the 'windfarm' area. The Cambridge controller reported that he wasn't talking to anyone in the area but on the ATM³ observed what he thought might well be a light aircraft in the area. The R22 pilot responded that he had just had a 'close call'.

Shortly afterwards, at 1032:00, the PA28 pilot contacted Cambridge Approach and reported being the light aircraft to the north of the windfarm on a flight from Panshanger to Norwich, at 2100ft on QNH 1023hPa. The PA28 pilot requested a Basic Service, which was agreed and, at 1035:10, the PA28 pilot requested a frequency change to Lakenheath.

The R22 was in receipt of a Basic Service, wherein the pilot remained responsible for collision avoidance; the Cambridge controller was not aware of the PA28 and was not able to provide Traffic Information or warning. No Airprox report was made on the Approach frequency.

Radar Analysis

Using the Stansted single source radar recordings, the two aircraft are shown prior to CPA at 1030:06 (Figure 1), and after the CPA at 1030:10 (Figure 2). The converted Mode C altitudes are unverified but show the PA28 indicating an altitude of 2000ft and the R22 indicating an altitude of 2200ft prior to the CPA, and 1900ft after the CPA. (Radar QNH 1023hPa).

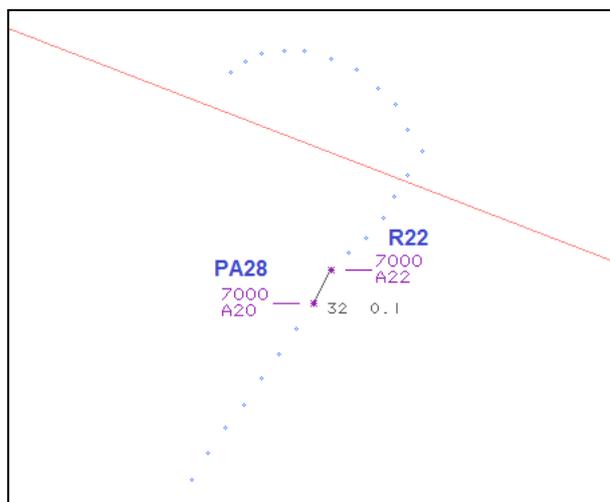


Figure 1 – 1030:06

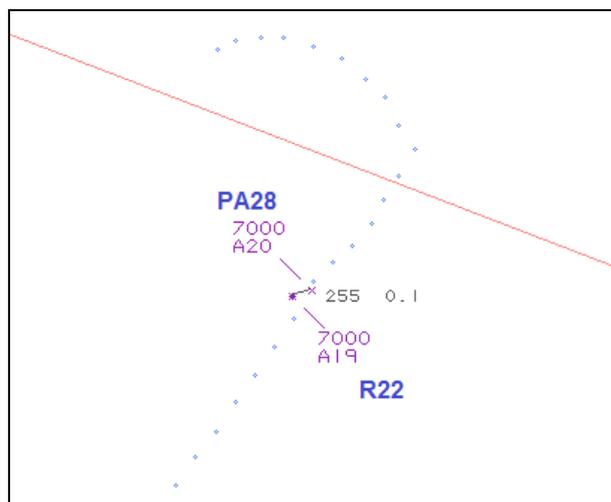


Figure 2 - 1030:10

UKAB Secretariat

The aircraft were approaching head-on so both pilots were required to alter course to the right⁴, which the R22 pilot did. The PA28 pilot evidently did not alter course, and the lack of any information from its pilot due to his decision not to participate in the Airprox process means that it is not possible to ascertain whether or not he saw the R22.

³ Air Traffic Monitor

⁴ Rules of the Air 2007, Rule 10, Approaching Head-on

Summary

An Airprox was reported 5nm southeast of Cambridge airport between a PA28 and a Robinson R22 helicopter, whose crew were about to commence a practice auto-rotation. The helicopter crew reported avoiding to the right and descending, the PA28 pilot chose not to submit a report.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilot of the R22, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controller involved and reports from the appropriate ATC and operating authorities.

The Board was extremely disappointed that the PA28 pilot chose not to participate in the Airprox process. Lessons which are valuable to the whole aviation community can only be identified and publicised, for the good of all, if pilots and air traffic controllers willingly engage in honest and open reporting of occurrences.

The helicopter pilot members informed the Board that the R22 pilot would have been expected to carry out a look-out turn prior to commencing practice auto-rotations, and it was clear from the radar recording that the crew had done so. Once the look-out turn had been completed, it was necessary for the instructor to look down in order to accurately call the entry-point, and members commended the student for continuing to maintain a good look-out despite the impending complex manoeuvre. They also commended him for having taken prompt and appropriate avoiding action immediately on sighting the PA28. The Board agreed that the cause of the Airprox was a late sighting by the R22 pilot and, given the lack of information, an assumed non-sighting by the PA28 pilot. Although the CPA was close, and the PA28 pilot did not appear to take any action, the Board determined that the R22 student's actions had been just in time, and had been effective in increasing their separation; they agreed that the degree of risk was B, safety standards had been much reduced below the norm.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A late sighting by the R22 pilot and an assumed non-sighting by the PA28 pilot.

Degree of Risk: B.

ERC Score⁵: 20.

⁵ 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.