

AIRPROX REPORT No 2013168

Date/Time: 26 Nov 2013 1256Z

Position: 5224N 00106W
(5.5nm south of Bruntingthorpe)

Airspace: London FIR (Class: G)

Aircraft 1 **Aircraft 2**

Type: Merlin PA28

Operator: HQ JHC Civ Trg

Alt/FL: 1500ft 2000ft
QNH (1039hPa) (1039hPa)

Conditions: VMC VMC

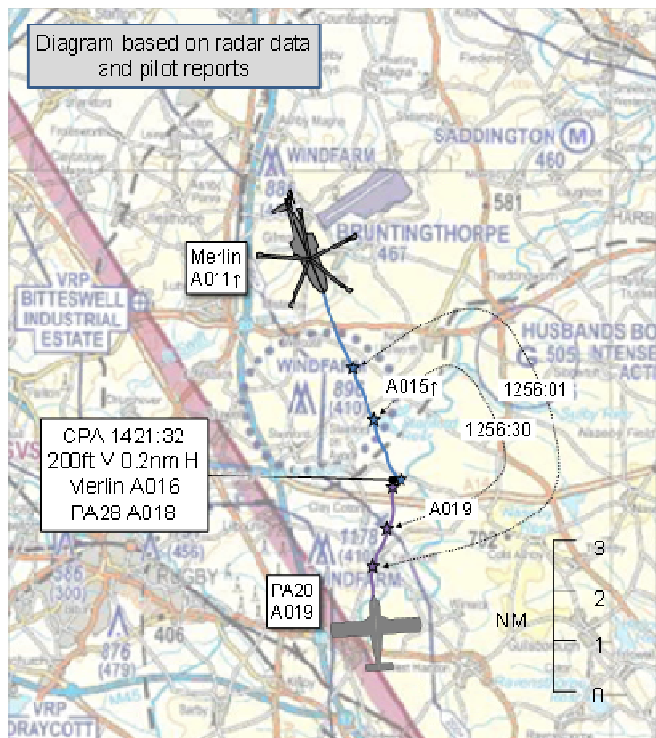
Visibility: 50km 10km

Reported Separation:

0ft V/100m H 2-300ft V/5-600m H

Recorded Separation:

200ft V/0.2nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE MERLIN PILOT reports flying a green helicopter, VFR in VMC, clear below cloud, with upper and lower white strobe lights, navigation lights and two forward-facing landing lamps illuminated, and squawking transponder Modes 3/A, C and S. The helicopter was heading 180° at 120kt, the crew were listening on the low-level ops frequency and intended to climb out of low-level to 3000ft for a routine 'anti-icing op test' before recovering to their base. Having cleared their flight-path, the handling pilot established a climb rate of 500fpm and the non-handling pilot, who was in the right-hand seat, looked in to the cockpit to select the frequency for Brize Norton Zone with the intent of requesting a Traffic Service. As the non-handling pilot looked up, he saw the landing light of a light aircraft, in their 1230 position, at the same level, about 400m away. He instructed the handling pilot, who reports that his view of the PA28 was blocked by the centre windscreen strut, to 'come left', then repeated the instruction before taking control and 'promptly' manoeuvring the helicopter 'left and down'. Once the aircraft were clear of each other the crewman reported that the aircraft appeared to be a white Piper Warrior which did not appear to take any avoiding action and passed around 100m away down their right-hand side.

He assessed the risk of collision as 'High'.

THE PA28 PILOT reports flying a blue and white aircraft, on an instrument training sortie, VFR in VMC, clear below cloud, with a Basic Service from Coventry ATC. The aircraft had the strobe and landing lights illuminated, and transponder Modes 3/A and C were selected; Mode S was not fitted, he thought. The student was wearing 'foggles'¹ to simulate IMC, and was flying the DTY 360 radial at 2000ft when the instructor saw the Merlin with its landing light on, on an 'opposing track', at the 'same height' around 1nm away. At a 'closing distance' of about 600m, the instructor saw the helicopter turn to its left and descend; he assessed the risk of collision as nil, and allowed the student to maintain heading and altitude, informing him of the helicopter's position once it had passed 200-300ft below and 500m to their right.

He assessed the risk of collision as 'None'.

¹ Goggles designed to restrict the pilot's view to simulate IMC for the purposes of instrument flying training or examination.

THE BRIZE NORTON LARS² CONTROLLER reports receiving a call from the Merlin crew, who were recovering to their home base. On initial contact, the pilot made an airborne Airprox report stating that a 'Piper Warrior' had passed down their right-hand side shortly before they called on the Zone frequency. The controller noted all of the details and informed the Supervisor.

THE BRIZE NORTON SUPERVISOR reports that he was on duty in the Approach Control Room and first became aware of the incident when the Merlin pilot reported the Airprox on the Zone controller's frequency. He assessed controller's task difficulty and workload as low but noted that the controller's workload increased significantly when the pilot reported the Airprox.

Factual Background

The Coventry weather at 1250 and 1320 was recorded as:

METAR EGBE 261250Z 19005KT 9999 BKN035 04/02 Q1039

METAR EGBE 261320Z 19004KT 9999 BKN037 04/02 Q1039

Analysis and Investigation

CAA ATSI

ATSI had access to area radar recordings, written reports from both pilots and RTF recording and transcript of the Coventry Radar frequency.

At 1242:00, shortly after departure from Coventry, the PA28 pilot contacted Coventry Radar and a Basic Service was agreed.

At 1256:10 the PA28 (displaying SSR code 4360) was tracking north-bound indicating 1900ft and converging with the Merlin which was south-bound at 1300ft displaying SSR code 7000 (Figure 1).



Figure 1: 1256:10

The Merlin climbed to 1700ft and the two aircraft continued to converge. At 1257:00 the two aircraft were 0.2nm apart with the PA28 at 1800ft and the Merlin having descended to 1600ft (CPA - Figure 2).

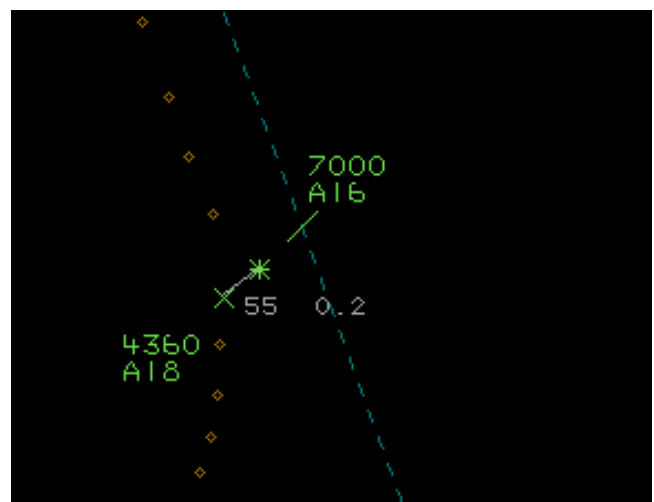


Figure 2: 1257:00

The PA28 pilot and the Coventry Radar controller did not communicate again until 1309:10.

The written report from the Merlin crew stated that they saw the PA28 when it was approximately 400m away and manoeuvred left and down to avoid it. The written report from the pilot of the PA28 stated that he saw the Merlin approximately 1nm away and observed the Merlin turn to port and descend.

² Lower Airspace Radar Service

The PA28 was in receipt of a Basic Service from Coventry Radar. Under the terms of a Basic Service there is no requirement for the controller to monitor the flight or to pass traffic information - the avoidance of other traffic is solely the pilot's responsibility. The Merlin was not in receipt of an air traffic service.

Military ATM

All heights/altitudes quoted are based upon SSR Mode C from the radar replay unless otherwise stated; based on the London QNH 1039 hPa.

From the radar replay, the CPA was at 1256:58 at 0.2nm and 200ft altitude difference on Mode C. At 1258:59, the Merlin free-called Brize for a radar service and the Airprox was reported.

Figure 3 details the aircraft geometry at 1nm separation and Figure 4 at 0.5nm. The Merlin was squawking 7000 and the PA28 was squawking 4360.

The PA28 pilot appeared to be visual earlier than the Merlin crew, and the flight conditions and low workload may have facilitated a sustained visual contact with a medium sized rotary with a green paint scheme. During the transition from low level VFR flying to a climb to IFR flying, the Merlin crew were busy, and the Handling Pilot (left hand seat) was blind to the PA28 because of the position of the centre strut.

RAF Brize Norton were free-called two minutes after the CPA; clearly, a radar based Air Traffic Service would have provided a barrier to an Airprox but aircraft climbing out of low-level are subject to varying degrees of radar coverage.

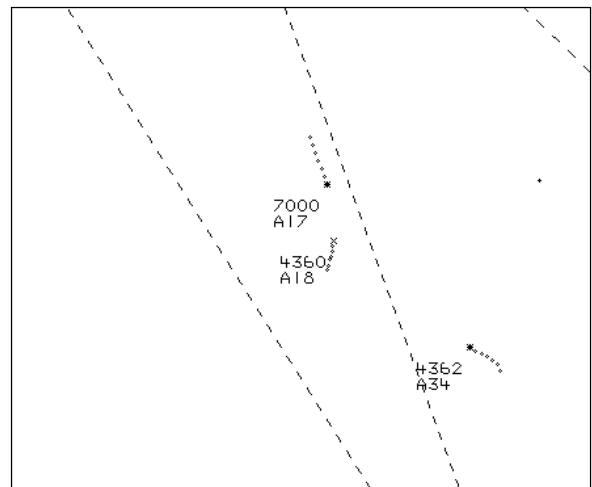


Figure 3: Aircraft geometry at 1256:43 at 1 nm separation.

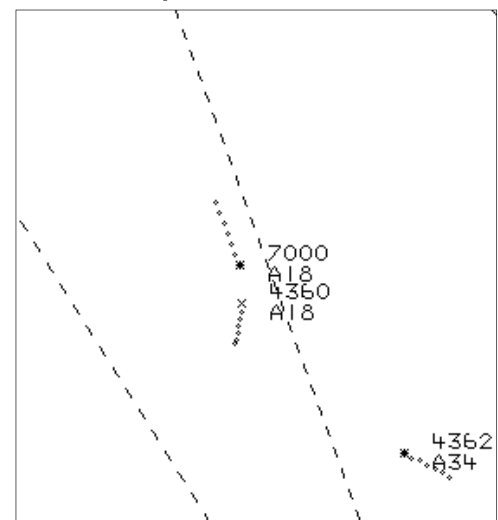


Figure 4: Aircraft geometry at 1256:51 at 0.5 nm separation.

UKAB Secretariat

Both pilots had the responsibility to avoid collisions.³ If it is considered that the aircraft were converging, then the PA28 was on the right of the Merlin so the Merlin crew were required to give way.⁴ If it is considered that the aircraft were approaching head-on, then both pilots were technically required to alter course to the right.⁵

Comments

JHC

This appears to be a late sighting of conflicting traffic by the Merlin crew, however, the actions of the PA28 pilot raise some questions; he reports that he saw the conflicting Merlin helicopter at

³ Rules of the Air 2007, Rule 8, Avoiding Aerial Collisions

⁴ Rules of the Air 2007, Rule 9, Converging

⁵ Rules of the Air 2007, Rule 10, Approaching Head-on

1km, on an opposing track, at the same height, he then reports that, at 600m, the Merlin helicopter turned and descended from conflict. One wonders how long the PA28 pilot would have allowed the situation to develop, or was he content that separation would have been maintained with no changes to heading/height. It is notable that the Merlin crew perceived that there was a high risk of collision.

Summary

An Airprox was reported by the pilot of a Merlin helicopter 5.5nm south of Bruntingthorpe in Class G, uncontrolled, airspace, when the Merlin came into proximity with a PA28. The Merlin crew were operating under VFR and were not in receipt of an air traffic service; the PA28 was operating VFR and was in receipt of a Basic Service from Coventry Radar on frequency 123.825MHz.

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 photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The JHC member informed the Board that the Merlin crew were carrying out a standard procedure for recovery from low-level flying of which the anti-icing test mentioned in the pilot's report is a part, rather than a separate test in its own right. During the Board's debate, there was some discussion as to whether this encounter was converging or approximately head-on because this affects who has the responsibility for initiating avoiding action under the Rules of the Air. The fact that the PA28 was obscured from the Merlin's left-hand seat handling-pilot by the cockpit centre strut could indicate that the encounter was converging, and that the Merlin crew were therefore required to give way to the PA28. Notwithstanding, the Board agreed that the aspect of the two aircraft meant that it was likely that they presented as head-on, or approximately so, and so both pilots should have been prepared to give way. Members noted that the PA28 instructor had seen the Merlin early, and some opined that he should have taken avoiding action; however, GA members countered that, because the aircraft was being flown on an instrument flying training sortie, the instructor would have been keen to allow the student to continue on his radial for as long as possible without the potential complication of avoiding action turns. It therefore seems likely that the instructor in the PA28, having seen the Merlin heading towards them, had remained ready to take action but, on seeing the Merlin execute a left turn, had then decided that no further action was required. Whilst recognising that the PA28 pilot could have taken further action at any point, some members maintained that he had no way of knowing the intentions of the Merlin crew, and that he should have taken earlier action, even if he perceived that the Merlin was required to give way to him. After much debate, in the end the Board agreed that the cause of the Airprox was that the PA28 pilot's inaction had meant that he had flown close enough to the Merlin to cause its pilot concern as he looked up after carrying out his in-cockpit tasks. The Board discussed the Degree of Risk and concluded that, although the Merlin crew had been legitimately concerned about the proximity of the PA28, their avoiding action had been both timely and effective, and that this was a Category C event.

PART C: ASSESSMENT OF CAUSE AND RISK

<u>Cause:</u>	The PA28 pilot flew close enough to the Merlin to cause its pilot concern.
<u>Degree of Risk:</u>	C
<u>ERC Score⁶:</u>	10

⁶ 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.