

AIRPROX REPORT No 2013083

Date/Time: 20 Jul 2013 1537Z (Saturday)

Position: 52 04N 00017W
(2nm South-east of Biggleswade)

Airspace: London FIR (Class: G)

Reporting Ac **Reported Ac**

Type: Vigilant PA28

Operator: HQ Air (Trg) Civ Club

Alt/FL: 1800ft 1500
QFE (1019hPa) QFE (1019hPa)

Weather: VMC CAVOK VMC CAVOK

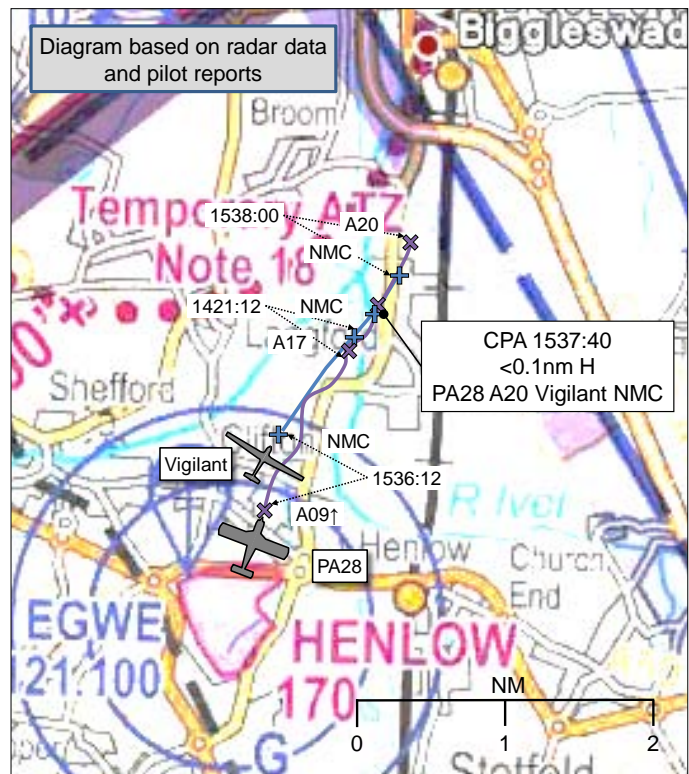
Visibility: 10km 10km

Reported Separation:

100ft V/0m H 200ft V/200ft H

Recorded Separation:

NR V/<0.1nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE VIGILANT PILOT reports flying VFR, with a student, in a white motor-glider displaying orange hi-visibility patches, with the strobe, navigation and landing lights turned on. He had selected transponder mode 3/A code 7000 (modes C & S were not fitted), and was in radio contact with Henlow Radio. The student was on a work-up sortie designed to lead to the first off-circuit solo sortie. The student had been briefed to operate 'as if solo' and so Lookout, Attitude and Instruments (LAI) scans were carried out by the student, as well as the instructor, whilst climbing. The student was looking for a suitable operating area and the instructor reports discussing previous Airprox that had happened in the local area; they agreed that they would cross the A1 at Biggleswade and operate 'at a safe distance east of the line feature'. The PA28 pilot had requested departure 'about 2 minutes' after the Vigilant had taken off; the Vigilant pilot recalls being aware that it was heading in his direction, and would be likely to catch up, so he prioritised his lookout above and behind his aircraft. As they climbed through 1800ft on QFE 1019hPa, they saw the PA28 pass overhead the Vigilant from 'directly behind' about 100ft above them.

Whilst the pilot assessed the severity of the occurrence as low to medium, he was concerned that the nature of the Airprox could have been more challenging for his student when solo.

THE PA28 PILOT reports flying VFR, with a student, in a blue and white aircraft with strobe and navigation lights turned on, transponder mode C selected, and in radio contact with Henlow Radio. He was aware of the departing Vigilant and, after take-off, he continued climbing behind it until, when they were near Biggleswade, they were 'close behind and level with it'. The pilot instructed his student to turn to the right and thought that the PA28's superior performance would enable them to climb clear of the Vigilant. As they manoeuvred to the right to overtake, the Instructor in the right-hand seat lost sight of the Vigilant and asked the student if he was still visual with it. He could see the student looking down towards the Vigilant and he subsequently confirmed that he had kept it in sight as they passed overhead. The PA28 pilot reports that, with hindsight, he should have taken control and turned the aircraft so that he could see the Vigilant throughout, but at no time did he feel there was a 'potential conflict'.

Reporting a separation distance of 200ft V and 200ft H, he assessed the risk of collision as 'None'.

Factual Background

The weather at Cranfield at 1520 was notified as:

METAR EGTC 201520Z 04012KT 9999 SCT018 21/16 Q1023

Analysis and Investigation

UKAB Secretariat

Analysis of the radar recording at 1536:20 shows the Vigilant 1.5nm north-east of Henlow, with no Mode C indication available, flying north-east, with the PA28 in its 5.30 position, 0.4nm behind, indicating an altitude of 1000ft and following a similar track. The PA28 turns slightly left to track north and, at 1536:37 has climbed from 1000ft to indicate 1300ft, still 0.4nm behind the Vigilant. At 1536:46 the PA28 manoeuvres right and then left, remaining in the Vigilant's rear right quarter, indicating 1400ft, before its Mode C disappears when it is 0.2nm from the Vigilant. Twenty seconds later the PA28's Mode C returns, indicating 1700ft; the Vigilant is 0.2nm ahead of the PA28. At 1537:15 the Mode C of the PA28 continues to indicate 1700ft before disappearing with the PA28 0.1nm directly behind the Vigilant. At 1537:40 the radar returns have merged, there is no measurable horizontal separation but the PA28's Mode C has returned and indicates 2000ft. The PA28's radar return moves ahead of the Vigilant's at 1537:44, and then continues to pull away from it indicating 2000ft.

The Vigilant had right of way because it was being overtaken by the PA28, which was required to overtake on the right.¹ The PA28 pilot reports that the student turned their aircraft to the right and estimated that they achieved 200ft H separation. Although the PA28 is shown on the radar replay in the Vigilant's 5-5.30 position for some of the time as it approaches, the radar returns merge with no discernible horizontal separation. Furthermore, the PA28 pilot had the responsibility to 'keep out of the way' of the Vigilant until the aircraft were clear of each other.² Finally, an aircraft which is obliged to give way to another aircraft is required to avoid passing over or under the other aircraft, or crossing ahead of it, unless passing well clear of it.³ The PA28 pilot reports losing sight of the Vigilant during the overtaking manoeuvre, however, his student was able to keep it in sight and he reports that he remained well clear. At the point that the radar returns merge, the PA28's Mode C indicates 200ft above the reported altitude of the Vigilant, which is commensurate with the PA28 pilot's report, and close to the Vigilant pilot's report.

Comments

HQ Air Command

The Vigilant pilot faced a quandary in this instance; he knew a faster aircraft was approaching that would always be difficult to see, but that the rules of the air require him to maintain heading so the overtaking aircraft can avoid. However, one could argue that the Rules of the Air only apply if aircraft are visual with another, conflicting aircraft, in which case the practice of making regular changes of heading might have allowed the opportunity to acquire the following aircraft. His report indicates he adopted an appropriately defensive mindset but that the actions of the PA28 crew did not ensure a safe and orderly overtake.

Summary

The Airprox occurred in Class G airspace, 2nm South-east of Biggleswade, between a Vigilant motor-glider and a PA28, which was overtaking it. Both aircraft were carrying out instructional sorties and were flying VFR in VMC without an air traffic service.

¹ Rules of the Air 2007, Rule 11, para 1.

² Rules of the Air 2007, Rule 11, para 2.

³ Rules of the Air 2007, Rule 8, para 4.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both ac and radar photographs/video recordings.

The GA and gliding members lead the discussion and noted that the PA28 instructor pilot had seen the Vigilant early on as his aircraft had caught up with it, but had then allowed his student to fly into a position where the instructor could no longer see the Vigilant as they overtook it. Whilst the student had apparently maintained visual contact with the Vigilant throughout, Board members were clear that it was the instructor who had the responsibility to ensure adequate separation was maintained throughout the overtaking manoeuvre. The GA members noted that this was the latest in a series of Airprox where pilots have allowed too little separation when overtaking, or have seen another aircraft early on but still not taken timely and decisive action. The Board agreed that this observation would make a good topic for further education throughout the GA community, and particularly within the prospective 2014 Airprox edition of the CAA's 'Clued Up' magazine.

Turning to the actions of the Vigilant pilot, the Board felt that he had done well to build up and maintain situational awareness regarding the PA28. The Board postulated that he may have been torn between maintaining his track whilst being overtaken and manoeuvring to maintain positive visual contact with the PA28 as it overtook. Some members opined that there would have been some merit in the Vigilant pilot making some small turns for reasons of both lookout and to encourage a wider berth by the PA28 pilot; in other circumstances, whilst maintaining the same general track, a small amount of movement might also have increased the Vigilant's visual conspicuity.

The Board unanimously agreed that the cause of the Airprox was that the PA28 pilot flew close enough to cause the Vigilant pilot concern during the overtaking manoeuvre. Noting that the student in the PA28 had maintained visual contact with the Vigilant, the Board agreed that effective actions could at all times have been taken to prevent a collision, and decided that the Degree of Risk was C.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The PA28 pilot flew close enough to the Vigilant to cause its pilot concern.

Degree of Risk: C.

ERC Score:⁴ 20.

⁴ 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