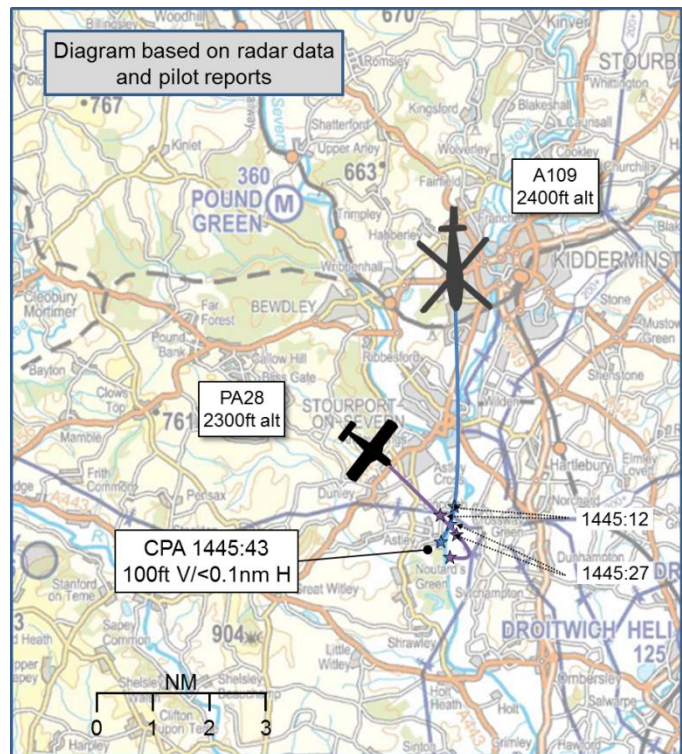


**AIRPROX REPORT No 2014176****Date/Time:** 14 Sep 2014 1445Z (Sunday)**Position:** 5217N 00216W  
(4nm NW Worcester)**Airspace:** Lon FIR (Class: G)**Aircraft 1**                      **Aircraft 2****Type:** PA28                      A109**Operator:** Civ Trg                      Civ Exec**Alt/FL:** 2500ft                      2600ft  
NK (1023hPa)                      QNH (1022hPa)**Conditions:** VMC                      VMC**Visibility:** 15km                      >10km**Reported Separation:**

20ft V/150m H                      300ft V/800m H

**Recorded Separation:**

100ft V/0.1nm H

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

**THE PA28 PILOT** reports flying a green and cream aircraft with all lights illuminated and transponder selected on with Mode 3A, C and S. The aircraft was not fitted with TCAS. He was on a GA training flight and had selected the Halfpenny Green frequency for a listening watch. He was using the river Severn as a navigational feature, keeping it on his left. Just before turning onto a westerly heading, he heard the A109 pilot call Halfpenny Green with a courtesy call, as the A109 was transiting through the area at 2500ft, north to south, whilst receiving a service from Birmingham. Now situationally aware of the A109, the PA28 deduced that a right turn should take him away from its track and so, after looking left to right, he executed a rate one turn. Upon levelling after the turn, he spotted the A109 in his 2 o'clock, 150m away and 20 ft above. It was too late to take avoiding action and he could see that the A109 appeared to turn right away from him. He commented that he had assumed the A109 would be receiving a radar service from Birmingham, and be TCAS equipped.

He perceived the severity of the incident as 'High'.

**THE A109 PILOT** reports flying a silver and black aircraft with navigation and strobes lights illuminated and SSR transponder selected on with Mode 3A, C and S. The aircraft was fitted with TCAS I. He reported that he was receiving a Traffic Service from Birmingham, was in level flight at 2600ft, and received Traffic Information from ATC on the PA28. It appeared in his 1 o'clock, 1 or 2nm ahead, and then slowly crossed from right to left in front of him. He felt it was well ahead but, when the PA28 got to his 10 o'clock, he was slowly overtaking it and so he turned right to open up the gap and continued to overtake. Once the PA28 was in his 9 o'clock it turned right and passed behind him.

He assessed the risk of collision as 'None'.

The A109's pilot report was received some time after the event and therefore no controllers' report or RTF recording was available.

**Factual Background**

The weather at Birmingham was reported as:

METAR EGBB 141420Z 06011KT 020V090 9999 FEW030 19/12 Q1022

## Analysis and Investigation

### CAA ATSI

The A109 pilot reported squawking 0401 and was in receipt of a Traffic Service from Birmingham Radar. At 1440:01 the A109 was 1.5nm north of Halfpenny Green tracking south. The PA28 was 7.3nm southwest of Halfpenny Green and recalled being situationally aware of the A109 as it made a courtesy call to Halfpenny Green radio reporting at 2500ft and crossing north to south.

The two aircraft continued to converge and the A109 pilot's written report recalled that Birmingham Radar had passed traffic information regarding an aircraft [PA28] which he subsequently sighted in his 1 o'clock at a range of 1 to 2nm ahead crossing slowly from his right to left. At 1444:27 the distance between the two aircraft was 2.1nm. At 1445:23 both aircraft were indicating FL024 and the horizontal distance had reduced to 0.4nm. The A109 started a right turn to avoid the PA28. The PA28 was also shown to have commenced a right turn.

At 1445:41 the PA28 had continued the right turn onto a westerly track and was converging with the A109. Both aircraft were indicating FL024 at a horizontal distance of 0.2nm - Figure 1.

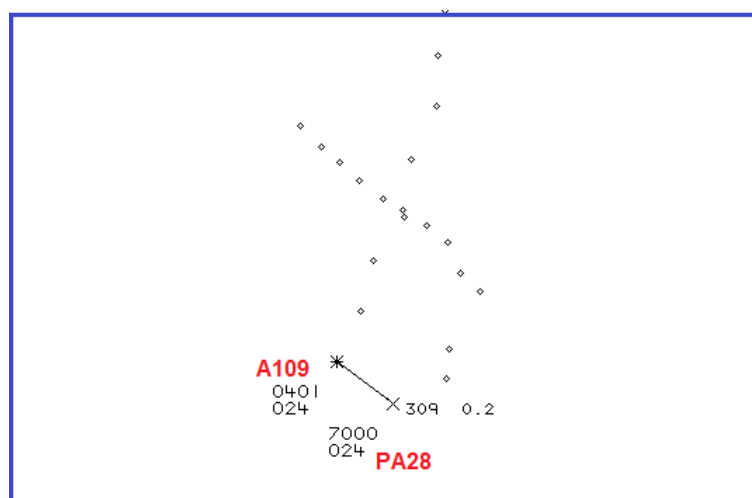


Figure 1 – Swanwick MRT at 1445:41

At 1445:47 the A109 had the PA28 in sight and observed it passing behind – Figure 2.

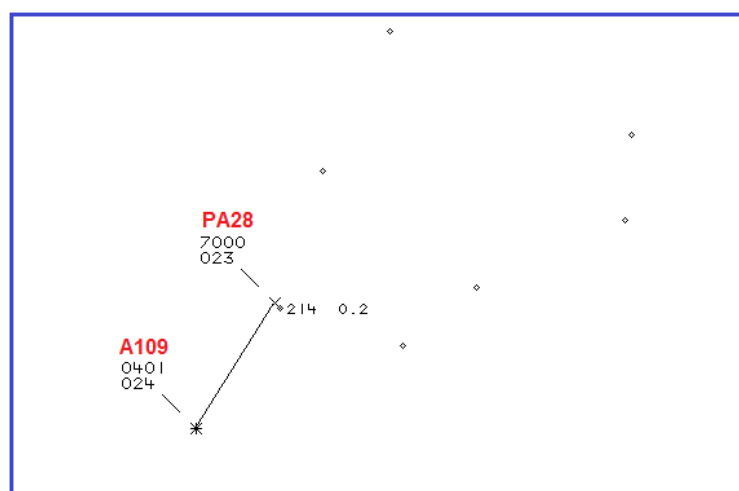


Figure 2 – Swanwick MRT at 1445:47

The PA28 pilot reported that he first sighted the A109 as he rolled out on a westerly track and judged that it was too late for avoiding action.

The Birmingham Radar controller was providing a Traffic Service where:

‘a controller shall pass traffic information on relevant traffic, and shall update the traffic information if it continues to constitute a definite hazard, or if requested by the pilot...’<sup>1</sup>

The A109 pilot indicated that he had sighted the PA28 after having received traffic information from Birmingham Radar.

### **UKAB Secretariat**

Both pilots shared an equal responsibility for collision avoidance and not to fly into such proximity as to create a danger of collision<sup>2</sup>. The geometry was initially a converging situation, which turned into an overtaking situation as the PA28 pilot rolled out on a southerly heading; in both cases, the A109 pilot was required to give way<sup>3</sup>, which he did by turning right prior to the PA28 pilot’s subsequent turn towards the A109 as the PA28 pilot took up a westerly track and flew behind.

### **Summary**

An Airprox was reported on 14<sup>th</sup> September at 1445 when a PA28 and an A109 flew into proximity at 2500ft. The PA28 was conducting a listening watch with Halfpenny Green and had heard the A109 give his courtesy call. The A109 was receiving a Traffic Service from Birmingham ATC and recalls receiving Traffic Information on the PA28.

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

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

The Board first discussed the actions of the A109 pilot, they commended him for his information call to Halfpenny Green and noted that he had taken very appropriate precautions, including receiving a Traffic Service from Birmingham to mitigate the risk of collision. Some members of the Board wondered whether, having seen the PA28, he could have turned earlier to increase the separation between the two aircraft even more but, in the end, the Board agreed that he had probably expected the PA28 to continue on track (and as required in an overtaking situation if the PA28 pilot had had the A109 in sight at that point<sup>4</sup>). The Board considered that it was simply unfortunate that the PA28 pilot had turned in front of the A109 at that point and that he could have done little more to prevent the incident from occurring other than perhaps to have climbed or descended to provide height separation when he initially sighted the PA28.

Turning to the PA28 pilot, the Board noted that he was conducting only a listening watch with Halfpenny Green, and opined that had he stated his intentions, or spoken up when the A109 called, there would have been an opportunity for the two pilots to communicate and understand each’s intentions. The Board also noted his expectation that the other aircraft would be receiving a radar service, or have TCAS, and warned against relying on assumptions of another pilot’s equipment fit, levels of service, and ability to see-and-avoid. In the event, although the PA28 pilot’s turn brought him into conflict with the A109, the Board took into consideration that he thought that in doing so he was helping the situation by turning onto west early; it was simply unfortunate that his mental model was flawed, and this could have been prevented by using the radio.

<sup>1</sup> CAP774 Chapter 3, 3.5

<sup>2</sup> Rules of the Air 2007 (as amended), Rule 8 (Avoiding aerial collisions).

<sup>3</sup> Ibid., Rule 9 (Converging), Rule 11 (Overtaking).

<sup>4</sup> Ibid. Rule 8 (Avoiding aerial collisions).

The Board then looked at the cause of the Airprox and agreed that the incident occurred because the PA28 pilot unwittingly turned into conflict with the A109. Nevertheless, the risk was assessed as Category C, timely and effective action had been taken by the A109 pilot to prevent a collision.

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

Cause: The PA28 pilot unwittingly turned into conflict with the A109.

Degree of Risk: C.

ERC Score<sup>5</sup>: 21.

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<sup>5</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.