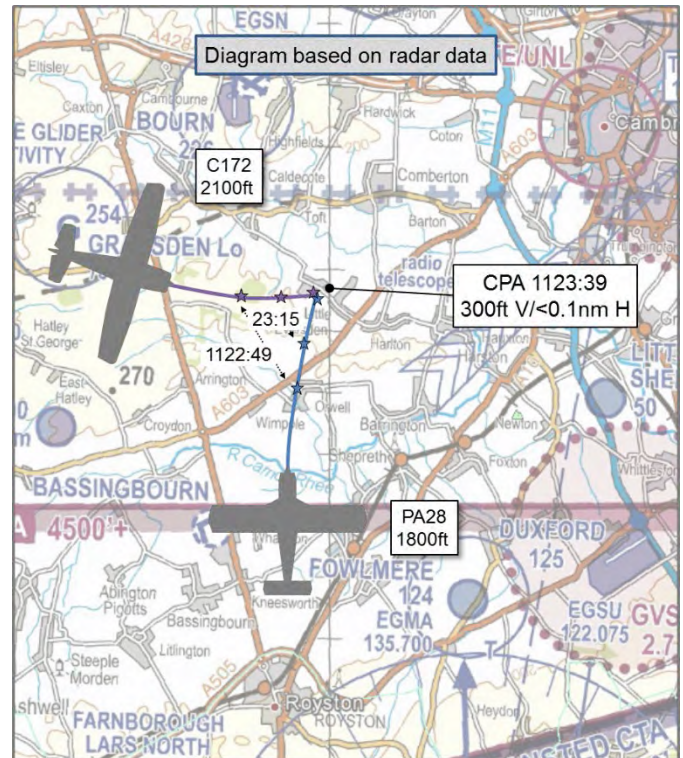


## AIRPROX REPORT No 2018087

Date: 11 May 2018 Time: 1123Z Position: 5209N 00002W Location: 7nm SW Cambridge

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	C172
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Establishing Basic	Basic
Provider	Farnborough	Cambridge
Altitude/FL	1800ft	2100ft
Transponder	A, C, S	A, C, S
<b>Reported</b>		
Colours	White, Red	Red, White
Lighting	Wing tip, Nav, Beacon	NK
Conditions	VMC	VMC
Visibility	>10km	
Altitude/FL	1800ft	3000ft
Altimeter	NK	QNH (1023hPa)
Heading	360°	088°
Speed	95kt	90kt
ACAS/TAS	Not fitted	Not fitted
<b>Separation</b>		
Reported	100ft V/10m H	Not Seen
Recorded	300ft V/<0.1nm H	



**THE PA28 PILOT** reports setting course for his destination and contacting Farnborough for a Traffic Service. He was setting the squawk, and having a little difficulty; when he looked up he saw a high-wing monoplane very close. It was too late to take avoiding action. He could see that they would not collide, but the other aircraft passed almost directly over the top of him, crossing left to right. He immediately reported the Airprox to Farnborough.

He assessed the risk of collision as 'Medium'.

**THE C172 PILOT** reports that he tried to get a radar service from Cambridge but their radar was unserviceable at the time. Throughout the flight he kept a good scan and lookout but at no point did he see traffic within a close proximity.

**THE FARNBOROUGH LARS NORTH CONTROLLER** reports that the PA28 pilot called in the vicinity of Royston requesting a service. He issued a squawk, which was read back and then shortly afterwards the pilot advised that he wished to file an Airprox. He reported that a C172 had overflown him by 200ft and that he believed the other pilot had not seen him. He was still not identified at the time so the controller asked the pilot to confirm the squawk. Once it had been confirmed, the controller saw that he was outside the Farnborough LARS area and so he suggested the pilot free-call Cambridge. He advised the pilot that he would file a report and suggested the pilot do the same on landing.

### **Factual Background**

The weather at Cambridge was recorded as follows:

METAR EGSC 111050Z 17013KT 130V200 9999 FEW045 16/05 Q1016=

## Analysis and Investigation

### CAA ATSI

At 1113:34, the C172 pilot established communication with Cambridge Approach. The pilot reported being at 3400ft, a Basic Service was agreed, and the QNH passed and read back. The controller instructed the pilot to report 5nm from Cambridge.

After departing from Duxford, the PA28 pilot turned to track to the north at 1120:43 (Figure 1). By 1122:26 the two aircraft had closed to within 2.7nm of each other (Figure 2).

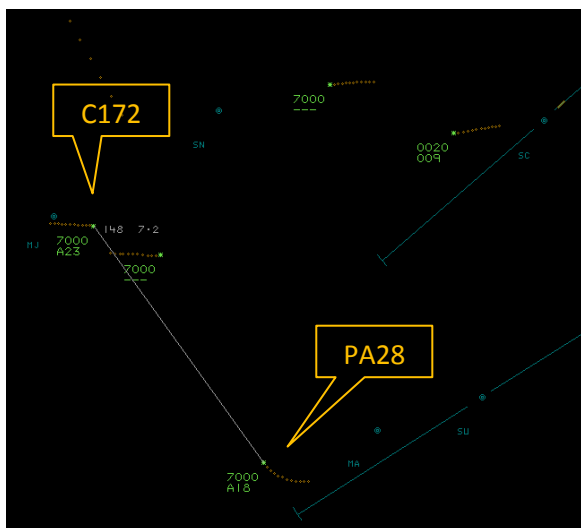


Figure 1 – 1120:43

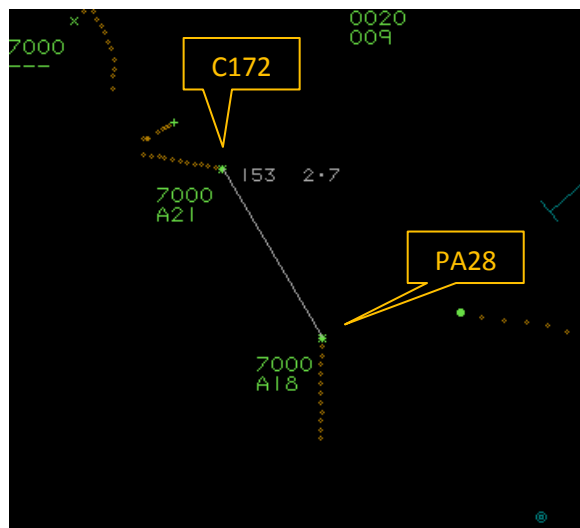


Figure 2 – 1122:26

CPA occurred at 1123:38 (Figure 3), when the aircraft were separated by less than 0.1nm and 300ft. At the time, the Cambridge controller was establishing communications with an aircraft approaching Cambridge from the East, and passing Traffic Information to traffic on the ILS. The PA28 pilot did not establish communication with the Cambridge approach controller until 1125:20.

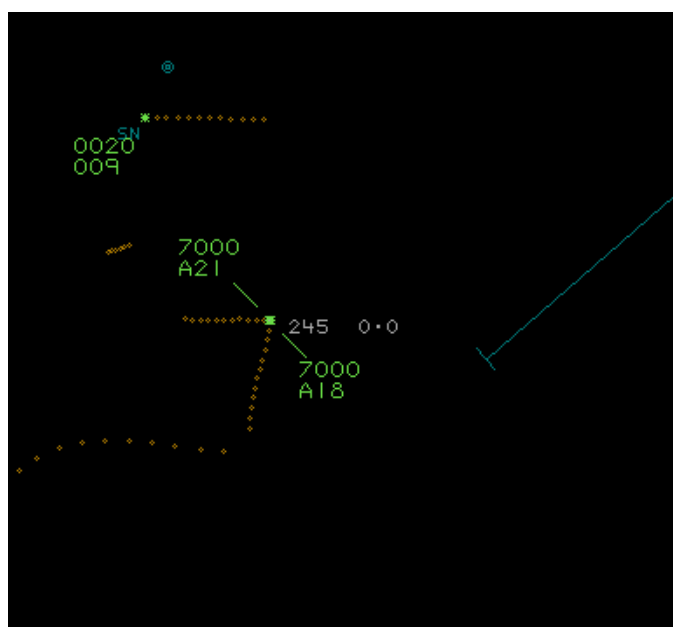


Figure 3 – 1123:38

At the time of the Airprox the C172 pilot was receiving a Basic Service from Cambridge Approach but the PA28 pilot was not yet in contact with them. No Traffic Information was passed to the C172, the controller was not aware of the PA28 at CPA because the Cambridge Radar was unavailable.

Under the terms of a Basic Service CAP 774 states;

*Whether traffic information has been provided or not, the pilot remains responsible for collision avoidance without assistance from the controller.”*

The Airprox took place in Class G airspace therefore separation between aircraft is ultimately the responsibility of the pilot.

### **UKAB Secretariat**

The PA28 and C172 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard<sup>1</sup>. If the incident geometry is considered as converging then the C172 pilot was required to give way to the PA28.

### **Summary**

An Airprox was reported when a PA28 and a C172 flew into proximity 7nm se of Cambridge, at 1123hrs on Friday 11<sup>th</sup> May 2018. Both pilots were operating under VFR in VMC, at the time of CPA the PA28 pilot was had called Farnborough for a Basic Service, but had not yet been identified, and the C172 was in receipt of a Basic Service from Cambridge who were operating without any radar.

### **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, reports from the air traffic controllers involved and reports from the appropriate ATC operating authorities.

The Board first looked at the actions of the PA28 pilot. They thought it was unfortunate that he had called Farnborough for a LARS service because although the charts indicate that Farnborough would provide LARS in that area, he was on their boundary and moving out of their area of responsibility. Some GA members opined that he could have noted that during his pre-flight planning and might have been better served by researching other options before flight. Had he called Cambridge instead, the C172 pilot may have heard him and thus been alerted to his presence. That said, they acknowledged that without a radar Cambridge was not able to provide very much in the way of Traffic Information, other than on aircraft that they already knew about. There then followed a discussion about who would be the best agency to call, given that it was an area of the country without a formal LARS provider. Board members had differing ideas, although the common consensus was that Cambridge was probably the best option. Noting that the pilot was changing squawk immediately prior to seeing the C172, members cautioned against becoming task focused on cockpit activities to the detriment of look-out; only short durations should be spent looking in the cockpit (for example by selecting frequencies or SSR codes one digit at a time) with ideally 80% of the time looking out.

For his part, the C172 pilot did not see the PA28 even though it came within 300ft of him. Again, the Board highlighted the necessity for robust look-out at all times, but particularly in busy airspace such as this area where there are a number of active local airfields.

In the absence of a surveillance-based LARS, members commented on the benefit of the increasingly affordable collision-warning systems that were available. Both aircraft were squawking (as now required under SERA 13001), and if only one of them had been fitted with a suitable system then at least one of the pilots might have been alerted to the proximity of the other aircraft.

The Cambridge controller was only providing a Basic Service to the C172 and, without a radar, he had no knowledge of the PA28; the Board concluded that there was little more that he could have done to avoid the Airprox.

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<sup>1</sup> SERA.3205 Proximity.

Finally, turning to the cause of the Airprox, the Board quickly agreed that this was a non-sighting by the C172 pilot and, because he didn't see the other aircraft in time to take any avoiding action, effectively a non-sighting by the PA28 pilot. They assessed the risk as Category B; safety had been much reduced below the norm.

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

Cause: A non-sighting by the C172 pilot and effectively a non-sighting by the PA28 pilot.

Degree of Risk: B.

Safety Barrier Assessment<sup>2</sup>

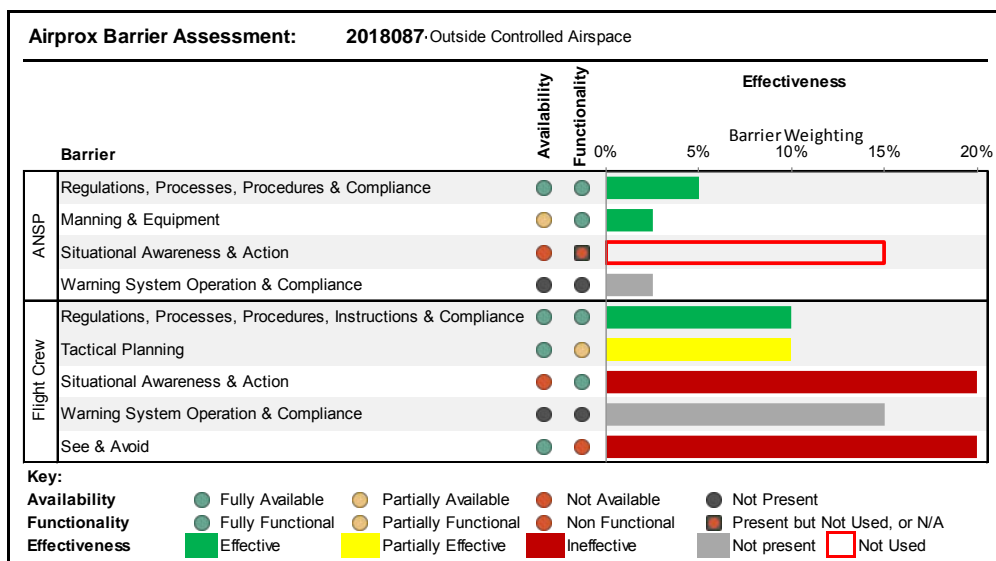
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

**Flight Crew:**

**Tactical Planning** was assessed as **partially effective** because the PA28 could called Cambridge for a service as he was going to transit through their area.

**Situational Awareness and Action** were assessed as **ineffective** because neither pilot knew about the other one.

**See and Avoid** were assessed as **ineffective** because the PA28 pilot saw the C172 too late to take any action and the C172 pilot did not see the PA28.



<sup>2</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).