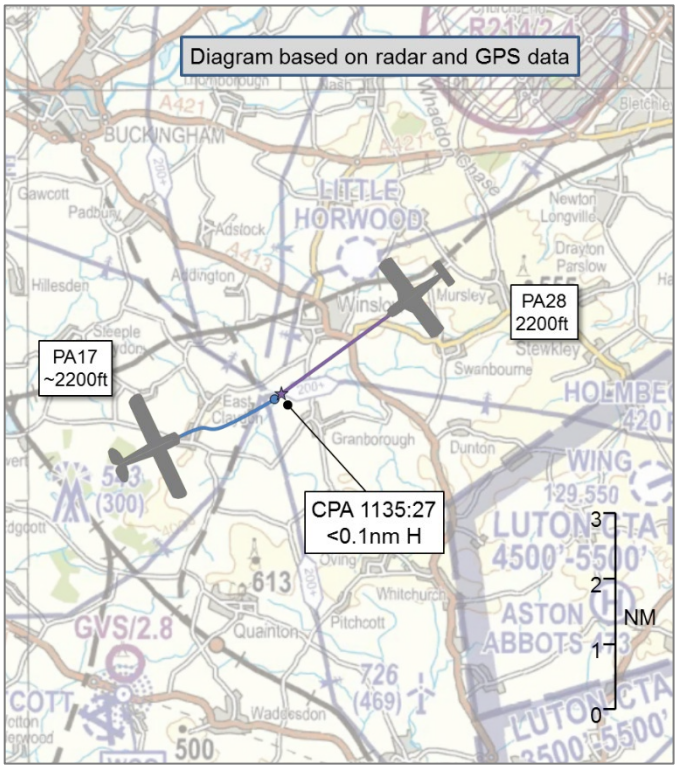
AIRPROX REPORT No 2019074

Date: 23 Apr 2019 Time: 1135Z Position: 5155N 00054W Location: 4nm NE Westcott

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA17	PA28
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None[1]	Basic
Provider		Farnborough
Altitude/FL	2000ft (from IGC)	2200ft
Transponder	Not Fitted	A, C, S
Reported		
Colours	Yellow, Blue	White, Blue
Lighting	Nil	NK
Conditions	VMC	VMC
Visibility	10km	20km
Altitude/FL	2000ft	2200ft
Altimeter	NK	QNH (997hPa)
Heading	060°	NR
Speed	78kt	100kt
ACAS/TAS	Not fitted	TAS
Alert	N/A	None
Separation		
Reported	0ft V/300m H	NR
Recorded	~0ft V/<0.1nm H	



THE PA17 PILOT reports that they were flying to the east of Bicester when they saw a white and blue Piper Warrior type, single-engine, low-wing aircraft at the same altitude in the opposite direction. They noted that the visibility was poor and it was first seen at 1km in the 11 o'clock, they took evasive action to avert the risk of collision and thought that the other aircraft also took action.

He assessed the risk of collision as 'Medium'.

THE PA28 PILOT reports he was flying as P1 from the right-hand seat with an instructor sitting in the left-hand seat. It was a local flight, with some general handling and circuit exercises. It was a normal, unremarkable flight and the only incident he could think that might have been the Airprox was that when about 2nm south of Winslow he recalled seeing an aircraft approaching from the opposite direction heading towards their left-hand side. Both he and the instructor spotted it in good time. There was no risk of collision; however, they made a gentle, controlled turn to the right to increase the separation. It was nothing out of the ordinary he thought. The visibility was excellent, but he wondered whether the other pilot saw them late, or perceived them to be closer than they actually were.

He assessed the risk of collision as 'None'.

Factual Background

The weather at Oxford was recorded as follows:

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METAR EGTK 231050Z 06007KT 8000 NSC 17/10 Q0997=
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[1] Radio unserviceable

Analysis and Investigation

UKAB Secretariat

At Figure 1 is a radar screenshot taken from the NATS area radar showing the geometry just before the incident. The PA17 was not squawking but was identified by following the flight profile from its departure airfield. The PA28 can be seen squawking 5030 at 2300ft. CPA occurs at 1135:27 (Figure 2) with the two aircraft head-on, separated by <0.1nm; the height separation is not known.

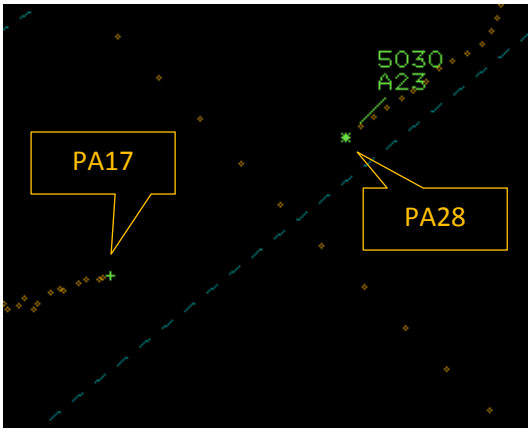

Figure 1 1135:00

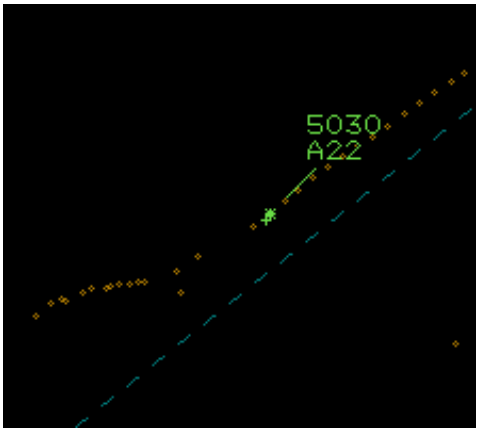

Figure 2 CPA 1135:27

The PA17 and PA28 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard[2]. If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right[3].

Summary

An Airprox was reported when a PA17 and a PA28 flew into proximity near Westcott at 1135hrs on Tuesday 23rd April 2019. Both pilots were operating under VFR in VMC, the PA17 pilot was not in receipt of an ATS and the PA28 pilot was in receipt of a Basic Service from Farnborough.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots and radar photographs/video recordings. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board first looked at the actions of the PA17 pilot. Members noted that their radio was not working and so the pilot could not call for an ATS. This removed the opportunity for the pilot to call Farnborough to receive situational awareness, if not from the controller, then from hearing the other pilot on the frequency (**CF1**). As a consequence, the PA17 pilot had no situational awareness from ATC, nor was there any form of CWS fitted in the aircraft (**CF2**, **CF3**). Therefore, the only barrier remaining available to them was see-and-avoid. In that respect, the PA17 pilot reported that the visibility was poor in their estimation, making seeing the PA28 at range difficult, and they were not able to spot the other aircraft until they were about 1km away (**CF4**). However, albeit later than desirable, once sighted the PA17 pilot took avoiding action to increase the separation.

Turning to the PA28, the Board noted that the pilot did not consider the encounter to be as serious as the PA17 pilot did. Indeed, at first, some members wondered whether the two pilots were describing the same incident because the PA28 pilot reported seeing the PA17 in good time, did not consider it to

[2] SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.
[3] SERA.3210 Right-of-way (c)(1) Approaching head-on. MAA RA 2307 paragraph 13.

be a confliction, and only conducted a gentle turn to the right to increase separation (**CF4**). Although they were receiving a Basic Service from Farnborough, they did not receive any Traffic Information and nor should they expect to unless the controller happened to be looking at that portion of their screen and noticed a confliction. This contributed to the fact that the PA28 pilot also had no prior situational awareness about the PA17 before they saw it (**CF2**), and members briefly discussed whether the PA28 pilot should have asked Farnborough for a Traffic Service, under which they would have received Traffic Information. Members acknowledged that Farnborough were not able to provide a Traffic Service to everyone, and that anecdotal evidence suggested that they were frequently too busy to provide a radar service; however, the Board wished to highlight that it was worth at least asking for a Traffic Service, even if subsequently refused, otherwise the opportunity would be lost. The Board also noted that, although the PA28 was equipped with a CWS, the PA17 was unfortunately not transponder equipped and so the CWS could not detect it (**CF3**); although CWS is undoubtedly a valuable aid, this served as a timely reminder that encounters would still be made without alerts being generated due to potential lack of cooperative signals from the other aircraft.

In assessing the risk, the Board found it hard to reconcile the two pilot reports. The radar trace and the PA17 pilot's igc datafile suggested that the PA17 pilot's description seemed more coherent given that it showed the two aircraft were virtually at the same level, head-on, with less than 0.1nm separation. That being said, there was a degree of track-smoothing within the NATS system which might have smoothed-out the track of either aircraft, but particularly the PA17 which was not displaying SSR. It was therefore possible that the exact horizontal separation had been slightly more than the radar indicated. The Board also wondered whether the two pilots had a different risk appetite, with one reporting a 'medium' risk of collision (the PA17 pilot) and the other reporting that they did not consider there to be any risk at all. Notwithstanding the PA28 pilot's latter assessment, the Board felt that the encounter had been sufficiently close that safety had been degraded, although they agreed that both pilots had been able to take timely and effective actions to remove the risk of collision; risk Category C.

PART C: ASSESSMENT OF CAUSE AND RISK

Contributory Factors:

	2019074-Barriers.x		
CF	**Factor**	**Description**	**Amplification**
	Flight Elements		
	• Tactical Planning and Execution		
1	Human Factors	• Communications by Flight Crew with ANS	Pilot did not communicate with appropriate airspace controlling authority
	• Situational Awareness of the Conflicting Aircraft and Action		
2	Contextual	• Situational Awareness and Sensory Events	Pilot had no, only generic, or late Situational Awareness
	• Electronic Warning System Operation and Compliance		
3	Technical	• ACAS/TCAS System Failure	Incompatible CWS equipment
	• See and Avoid		
4	Contextual	• Near Airborne Collision with Aircraft, Balloon, Dirigible or Other Piloted Air Vehicle	A conflict in the FIR

Degree of Risk: C.

Safety Barrier Assessment[4]

[4] The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.

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

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had any prior knowledge about the other aircraft.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because although the PA28 had a TAS, the PA17 was not fitted with a transponder.