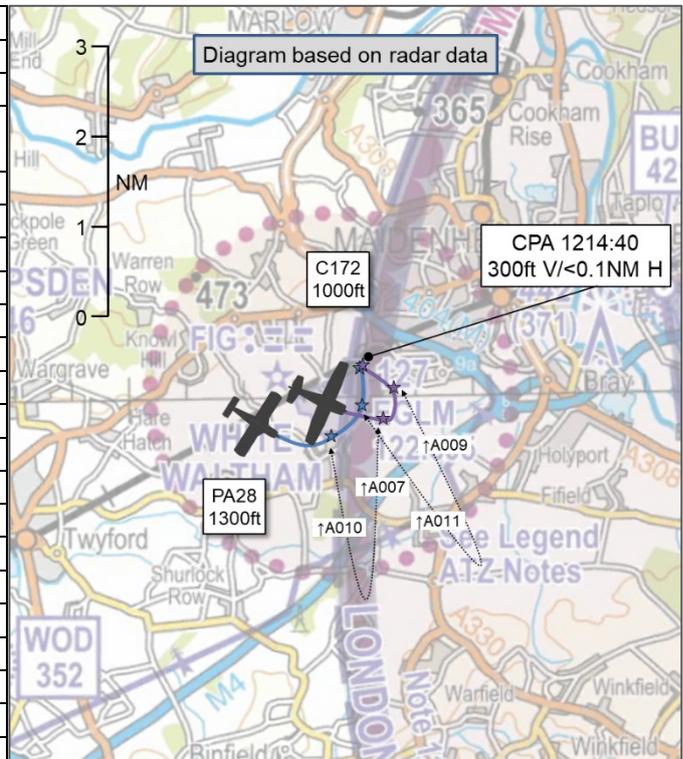


AIRPROX REPORT No 2020127

Date: 14 Sep 2020 Time: 1215Z Position: 5130N 00045W Location: White Waltham

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	C172
Operator	Civ FW	Civ FW
Airspace	White Waltham ATZ	White Waltham ATZ
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	White Waltham	White Waltham
Altitude/FL	1300ft	1000ft
Transponder	A, C	A, C, S
Reported		
Colours	White, Red	NR
Lighting	Strobes	NR
Conditions	VMC	VMC
Visibility	30km	NR
Altitude/FL	1220ft	800ft
Altimeter	QFE (1018hPa)	QFE
Heading	270°	NR
Speed	100kt	NR
ACAS/TAS	Not fitted	Unknown
Alert	N/A	Unknown
Separation		
Reported	15ft V/0m H	NR
Recorded	300ft V/<0.1NM H	



THE PA28 PILOT reports they were sitting in the right hand seat of the PA28, instructing a student in the early stages of a PPL. They had descended deadside for RW11LH at White Waltham. Whilst they were deadside, there was a high-wing white aircraft taking off and another aircraft (PA28) on early downwind. At 90° to RW11 and over the end numbers of the runway it became apparent that although they could fit behind the PA28 into the circuit they would cause a higher workload to the high-wing aircraft, which was on crosswind (to their right and ahead) so they elected to climb back into the overhead. They announced their intentions on Waltham Radio. In the very early stage of the climb the instructor looked to the right at the high-wing aircraft and saw it was turning onto a downwind leg earlier than they would have expected. They expected the other aircraft to remain in the circuit as departures via the overhead are not allowed at White Waltham and they had not heard any RT from the other pilot. They had been level at the overhead height of 1200ft QFE for a short while and were very roughly $\frac{3}{4}$ through the live side path, continuing a gentle left turn to get to deadside, when the instructor in the PA28 in the circuit said on the RT "Aircraft climbing into the overhead stop climbing, there's an aircraft above you." They looked around and saw a high-wing white aircraft to their rear port side (about 7 o'clock) just below and about to go underneath. They estimated it was 20ft away when they first saw it and thought it would have been closer underneath their aircraft. There was no time to improve the situation and anyway they were concerned that the tail might initially get nearer the aircraft if they climbed. They glanced at the altimeter which showed 1220ft QFE. Although they were not continuously in sight of the high-wing aircraft which had been taking off while they were descending deadside, they assumed that this was the aircraft which was climbing into their path as they were not aware of any other aircraft which could have come into conflict with them. They noted that they remained close to the airfield boundary at all times.

The pilot assessed the risk of collision as 'High'.

THE C172 PILOT reports flying the C172 with one passenger in the RHS. They departed White Waltham RW11 quite closely following a Cherokee with the intention of departing the circuit from the downwind leg. They reached circuit height of 800ft quite quickly as they were quite light. The pilot briefly lost contact with the Cherokee ahead and turned onto the downwind leg. They were then alerted by the passenger that the Cherokee was on the right and quite close. The pilot made a slight left turn of about 10° or so and allowed the aircraft to climb a little. They were aware that departures from overhead are not allowed and were sure they were not going to infringe the overhead. Until that point they had not heard about any traffic in the overhead. While ensuring that they maintained separation from the Cherokee they heard someone on the R/T advising that the departing C172 should stop climbing. They presumed the other pilot thought they were continuing to climb; they were not. They immediately started a descent and shortly after a club PA28 passed overhead. It was difficult to estimate the separation but they didn't need to take any avoiding action. The departing Cherokee had pulled ahead by this time and there was no further conflict. As the PA28 was coming from the left and above, it was in the inevitable blind spot of any high wing aircraft but obviously they could be seen from the PA28. They did not consider filing a report as they did not have to avoid and presumed they could be seen from the other aircraft. They continued en-route without further incident.

The pilot did not assess the risk of collision.

THE WHITE WALTHAM AGO reports that their first indication of the Airprox came via a radio transmission from an instructor who was in the circuit at the time who alerted the instructor in [PA28 C/S] to the proximity of [C172 C/S]. They were pretty sure that they were not sitting at the radio at the time, but could not remember clearly enough to be certain. After hearing the radio call, they turned to look out of the window and saw the PA28 above and to the left of the C172, with a margin of what must have been about 40 or 50ft between them. RW11 was in use at the time, and they initially thought that the aircraft were on downwind as they were both on the live side heading in a roughly north westerly direction. It was only after a conversation on the ground with the pilot of [PA28 C/S] that they realised this had occurred in the overhead, which made sense considering the altitude at which they had seen them. The pilot of [PA28 C/S] thought that the pilot of [C172 C/S], who had recently taken off, must have chosen to depart the airfield from the overhead rather than downwind. The C172 pilot may have made a radio call to this effect, but the AGO could not remember clearly whether they did. The instructor in the PA28 commented afterwards that they thought the C172 pilot must have been able to see them in the overhead. After the Airprox, the PA28 continued in a left turn to descend on the dead side to join the circuit, and the C172 departed to the north.

Factual Background

The weather at Heathrow was recorded as follows:

METAR COR EGLL 141150Z AUTO 12005KT 070V180 9999 NCD 27/12 Q1022 NOSIG=

Analysis and Investigation

UKAB Secretariat

Although White Waltham does not have any radar, the incident could be seen on the NATS area radars. At 1213:52 (Figure 1) the C172 could be seen just after take-off, passing 500ft, with the PA28 on the deadside. A second PA28 could also be seen in the circuit. By 1214:24 (Figure 2), the Airprox PA28 had turned crosswind and climbed, as described in their narrative; the C172 was indicating 900ft at this point. CPA was at Figure 3 when the PA28, indicating 1300ft, passed over the C172 at 1000ft.

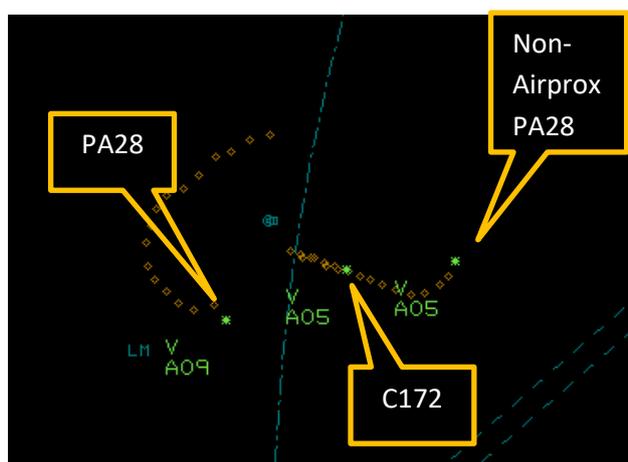


Figure 1: 1213:52

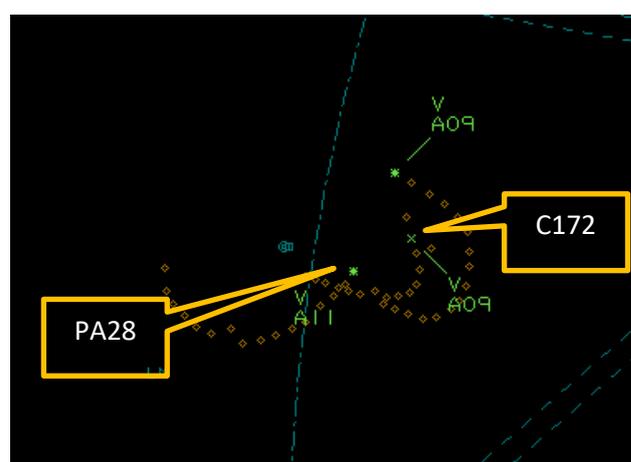


Figure 2: 1214:24



Figure 3: CPA 1214:40

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.¹ An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation.²

Summary

An Airprox was reported when a PA28 and a C172 flew into proximity in the visual circuit at White Waltham at 1215Z on Monday 14th September 2020. Both pilots were operating under VFR in VMC, both were receiving an AGCS from White Waltham.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate operating authorities. 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.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided a combination of written contributions and dial-in/VTC comments.

¹ SERA.3205 Proximity.

² SERA.3225 Operation on and in the Vicinity of an Aerodrome.

The Board first discussed the actions of the PA28 pilot. They had climbed into the overhead in order to fit in around other aircraft in the circuit. However, when in the overhead they did not expect there to be another aircraft climbing above the height of the circuit in the downwind position. Although aware of the C172 in the circuit, they were alerted to its proximity (by the other PA28 pilot in the circuit) and once alerted, saw it in their 7 o'clock. The pilot was no doubt startled by the encounter because they perceived the C172 to be extremely close (**CF5**). By the time the pilot had seen the C172, there was no opportunity to take any avoiding action, indeed the pilot thought that to do so would worsen the situation, making this effectively a non-sighting by the PA28 pilot (**CF9**).

Turning to the C172 pilot, they reported departing downwind and, in trying to remain clear of other aircraft in the circuit, climbed slightly from the downwind position, bringing them into proximity with the PA28 in the overhead (**CF2**). Members thought that although the C172 pilot reported not knowing about the PA28 in the overhead, they should have heard the other pilot on the RT and therefore probably did not assimilate the information that it was there (**CF4**). Consequently, in continuing the climb above the circuit height, and noting that they also flew a tighter circuit than the other circuit traffic, members thought that the C172 pilot did not sufficiently integrate with the PA28 (**CF3, CF6**). The high-wing of the C172 would have obscured the PA28 from the C172 pilot's view (**CF7**), meaning that by the time the pilot saw the PA28 it was already passing overhead and it was too late to take any action (**CF9**), although the pilot perceived that they did not need to take any avoiding action anyway.

White Waltham operates with a AGO who is not required to sequence or separate the aircraft in the circuit (**CF1**). The AGO operator was not aware of the Airprox until alerted by the call from the non-Airprox PA28 pilot, at which point they looked out of the window and assessed the two aircraft to be in the region of 50ft apart. The Board thought that the AGO operator could not have been expected to do anything differently, but they commended the non-Airprox PA28 pilot for making the call which subsequently alerted the pilots to the situation.

When assessing the risk, members could not reconcile the radar separation with that reported by the PA28 pilot, the other pilot in the circuit and the AGO, and could only surmise that there was an element of startle factor, coupled with radar tolerances/transponder inaccuracies that meant the separation was closer than the radar picture suggested. With that in mind, together with the late sighting by both pilots, the Board quickly agreed that there had been a risk of collision (**CF8**). They discussed whether either pilot had the time to take avoiding action and agreed that the late nature of the sighting by both pilots described a situation where safety had been reduced to the minimum; Risk Category A.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2020127		
CF	Factor	Description	Amplification
	Ground Elements		
	• Situational Awareness and Action		
1	Contextual	• ANS Flight Information Provision	Not required to monitor the aircraft under the agreed service
	Flight Elements		
	• Tactical Planning and Execution		
2	Human Factors	• Action Performed Incorrectly	Incorrect or ineffective execution
3	Human Factors	• Monitoring of Other Aircraft	Did not avoid/conform with the pattern of traffic already formed
	• Situational Awareness of the Conflicting Aircraft and Action		
4	Human Factors	• Understanding/Comprehension	Pilot did not assimilate conflict information
5	Human Factors	• Situational Awareness and Sensory Events	Pilot was concerned by the proximity of the other aircraft
6	Human Factors	• Monitoring of Other Aircraft	Pilot did not sufficiently integrate with the other aircraft
	• See and Avoid		
7	Contextual	• Poor Visibility Encounter	One or both aircraft were obscured from the other

8	Contextual	• Near Airborne Collision with Aircraft, Balloon, Dirigible or Other Piloted Air Vehicle	Piloted air vehicle
9	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots

Degree of Risk: A.

Safety Barrier Assessment³

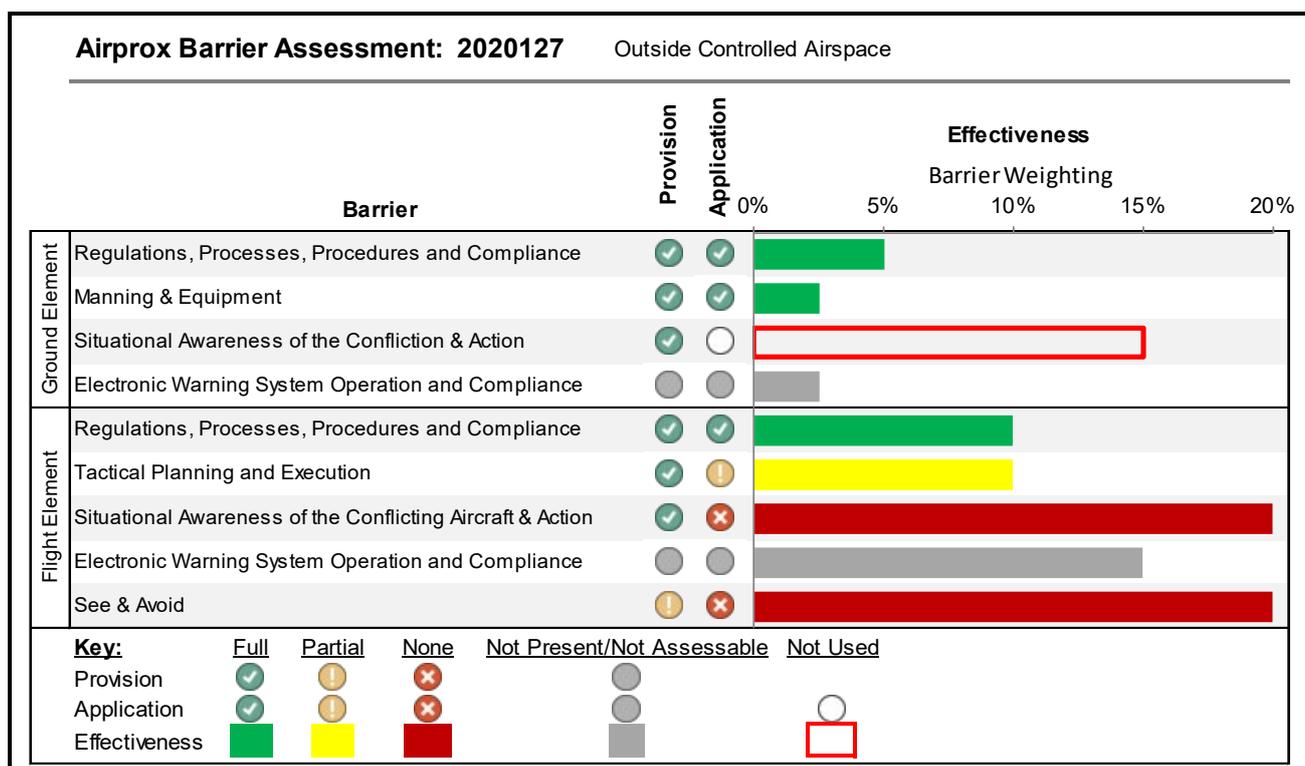
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the C172 pilot climbed above circuit height when departing downwind.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the C172 pilot did not sufficiently monitor the PA28 in the overhead.

See and Avoid were assessed as **ineffective** because neither pilot saw the other in time to materially affect the separation.



³ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).