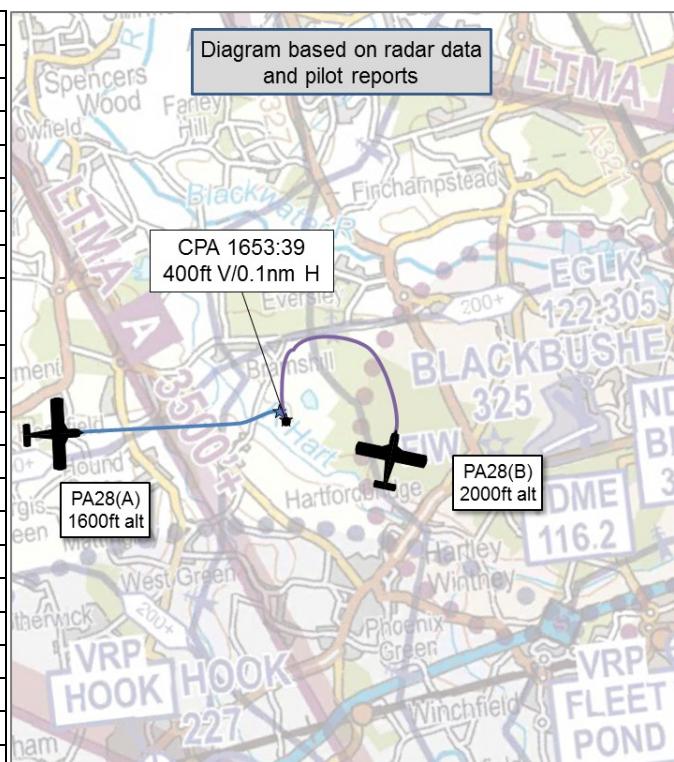


AIRPROX REPORT No 2019195

Date: 12 Jul 2019 Time: 1653Z Position: 5119N 00054W Location: 3nm west of Blackbushe

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28(A)	PA28(B)
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	AFIS	AFIS ¹
Provider	Blackbushe	Blackbushe
Altitude/FL	1600ft	2000ft
Transponder	A, C, S	A, C
Reported		
Colours	White, Blue	Not reported
Lighting	Strobe	Strobe
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1700ft	2000ft
Altimeter	NK (1021hPa)	QNH
Heading	090°	090°
Speed	115kt	130kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	150ft V/200ft H	Not seen
Recorded	400ft V/0.1nm H	



THE PA28(A) PILOT reports that he was descending towards the Blackbushe deadside from the west. At 5.5nm, the handling pilot called Blackbushe for re-join information and that they were 5 miles to the west. Blackbushe passed them that it was RW25 left-hand circuit and QFE 1008. A few secs later [PA28(B) C/S] also called up to re-join announcing that they were 4 miles to the west intending a direct join to RW25. The PA28(B) pilot then amended this for joining direct into the downwind for RW25. The PA28(A) pilots were trying to obtain a visual contact with PA28(B) because it should have been on their right and, if going for the downwind, probably about 3 miles to their south. When they could not see them, they concluded that because it was likely to be on a divergent course to theirs it was not a factor. Suddenly an aircraft passed above and in front of them left-to-right and very close (first sighted in their 11 o'clock, 400ft away). It was flying a north-to-south track. After the initial shock, he reported the aircraft passing close to them to Blackbushe 'Tower'. It looked like PA28(B), but PA28(B) should have been much further south. After a dialogue between Blackbushe 'Tower' and the pilot of PA28(B), it was confirmed that the aircraft was indeed PA28(B) with the pilot saying he was to the west.



Figure 1: PA28(A) route marked in black

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

¹ Basic Service with Farnborough prior to AFIS with Blackbushe

THE PA28(B) PILOT reports that he was returning from a land-away and routing through the Southampton zone. On leaving the zone south of Basingstoke, he called Farnborough for a Basic Service. Farnborough were very busy, and he believed they had 3 aircraft inbound to land. He thinks he recalls that there were various instructions for aircraft to remain below particular heights and that he was requested to remain below a height, but he cannot remember due to the time between the flight and his writing the report. He arrived at Hook fairly quickly and he asked if he could change frequency to Blackbushe. He was asked to remain on frequency due to the approaching traffic into Farnborough, which he did. He started to get very close to Blackbushe and could not get a further call in. Eventually he was so close he was going to over fly Blackbushe without calling them at 2000ft QNH. He elected to carry out a left-hand orbit because he was planning to join downwind. He believes he may have changed frequency whilst in the orbit. As soon as he changed frequency he called Blackbushe to join downwind. He stated that he was joining from the west but by now he was actually in a left-hand 360° turn and was probably now just north of the runway. He was looking out, as was his passenger, a student pilot, and neither of them saw another aircraft. They did hear another aircraft call and say they were 4 miles NW of Blackbushe and that another aircraft had come close. He was not sure if that was him as he seemed to be close to the airfield at 2000ft and now traveling south to join downwind.

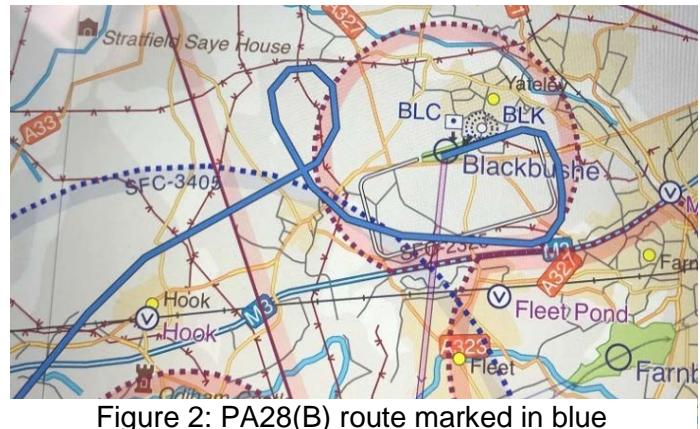


Figure 2: PA28(B) route marked in blue

THE BLACKBUSHE AFISO reports that both aircraft had called up inbound to join the airfield. The pilot of PA28(A) reported 5nm west and the pilot of PA28(B) 4nm west to join. Both aircraft had been given the relevant airfield details (runway in use and QFE). He also informed both pilots of the presence of each other due to the reported close proximity of the position reports. This information was given in a timely manner and allowed both pilots time to identify the direction of the other aircraft inbound. The pilot of PA28(B) had reported his intention to join downwind, the AFISO informed the pilot of PA28(A) of this. The pilot of [PA28(B) C/S] initially asked for a straight-in approach for RW25 as he was inbound from the west. This would normally work using RW07 but not RW25. The pilot then realised this and amended his intention to a downwind join [UKAB note: The request to join straight-in was amended to a request for a downwind join in the same transmission]. PA28(A) had joined via the dead-side, meaning a left turn would have been made to position north of the active runway. The pilot of PA28(A) reported that PA28(B) had flown over the top of him. The AFISO opined that the pilot of PA28(B) may have reported their position incorrectly because they reported closer to the airfield than the pilot of PA28(A), who had joined dead-side, meaning PA28(B) must have been inbound from the NW to fly over PA28(A). The pilot of PA28(A) informed him, over the R/T, that the inbound traffic had flown over the top in close proximity, to which the pilot of PA28(B) responded with 'that was probably us'. The AFISO asked the pilot of PA28(A) to report his position, the pilot of PA28(B) replied causing confusion by replying using the incorrect callsign. Both aircraft had a retractable undercarriage, only PA28(A) has a 'T' tail design, and, with both joining several nautical miles from the airfield, it was very difficult to identify which aircraft was which. Blackbushe operate an 'Out of Hours' policy which allows pilots, with the permission of the airport, to operate past 1700z on the provisory they land before official night due to Blackbushe not having pilot-controlled airfield lighting. The pilot of PA28(A) had filed an 'Out of Hours' form, the pilot of PA28(B) had not and he opined that this may have been a factor in the latter's downwind join to land before 1700z. He believed that the factors of incorrect position reports, the use of incorrect callsigns and time pressure may have contributed to the situation. As and when the pilot of PA28(B) correctly reported their position with the correct callsign, the pilot of PA28(A) was informed of the position of the other aircraft and both landed safely.

Factual Background

The weather at Farnborough was recorded as follows:

METAR EGLF 121650Z AUTO 32013KT 280V360 9999 NCD 23/10 Q1016

Analysis and Investigation

UKAB Secretariat

The PA28(A) and PA28(B) pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard². If the incident geometry is considered as converging then at the point of CPA the PA28(B) pilot was required to give way to the PA28(A)³.

PA28(A) pilot reported 5nm west for re-join and, about 30 secs later, PA28(B) pilot called for join from the west for straight in, amended to downwind before the AFISO answers. PA28(B) pilot received airfield information and Traffic Information (TI) as 'One fixed-wing inbound to join from the NW'. PA28(A) pilot received TI as 'a low-wing inbound to join from the west intention to join downwind leg'. PA28(A) pilot acknowledged and reported his intention to join dead-side.

The PA28(A) pilot subsequently reported an aircraft flying over him quite close. The Blackbushe AFISO asked the PA28(B) pilot to report his position, and he replied 'Just joining downwind', then says 'That's probably us'. When questioned by the AFISO if he was to the north of Blackbushe, the PA28(B) pilot says 'We held slightly to the north, but we were west of the airfield'.

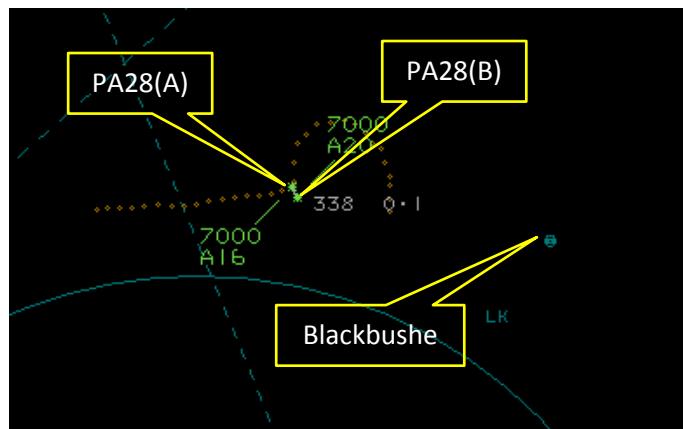


Figure 3: CPA 1653:39

Summary

An Airprox was reported when a PA28(A) and a PA28(B) flew into proximity 4nm west of Blackbushe at 1653hrs on Friday 12th of July 2019. Both pilots were operating under VFR in VMC, and both pilots in receipt of an Aerodrome Flight Information Service from Blackbushe.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings and reports from the AFISO involved. 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 began by looking at the actions of the PA28(B) pilot. Members acknowledged that he was trying to help Farnborough by remaining on their frequency but, unfortunately, this had been to the detriment of his ability to communicate with Blackbushe, which had resulted in him carrying out an orbit to allow himself to remain outside the Blackbushe visual circuit. Members commented that, ultimately, provided he remained outside Odiham's and Farnborough's ATZs, it was not for Farnborough to hold him on their frequency and he could have selected Blackbushe's frequency earlier if he considered that his join to Blackbushe was being compromised. In this respect, some members wondered if he had a

² SERA.3205 Proximity.

³ SERA.3210 Right-of-way (c)(2) Converging.

second radio which he could have used to contact Blackbushe, but the Board did not have any information on the aircraft's radio fit. Having then decided to carry out an orbit, members felt that he would have greatly assisted the situational awareness of all if he had communicated this to Blackbushe to ensure that other aircraft had a greater appreciation of his position (**CF3**). This would probably have enabled the PA28(A) pilot to look in the correct direction to gain a visual sighting of PA28(B) (**CF2**). Members noted that the pilot of PA28(B) did not see PA28(A) at all (**CF6**), probably from a combination of the height difference of 400ft and the fact that he was in a left turn positioning himself to join the visual circuit. PA28(A) would therefore have been likely obscured by his right wing, and his lookout focus would probably have been towards the airfield, away from PA28(A) (**CF5**).

Turning to the actions of the PA28(A) pilot, the Board agreed that he had been looking in the area he expected the PA28(B) to be but, unfortunately, because the PA28(B) pilot had not updated his position, this was a flawed mental model (**CF6**). However, being unable to sight PA28(B), and knowing that its pilot was also conducting a join to the airfield, members opined that the PA28(A) pilot would have been better served by requesting an update on the position of PA28(B) (**CF4**) to increase his situational awareness. As it was, PA28(A) pilot did not see PA28(B) until it flew overhead and in front of them, left-to-right, very close.

Members then looked at the actions of the Blackbushe AFISO and noted that he had passed all the available Traffic Information to both aircraft and was not required to monitor the aircraft (**CF1**). His thoughts regarding the out-of-hours approval process and the potential for pilots to feel pressured to land as the closure time approached was debated but, without specific mention of this from the pilots concerned, the Board could not come to any formal conclusions as to whether this been a factor in the incident or not.

The Board then considered the risk and noted that although neither pilot saw the other aircraft until after CPA, the recorded 400ft vertical separation meant that, albeit closer than desirable, they had been sufficiently, if fortuitously, separated. Accordingly, the Board agreed that although safety had been reduced, there had been no risk of collision; risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTOR(S) AND RISK

Contributory Factor(s):

	2019195		
CF	Factor	Description	Amplification
Ground Elements			
• Situational Awareness and Action			
1	Contextual	• Situational Awareness and Sensory Events	Not required to monitor the aircraft under the agreed service
Flight Elements			
• Tactical Planning and Execution			
2	Human Factors	• Accuracy of Communication	Ineffective communication of intentions
• Situational Awareness of the Conflicting Aircraft and Action			
3	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
4	Human Factors	• Lack of Communication	Pilot did not request additional information
• See and Avoid			
5	Human Factors	• Distraction - Job Related	Pilot looking elsewhere
6	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots

Degree of Risk:

C.

Safety Barrier Assessment⁴

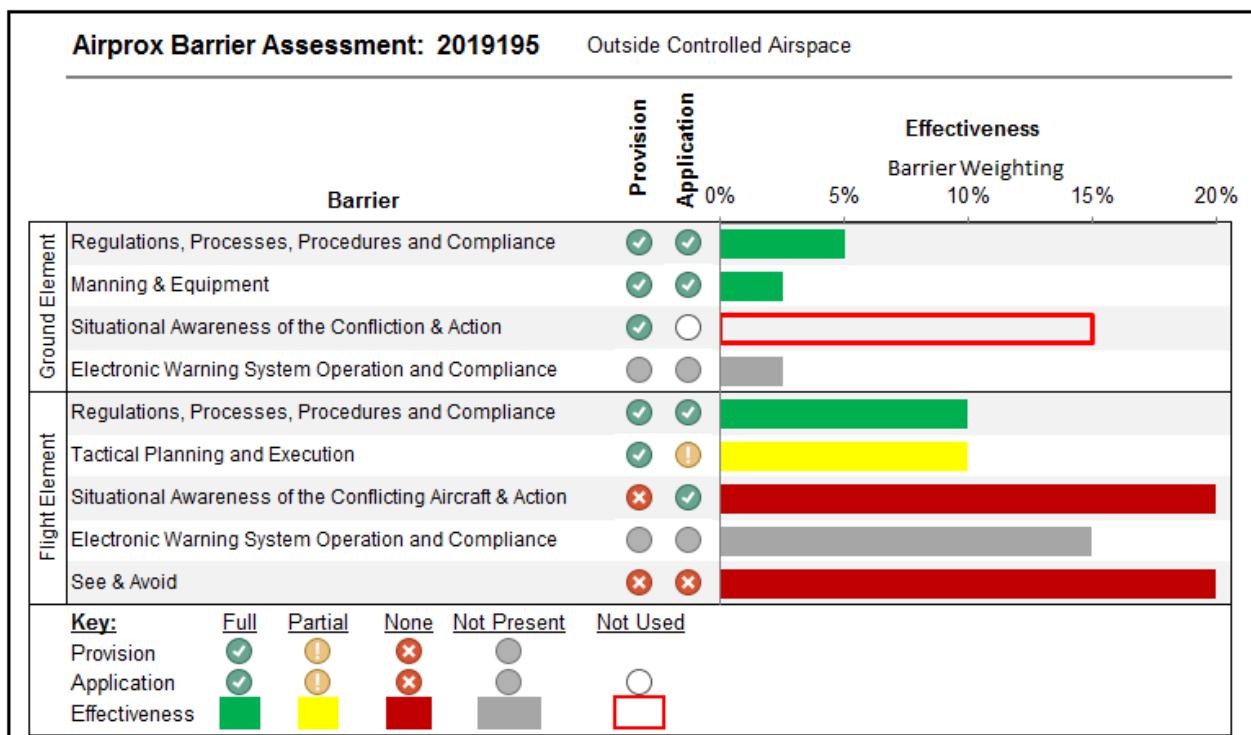
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the PA28(B) pilot should have transmitted that he was carrying out an orbit prior to joining the visual circuit to increase the situational awareness of other pilots.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the PA28(A) pilot was not aware of the PA28(B) pilot's intention to orbit prior to joining the visual circuit.

See and Avoid were assessed as **ineffective** because neither pilot saw the other's aircraft prior to CPA.



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