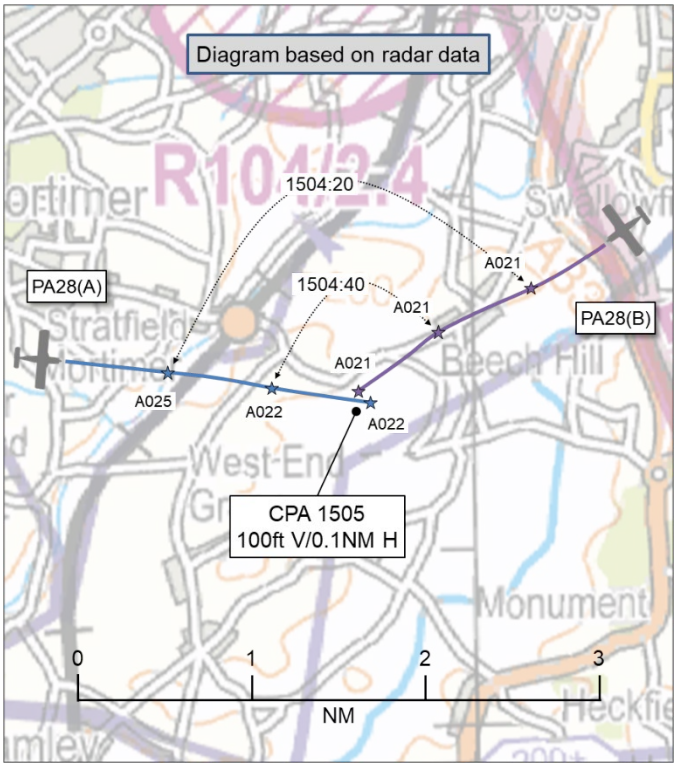
AIRPROX REPORT No 2025017

Date: 18 Feb 2025 Time: 1505Z Position: 5122N 00101W Location: 6.5NM WNW 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	Basic	Basic
Provider	Blackbushe Info.	Farnboro' LARS W
Altitude/FL	2200ft	2100ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White	White, blue
Lighting	Nav, strobes, landing	Strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1800ft	1750ft
Altimeter	QNH (1018hPa)	QNH (1020hPa)
Heading	090°	226°
Speed	110kt	105kt
ACAS/TAS	SkyEcho[1]	Not fitted
Alert	None	N/A
Separation at CPA		
Reported	20ft V/20m H	0ft V/70m H
Recorded	100ft V/0.1NM H	



THE PA28(A) PILOT reports that they were towards the end of the leg and had just transitioned from Farnborough LARS West (with a listening squawk) to Blackbushe when 12NM WNW of Blackbushe. They had received joining information and were in receipt of a Basic Service from Blackbushe Information outside the ATZ. They had overflown R101 and had just levelled, having descended from about 3000ft to approximately 1800ft QNH (1600ft QFE), tracking towards a lake feature NW of Blackbushe. They had QNH set on their analogue altimeter and QFE set on their Garmin G5.

[The pilot of PA28(A) opined that it had been] a high workload phase to navigate towards descending TMA shelves and the Farnborough CTR. They were maintaining a lookout throughout, particularly to deconflict with any other traffic inbound to, or departing from, Blackbushe which commonly use similar routes, all to the NW. On looking out to their left wing to begin another scan cycle, they were presented with the entire front profile of another GA single engine propellor aircraft, PA28 or similar, at the same level and converging. At that same moment, they observed the other aircraft lower its nose and deviate course to its right to pass immediately behind and slightly below. They immediately reported this to Blackbushe on frequency. On landing, they telephoned Blackbushe 'tower' to facilitate the filing of an Airprox report. The incident was also reported to their flying club through their Safety Management System.

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

THE PA28(B) PILOT reports that they were a student pilot making their first solo Nav Exercise flight from [their home airfield]. Having departed the ATZ, they were established on an outbound leg of 236° and an altitude of 1800ft. They called Farnborough LARS West when south of Reading to request (and were subsequently given) a Basic Service. They successfully passed their first checkpoint abeam

[1] The portable EC device carried onboard PA28(A) had transmitted the aircraft registration for an uninvolved aircraft.

Junction 10 of the M4 and had then been looking for their next checkpoint abeam the town of Tadley (expected 4min later). At that point they were trying to confirm where they were along this planned track by looking out and then confirming back to their chart. This cycle continued every few seconds (no more than 15-20sec each time). After one 'head down' moment, they looked up to see another aircraft pass from right-to-left in front of them at a close distance. They didn't hear any radio calls before or after the encounter either from the other pilot or from Farnborough ATC. They reported that they hadn't taken avoiding action as the other aircraft was only seen as it passed. The weather conditions on the day were good in terms of reported visibility and cloud, but there was haze associated with a high pressure system.

They have subsequently reviewed the incident with their Instructor using FlightRadar24 and noted that the aircraft that passed in front of them had been in a constant descent that had brought it through the level that the pilot of PA28(B) had maintained. On reflection, they have learnt that they must look up for aircraft descending as much as they should look forwards and down when navigating.

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

THE BLACKBUSHE AFISO reports that the incident was not seen.

The pilot of PA28(A) was interviewed over the telephone. They had been inbound from almost directly west of the Restricted Area near Tadley towards Blackbushe. They had descended and levelled-off at 1800ft. PA28(B) appeared on their left wing. The [pilot of PA28(B) had, reportedly,] dipped their nose and moved right. After they had finished manoeuvring, it was behind PA28(A) on the left.

THE FARNBOROUGH LARS WEST CONTROLLER reports that they had been retrospectively advised of an Airprox that occurred while training a learner. They have no memory of the event at all.

Factual Background

The weather at Farnborough was recorded as follows:

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METAR EGLF 181450Z AUTO 09011KT 9999 NCD 07/M01 Q1018
METAR EGLF 181520Z AUTO 09011KT 9999 NCD 06/M02 Q1018
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Analysis and Investigation

NATS Farnborough Unit Investigation

Description of the event:

[The pilot of PA28(A)] was tracking east, in the descent from 3000ft, displaying the Mode A Farnborough listening Squawk of 4572.

The student pilot of [PA28(B)] contacted the Farnborough LARS West frequency at 1503:15: "*Farnborough Radar, Student* [PA28(B) C/S] *is south of Reading at two thousand feet, request Basic Service please*".

Once the Farnborough LARS (LF-LARS) controller had established the correct callsign, the pilot of [PA28(B)] provided their details: "[…] *I am south of Reading at two thousand feet on QNH1020 request Basic Service*".

Figure 1 – 1503:15

The LF-LARS controller issued the Farnborough QNH, squawk 0434 and confirmed a Basic Service. The pilot responded, "*that's squawk 0434, Basic Service approved, student* [PA28(B) C/S]" The Farnborough QNH was re-iterated as it was not initially read back.

At the time of that communication, finishing at 1504:29, [the pilot of PA28(A) (SSR 4572) was descending through 2400ft on a conflicting lateral track with [PA28(B)], maintaining 2000ft (SSR "V") (Figures 2 and 3).

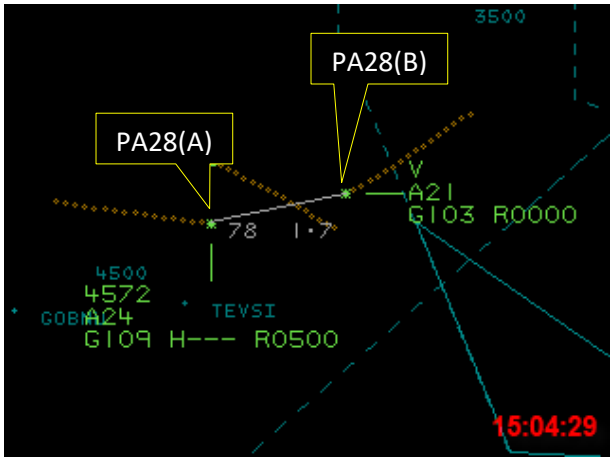

Figure 2 - NODE radar

Figure 3 - Farnborough radar

[PA28(B)] was not identified by the LF-LARS controller whilst still displaying Mode A 7000 squawk (SSR "V") and continued to remain on the 7000 squawk. The LF-LARS controller continued with other tasks. The Closest Point of Approach (CPA) occurred at 1505:00 and was recorded on the NODE Multi-Track Radar as 0.1NM and 100ft (Figure 4 and 5).

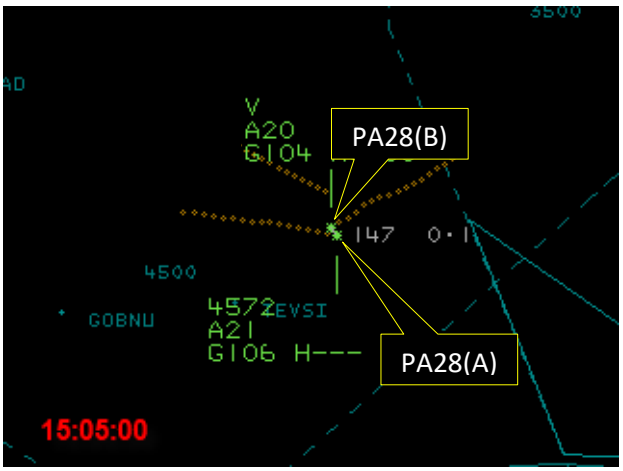

Figure 4 - NODE radar

Figure 5 - Farnborough radar

The confliction was not reported on the Farnborough frequency by either pilot.

Investigation:

Information available to the investigation included: CA4114 from the Farnborough LARS West controller (LF-LARS), NATS4118 Initial Watch Management Investigation Report, radar and RT recordings and redacted reports from the pilots of PA28(A) and PA28(B).

The NATS4118 stated that the Farnborough LARS West function was band-boxed with Farnborough Zone, with a 'high hours trainee controller under instruction working medium workload traffic.' The NATS4118 further described the traffic as; 'there were about seven aircraft on frequency and four aircraft on the LARS West listening squawk, 4572.'

[PA28(A)] was tracking east and in the descent for onward approach into Blackbushe. Mode A displayed the Farnborough listening squawk of 4572 suggesting the pilot was listening to the Farnborough LARS West frequency. However, the pilot's Airprox report suggested they were in communication with Blackbushe Tower receiving a Basic Service at the time of the confliction. [PA28(B)] was being flown by a student pilot on a south-westerly track towards Whitchurch and Grove.

Although the pilot of [PA28(B)] was receiving a Basic Service from the LF-LARS controller, the aircraft had not been identified as the aircraft had still displayed squawk 7000. An excerpt from CAP493 Section 1, Ch. 6, 4A states:

> 'When using Mode A to identify aircraft, one of the following methods is to be employed: (1) Observing the pilot's compliance with the instruction to select a discrete four-digit code'.

The Farnborough LARS issued squawk of 0434 was subsequently displayed on radar after the confliction at 1505:25.

CAP774 Ch. 2.1 states:

> 'A Basic Service provides 'general airspace activity information, and any other information likely to affect safety. The avoidance of other traffic is solely the pilot's responsibility. Basic Service relies on the pilot avoiding other traffic, unaided by controllers/ FISOs. It is essential that a pilot receiving this ATS remains alert to the fact that, unlike a Traffic Service and a Deconfliction Service, the provider of a Basic Service is not required to monitor the flight.'

As the two aircraft passed the CPA, radar updates suggested neither pilot had performed an avoidance manoeuvre to deconflict (Figure 6). Neither pilot reported a confliction on the Farnborough frequency.

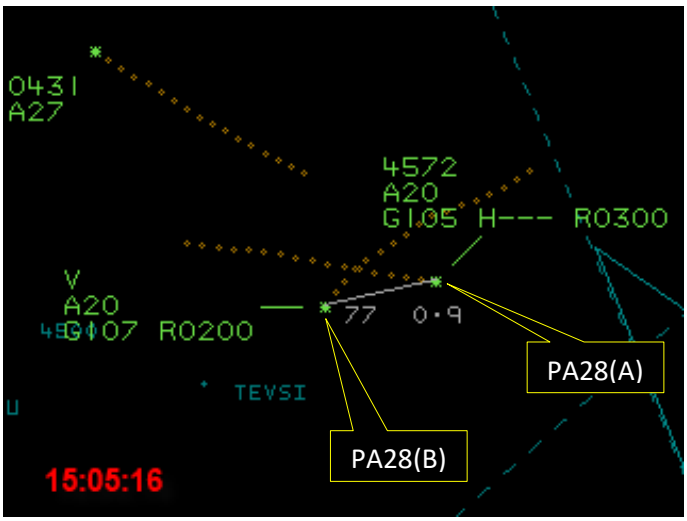

Figure 6 – After CPA

Conclusion:

The pilot of [PA28(A)] was displaying the Farnborough Listening squawk, however, according to the pilot's report, was potentially in communication with, and receiving a Basic Service from, Blackbushe 'tower' at the time of the confliction.

[PA28(B)] was being flown by a student pilot [who had] contacted the Farnborough LARS frequency, requesting a Basic Service. A Basic Service was agreed.

The two aircraft came into confliction as the pilot of [PA28(A)] descended through the altitude of [PA28(B)] maintaining 2000ft.

The CPA occurred at 1505:00 and was recorded on the NODE Multi-Track radar as 0.1NM and 100ft. As the two aircraft passed the Closest Point of Approach, radar updates suggested no significant profile changes had been made by either pilot.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft could be positively identified from Mode S data. Both aircraft were observed by reference to ADS-B data sources. The diagram was constructed and the separation determined from the radar data.

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 hazard.[2] If the incident geometry is considered as converging then the PA28(B) pilot was required to give way to PA28(A).[3]

Summary

An Airprox was reported when PA28(A) and PA28(B) flew into proximity 6.5NM west-northwest of Blackbushe at 1505Z on Tuesday 18th February 2025. The PA28(A) pilot was operating under VFR in VMC in receipt of a Basic Service from Blackbushe Information and the PA28(B) pilot was operating under VFR in VMC in receipt of a Basic Service from Farnborough LARS West.

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 controller and AFISO involved and a report from the appropriate operating authority.

[2] (UK) SERA.3205 Proximity.
[3] (UK) SERA.3210 Right-of-way (c)(2) Converging.

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 considered the actions of the pilot of PA28(A). Members noted that they had maintained a listening watch on the Farnborough LARS West frequency before having retuned their radio to Blackbushe Information. Some members suggested that it may have been more prudent to have been in receipt of a surveillance-based service during their transit of particularly busy airspace. It was also suggested that they had, perhaps, retuned their radio to the Blackbushe Information frequency a little early during their approach to Blackbushe and may have missed an opportunity to have gleaned further information on the traffic situation in the area. Members noted that it may have been a case of unfortunate timing that the pilot of PA28(A) had already left the Farnborough LARS West frequency when the pilot of PA28(B) had contacted the Farnborough controller. Consequently, members agreed that the pilot of PA28(A) had not had situational awareness of the presence of PA28(B) (**CF4**). Additionally, members agreed that the EC device fitted to PA28(A) would have been expected to have detected the ADS-B output from the transponder of PA28(B) but no alert had been reported (**CF5**). Members noted that the pilot of PA28(A) had perceived that the pilot of PA28(B) had taken emergency action and had turned to pass behind them. Members noted that the pilot of PA28(A) had not had time to have taken their own avoiding action and had reported that the separation between the aircraft had been minimal. Members agreed that, effectively, PA28(B) had not been sighted (**CF6**).

Members turned their attention to the actions of the pilot of PA28(B) and noted that they had been in receipt of a Basic Service from the Farnborough LARS West controller and, as such, they would not have expected to have received any Traffic Information. Members appreciated that the pilot of PA28(B) had very limited piloting experience and had sympathy with a view that they would not have wished to become overloaded with information during their flight. Nevertheless, members suggested that it may have been prudent to have been in receipt of a Traffic Service from the Farnborough LARS controller (**CF3**) and to have carried an additional EC device, both of which, members proposed, may have assisted them to have gleaned an awareness of the presence of PA28(A) and of other aircraft in the vicinity. However, members agreed that it had been the case that the pilot of PA28(B) had not had situational awareness of PA28(A) until it had been sighted (**CF4**).

Turning to the navigation exercise being conducted, members acknowledged that, simply through inexperience, the task may have absorbed much of the pilot's attention. Nevertheless, members were keen to emphasise that the requirement to maintain a thorough and effective lookout had been paramount (a point upon which the pilot of PA28(B) had reflected in their narrative report). Members noted that they had also described that they had not had any time from the moment that they had first sighted PA28(A) to have been able to have taken avoiding action. Members agreed that that had effectively constituted a non-sighting (**CF6**).

Members next considered the actions of the Farnborough LARS controller and noted that they had provided the pilot of PA28(B) with a Basic Service but had not yet identified them on the radar display when the Airprox had occurred. It was agreed by members that the Farnborough LARS controller had not been required to have monitored the flight of PA28(B) under the terms of a Basic Service (**CF1**). Further, members agreed that the transponder code issued to the pilot of PA28(B) had been outside the select frame of the Farnborough STCA (**CF2**), as indeed had the VFR conspicuity code (7000).

Finally, members considered the actions of the Blackbushe AFISO and agreed that they had not been required to have monitored the flight of PA28(A) under the terms of a Basic Service (**CF1**). Members acknowledged that there had been little that the Blackbushe AFISO could have done to have assisted matters.

Concluding their discussion, members summarised their thoughts. Although the pilot of PA28(A) had perceived that the pilot of PA28(B) had taken avoiding action, it was clear to members from the narrative report provided by the pilot of PA28(B) that that had not been the case and that neither pilot had sighted the other aircraft in time to have taken any action to increase the separation. Members noted that several safety barriers had either not been present or had not been effective in this encounter. Notwithstanding that the radar separation had indicated 100ft vertically and 0.1NM horizontally, members agreed that those figures had been 'rounded' and, noting that both pilots had reported

significantly closer separation than the recorded figures had suggested, concluded that safety margins had been reduced to the bare minimum. Members agreed that there had been a serious risk of collision (**CF7**) and assigned Risk Category A to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2025017			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Situational Awareness and Action			
1	Contextual	• ANS Flight Information Provision	Provision of ANS flight information	The ATCO/FISO was not required to monitor the flight under a Basic Service
	• Electronic Warning System Operation and Compliance			
2	Technical	• Conflict Alert System Failure	Conflict Alert System did not function as expected	The Conflict Alert system did not function or was not utilised in this situation
	Flight Elements			
	• Tactical Planning and Execution			
3	Human Factors	• Communications by Flight Crew with ANS	An event related to the communications between the flight crew and the air navigation service.	Pilot did not request appropriate ATS service or communicate with appropriate provider
	• Situational Awareness of the Conflicting Aircraft and Action			
4	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
	• Electronic Warning System Operation and Compliance			
5	Human Factors	• Response to Warning System	An event involving the incorrect response of flight crew following the operation of an aircraft warning system	CWS misinterpreted, not optimally actioned or CWS alert expected but none reported
	• See and Avoid			
6	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots
	• Outcome Events			
7	Contextual	• Near Airborne Collision with Aircraft	An event involving a near collision by an aircraft with an aircraft, balloon, dirigible or other piloted air vehicles	

Degree of Risk: A.

Safety Barrier Assessment[4]

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

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **not used** because the Farnborough LARS West controller had not been required to have monitored the flight of PA28(B) under the terms of a Basic Service. Similarly, the Blackbushe AFISO had not been required to have monitored the flight of PA28(A).

Electronic Warning System Operation and Compliance were assessed as **not used** because the transponder code selected by the pilot of PA28(B) had been outside the select frame of the Farnborough LARS West STCA.

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

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because it may have been prudent for the pilot of PA28(B) to have been in receipt of a Traffic Service from the Farnborough controller.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had situational awareness of the other aircraft.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the EC device fitted to PA28(A) would have been expected to have detected the presence of PA28(B) but no alert was reported.

See and Avoid were assessed as **ineffective** because neither pilot had sighted the other aircraft in time to have taken avoiding action.