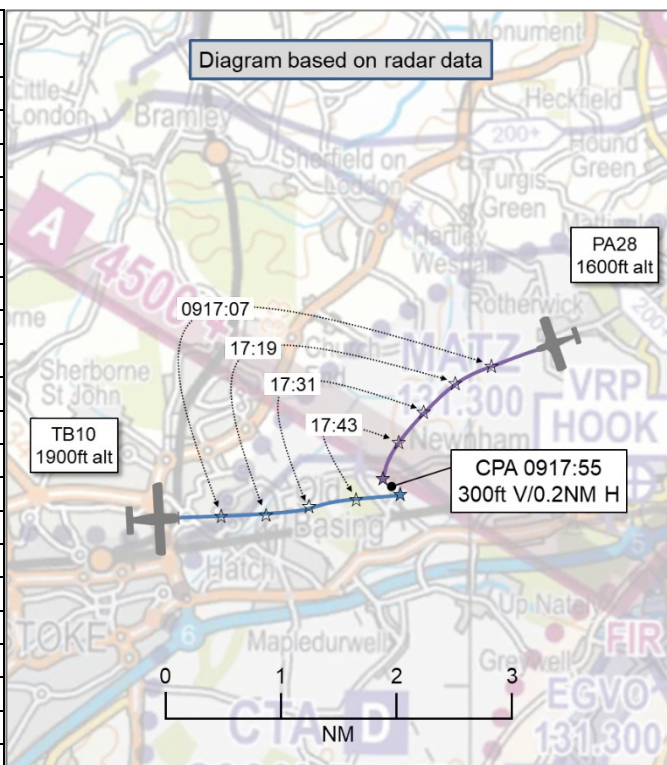


AIRPROX REPORT No 2022089

Date: 22 May 2022 Time: 0918Z Position: 5117N 00101W Location: Old Basing

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	TB10	PA28
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	None
Provider	Farnborough	N/A
Altitude/FL	1900ft	1600ft
Transponder	A, C, S	A, C, S
Reported		
Colours	Green, cream	Blue, white
Lighting	Strobe, beacon	Strobes, beacon
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2000ft	1600ft
Altimeter	QNH (NK hPa)	QNH (NK hPa)
Heading	Easterly	220°
Speed	'<120kt'	110kt
ACAS/TAS	SkyEcho	Not fitted
Alert	None	N/A
Separation at CPA		
Reported	100ft V/0m H	Not seen
Recorded	300ft V/0.2NM H	



THE TB10 PILOT reports transiting Farnborough ATZ and CTR via Fleet Pond VRP, in an easterly direction under a Radar Control Service. They were on auto-pilot in heading mode, manually maintaining 2000ft on Farnborough QNH. During their visual scan they noticed something move on the left and turned their head to see a PA28 pass under the left wing. They were visual with it momentarily as it passed between the wing and the fuselage. There was nothing they could do because the aircraft was below and passing just behind. They assessed that, on the flight path of both aircraft, there was no risk of collision. However, they knew that it was too close and had they been 100ft lower it could have been very different. They were also slightly shocked because they were under a Radar Control Service [they recalled]. They have an IR(R) and regularly fly IF sorties so are used to controlled airspace and who has responsibility for separation. They observed that this was 'way too close'. They called on the radio something similar to "[abbreviated C/S], a Cherokee has just flown 100ft below me", and the controller immediately admonished another call-sign [not to do with the Airprox] where there was an exchange of views.

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

THE PA28 PILOT reports a standard departure to the southwest. Visibility was good, workload was low at the time reported (during cruise flight) and they were maintaining a good lookout. They did not see any other aircraft, let alone one that had to take avoiding action, and consequently they made no avoidance manoeuvres. They had a company aircraft join them shortly after the reported Airprox and the PIC of the other aircraft did not recall seeing any other aircraft.

THE FARNBOROUGH CONTROLLER reports that, at the reported time and date of the Airprox, they were bandboxed on the Farnborough LARS West and Zone positions. No report was made on the Farnborough West or Zone frequencies and they did not have any recollection of the event.

Factual Background

The weather at Farnborough was recorded as follows:

EGLF 220920Z 15008KT 090V190 9999 FEW030 18/09 Q1015=

Analysis and Investigation

CAA ATSI

The TB10 pilot was on a VFR flight and had contacted Farnborough LARS West at 0908:35 for clearance to cross the Farnborough controlled airspace. A Basic Service was agreed, and a crossing clearance issued by the Farnborough controller via the Hook and Fleet Pond VRPs.

The PA28 pilot had departed Blackbushe, and reported leaving the Blackbushe frequency to the Blackbushe AFISO at 0915:02. At the time of the Airprox the PA28 pilot was not in receipt of an ATS.

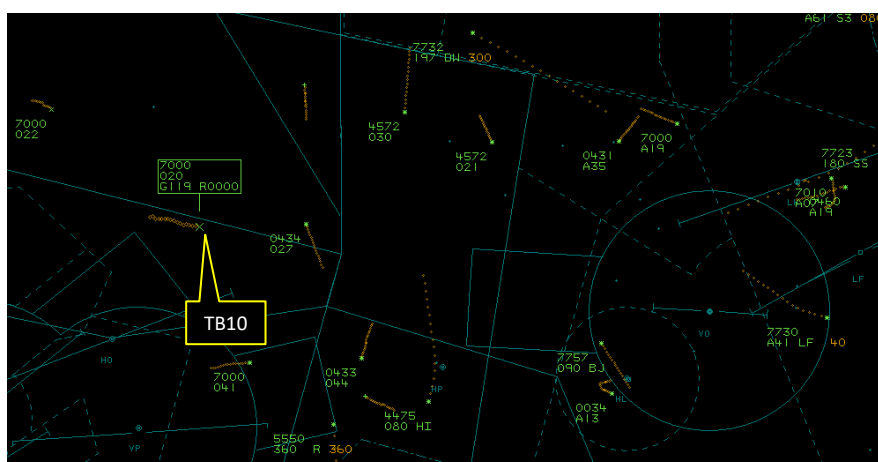


Figure 1 – 0908:35

Between the first call made by the TB10 pilot to Farnborough and the time of the Airprox, the Farnborough LARS West controller was occupied with a number of other aircraft, and the passing of Traffic Information to the pilot of an aircraft under a Traffic Service. Figure 1 above is included to show the general traffic situation in the immediate LARS West area.

By 0914:40 the PA28 had become visible on the area radar replay. Figure 2 illustrates the relative positions of both aircraft at 0915:02, (10 miles apart), when the PA28 pilot left the Blackbushe frequency.

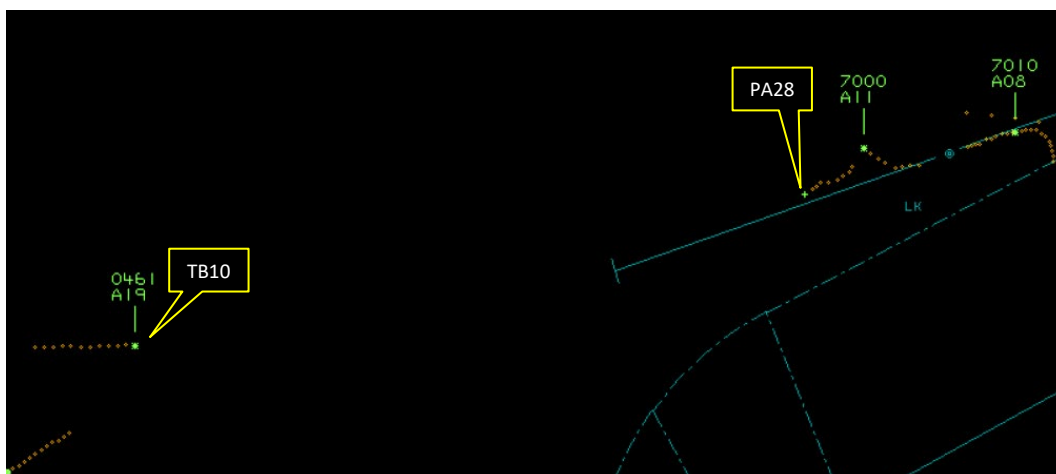


Figure 2 – 0915:02

At 0917:10 the Farnborough controller revised the crossing clearance for the TB10 pilot, removing a requirement to hold at the first reporting point, which was acknowledged (Figure 3).

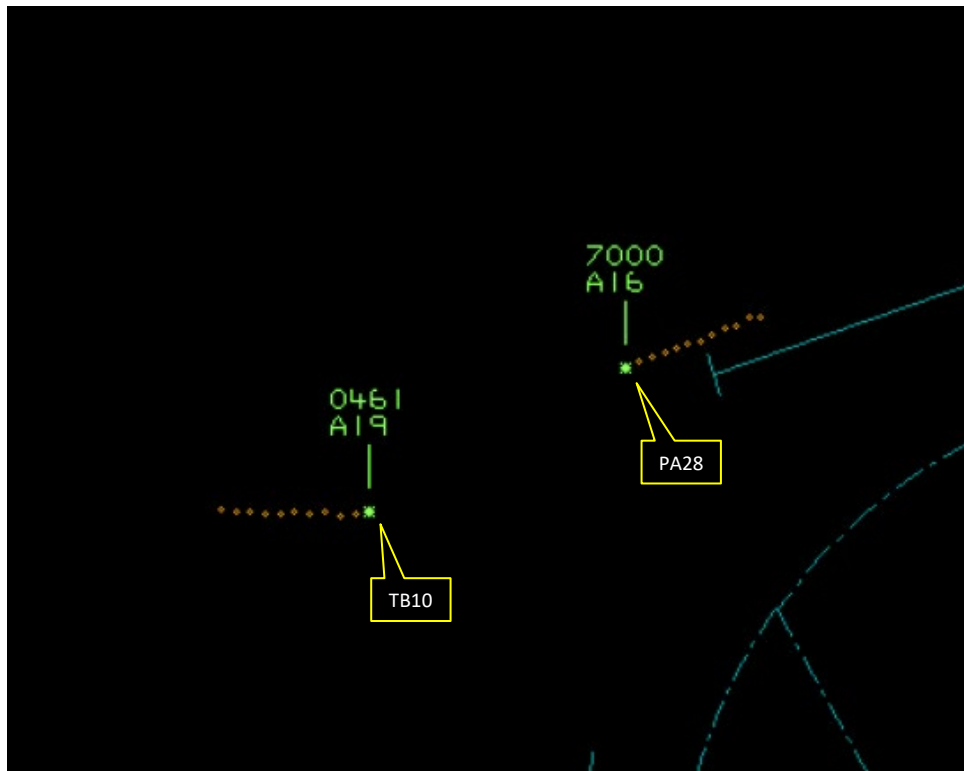


Figure 3 – 0917:10 – aircraft 2.6NM apart

At 0917:30 the Farnborough controller was dealing with the pilot of an aircraft under a Traffic Service who was requesting a climb (Figure 4).

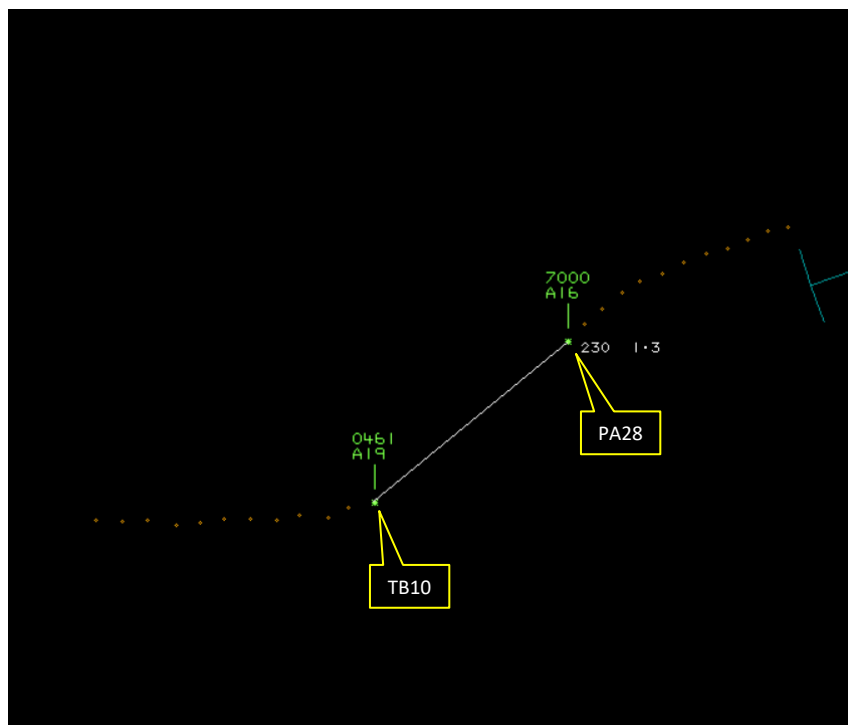


Figure 4 – 0917:30

At 0917:55 the TB10 pilot reported that they had “a PA28 I think, just go 500ft below the wing” which was coincidental with CPA on the area radar replay (Figure 5).

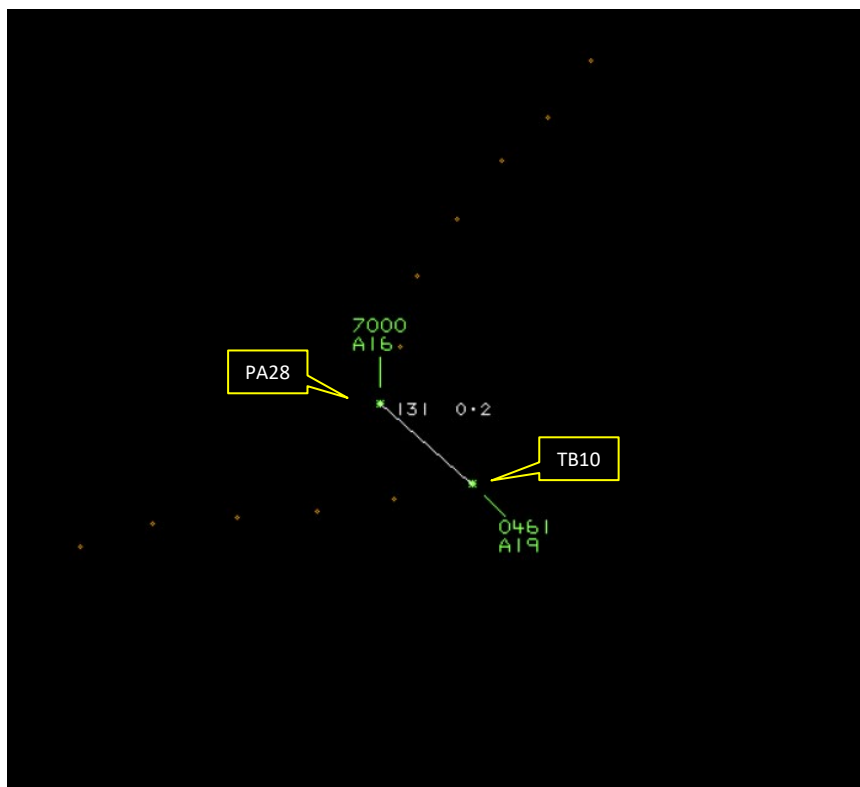


Figure 5 – 0917:55 - CPA

The Farnborough controller did not reply, but instead at 0918:00 contacted the pilot of another aircraft which had just infringed the Farnborough controlled airspace to the south of Fair Oaks.

The TB10 pilot did not repeat the call, and no reference to an Airprox was made on the frequency.

ATSI had access to reports from both pilots, the Blackbushe FISO, the Farnborough controller and the Farnborough unit investigation. RTF from Farnborough and Blackbushe was reviewed, and the area radar replay, which does not represent the picture displayed to the Farnborough controller at the time, was used in the production of this report.

The TB10 pilot reported seeing the PA28 as it *“passed below and slightly behind my aircraft, on first sight it was pointless deviating my flight path”*. They also stated that they felt there was *“no risk of collision”*.

The PA28 pilot did not recall seeing the TB10.

The Farnborough controller had no recollection of the Airprox as it was not reported to them at the time.

As the PA28 pilot had left the Blackbushe frequency some 2 minutes prior to CPA, and the Blackbushe FISO would not have been aware of the presence of the TB10, they have been discounted from this Airprox.

The Farnborough unit investigation report did not contain any additional information useful to the ATSI investigation because, for a reason yet to be determined, they only reviewed the radar replay up until 0915 and did not identify any aircraft coming into proximity with the TB10 up until that point.

No Traffic Information was passed by the Farnborough controller to the TB10 pilot, but at the time they were occupied with other aircraft, one of which was receiving a Traffic Service, with a number of items of Traffic Information being passed. It might be surmised that at the time of CPA the controller's attention was away from the TB10 and PA28 and focussed on the area of the

infringement. However, without a more detailed unit investigation report from Farnborough, this could not be confirmed.

Under a Basic Service the controller is not required to monitor the flight and pilots should not expect any form of Traffic Information. Controllers are however required to issue a warning if they consider that a definite risk of collision exists. Regardless of the type of service, a pilot is ultimately responsible for collision avoidance.

UKAB Secretariat

The TB10 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.¹ If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.² If the incident geometry is considered as converging then the PA28 pilot was required to give way to the TB10.³

The Airprox information provided to Farnborough by the Airprox Board Secretariat was as follows:

Date: 22/05/2022
Time (UTC): 09:00
Location: Area 2nm north East Farnborough
Aircraft involved: TB10 (Reg: [redacted]) and Unknown

Farnborough Occurrence Investigation

The Farnborough Occurrence Investigation is summarised, as follows:

1. Executive summary
[TB10 C/S] retrospective Airprox report.
2. Description of the event
[TB10 C/S] a TB20 [sic] routing [redacted] retrospectively reported an Airprox they experienced whilst on Farnborough Radar.
3. Investigation
Controller reports have been read and radar replays viewed.

The controller's report states that they were made aware of a retrospective Airprox about 2NM NE EGLF but have no recollection of the event.

The Watch Action report states that the event timings provided by the Airprox Board/pilot do not show any incident that was recognised as an Airprox.

The recording is between 0900Z-0915Z and [TB10 C/S] called on frequency at 0909 requesting a Basic Service, and with LARS West and Zone working medium traffic. They requested a transit. The controller gave a squawk of 0461 and a Basic Service. However, the Farnborough radar replay ended before the aircraft entered EGLF airspace and there are no contacts close to [TB10 C/S] at any time after 0909Z until the replay ended at 0915Z.

¹ (UK) SERA.3205 Proximity.

² (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.

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



Figure 1

The watch action stated that at time 0917:58, [TB10 C/S], [squawk] 0461 overflew an [aircraft squawk] 7000 indicating 300ft below on Mode C. There is no reference made on the RT to an Airprox. This potential conflict was correlated by radar information provided by LTC Swanwick, however the conflict was positioned 9NM West of [Farnborough], see Figure 1.

However, this time has not been saved on the Farnborough radar replay as it fell outside the timings provided.

4. Conclusions

[TB10 C/S] reported an Airprox retrospectively after working Farnborough Radar. Unit Radar replays during the time period provided show no contacts near [TB10 abbreviated C/S] though this does not preclude the chance of a non-transponding aircraft not showing on primary radar. The location of the Airprox could not be confirmed, nor how close the other aircraft may have been.

With no further information available, further unit investigation is not possible. This investigation will now be closed.

Blackbushe Occurrence Investigation

The Blackbushe Occurrence Investigation is quoted verbatim, as follows:

1. INTRODUCTION

On Sunday 22nd May 2022, a potential Airprox was reported between two fixed wing aircraft ([PA28 C/S] and [TB10 C/S]) in the vicinity of Blackbushe Airport. This report attempts to investigate the role the provision of ATS within the Blackbushe ATZ contributed, and identify any actions which could be taken by the ANSP to reduce the likelihood of a similar recurrence.

There is no attempt to apportion responsibility or blame, simply to identify areas where improvements might be implemented to ensure that the described events cannot be repeated and that future operations are safeguarded.

This report has been compiled [redacted] in accordance with Section 3.9.2 of the Blackbushe Airport Aerodrome Manual.

2. REVIEW OF THE OCCURRENCE REPORT

The first report was raised by the pilot of either [PA28 C/S] or [TB10 C/S] (it is unclear who the reporter was), who filed an Airprox, ref. 2022089. Notification of this report was first sent to us by email on 10th June 2022, requesting impounding of recordings. We were not provided with a copy of the report, and the reporter did not inform us of their intention to report.

3. INTERVIEW WITH THE REPORTER

We contacted the flying group responsible for the operation of [PA28 C/S] to ask for their account of the occurrence. To date we have not received any information or narrative. If we receive a narrative, this report may be updated as appropriate.

4. INTERVIEW WITH THE PERSONS INVOLVED WITH THE INCIDENT (IF DIFFERENT).

Duty FISO. As I recollect; [PA28 C/S] was provided with Airfield information and asked whether they would like a Farnborough VFR transit. They did not respond to the question of the VFR transit. They

departed as normal to the west and changed to an enroute frequency. I did not speak to the other aircraft involved in the Airprox.

5. REVIEW OF LEGISLATION, REGULATION, AND GUIDANCE

There is nothing within legislation or regulation that I believe has an impact on the occurrence. From the limited information available to us it appears both aircraft were operating to the west of Blackbushe in Class G airspace. It is unclear what service both aircraft were operating under.

The presence of Farnborough Class D airspace to the south of Blackbushe may be considered when discussing an Airprox to the west of the field. Aircraft requesting a clearance of the Farnborough Zone [east to west] (or vice versa) are usually routed using the two VRPs to the south of the Blackbushe ATZ and asked to remain south of the M3 motorway (when entering the control zone).

Traffic departing Blackbushe not requiring a Farnborough clearance to depart southbound will typically route to the west of the airfield before commencing a southbound turn when airspace allows, typically in the vicinity of Hook VRP.

6. REVIEW OF IMMEDIATE CORRECTIVE ACTION

No immediate corrective action taken.

7. ROOT CAUSE ANALYSIS

Due to the limited information available to us the root cause of this Airprox could not be determined.

Observations for Possible Contributing Factors:

- A busy good-weather weekend day when activity is naturally higher.
- Airspace design – aircraft intending to depart Blackbushe to the south (not wishing to cross the Farnborough control zone) will typically depart to the west before turning southbound. This is frequently in a similar location to those aircraft wishing to route east/west and are operating under a clearance and service from Farnborough Radar.

8. ROOT CAUSE CORRECTION (NEW PROCEDURES)

N/A

9. HAZARD IDENTIFICATION AND RISK ASSESSMENT OF NEW PROCEDURES

N/A

10. CHANGE MANAGEMENT

N/A

11. CONCLUSION

With the limited information available, there does not appear to be any additional action that could have been taken by the ATSU to avoid this Airprox. We believe both aircraft to be outside of the ATZ working different frequencies at the time of incident.

Summary

An Airprox was reported when a TB10 and a PA28 flew into proximity near Old Basing at 0918Z on Sunday 22nd May 2022. Both pilots were operating under VFR in VMC in Class G airspace, the TB10 pilot in receipt of a Basic Service from Farnborough and the PA28 pilot not in receipt of a FIS.

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.

Members first discussed the TB10 pilot's perception of events and agreed that they had thought they had been under a 'higher' level of service than the Basic Service of which they were actually in receipt at the time of the Airprox. The Board thought that the TB10 pilot may have assumed that they were under a Radar Control Service having received a clearance to cross the Farnborough CTR, but this had not been the case. A Radar Control Service would only apply whilst within CAS and thus only commence at the boundary of CAS, whereas the Airprox occurred to the west of the Farnborough CTA/CTR, in the Class G airspace of the London FIR. In the event, the TB10 pilot had been operating under a Basic Service and the controller had not been responsible for monitoring the flight (CF1). Short Term Conflict Alert (STCA) is used by Farnborough, but not between all aircraft, and the Airprox aircraft were carrying transponder codes that would not have generated an STCA (CF2). Neither pilot had had situational awareness of the other approaching aircraft (CF4) and their EC equipment had been incompatible (CF5), leaving see-and-avoid as the only remaining barrier. Members commented that the PA28 pilot would have been much better served, and of much greater assistance to the situational awareness of other pilots, by obtaining a Flight Information Service, especially in that congested part of the country (CF3). The PA28 had passed underneath the TB10 and had only been seen by the TB10 pilot at about CPA, effectively a non-sighting (CF6), whereas the PA28 pilot had not seen the TB10 at all (CF6). Members wondered whether they had been otherwise occupied in the cockpit at the time. Turning to risk, the Board agreed that despite several barriers being ineffective, separation at CPA had been such that although there had not been a risk of collision, it could also not be said that normal parameters pertained.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2022089			
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	Technical	• ACAS/TCAS System Failure	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment
• 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

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:

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **not used** because the PA28 pilot was not operating under a FIS and the TB10 pilot was operating on a Basic Service, which does not require the controller to monitor its flightpath.

Electronic Warning System Operation and Compliance were assessed as **not used** because neither aircraft's SSR transponder code was within the select frame for Farnborough STCA.

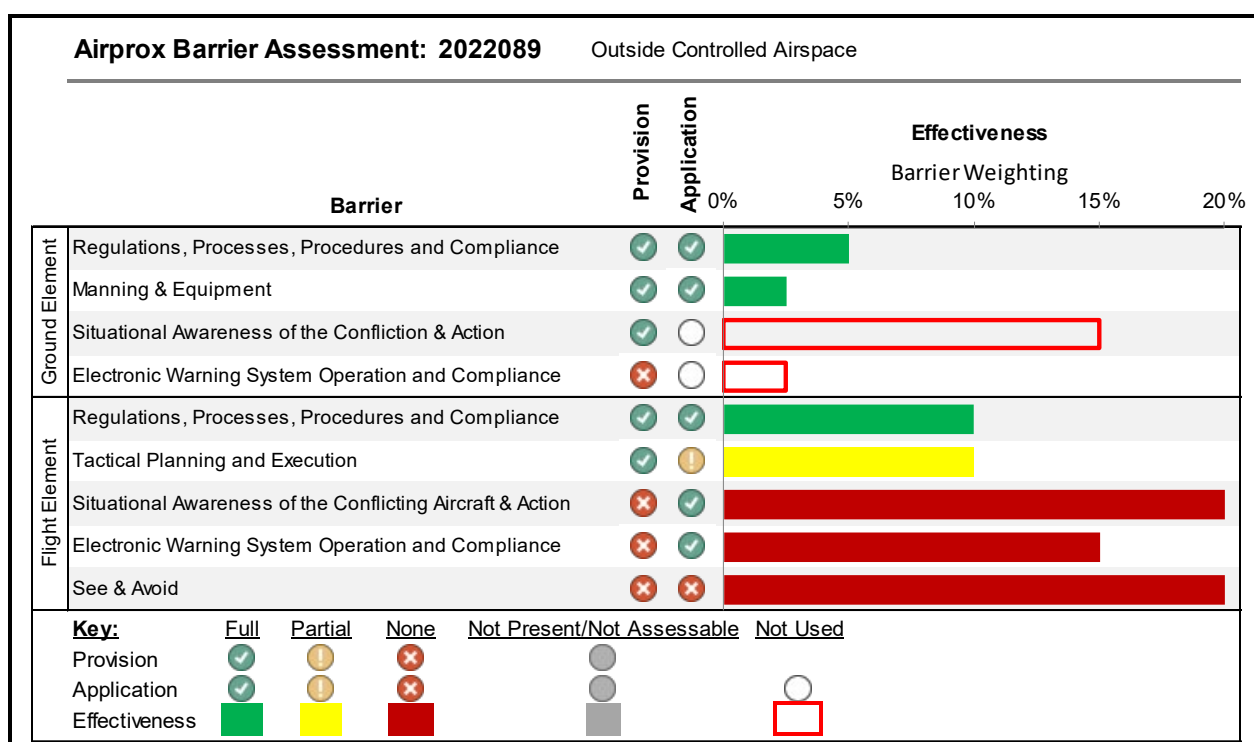
Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the PA28 pilot was not in receipt of a FIS in a region of busy airspace and the TB10 pilot was only under a Basic Service.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the PA28 pilot was unaware of the TB10 and the TB10 pilot was not aware of the PA28 until sighted.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the PA28 was not equipped with any form of additional EC equipment and the EC equipment carried on the TB10 could not alert or warn on the PA28.

See and Avoid were assessed as **ineffective** because the PA28 pilot did not see the TB10 and the TB10 pilot saw the PA28 at about CPA, effectively a non-sighting.



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