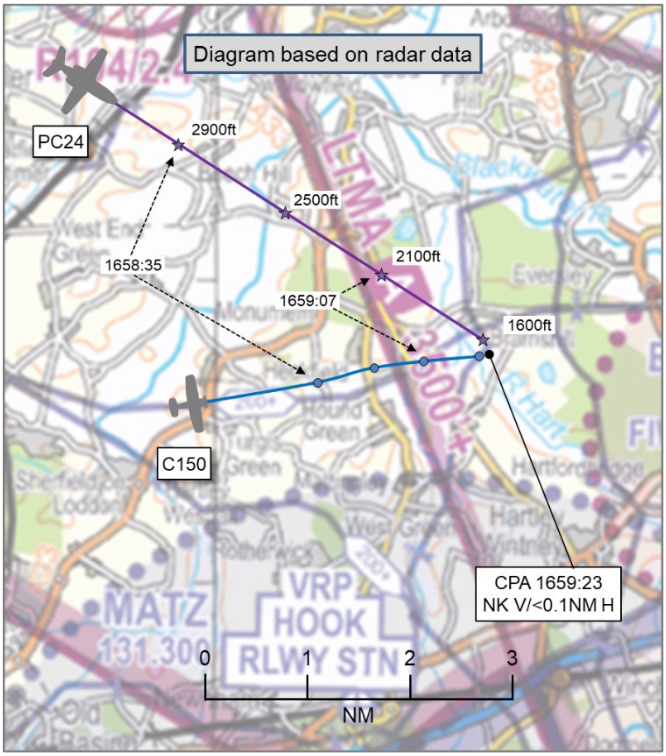
AIRPROX REPORT No 2024023

Date: 12 Feb 2024 Time: 1659Z Position: 5120N 00055W Location: 2.5NM west of Blackbushe

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C150	Pilatus PC24
Operator	Civ FW	Civ Comm
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	AFIS	AFIS
Provider	Blackbushe	Blackbushe
Altitude/FL	NR	1600ft
Transponder	'Standby'	A, C, S+
Reported		
Colours	Blue	White
Lighting	Navigation, landing	Standard
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1700ft	1400ft
Altimeter	QNH (1010hPa)	QNH
Heading	085°	125°
Speed	90kt	180kt
ACAS/TAS	Not fitted	TCAS II
Alert	N/A	None
Separation at CPA		
Reported	0ft V/200m H	0ft V/50-100m H
Recorded	NK V/<0.1NM H	



THE C150 PILOT reports that their aircraft transponder had been on Farnborough conspicuity squawk 4572 whilst monitoring Farnborough frequency inbound from the west. 2NM northeast of Basingstoke the transponder had been set to standby and preset to 7010 for the Blackbushe circuit. The pilot had called Blackbushe to request joining instructions and had been advised that a business jet had been inbound from the west. The C150 pilot [observed that] they had also been inbound from the west on an easterly track aiming for the deadside to the north of Blackbushe. The transponder had [still] been in standby mode at this stage as their aircraft had not yet been in the Blackbushe ATZ. The C150 pilot had been looking to the south (to the right) for the jet [traffic] when it had flashed past, coming in from behind on the port side at about 8 o'clock at the same level and departing [towards] the 2 o'clock on the starboard side. 2-3sec later they bumped through the wake turbulence, although it had not been severe. Separation was estimated to be about 500ft. The C150 pilot suggested that Blackbushe make it mandatory that all 'inbound aircraft' squawk 7010 on establishing communication with Blackbushe even if well outside the ATZ. This would maintain a radar presence all the way through the arrival (and remove any ambiguity on when 7010 should be set). If their transponder had been active, the jet pilot may have got an indication of their converging course through radar or TCAS.

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

THE PC24 PILOT reports that, at the end of a VFR flight to Blackbushe at 3000ft, the PM made contact with Blackbushe Radio whilst descending to circuit altitude, heading for the beginning of the left-hand downwind for RW25. The circuit had sounded quite busy and a sharp lookout was made to establish visual contact with all the traffic in the vicinity of the airfield. While descending through about 1500ft at about 180kt, the PM noticed a C150 at their 3-4 o'clock heading towards them at virtually the same level and, in their judgement, less than 50yds away from them. The occurrence happened about 2.5NM west of the airport while on a track of 125° while the Cessna had been tracking eastbound. [The PC24

pilot notes that] the TCAS had not shown the traffic concerned, nor had it generated a TA or RA at any time. Post flight analysis showed both aircraft had had their transponders switched on though [they recall]. The PC24 had joined the circuit and landed without any further incident.

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

THE BLACKBUSHE AFISO reports that they had been working several aircraft in the circuit and the local area at the time, including a C150 and PA28. Whilst they had been expecting the PC24's arrival, [the PC24 pilot] had cancelled their IFR flight plan [from… to …] and were about an hour behind schedule. The Blackbushe AFISO called [the PC24 departure airfield] as they hadn't been sure if they were still coming, and [the departure airfield] didn't know either. [Departure airfield] later called back to confirm they were coming to Blackbushe, but there had been no IFR flight plan. The Blackbushe AFISO observed them on ADS-B Exchange but, as it is not an approved source of information, could not issue Traffic Information gained from that system. The first call from the PC24 pilot came as they had been entering the downwind leg [they recalled].

[UKAB Note: Post-CPA information unrelated to the reported Airprox incident removed]

[The reported Airprox], a conflict between the PC24 and the C150 which the Blackbushe AFISO had not witnessed, nor had it been reported at the time, had happened outside the ATZ when they had not been working either aircraft.

Factual Background

The weather at Farnborough was recorded as follows:

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METAR EGLF 121650Z AUTO 25009KT 9999 NCD 08/00 Q1010=
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Analysis and Investigation

Blackbushe Accountable Manager

INTRODUCTION

On 12th February 2024 Blackbushe AFIS had been working a C150 which had been inbound to Blackbushe. They had experienced an Airprox with a Pilatus PC24 which had been likewise inbound to Blackbushe but had not been on the Blackbushe frequency at the time. Following the Airprox, the PC24 had joined downwind for RW25 and presented a period of high workload for the duty AFISO who had been attempting to integrate the faster jet with established circuit traffic.

The Safety Investigation looked at the impact of the arrival of the PC24 and the various issues which became apparent during its arrival. The aim being to understand if processes, procedures, or guidance could be improved to increase safety in the future.

REVIEW OF THE OCCURRENCE REPORT

Pilot Reports

The pilot of the C150 reported to Blackbushe ATSU that they had been intending to file an Airprox regarding the occurrence. The following morning, the Aerodrome Accountable Manager (AAM) had spent some time with the pilots of the PC24 to understand their perspective and they informed them that they too would be filing an Airprox within their EASA reporting procedures. Blackbushe Airport did not receive copies of either report, and so had been unable to incorporate their views into this safety investigation beyond those remarks given verbally.

The pilot of the PC24 did inform the AAM that they had remained on Oxford's frequency until a short distance outside the ATZ and had not worked Farnborough LARS at any point. With respect to the Airprox between the C150 and the PC24, they had not seen the aircraft until it had passed below

them and in their 2 o'clock position. The PIC had not seen it at all, but the F/O had seen it from their window as they had passed over the top of it. They estimated it to have been approximately 100ft below them.

Airprox Report

The Airprox Board has requested on several occasions that the Duty AFISO files an Airprox report for the occurrence between the PC24 and the C150. We do not feel this is appropriate as:

(a) the occurrence happened outside the ATZ;
(b) the AFISO did not witness it, nor were they aware of it until after both aircraft had landed;
(c) the AFISO provided information on an expected jet arrival to the C150.

REVIEW OF PROCEDURES, LEGISLATION, REGULATION, AND GUIDANCE

Aerodrome Rules & Procedures

Blackbushe recognises that its biggest risk is the integration of dissimilar types, particularly jet and turbo prop arrivals into a busy VFR circuit. To this end, the Blackbushe Airport Rules & Procedures (Current v8A, 08/11/2023) have a number of procedures in place to manage this risk. Relevant paragraphs include:

8 Integration of types of traffic

8.5 IFR Jet & Turbo-prop traffic will operate straight-in "long final" approaches to Blackbushe. This is to facilitate the integration with Farnborough airspace, and to avoid faster types using the visual circuit with much slower aircraft.

8.5.1. When an IFR fast aircraft is expected, Blackbushe ATSU may inform VFR aircraft that "Jet/Turbo-prop aircraft expected imminently". When this information is provided, VFR pilots are expected to either vacate the ATZ to the northwest, or land on their next approach.

10.10 VFR Jet/Turboprop arrivals in the Visual Circuit

10.10.1. It is not desirable for jets or turbo-props to operate within the Blackbushe circuit when the circuit is occupied by other VFR light aircraft. However, it is recognised that for some arrivals on RW25 from the direction of CPT VOR it is desirable to switch to VFR and join the visual circuit to avoid a circuitous routeing around Farnborough controlled airspace.

10.10.2. Jet or turbo-prop aircraft wishing to arrive using the visual circuit must comply with the following to establish the circuit is clear before leaving airways or changing from IFR to VFR:

(i) Contact Blackbushe Information on 122.305MHZ to ask for aerodrome information.

(ii) On receipt of information, ask if the circuit is occupied, and state your intention to join the visual circuit.

(iii) If Blackbushe Information state the circuit is occupied with VFR aircraft, then remain IFR and stay with Farnborough to be routed around to the south of Farnborough and onto a straight-in long final for RW25.

Aerodrome Manual

Complementary procedures are in place within the Aerodrome Manual at Section 9.12.5:

9.12.5 Integration of Joining Jets & Turbo-Prop IFR Aircraft - from 1st January 2023, the aerodrome Rules & Procedures v7 includes information for the pilots of piston VFR aircraft on expectations when a jet or turbo-prop is joining. Faster aircraft joining IFR will do so on a long final for each runway as is agreed in the Farnborough LoA. This behaviour is desirable to avoid such aircraft entering the visual circuit where they are operating at a substantially different speed and have an associated wake turbulence. When an IFR fast aircraft is expected, Blackbushe ATSU may inform VFR aircraft that "Jet/Turbo-prop aircraft

[is/are] expected imminently". When this information is provided, VFR pilots are expected to either vacate the ATZ to the northwest, or land on their next approach. Aircraft waiting to join or re-join the visual circuit may only do so once the fast IFR aircraft is established on final and must ensure they fly their circuit to remain behind the jet or turbo-prop, taking into consideration wake turbulence.

Since the introduction of the Farnborough controlled airspace, Blackbushe AFISOs and pilots have become used to jet and turbo-prop aircraft almost always joining on a long 4NM final for the runway in use. The terminology in Para 8.5 of the rules and procedures and the use of the term "imminently" is a means by which the aerodrome authority can direct a specific behaviour towards pilots, without the need for AFISOs to issue instructions, which is not within their privilege. AFISOs use the word imminently as a trigger to remind pilots of the aerodrome rules, namely to either land, or vacate the ATZ. On some occasions, privately operated Cessna Citation-type aircraft operating from Gloucester or Southampton to Blackbushe had operated VFR to Blackbushe [and] had entered the downwind leg with VFR traffic in place. Their aim had been to reduce the flight distance, avoiding the need to follow the Farnborough STAR, and to save on fuel and airways fees. Whilst Blackbushe recognised the need to reduce the number of track miles, and save these operators costs, this must be balanced against safety within the ATZ. For this reason, the rules in Para 10.10 were developed. They were included within the Rules & Procedures, and copies were provided to the operators of those aircraft. Since introduction, they had been observed to be working satisfactorily.

ROOT CAUSE ANALYSIS

Primary Cause

The primary question posed by the AAM to the crew of the PC24 had concerned their decision to cancel their IFR flight plan and operate VFR to Blackbushe. The crew responded that they had done so to save some time [as] the weather had been good and clear. They hadn't considered the amount of traffic that might be operating at Blackbushe, or how they would integrate with circuit traffic. The crew had not been aware of the Blackbushe Airport Rules & Procedures document. Blackbushe had not anticipated that the operator might elect to operate VFR into Blackbushe. Had the operator notified Blackbushe of this intention, they might have had the opportunity to ensure that [the crew] were briefed on para 10.10 of the Rules & Procedures.

Fundamentally, if the AFISO had known the intentions of the PC24 pilot they might have:

(a) Advised the pilots of Rule 10.10 and ensured they remained IFR.
(b) Been able to better advise circuit traffic earlier of the imminent jet.
(c) Been able to sterilise or substantially reduce traffic within the ATZ.

ADS-B Tracker & Position Information

The AFISO is only able to provide information based on limited sources, which does not include the use of unapproved ADS-B trackers. The AFISO provided information to the C150 pilot on a jet inbound, 10NM to the west. At the time of providing this information, they had confirmation from [departure aerodrome] that the PC24 had departed, and had been enroute to Blackbushe and they apologised for the late information as they hadn't had [the Blackbushe telephone] number. The provision of the distance was arguably outside of the privileges of the AFISO at that time, and had likely been based on the unofficial ADS-B screen in the tower at the time. It is not clear:

(a) When the Duty AFISO had last checked aircraft positions on that screen.
(b) Whether the screen had been suffering any lag or delay in providing data.

With this post-occurrence investigation, and based on the time stamps available to the AAM now, they estimate that when Traffic Information had been provided, the jet may have been as little as a distance of 8NM from Blackbushe but travelling at a much higher speed than the C150.

By the time that the PC24 pilot had established communications, Blackbushe believed it had already passed the C150, and so the AFISO had provided relevant information on traffic within the circuit.

Use of "Imminent"

The information available to AFISOs within the Aerodrome Manual references IFR arrivals. It has been identified that this may have been interpreted that this terminology or process was not to be used for jets joining VFR.

Aircraft Traffic Services

It is not known what services either the C150 pilot or the PC24 pilot had been in receipt of prior to joining Blackbushe. The pilot of the PC24 stated they had remained with Oxford, and the AAM at interview had suggested Farnborough LARS may have been more appropriate for operating to the west of Blackbushe where there is intense VFR activity. Likewise, it is not known to Blackbushe what level of service had been provided to the C150, and whether they had been with Farnborough LARS prior to joining Blackbushe. Had both aircraft been in receipt of a Basic Service from Farnborough LARS, it is likely generalised Traffic Information would have been provided which might have enabled them to have avoided operating in close proximity to one another.

ROOT CAUSE CORRECTION (NEW PROCEDURES)

The occurrence was discussed amongst the AAM, Technical Officer and the Duty AFISO, and agreed that it would be beneficial to produce a briefing document for jet/turbo-prop aircraft that can be included on bookings. Most operators have flight planning tools that allow for briefing documents to be automatically delivered to pilots along with their PLOGs etc. At the time of completing this report, this briefing document had been in draft.

It was likewise agreed that better guidance to AFISOs could be beneficial to help them proactively identify a faster aircraft intending to operate VFR into Blackbushe further in advance. This will result in updates to Section 9.12.5 in the next Aerodrome Manual revision.

CONCLUSION

It is felt the Blackbushe procedures are capable of avoiding a recurrence of the primary risk identified within this report (the integration of dissimilar types). However, better promulgation could result in increased awareness of the process for integrating jets and turbo-props. It is not believed that the risk of Airprox outside the ATZ by two aircraft not in communication with Blackbushe Information can be further mitigated by any actions [by] Blackbushe.

ATSI

Synopsis

The pilot of the C150 had been inbound to Blackbushe VFR. Prior to making first contact with the Blackbushe AFISO the pilot had switched their transponder to Standby believing that that had been the correct procedure for join.

At **1657:42** the pilot contacted the Blackbushe AFISO advising that they were *"about 2 miles to the north east of Basingstoke, 2000ft on 1009 and requesting joining information".* The Blackbushe AFISO acknowledged their call advising that RW25LH had been in use and passed the QFE. The AFISO had then gone on to request a report from the pilot when entering the ATZ, to advise that the circuit was active and that there had been *"a jet inbound – appears 10 miles to the west"*. The C150 pilot acknowledged the Traffic Information, advising that they would join "*deadside for 25 left"* and asked for confirmation of the QFE. The AFISO confirmed the QFE and had again repeated the request for a report on entering the ATZ which had then been acknowledged by the pilot.

At **1658:44**, the pilot of the PC24 had made their first call to Blackbushe. The AFISO advised the pilot that it was RW25LH, passed the QNH and requested a report entering the ATZ. The PC24 pilot had replied: "*we are now descending 1200ft QNH 1010, runway 25 left-hand circuit, we are just 1 minute to the beginning of the left-hand circuit"*. The AFISO replied *"roger – I have one fixed-wing*

in the circuit late downwind", which was acknowledged by the pilot of the PC24 and coincidental with CPA at **1659:23**.

Analysis

ATSI reviewed reports from both pilots and the Blackbushe AFISO and received a copy of the Blackbushe investigation report. A review of the area radar recordings and the Blackbushe RTF recordings was also completed.

The Blackbushe investigation report indicated that the PC24 had originally flight-planned inbound IFR, but that plan had been cancelled. The airfield of departure did call Blackbushe to advise that the PC24 was departing VFR, however there had been no notification of the actual departure until the point at which the PC24 had been approximately 10NM from Blackbushe. The AFISO had some awareness of the imminent arrival of the PC24 as they had seen it on an unofficial/unapproved ADS-B display, and it was apparent that the generic Traffic Information passed to the pilot of the C150 had been based on that awareness. The Traffic Information that had been passed gave the PC24's position as "*appears 10 miles west*". According to the radar recording, the PC24 had been approximately 9NM to the *north-west*. This Traffic Information apparently led the pilot of the C150 to look in the wrong place: *"I was looking to the south (to the right) for the Jet when it flashed past coming in from behind on the port side at about 8 o clock at the same level and departing at about 2 o clock on the starboard side."*

No reciprocal Traffic Information had been passed by the AFISO to the pilot of the PC24 on the C150, and with the C150's transponder set to Standby, the pilot of the PC24 pilot did not receive any electronic alerts on the presence of the C150, confirmed by the PC24 pilot's report: *"While descending through about 1500ft at about 180kt, the PM noticed a C150 at our 3-4 o'clock heading towards them at virtually the same level and, in their judgement, less than 50yds away from them. The occurrence happened about 2.5NM west of the airport while on a track of 125° whilst the Cessna had been tracking eastbound. It is worth noting that the TCAS never showed the traffic concerned, neither did it generate a TA or RA at any time."*

With regards to the pilot of the C150 believing the correct procedure was to set the transponder to standby, it was not clear from their report what procedure they believed they were complying with. The Blackbushe entry in the UK AIP states: *"aircraft operating within the circuit are required to select transponder code A7010 (with associated Mode C and/or Mode S), unless having been allocated with a discrete code by an appropriate ATSU. This transponder code shall be selected before taking off into the circuit, or when rejoining the circuit to land, and prior to entering the LFA."*

The Blackbushe Airport website contains detailed information for pilots, including Rules and Procedures to be followed and which reflect the UK AIP entry. There is an additional requirement that; *"where an aircraft is entering the LFA from the south (within the EGLF CTR1) they shall not select 7010 until clear of the CTR1."* This did not apply to the pilot of the C150 who had been inbound from the west and clear of CTR1.

With regards to procedures for VFR jet/turboprop arrivals in the visual circuit, Blackbushe Rules and Procedures request pilots of such aircraft to comply with the content of paragraph 10.10 (shown above).

Although the PC24 had been inbound from the CPT direction, the pilot had never been IFR, instead they had elected to depart and remain wholly VFR, and apparently stayed in communication with the departure airfield's ATSU until fairly close to Blackbushe. There would have been no other option available to join on an IFR routeing. The Blackbushe report indicated that the PC24 pilot had been unaware of these rules and procedures, and there had been no opportunity for any discussion about the join with the AFISO due to the proximity (and speed) of the inbound PC24 to the aerodrome.

The AFISO did not use the recommended phraseology ("*Jet/Turbo-prop aircraft expected imminently"*), designed to prompt other VFR pilots to vacate the ATZ or land in the circuit, and for those waiting to rejoin, to wait for the faster aircraft to establish on finals, (again only legislating for

IFR inbounds) as published in paragraph 9.12.5 of the Blackbushe Rules and Procedures (shown above).

There had been no confirmation by the Blackbushe AFISO as to the type of ATS being provided to the pilots of both aircraft whilst operating in Class G airspace, prior to joining the circuit at Blackbushe.

Conclusion

The PC24 pilot did not fully integrate with the visual circuit at Blackbushe in accordance with the guidance contained within the Blackbushe Rules and Procedures published by the aerodrome, and there had been little time available to the AFISO to assist with this integration.

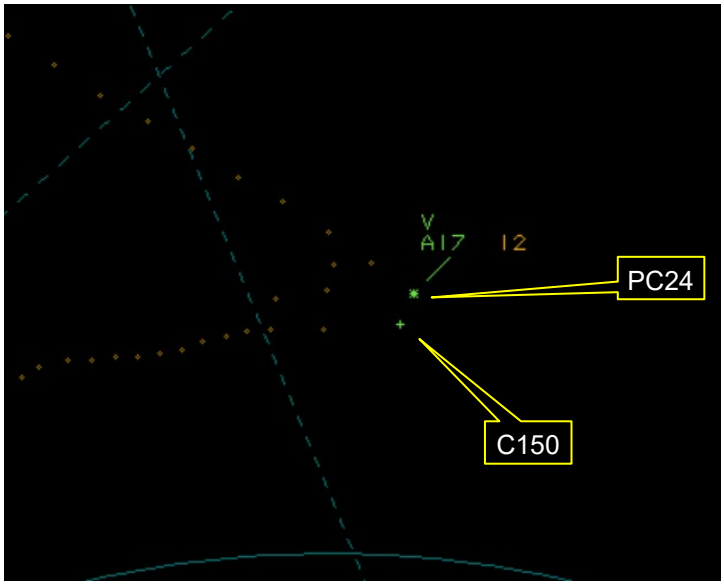
The AFISO passed inaccurate and possibly misleading Traffic Information to the pilot of the C150 using an unofficial source. Neither did they pass reciprocal Traffic Information to the pilot of the PC24 on the C150 when they came on the frequency immediately after the call for join made by the C150 pilot.

The C150 had not been electronically conspicuous to the PC24 as the C150 pilot had selected their transponder to standby.

The Rules and Procedures published by Blackbushe do not appear to cover the above scenario whereby a jet is inbound wholly VFR having not initially received an IFR routeing and service from Farnborough ATC.

It is acknowledged that Blackbushe intends to review and publish a briefing document to be sent to pilots of aircraft notifying their intention to fly into Blackbushe, giving clearer guidance on VFR joins.

UKAB Secretariat



CPA – NK V/<0.1NM H 1659:23

The C150 and PC24 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 converging then the PC24 pilot was required to give way to the C150.[2]

Summary

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

An Airprox was reported when a C150 and a PC24 flew into proximity 2.5NM west of Blackbushe at 1659Z on Monday 12th February 2024. Both pilots were operating under VFR in VMC and 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, a report from the AFISO 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.

The Board firstly discussed the actions of the C150 pilot, noting that although they had initially been monitoring the Farnborough frequency, they had not been in receipt of an Air Traffic Service and had elected to leave their transponder in standby (**CF4**, **CF6**) pending arrival at Blackbushe. This, together with a lack of any additional electronic conspicuity equipment (**CF8**), meant that they had effectively defeated the situational awareness barrier in its early stages as the PC24 pilot had not been utilising the Farnborough frequency. Having then switched to the Blackbushe AFISO frequency, the C150 pilot had left their transponder in standby as they had intended to activate it on crossing the ATZ boundary. Members opined that the chosen use of the transponder in this case had been fundamental to the Airprox and wished to re-state the importance of using all aids available to allow all involved to build situational awareness. Unfortunately, although the C150 pilot had then been passed Traffic Information regarding the approaching PC24, it had been inaccurate (**CF7**) and had led the C150 pilot to direct their lookout attention in the wrong direction.

Turning to the role of the PC24 pilot, members noted the logic employed in the pilot's switch from an IFR transit to a VFR one. Unfortunately, that decision had exposed a gap in the process of information sharing for joining procedures. Under normal circumstances, fast jet traffic booked for IFR into VFR arrival would be alerted to the appropriate rules and procedures for such; however, in this case, operating purely VFR, that information sharing had not occurred and the pilot of the PC24 had been unaware and therefore had not been able to review the joining procedures before flight (**CF5**). The Board agreed that, on initial contact with Blackbushe, the PC24 pilot had not been made aware of the presence of the C150 (**CF7**) and, although they had carried appropriate electronic warning and avoidance systems, it had not been able to register any emissions from the C150 (**CF8**).

Members went on to review the actions of the Blackbushe AFISO, noting that the Airprox had occurred outside the ATZ and at the limits of their visual range. They recognised that the AFISO had been presented with a situation that was highly unusual, incompatible aircraft types recovering in unusual configurations – a fast-jet under pure VFR for which there had been no clear procedures (**CF1**), and a slower GA aircraft with no active transponder together with an already busy circuit, arrivals and departures scenario. Subsequent investigation noted that the joining procedures for fast jet purely VFR traffic were inadequate (**CF3**). They noted that the AFISO had utilised an unapproved Flight Information Display, which in this case had led to the passing of inaccurate Traffic Information to the C150 pilot regarding the position of the PC24 (**CF2**). No reciprocal Traffic Information had been passed to the PC24 pilot regarding the status of the C150 (**CF2**).

Members were heartened to hear that Blackbushe has initiated a review of the joining procedures for both IFR to VFR and pure VFR traffic.

When determining the risk, members considered the reports from both pilots together with the report from the AFISO involved, radar photographs/video recordings and the investigation report from the CAA ATSI. They acknowledged that the C150 pilot had been alerted to the presence of the PC24 but unfortunately that information had been inaccurate leading to the C150 pilot looking in the wrong direction for the PC24 and not having seen it until it had passed (**CF9**). The lack of a transponder and of any electronic conspicuity equipment, together with no Traffic Information over RT, had led the PC24 pilot to be unaware of the C150 and the pilot had not gained visual contact with it until CPA (**CF9**). Members therefore agreed that safety margins had been much reduced below the norm. As such, the Board assigned a Risk Category B to this Airprox (**CF10**).

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024023			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Regulations, Processes, Procedures and Compliance			
1	Organisational	• Aeronautical Information Services	An event involving the provision of Aeronautical Information	The Ground entity's regulations or procedures were inadequate
	• Situational Awareness and Action			
2	Human Factors	• ANS Traffic Information Provision	Provision of ANS traffic information	TI not provided, inaccurate, inadequate, or late
	Flight Elements			
	• Regulations, Processes, Procedures and Compliance			
3	Organisational	• Flight Operations Documentation and Publications	Flight Operations Documentation and Publications	Inadequate regulations or procedures
4	Human Factors	• Use of policy/Procedures	Events involving the use of the relevant policy or procedures by flight crew	Regulations and/or procedures not complied with
	• Tactical Planning and Execution			
5	Human Factors	• Pre-flight briefing and flight preparation	An event involving incorrect, poor or insufficient pre-flight briefing	
6	Human Factors	• Transponder Selection and Usage	An event involving the selection and usage of transponders	
	• Situational Awareness of the Conflicting Aircraft and Action			
7	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			
8	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			
9	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			
10	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: B.

Safety Barrier Assessment[3]

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

Ground Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the Rules and Procedures published by Blackbushe do not cover the scenario whereby a fast jet or Turbo prop aircraft is inbound wholly VFR having not initially received an IFR routeing and service.

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

Situational Awareness of the Confliction and Action were assessed as **ineffective** because the AFISO, when using the FID, passed inaccurate Traffic Information on the PC24 to the C150 pilot, which meant that the C150 pilot had been looking in the wrong direction for the PC24.

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the PC24 pilot had not reviewed the joining procedures for VFR traffic into Blackbushe, and the C150 pilot had made their initial arrival with their transponder in standby.

Tactical Planning and Execution was assessed as **partially effective** because the PC24 pilot had not followed the procedures for a VFR join at Blackbushe and the C150 pilot had elected to maintain their transponder in standby until their arrival at the ATZ boundary.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the PC24 pilot had no situational awareness of the presence of the C150 and the C150 pilot had inaccurate situational awareness on the relative position of the PC24.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the TCAS on the PC24 could not detect the C150's transponder which had been selected to 'standby'.

See and Avoid were assessed as **ineffective** because neither pilot had sighted the other aircraft until the moment of CPA.