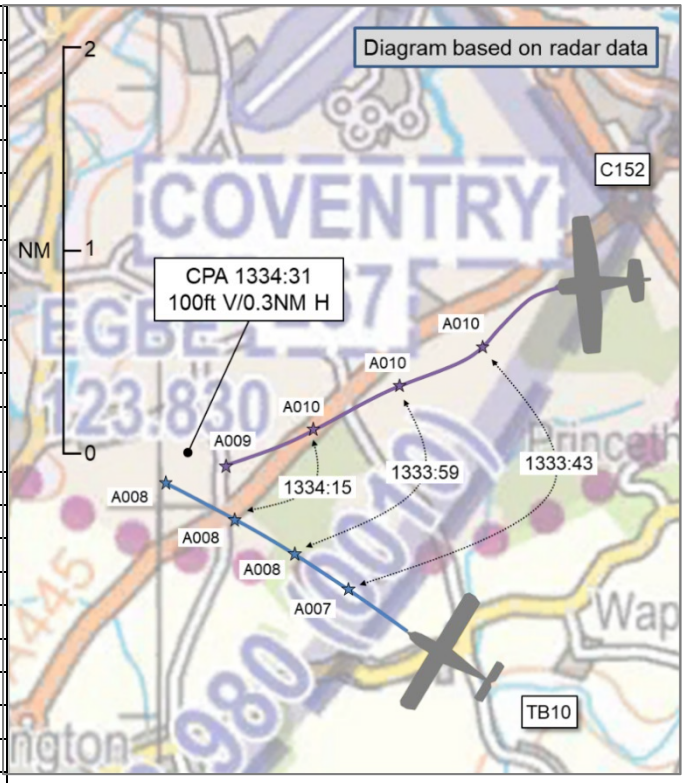
AIRPROX REPORT No 2022272

Date: 03 Dec 2022 Time: 1335Z Position: 5220N 00130W Location: Coventry ATZ

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	TB10	C152
Operator	Civ FW	Civ FW
Airspace	Coventry ATZ	Coventry ATZ
Class	G	G
Rules	VFR	VFR
Service	AFIS	AFIS
Provider	Coventry Info	Coventry Info
Altitude/FL	800ft	900ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White, blue	White, blue
Lighting	Nav, beacon, landing	Landing, nav, Anti-col, HISL, beacon
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1300ft	1000ft
Altimeter	QNH (1022hPa)	QNH (1022hPa)
Heading	320°	310°
Speed	90kt	70kt
ACAS/TAS	SkyEcho	Not fitted
Alert	None	N/A
Separation at CPA		
Reported	0ft V/200ft H	200ft V/250m H
Recorded	100ft V/0.3NM H	



THE TB10 PILOT reports they had been right-base, the other aircraft was downwind. They called right-base and were declared number two with one on final. The other aircraft was number three but flying a tight circuit. They saw the [C152] to their right, heading towards them when [the TB10 pilot] was approximately mid-right-base. At this point, the [pilot of the C152] started turning right-base but was too close (200ft) so the [pilot of the TB10] turned left and positioned for a long final. On long final, the [C152] pilot told the Coventry [AFISO] that they were visual with [the TB10], but [the TB10] was behind the [C152].

During long final, they [opine that the pilot of the C152] appeared to be far too low and at one point significantly left of the runway, and at another point, significantly right.

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

THE INSTRUCTOR OF THE C152 PILOT reports that dual-circuits had been flown prior to sending the [C152] student pilot for solo circuits consolidation on RW05RH. [The instructor of the C152 pilot opines that] whilst the [C152 pilot] was at midpoint downwind, the other aircraft, which was routing towards right-base, reported their position incorrectly as right-base but had not even entered the ATZ. The [C152 pilot] turned on to right-base at the normal position, assuming the other traffic would be well ahead. [The instructor of the C152 pilot opines that] the other aircraft had positioned for a wide right-base and had turned on to a long final. As the [C152 pilot] turned on to final, the other aircraft appeared to be on the left, on long final, leading to the Airprox.

The instructor of the C152 pilot stated that no avoiding action was taken by the C152 pilot as the [pilot of the TB10] behind decided to go around.

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

THE COVENTRY AFISO reports that this was an exceptionally busy day with several other occurrences taking place. They recall the following with help from the flight strips of the day but without hearing the recordings. The word 'Airprox' was not spoken on the RT.

RW05 was in use at Coventry, with a right-hand circuit. Aircraft were asked to report Southam VRP and to expect a right-base join.

[The pilot of the C152] was squawking 7010 and was in the circuit. [The pilot of the TB10] was joining the circuit towards right-base for RW05 from Southam VRP. For clarification, due to the [Birmingham's] Class D airspace constraints, there are no overhead joins at Coventry and the circuit is joined right-base for RW05, or left-base for RW23, or straight in. Naturally, this places more of an onus of the Duty AFISO to provide more detailed Traffic Information to joining aircraft as they join at the same height.

[The pilot of the TB10] came onto frequency at approximately 1330 and reported at Southam and was told about the active circuit. [The pilot of the TB10] reported seeing a C152 close-by at the end of downwind and base.

Traffic Information was passed to both [the pilot of the TB10] and [the pilot of the C152] which was acknowledged - although without radar/ATM/FID they were not able to judge how far or close aircraft may have been to one another and have to trust the pilots to maintain a suitable lookout with the Traffic Information provided to enhance their own situational awareness.

Factual Background

The weather at Birmingham was recorded as follows:

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METAR EGBB 031320Z 03008KT 9999 BKN014 06/04 Q1021
METAR EGBB 031350Z 04010KT 9999 BKN014 06/04 Q1021
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Analysis and Investigation

CAA ATSI

The TB10 pilot was on a VFR flight inbound, routeing for a direct join to right-base for RW05 at Coventry. The C152 was being flown by a student pilot flying solo, after having completed a number of dual circuits with an instructor earlier that day. They used the 'Student' prefix with their callsign throughout this period. Also in the circuit at the time was a C172 and another C152 (C152A).

At c1329:25,[1] the pilot of the TB10 reported at Southam having previously reported 4NM southeast of that location, and had been given the QNH and a squawk by the AFISO. The AFISO instructed them to report on a base-leg for RW05 and advised that the circuit was active with three aircraft. The pilot of the TB10 acknowledged the base-leg join but not the Traffic Information which was not challenged by the AFISO.

The C172 pilot then reported final to land and was given the runway followed by, at c1332:03, the pilot of C152A reporting downwind also for a full-stop landing. The AFISO instructed the C152A pilot to report final, advising them that there was a TB10 to report base-leg. The pilot of C152A acknowledged the call to report final but not the Traffic Information which was not challenged by the AFISO (Figure 1).

[1] Timings are taken from the radar replay as the Coventry timecode injection was approximately 1:40 fast.

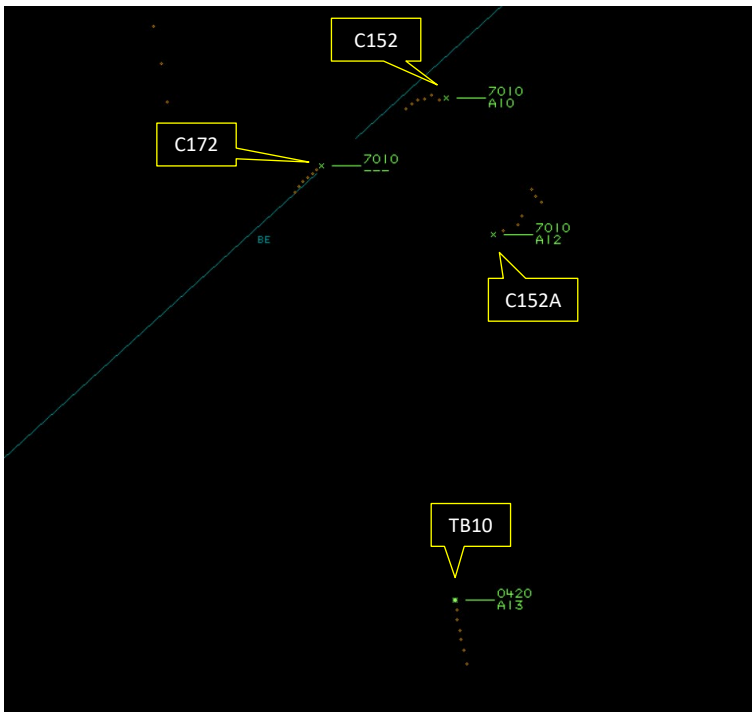


Figure 1 – 1332:03

At c1332:30, the AFISO advised the pilot of the TB10 that there was a C152 downwind (C152A). The AFISO did not mention the second C152 crosswind. The TB10 pilot acknowledged this with 'looking for traffic'.

The pilot of C152A then reported 'late downwind' and was instructed to report final by the AFISO at c1332:45. No reminder was given by the AFISO to the C152A pilot about the TB10 joining on base-leg, the pilot of which had yet to report in that position (Figure 2).

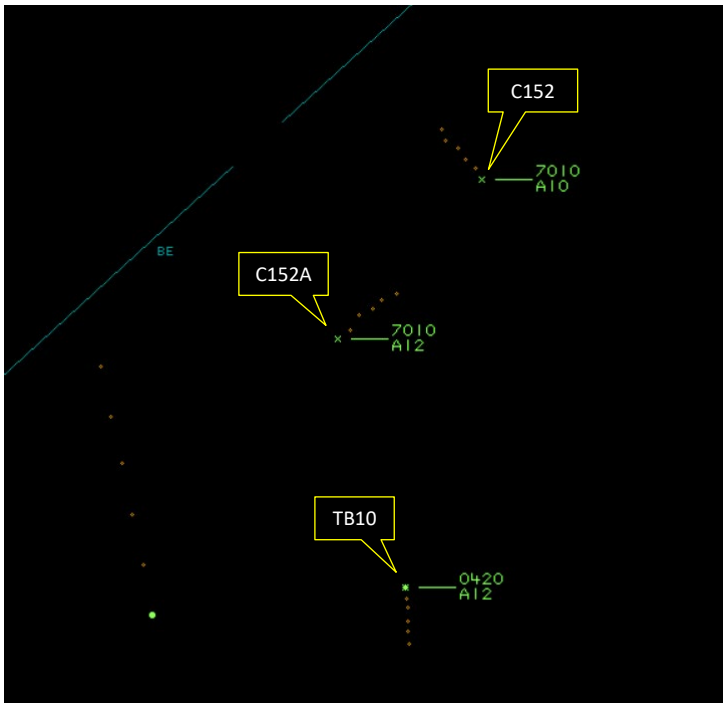


Figure 2 – 1332:45

At c1332:55, the pilot of C152A reported 'visual with traffic behind' and was instructed to report final by the AFISO.

At c1333:12, the pilot of the C152 reported downwind for a full-stop landing. The AFISO replied "*report final – you've got 2 ahead, a C152 and a TB10 to report base-leg*". The C152 pilot acknowledged the final call but not the Traffic Information which went unchallenged by the AFISO (Figure 3).

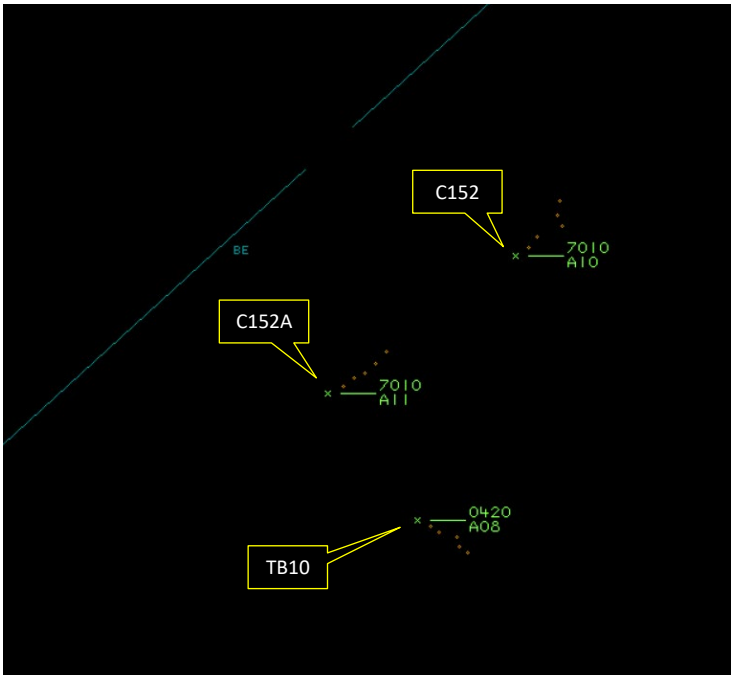


Figure 3 – 1333:12

Two pilots then called simultaneously followed by, at c1333:38, the pilot of the TB10 reporting right-base. The AFISO instructed the pilot to report final but did not pass Traffic Information on C152A ahead of them, nor the C152 downwind (Figure 4).

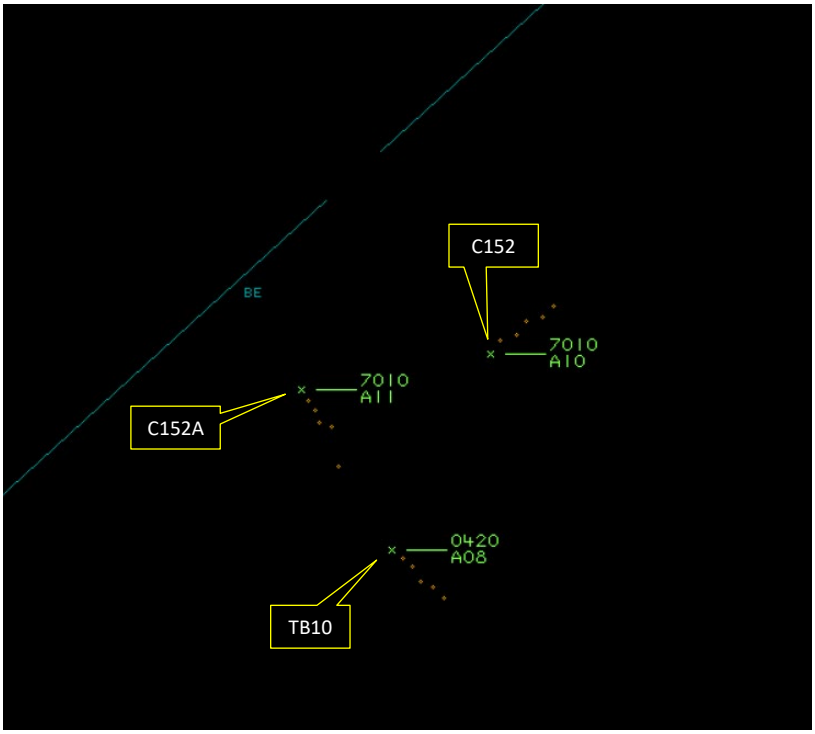


Figure 4 – 1333:38

The AFISO then dealt with a pilot requesting taxy instructions and the pilot of another aircraft requesting to change to an en-route frequency. At c1334:23, the pilot of C152A reported on final and was given the runway by the AFISO.

The CPA occurred at 1334:31 with the TB10 and C152 separated by 0.3NM and 100ft (Figure 6).

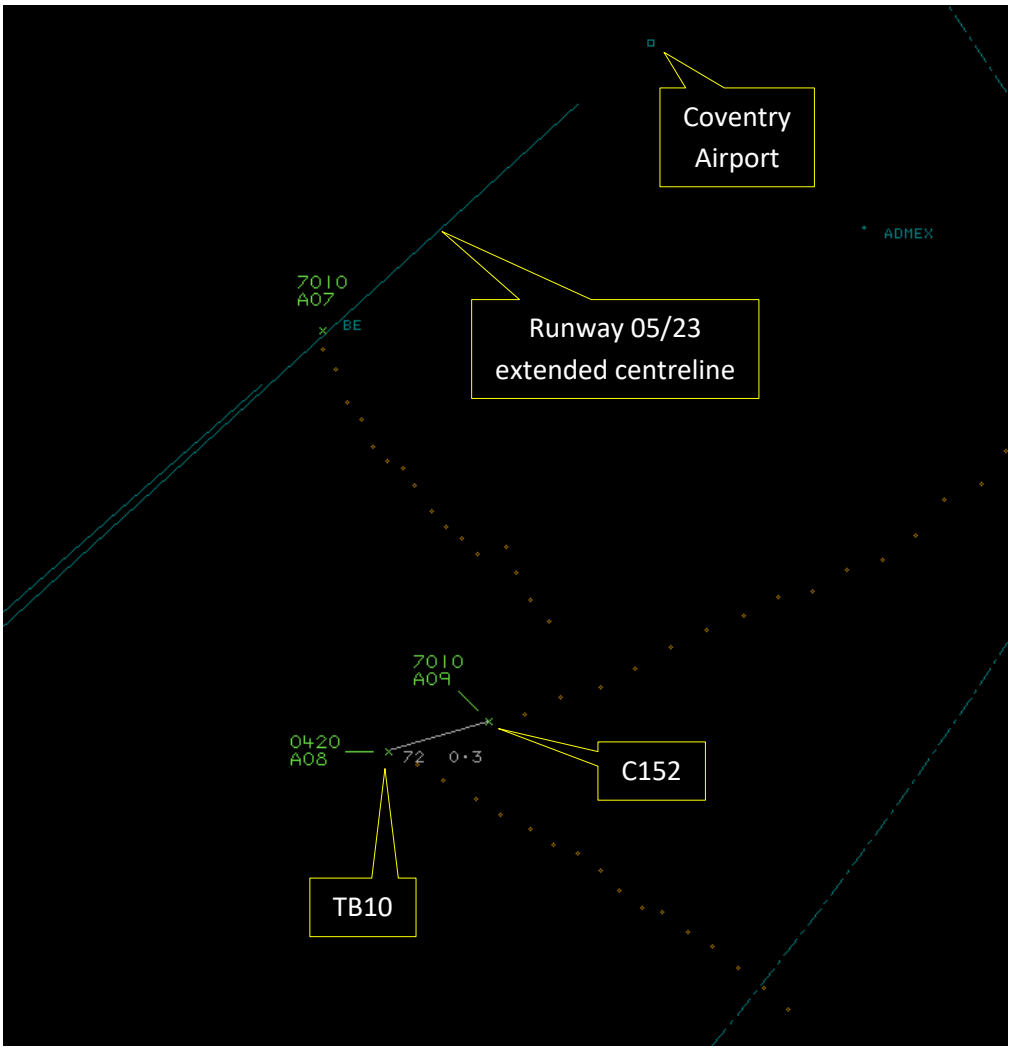


Figure 6 – CPA at 1334:31

At c1334:40, the pilot of the TB10 reported "*we were quite close to the number 3 traffic. We're just extending on a er downwind*". The AFISO acknowledged this and, [approximately 25 seconds later], asked the pilot of the C152 "*you visual with the TB10?*" The pilot of the C152 replied "*yeah, I have visual*".

ATSI received copies of reports from both pilots (the report from the C152 pilot having been completed by their instructor). The report from the instructor of the C152 pilot referenced a slightly different Airprox scenario with both aircraft on final approach. A narrative report from the Coventry AFISO was received but no formal MOR nor investigation report. A review of the Coventry RTF alongside the area radar replay was made. Coventry has no surveillance/FIDS capability. Due to the presence of the Birmingham CTA above them, overhead joins are not permitted at Coventry.

During the run-up to this Airprox, a number of opportunities to provide pilots with more complete Traffic Information were missed by the AFISO, and consequently there was little assurance that pilots had sufficient situational awareness to complete their integration into the circuit.

Two circuits prior to the Airprox, the student pilot involved in the Airprox turned onto base-leg and then final approach, ahead of two other aircraft already established on final. The student pilot flew through final approach, re-established on very short final still ahead of both other aircraft and with the runway occupied. The pilot of the nearest following aircraft suggested to the student that they go-around which they subsequently did. When the student had reported downwind previously, the

AFISO had passed Traffic Information on the traffic joining base-leg ahead of them, but not on three other aircraft also ahead at the time, (making the student pilot effectively number 5). Based on observation of their conduct in the period running up to the Airprox, the student pilot did not appear to demonstrate a good general awareness of the traffic situation in the circuit ahead of them.

On many occasions, the Traffic Information provided by the AFISO to pilots was incomplete or non-existent. The Traffic Information was not acknowledged by the pilots and this lack of acknowledgement went unchallenged by the AFISO. Where pilots are required to join directly into a circuit without the benefit of time in the overhead assimilating the traffic situation, frequent and quality Traffic Information from the AFISO is crucial in ensuring pilots gain sufficient situational awareness to allow them to integrate safely and efficiently into the existing traffic pattern.

The UK AIP entry for Coventry states for Arrivals:

> *c. For Runway 05, route to Southam VRP and join on right base giving way to circuit traffic as appropriate.*
> *d. Straight in approaches are available on request, giving way to circuit traffic as appropriate.*

The Coventry Airport website does not contain any additional advice for visiting pilots on how to join the circuit but, again, directs them to the airport's UK AIP entry.

The pilot of the TB10 stated in their report that they had reported right-base and "declared number 2 with 1 on final". In fact the AFISO, who would not be able to "declare" the order in the circuit, did not pass Traffic Information to the pilot of the TB10 on either of the C152s when they reported on right-base. As the pilot of the C152 was already established in the traffic pattern, with the student pilot reporting downwind before the TB10 pilot reported on base-leg, it can be argued that it was for the TB10 pilot to position themselves behind the C152.

In conclusion, Traffic Information provided by the AFISO was insufficient to support pilots' situational awareness to allow them to safely integrate into the existing traffic pattern. Traffic Information being passed to pilots was not acknowledged, and that lack of acknowledgement was left unchallenged by the AFISO.

Coventry ATC is reminded of its obligations under Regulation (EU) 2017/373 of 1 March 2017 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018 ATM/ANS.OR.A.065 paragraphs (a) through (e), with regards to the initial submission of a mandatory occurrence report and any follow up reports within the specified timescales as defined within Regulations (EU) 996/2010 and 376/2014.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft could be positively identified from Mode S data.

At approximately the point of CPA, the pilot of the TB10 was observed to turn left by 50° and position onto an extended downwind leg outside the ATZ. Meanwhile, the pilot of the C152 turned right onto base-leg inside the ATZ with one aircraft ahead.

The TB10 and C152 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] 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.[3]

[2] (UK) SERA.3205 Proximity.
[3] (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.

Summary

An Airprox was reported when a TB10 and a C152 flew into proximity in the Coventry ATZ at 1335Z on Saturday 3rd December 2022. Both pilots were operating under VFR in VMC and in receipt of an AFIS from Coventry Information.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilot of the TB10 and the instructor of the pilot of the C152, radar photographs/video recordings, a report from the AFISO involved and a report from the appropriate operating authority. 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 considered the actions of the pilot of the TB10 and the nature of their join to the circuit at Coventry. Noting that the pilot had routed from Southam VRP, members agreed that a direct join to right-base for RW05 had been in accordance with the arrival procedure provided in the AIP in the entry for Coventry. Turning their attention to the position of the TB10 relative to the traffic already established in the circuit, members were keen to understand the timing of the radio calls that had been made. Having reported at Southam VRP, members noted that the pilot of the TB10 had been informed by the Coventry AFISO that there had been 3 aircraft in the circuit. The pilot of the first aircraft, a C172, had reported on final. Subsequently, the pilot of the TB10 had been passed specific Traffic Information on a C152 (which had not been involved in the Airprox encounter) which had been late-downwind and would have been ahead of the TB10 pilot once they had integrated into the circuit. Members noted that the Coventry AFISO had not passed any Traffic Information directly to the pilot of the TB10 on the third aircraft (the C152 that had reported downwind and with which they would ultimately fly into proximity). It had therefore been of utmost importance for the pilot of the TB10 to have visually acquired this third aircraft in order to have integrated into the circuit ahead of it. However, members noted that the pilot of the TB10 had reported right-base when they had not been at the correct position for right-base given the existing circuit pattern dimensions, and had come into proximity with the C152 (**CF6**). Therefore, members determined that, despite having had generic situational awareness of the presence of the C152 (**CF9**), the pilot of the TB10 had not integrated into the circuit ahead of the C152 correctly (**CF5**) and had not conformed with, nor effectively avoided, the existing pattern of traffic (**CF8**). Members acknowledged that, after sighting the C152 and having been concerned by its proximity (**CF11**), the pilot of the TB10 had executed a manoeuvre to increase separation and re-integrate into the circuit.

Turning their attention to the pilot of the C152, members had some sympathy that their inexperience may have meant that their capacity to build and maintain situational awareness of the aircraft in the circuit had been limited. Nevertheless, members wished to emphasise that it had been imperative to have maintained an effective lookout, particularly whilst in a busy visual circuit. Members noted that the pilot of the C152 had been passed Traffic Information on the 'two ahead', including "*a TB10 to report base-leg*". Members considered that that information, taken in isolation, had likely not alerted the pilot of the C152 that the TB10 pilot had been approaching the circuit from their left, nor indeed that they had been on a converging heading. Members concluded that the pilot of the C152 had had generic situational awareness of the TB10 rather than specific awareness (**CF9**). Members next considered the circuit pattern flown by the pilot of the C152 and determined that the downwind leg had not been flown parallel to the runway. Instead, the pilot had been drifting toward the runway and, consequently, had inadvertently reduced their separation from the TB10 (**CF7**).

Members next considered the actions of the Coventry AFISO and, recalling their thoughts from the earlier discussions, concluded that there had not been sufficient Traffic Information passed to support the pilots' situational awareness (**CF2**). Further, given that the pilot of the C152 had used the prefix 'Student' throughout, members felt that that should have alerted an AFISO to have been more forthcoming with Traffic Information, but it had not been the case. Members returned to their thoughts on the specific piece of Traffic Information that had been passed to the pilot of the C152 where the pilot of the TB10 was 'to report base-leg'. Members determined that, given that the TB10 pilot had not integrated into the circuit by then (nor indeed had they been within the ATZ) that that Traffic Information

had essentially dictated the order of the aircraft in the circuit, effectively sequencing the TB10 pilot into the pattern. This, members concluded, had been at odds with the scope of responsibility held by a FISO in accordance with CAP797 (**CF1**) and had been a contributory factor to the Airprox as it had been the responsibility of each pilot to have conformed with, or to have avoided, the existing pattern of traffic in the circuit as necessary (**CF4**). Members were in agreement that the Coventry AFISO had not had accurate situational awareness of the aircraft in the circuit when the pilot of the TB10 had reported as being on base-leg when they had not actually integrated into the pattern of traffic at that point (**CF3**).

Turning their attention to the aspects of electronic conspicuity in this case, members noted that the TB10 had been fitted with an additional EC device but that it would not have been expected to have detected the presence of the C152 (**CF10**). The C152 had not been fitted with an additional EC device, which on this occasion may have provided some additional information to aid visual acquisition. It was for pilots to decide on their own requirements for additional equipment according to their needs and the Board wished to highlight to pilots that additional funding has been made available for electronic conspicuity devices through the CAA's Electronic Conspicuity Rebate Scheme, which has been extended until 31st March 2024.[4]

In determination of risk, the Board discussed that the Traffic Information issued by the Coventry AFISO had not fully supported each pilot's situational awareness. The pilot of the TB10 had therefore not integrated into the circuit correctly but, having visually acquired the C152, had manoeuvred to increase the separation. Members agreed that safety had been degraded but were satisfied that there had been no risk of collision. As such, the Board assigned Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2022272			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Regulations, Processes, Procedures and Compliance			
1	Human Factors	• ATM Regulatory Deviation	An event involving a deviation from an Air Traffic Management Regulation.	Regulations and/or procedures not fully complied with
	• Situational Awareness and Action			
2	Human Factors	• ANS Traffic Information Provision	Provision of ANS traffic information	TI not provided, inaccurate, inadequate, or late
3	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
4	Human Factors	• Traffic Management Information Provision	An event involving traffic management information provision	The ANS instructions contributed to the Airprox
	Flight Elements			
	• Regulations, Processes, Procedures and Compliance			
5	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			
6	Human Factors	• Accuracy of Communication	Events involving flight crew using inaccurate communication - wrong or incomplete information provided	Ineffective communication of intentions
7	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
8	Human Factors	• Monitoring of Environment	Events involving flight crew not to appropriately monitoring the environment	Did not avoid/conform with the pattern of traffic already formed
	• Situational Awareness of the Conflicting Aircraft and Action			
9	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

[4] https://www.caa.co.uk/general-aviation/aircraft-ownership-and-maintenance/electronic-conspicuity-devices/

	• **Electronic Warning System Operation and Compliance**			
10	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**			
11	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: C

Safety Barrier Assessment[5]

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 Coventry AFISO had effectively prescribed the order of traffic in the circuit.

Situational Awareness of the Confliction and Action were assessed as **partially effective** because the Coventry AFISO had not provided sufficient pertinent Traffic Information to support the pilots' situational awareness.

Flight Elements:

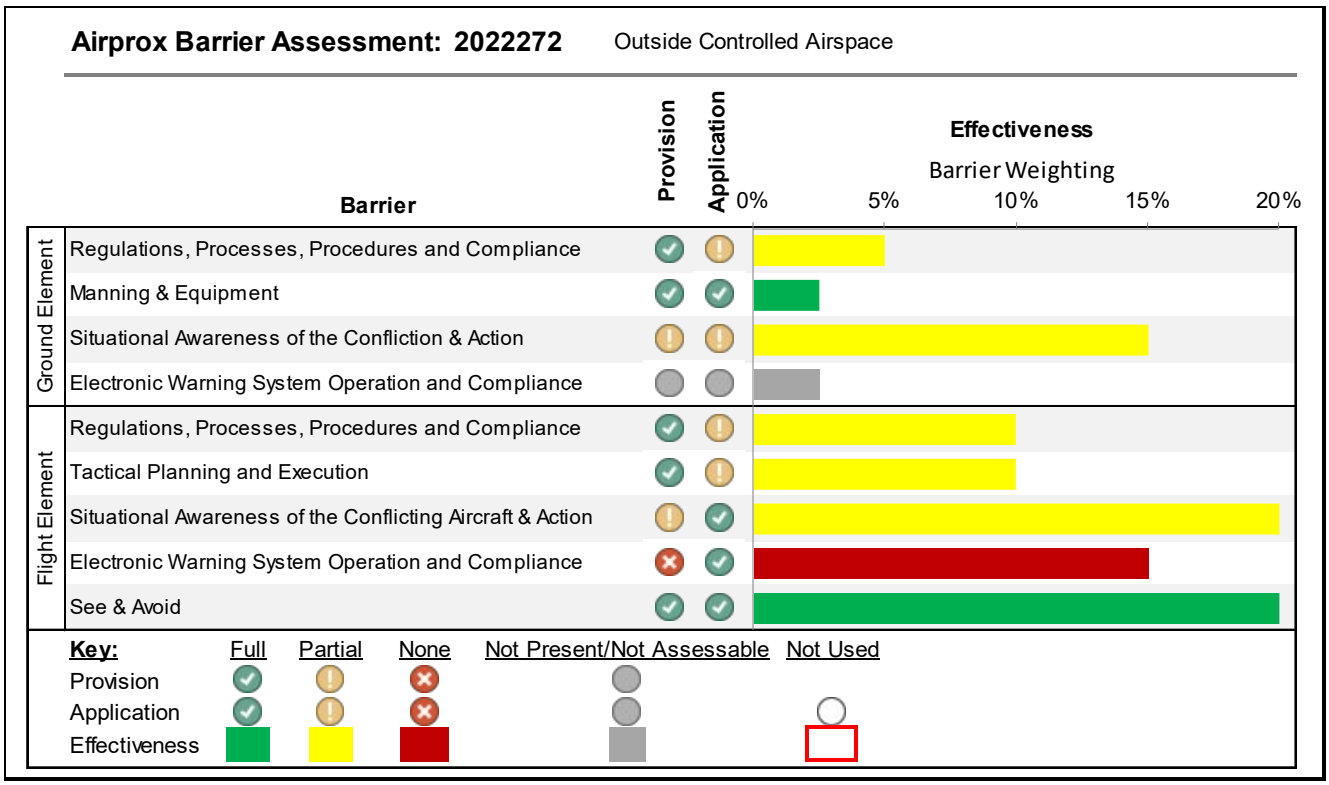
Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the pilot of the TB10 had not conformed with, nor avoided, the existing pattern of traffic.

Tactical Planning and Execution was assessed as **partially effective** because the pilot of the TB10 had not correctly integrated into the pattern of traffic.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because both pilots had had only generic situational awareness of the presence of the other.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the EC equipment fitted to the TB10 would not have been expected to have detected the presence of the C152.

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


Airprox Barrier Assessment: 2022272
Outside Controlled Airspace
Barrier
Provision
Application
Effectiveness
Barrier Weighting
0%
5%
10%
15%
20%
Ground Element
Regulations, Processes, Procedures and Compliance
Manning & Equipment
Situational Awareness of the Confliction & Action
Electronic Warning System Operation and Compliance
Flight Element
Regulations, Processes, Procedures and Compliance
Tactical Planning and Execution
Situational Awareness of the Conflicting Aircraft & Action
Electronic Warning System Operation and Compliance
See & Avoid
Key:
Full
Partial
None
Not Present/Not Assessable
Not Used
Provision
Application
Effectiveness