

AIRPROX REPORT No 2021241

Date: 11 Dec 2021 Time: 1119Z Position: 5223N 00126W Location: Coventry

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	TB10	PA28
Operator	Civ FW	Civ FW
Airspace	Coventry ATZ	Coventry ATZ
Class	G	G
Rules	VFR	VFR
Service	AFIS	AFIS
Provider	Coventry	Coventry
Altitude/FL	1200ft	NK
Transponder	A, C	None ¹
Reported		
Colours	White	White
Lighting	Beacon, Strobe, Nav, Landing	Beacon, HISL, Landing, Taxi, Anti-Cols
Conditions	VMC	VMC
Visibility	>10km	5-10km
Altitude/FL	800ft	900ft
Altimeter	QNH (1015hPa)	QNH
Heading	230°	230°
Speed	100kt	70kt
ACAS/TAS	Not fitted	Not fitted
Separation at CPA		
Reported	100ft V/100m H	200ft V/500m H
Recorded	NK	



THE TB10 PILOT reports that approaching Coventry at around 1110 they reported at Nuneaton VRP and stated their intention to join on long final. This was confirmed by the Tower and they were told to report at 4NM. They called at 4NM, which was acknowledged by Coventry who confirmed the runway was occupied, to which the TB10 pilot reported that they were continuing. Shortly after [PA28 C/S] called 'mid downwind' and were advised 'one ahead on long final'. The other pilot reported they would extend downwind. Coventry confirmed the TB10 was No1 and cleared them to land at their discretion. They confirmed they were landing. [PA28 C/S] at this point reported base and not visual. About 60sec after this the TB10 pilot became visual with [PA28 C/S] as it turned onto final immediately in front and an estimated 100ft below them. They pushed all control levers forwards and made a climbing right hand turn away from the traffic. They reported to Coventry 'going around traffic ahead'; this was acknowledged. They joined the circuit, eventually landing at 1125.

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

THE PA28 PILOT reports that they were flying circuits with a student in the Coventry RW23 visual circuit. They reported their position when left downwind and were told by the Tower that someone last reported their position on 4NM final. They decided to extend the downwind leg within the ATZ to give way and for separation as they were not visual with the other aircraft. They were on wide left-base and still not visual with the other aircraft; the other pilot had not reported their position. They reported their position when on wide left-base, turning final and informed the Tower that they were not visual with the other aircraft which should have been on short final according to the previous reported position (4NM final). As they turned 2NM final the other aircraft appeared to be on 2.5NM final, and at that point decided to go around. This clearly demonstrated that the other pilot reported their 4NM final position incorrectly. The pilot in command of the other aircraft also failed to report their position even after the

¹ No primary or secondary returns detected.

PA28 pilot informed the Tower that they were not visual, which led to the Airprox. The Head of Training was informed after the flight and a report was written and submitted.

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

THE COVENTRY AFISO reports that after taking over the watch at 1108, and subsequently handling several circuits, a transit and an inbound; the TB10 pilot phoned the VCR (approx. 1150) in order to report that they would be filing an Airprox with a PA28. The pilot reported on the telephone that the aircraft were very close, stating "100 feet", although the AFISO could not recall whether this was relating to vertical distance or horizontal. The session was light traffic density and low complexity; the morning aerodrome inspection determined a GRF report of 5,5,5, Wet, Wet, Wet. They were not fatigued, and were temporarily operating as combined AFISO/ATSA due to a short relief break, although no ATSA tasks were required immediately before or after CPA. A circuit aircraft was reported to have cut in front of another aircraft which was established on final and had been 'given' the runway. The TB10 was joining from the northeast for a straight in approach, to report at 4NM. PA28(A) was in the visual circuit with another aircraft (PA28(B)) taxiing on a circuit detail and rotary traffic in the local area on a Basic Service. The sequence of events was as follows:

TB10 reported at 4NM

PA28(B) backtracking for departure

PA28(B) 'take-off at your discretion'; gets airborne (nothing further from PA28(B))

TB10 'land at your discretion'

PA28 reports mid-point downwind

AFIS to PA28 'One ahead is a TB10 last reported 4 miles'

PA28 reports that they will extend downwind

PA28 reports on base but not visual with number one

AFIS to PA28 'The previously reported TB10 is on final'

They then observed one aircraft on final with another turning onto final (presumed to be the PA28) although due to the cloud type/colour and angle, they could not confirm who was in front. Neither pilot had reported anything to indicate anything other than the order they anticipated. Because the PA28 had turned onto final from base after being told that the TB10 was on final, and because the TB10 had not indicated the PA28 had turned in front, they concluded that it was likely that the PA28 was behind the TB10. They considered questioning whether the TB10 pilot had the PA28 in sight, however the PA28 reported on final before they did so.

PA28 reports final

AFIS to PA28 'runway occupied with landing traffic'

TB10 reports going around due to an aircraft in front

AFIS to TB10 'roger'

AFIS to PA28 'touch and go at your discretion'

Normal operations continue.

They had passed Traffic Information to the PA28 pilot when they called downwind and expected that the aircraft would extend downwind (as stated) and therefore provide even greater track distance

between the two aircraft. They passed Traffic Information to the PA28 pilot when they called on base-
leg and expected the aircraft to position behind the TB10 on final. In their personal experience at
Coventry, most flight crew will not turn onto base or final unless they are visual with aircraft that have
been reported ahead of them in the circuit, therefore they did not expect the PA28 to continue and
position ahead of the TB10. Neither pilot reported at the time that an Airprox would be filed, nor did
either pilot indicate that the distance between them was cause for concern. However, the pilot of TB10
telephoned the VCR approximately 30min after the event. They believe this to be a true and accurate
representation of the facts, however they had not reviewed any RT recordings or sources of data other
than the FPS of the aircraft concerned.

Factual Background

The unofficial weather at Coventry was reported as follows:

1050Z 230/06 CAVOK 05/04 Q1015

Analysis and Investigation

UKAB Secretariat

Analysis of the NATS radar showed the TB10 squawking 0420, unfortunately the PA28 did not show
on the radar. The TB10 was visible in the Nuneaton area, as reported by the pilot. The aircraft then
positioned for a long straight in approach and at Figure 1 could be seen 5.3NM from Coventry.

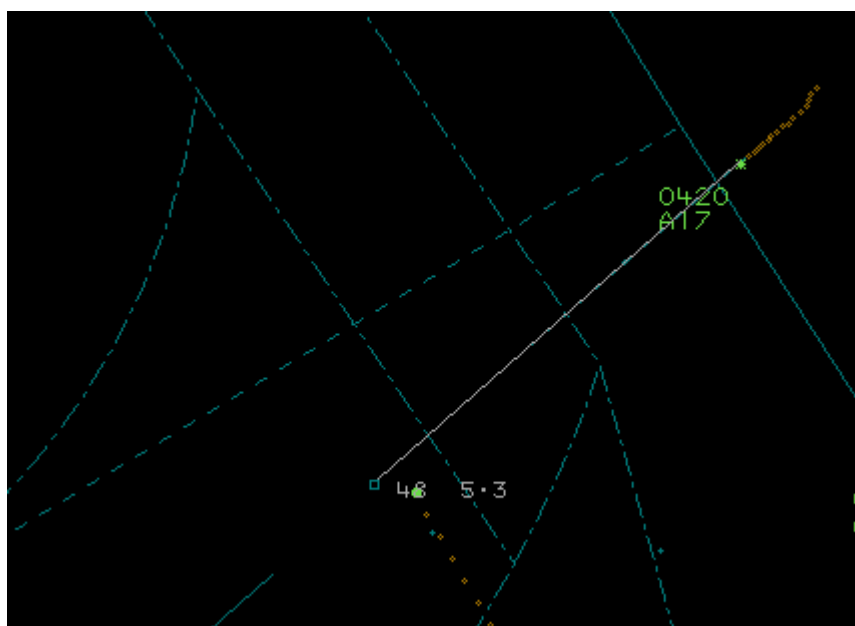


Figure 1 - 1117:25

At 1119:39 (Figure 2), when 1.9NM from the airfield, the Mode C on the TB10 dropped out, indicating
that the TB10 pilot may have changed height rapidly, and on the following few radar sweeps the
TB10 track jittered, but the aircraft appeared to have completed a right turn (Figure 3). This was
likely to be when the Airprox took place.

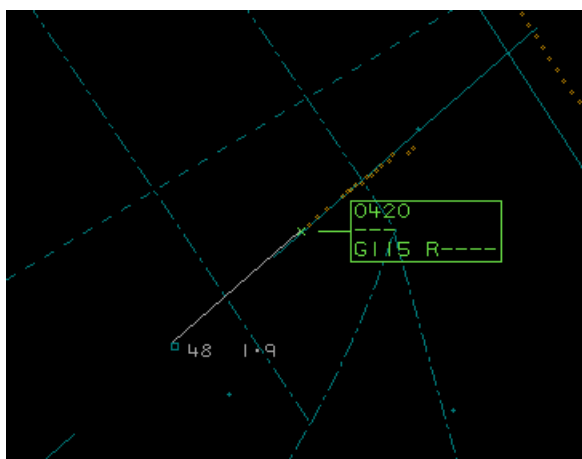


Figure 2 - 1119:39

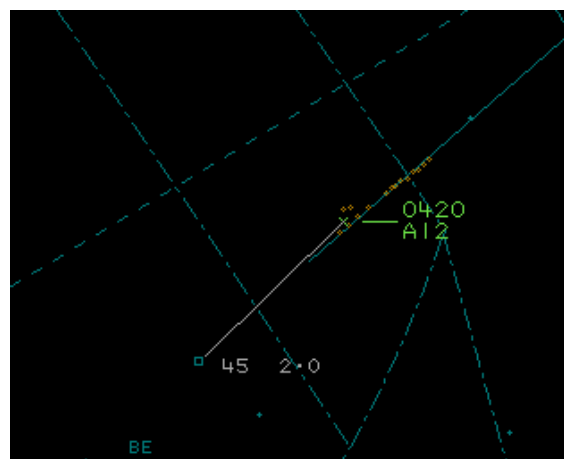


Figure 3 - 1119:53

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.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

Summary

An Airprox was reported when a TB10 and a PA28 flew into proximity in the Coventry visual circuit at 1119Z on Saturday 11th December 2021. Both pilots were operating under VFR in VMC, both were in receipt of a AFIS from Coventry.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings and a report from the AFISO involved. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board first discussed the actions of the TB10 pilot, they were conducting a long straight-in approach from the Nuneaton area. Members recalled an accident in this vicinity a few years ago, in similar circumstances between an aircraft on base leg and an aircraft on a straight-in approach (on the ILS) and considered that this Airprox was a useful reminder of how important it is for all parties to maintain awareness of the traffic situation at all times. They noted that with Birmingham CAS above Coventry precluding a normal overhead join, options were limited, but opined that it is much easier for all concerned if pilots join through recognised VRPs rather than trying to fit in a long straight-in approach with other circuit traffic. The pilot had called the AFISO and been told to report at 4NM, until this point the Board thought that it was for the TB10 pilot to conform with or avoid the pattern of traffic formed by the PA28, in the visual circuit (**CF3, CF5**). The pilot made the 4NM call, but because the timings on the Coventry RT could not be aligned with the radar, it was not known whether this 4NM call had been accurate or not. Members then discussed that a 4NM call, or long final, was the equivalent to a downwind call and that the AFISO would have made the 'one ahead' call to the PA28 pilot based on that. Once the PA28 pilot had agreed to go behind, it was for them to fit in around the TB10. The TB10 pilot was expecting the PA28 to continue behind them and so they had no situational awareness that in fact the PA28 had turned in front of them (**CF7**). By the time the TB10 pilot saw the PA28, late (**CF8**), it was ahead of them; fortunately, they managed to take avoiding action.

Turning to the actions of the PA28 pilot, although they were established in the visual circuit, they were told that the TB10 was ahead of them and elected to extend their circuit to go behind. It was understandable that they were not visual with the TB10 at this point, but members thought that

² (UK) SERA.3205 Proximity.

³ (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.

employing defensive flying and making a decision to go around early may have been a safer option than extending indefinitely. Once they had agreed to extend downwind and go behind the TB10, it was for them to integrate with it (CF3, CF5). As they extended to the point where they thought the TB10 should be, they were still not visual with it, and although they had verbalised this on the RT, members thought they could have asked the TB10 pilot directly for an updated position report prior to turning onto base (CF6). As it was, they assumed the TB10 was closer in than it was in reality (CF7) and turned without being visual, turning ahead of it. Members opined that if there is any doubt then it is always wise to request further information rather than to press on regardless (CF4). By the time the PA28 pilot saw the TB10, its pilot had already taken avoiding action (CF8).

Members noted that neither aircraft was fitted with any additional electronic conspicuity equipment, 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 2023.⁴

Turning to the role of the AFISO, they were not required to sequence the aircraft in the circuit, but were required to provide Traffic Information, which they did. They were working on the assumption that the 4NM call from the TB10 was accurate, they had no ATM or Flight Information Display (FID) within the tower that could give them any extra information and so had to rely on the pilot reports being accurate (CF1). In telling the PA28 pilot that there was one ahead, they gave as much Traffic Information as they could but had no way of knowing whether the PA28 pilot had turned ahead or behind the TB10 (CF2). A CAA advisor updated the Board on CAA regulations for FIDs which have now been approved, with regulation for use by AFIS units already in place. Members were heartened to hear that improvements in technology were being embraced by the CAA in order to aid AFISOs' situational awareness.

When assessing the risk, members considered the reports of both pilots and the AFISO. Without any radar data the exact separation could not be known, but the events as described, with the PA28 being unsighted and then turning in front of the TB10, and the late avoiding action taken by the TB10 pilot, led the Board to agree that there had been a risk of collision and that safety had been much reduced; Risk Category B (CF9).

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2021241				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
• Situational Awareness and Action				
1	Human Factors	• Expectation/Assumption	Events involving an individual or a crew/ team acting on the basis of expectation or assumptions of a situation that is different from the reality	
2	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
Flight Elements				
• Regulations, Processes, Procedures and Compliance				
3	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				

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

4	Human Factors	• Insufficient Decision/Plan	Events involving flight crew not making a sufficiently detailed decision or plan to meet the needs of the situation	Inadequate plan adaption
5	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				
6	Human Factors	• Lack of Communication	Events involving flight crew that did not communicate enough - not enough communication	Pilot did not request additional information
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
• See and Avoid				
8	Human Factors	• Identification/Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
• Outcome Events				
9	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 Assessment⁵

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 **partially effective** because the AFISO had no way of knowing whether the 4NM call from the TB10 pilot was accurate and had no way of knowing whether the PA28 pilot had turned ahead or behind the TB10.

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because although at first the PA28 pilot was forming the pattern of traffic, once they had agreed to extend downwind, they had committed to integrate with the TB10.

Tactical Planning and Execution was assessed as **ineffective** because the PA28 extended downwind, but then turned ahead of the TB10 without being visual.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the PA28 pilot did not know the exact position of the TB10, and the TB10 pilot expected the PA28 to fit in behind them.

See and Avoid were assessed as **partially effective** because it was a late sighting by both pilots.

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: 2021241		Outside Controlled Airspace		Effectiveness				
Barrier		Provision	Application	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:		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>		
Provision	✓	!	✗	●				
Application	✓	!	✗	●		○		
Effectiveness								