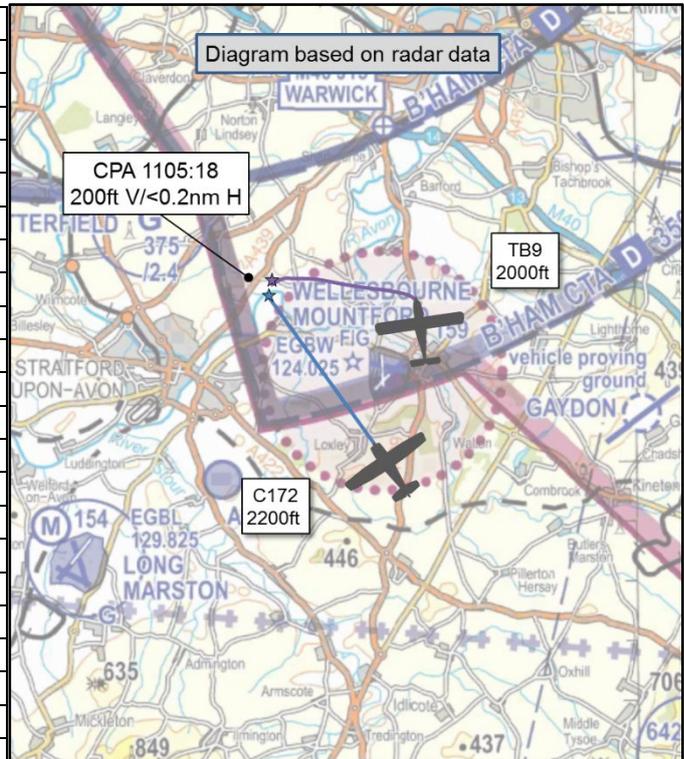


AIRPROX REPORT No 2018233

Date: 23 Aug 2018 Time: 1105Z Position: 5213N 00139W Location: NW Wellesbourne

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C172	TB9
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	AFIS
Provider	Birmingham	Wellesbourne
Altitude/FL	2200ft	2000ft
Transponder	A, C, S	A, C, S
Reported		
Colours	Blue	Red and White
Lighting	Nav, Beacon	Strobe
Conditions	VMC	VMC
Visibility	50km	10km
Altitude/FL	2150ft	2000ft
Altimeter	RPS (1012hPa)	NK
Heading	NW	240°
Speed	100kt	105kt
ACAS/TAS	PilotAware	Not fitted
Alert	None	N/A
Separation		
Reported	150ft V/0m H	Not Seen
Recorded	~200ft V/0nm H	



THE C172 PILOT reports that he was transiting on an aerial photography detail and had just flown over Wellesbourne at 2300ft to remain above the ATZ. He then descended to 2000ft, in contact with Birmingham App, and was maintaining a good look-out. He was aided by his PilotAware Rosetta TAS, which showed several other contacts, although not the aircraft in question. The other aircraft remained unseen due to lack of lateral or vertical movement, until it suddenly ‘bloomed’ in the 2 o’clock position at about 0.2nm. He instinctively climbed by 150ft and passed directly overhead the aircraft. The vertical camera took a picture of the red-and-white Tampico as they overflew it (Figure 1), and from this they could read its registration.

He assessed the risk of collision as ‘High’.



Figure 1

THE TB9 PILOT reports that he was climbing out of Wellesbourne, from the northerly runway and turning onto a S/SW heading into sun, to avoid Snitterfield gliding site. In the nose-high climb he did not see the C172.

He assessed the risk of collision as ‘None’.

Factual Background

The weather at Birmingham was recorded as follows:

METAR EGBB 231050Z 28007KT 250V320 9999 BKN031 17/10 Q1012=

Analysis and Investigation

UKAB Secretariat

The Figures 2 and 3 were taken from the NATS radar at 1105:18 when the two aircraft are 0.2nm apart, and just afterwards at 1105:26 by which time the aircraft have past each other and are 0.3nm apart. Therefore, the actual CPA occurs between radar sweeps and cannot be measured, although the C172 photographic image indicates that there was no horizontal separation at CPA.

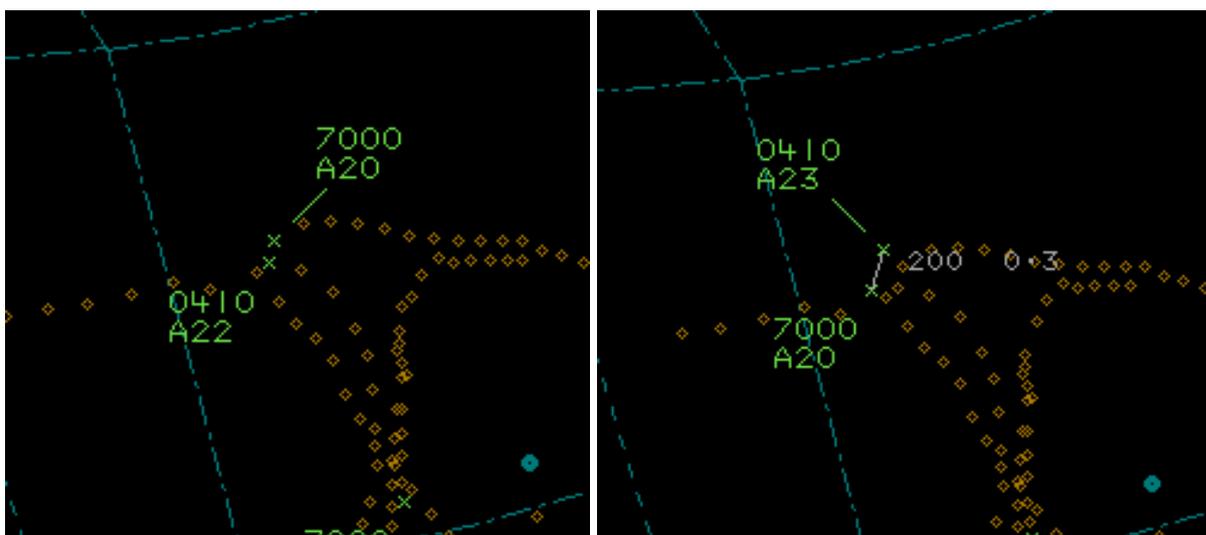


Figure 1 1105:18 – 0.2nm

Figure 2 1105:25 – 0.3nm

C172 Squawking 0410, TB9 squawking 7000

The C172 and TB9 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard¹. If the incident geometry is considered as converging, then the C172 pilot was required to give way to the TB9.

Summary

An Airprox was reported when a C172 and a TB9 flew into proximity near Wellesbourne Mountford at 1105hrs on Thursday 23rd August 2018. Both pilots were operating under VFR in VMC, the C172 pilot in receipt of a Basic Service from Birmingham and the TB9 pilot in receipt of a Basic Service from Wellesbourne.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, transcripts of the relevant R/T frequencies and radar photographs/video recordings.

The Board first looked at the actions of the C172 pilot. He was flying an aerial photography sortie and members of the Board familiar with such tasks noted that they usually involved remaining at a set speed and course and ideally not much variation in height. Nevertheless, members thought that although he was flying above the Wellesbourne ATZ, he was only just above it, and he may have been better placed flying a few hundred feet higher. That said, he was also at the mercy of any clearance issued by

¹ SERA.3205 Proximity.

Birmingham as he approached their airspace, so members thought that at the very least he could have given Wellesbourne a call as he went by to tell them that he was overflying the ATZ. [UKAB Secretariat Note: Subsequent to the Board meeting the pilot confirmed that he had actually called Wellesbourne on his Box 2 and did not receive any information on the TB9. The Secretariat thought that it would have been appropriate for the FISO to have given Traffic Information however, without a FISO report it was difficult to ascertain why this may have been the case.] Some members wondered whether he could also have asked Birmingham for a Traffic Service. If they had been able to provide one (depending on how busy ATC were at the time), he probably would have received Traffic Information on the Wellesbourne traffic and this might have provided him with valuable situational awareness. The Board were unsure why the C172's PilotAware did not give any indication on the TB9; given that the TB9 was squawking, members could only surmise that there may have been some form of aerial blanking. This highlighted the fact that, even when installed, electronic conspicuity systems were not a reliable substitute for maintaining a robust lookout at all times. Fortunately, the C172 pilot had seen the TB9 and, although later than desirable, had managed to climb to increase the separation.

For his part, the TB9 pilot had no knowledge that the C172 was overflying Wellesbourne and, without any form of collision warning system in his aircraft, had no situational awareness on it. Although the radar tracks were somewhat difficult to interpret, it seemed to the Board that the 2 aircraft had been closing on a converging heading for some time and so the lack of relative movement of the C172 might have accounted for why the TB9 pilot did not see it as he climbed towards. This served to highlight the need to employ measures to counteract any cockpit obscuration (such as weaving the nose to ensure that all blind-spots are overcome), and also to actively scan the area ahead and to the sides during flight.

In determining the cause of the Airprox, the Board quickly agreed that this had been a late sighting by the C172 pilot and a non-sighting by the TB9 pilot. In assessing the risk, although members thought that the climb by the C172 pilot had made a difference, they concluded that safety had still been much reduced below the norm due to the late-/non-sighting and so they classified the risk as Category B, safety not assured.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A late sighting by the C172 pilot and a non-sighting by the TB9 pilot.

Degree of Risk: B.

Safety Barrier Assessment²

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

Flight Crew:

Tactical Planning was assessed as **partially effective** because the C172 pilot could have chosen a higher altitude to fly over Wellesbourne.

Situational Awareness and Action were assessed as **ineffective** because neither pilot knew about the other aircraft.

Warning System Operation and Compliance were assessed as **ineffective** because although the C172 was fitted with PilotAware, it didn't alert, possibly due to aerial blanking.

See and Avoid were assessed as **partially effective** because it was a late sighting by the C172, although once sighted he was able to climb to increase the separation.

² The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

