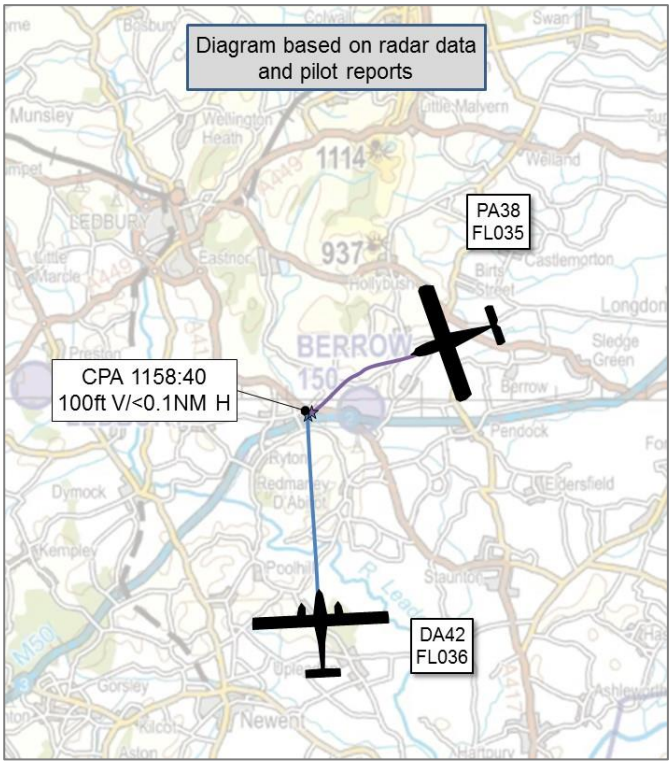
AIRPROX REPORT No 2019313

Date: 13 Nov 2019 Time: 1159Z Position: 5159N 00222W Location: 1nm west of Berrow

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DA42	PA38
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Basic
Provider	Gloster	Gloster
Altitude/FL	FL036	FL035
Transponder	A, C, S	A, C
Reported		
Colours	White	White, Blue
Lighting	Landing, Strobe, Position	Strobe
Conditions	VMC	VMC
Visibility	>10km	10km
Altitude/FL	3000ft	2000ft
Altimeter	QNH (999hPa)	QNH
Heading	360°	Not reported
Speed	125kt	90kt
ACAS/TAS	TAS	Not fitted
Alert	TA	N/A
Separation		
Reported	20-30ft V/50m H	Not seen
Recorded	100ft V/<0.1NM H	



THE DA42 PILOT reports that the Airprox occurred after a long VFR navigation exercise around Shawbury and Birmingham when they arrived back in the local area. They had been on a Traffic Service from Brize Norton and, following some beacon tracking for a CPL exam workup, they positioned to the northwest of Gloucester. Brize Radar was becoming increasingly busy, so they switched frequency back to Gloucestershire Approach for a Basic Service and to listen out for the Procedural calls from instrument traffic and local VFR traffic. The student was setting up for a stalling package to the south of Ledbury and had previously delayed the manoeuvre due to a TAS alert which he had visually acquired. Once that traffic had cleared another TAS alert sounded which indicated at close range to the right of the nose. The instructor looked in that area and saw another aircraft at a range of about 100m, at the same altitude and on a constant bearing. He took control from the student and immediately pitched up and rolled right. The other aircraft passed from right to left under their nose. He didn't believe the other aircraft was aware of the conflict as it did not appear to alter course to avoid a collision. The instructor's view of the other aircraft from the right seat was largely obscured by the right engine and wing. It was only the G1000 TAS visual and aural warnings that gave him the necessary information to look in the correct direction and take avoiding action.

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

THE PA38 PILOT reports that they were on a navigation exercise via the Gloucester overhead. They had made a practice diversion from about 4 miles south of Bromyard to overhead Strensham, then resumed a heading back in the direction of Cardiff. They saw no other aircraft.

THE GLOUCESTERSHIRE CONTROLLER reports that at about 1204, the DA42 pilot advised him that he would be reporting an Airprox for time 1159; the radio had been busy previously and the pilot probably couldn't get a call in to report the Airprox. The information received then and during a subsequent phone conversation was that the aircraft's TCAS (or similar equipment) had warned them

of the proximity of another aircraft. The instructor had taken control when they saw a PA38 in close proximity. They suspected that the PA38 pilot hadn't seen them. A PA38 remarked on frequency that they were in that area. In a subsequent phone call to the PA38 pilot, he said that if it was him, they hadn't seen the DA42. Both aircraft were in receipt of a Basic Service and had acknowledged the current Gloucester QNH.

Factual Background

The weather at Gloucester was recorded as follows:

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METAR EGBJ 131150Z 22005KT 9999 FEW020 SCT035 08/04 Q0999
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Analysis and Investigation

CAA ATSI

An Airprox with a PA38 was reported by the pilot of a DA42, whilst both were operating in an area to the northwest of Gloucestershire Airport. Both pilots reported that they were receiving a Basic Service from Gloster Approach. Only the DA42 could be positively identified on the radar replay. Figures 1-4 show the tracks of both aircraft up to and subsequent to CPA, which occurred at 1158:40.

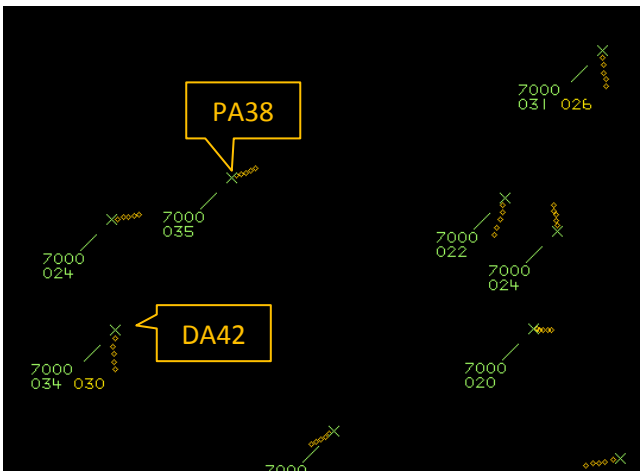


Figure 1 – 1157:00

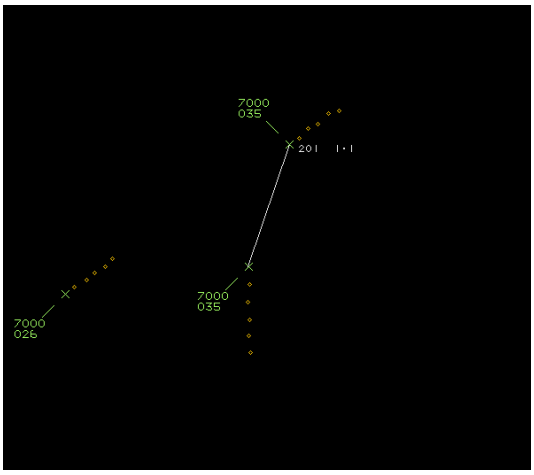


Figure 2 – 1158:30

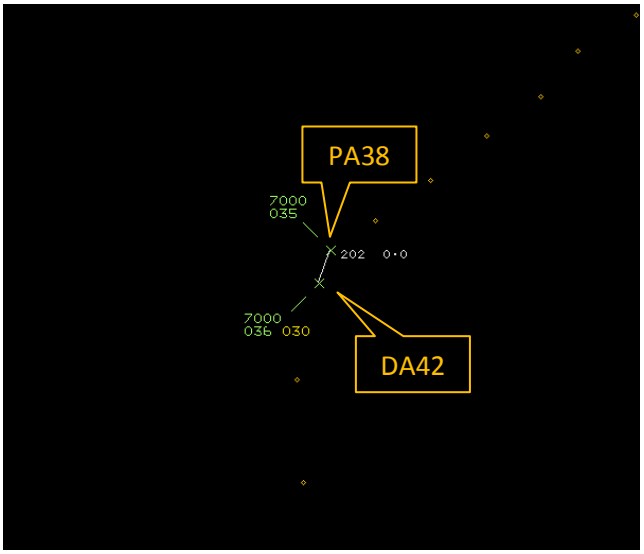


Figure 3 – CPA 1158:40

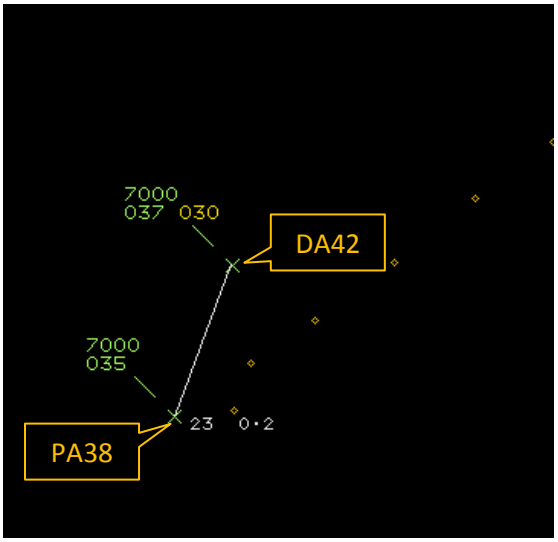


Figure 4 – 1158:43

Both aircraft were receiving a Basic Service from Gloster Approach. The PA38 had been making regular position reports, the most recent, at 1152:05, being in the vicinity of Strensham, 8.3NM east-

northeast of the position of the Airprox. They had reported their intention to practice divert to Ross-on-Wye, about the same distance again to the west-southwest of the Airprox position. The RTF recording of Gloster Approach was reviewed from 1141:00. At no time, until they made their initial Airprox call to the approach controller at 1204:00, was the DA42 heard to make any calls.

No Traffic Information was passed on either aircraft to the other, but the controller would not have been aware of their relative positions and levels and was continuously occupied for a sustained period of time running up to the Airprox call, with a mix of inbounds, outbounds, trainers and transit traffic, providing both Procedural and Basic Services to those aircraft.

The Airprox took place in Class G airspace where both pilots, flying under VFR and in receipt of a Basic Service, were responsible for their own collision avoidance.

UKAB Secretariat

The DA42 and PA38 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 DA42 pilot was required to give way to the PA38.[2]

Summary

An Airprox was reported when a DA42 and a PA38 flew into proximity at 1159hrs on Wednesday 13th November 2019. Both pilots were operating under VFR in VMC, both in receipt of a Basic Service from Gloucestershire Approach.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings and reports from the air traffic controller 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.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided a combination of written contributions and dial-in/VTC comments. Although not all Board members were present for the entirety of the meeting and, as a result, the usual wide-ranging discussions involving all Board members were more limited, sufficient engagement was achieved to enable a formal assessment to be agreed along with the following associated comments.

The Board began by looking at the actions of the DA42 pilot. They commended the pilot for changing frequency to Gloster early to increase his situational awareness prior to contacting them to re-join. He had been setting up for a stalling exercise but had delayed due to a TAS warning. When they reset the stalling exercise (**CF3**) they again received a TAS alert (**CF4**) which the instructor used to visually acquire the conflicting aircraft, albeit at a late stage (**CF6**), and take immediate avoiding action. Members commended him for his use of TAS combined with lookout to enhance his situational awareness and to act promptly to mitigate the risk of collision.

Turning to the actions of the PA38 pilot, members felt that he may have been distracted whilst instructing (**CF3**) and that this was why he had not seen the DA42 in his immediate vicinity (**CF5**).

The Board next turned to the actions of the Gloster controller. Members noted that both pilots were receiving a Basic Service and, due to the controller being engaged in higher priority traffic, neither had received information on the other aircraft, albeit the controller had no obligation to monitor the aircraft (**CF1**) and was not aware of their relative positions (**CF2**).

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

Lastly, the Board turned to the risk. They agreed that the DA42's TAS had alerted the crew to the proximity and position of the PA38 and it was this that had prompted the DA42 instructor to see the PA38, take control from the student and carry out avoiding action. The Board discussed whether this had served to increase separation between the aircraft, which could be considered a Risk category B; safety not assured, or whether the avoiding action had not materially affected separation at CPA. After further discussion, the Board agree that it appeared the DA42 instructor's actions had indeed resulted in collision being averted but that safety was not assured, a risk category B.

PART C: ASSESSMENT OF CONTRIBUTORY FACTOR(S) AND RISK

Contributory Factor(s):

	2019313		
CF	**Factor**	**Description**	**Amplification**
	Ground Elements		
	• Situational Awareness and Action		
1	Contextual	• Situational Awareness and Sensory Events	Not required to monitor the aircraft under the agreed service
	Flight Elements		
	• Situational Awareness of the Conflicting Aircraft and Action		
2	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
3	Human Factors	• Distraction - Job Related	Pilot was engaged in other tasks
	• Electronic Warning System Operation and Compliance		
4	Contextual	• ACAS/TCAS TA	TCAS TA / CWS indication
	• See and Avoid		
5	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots
6	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

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:

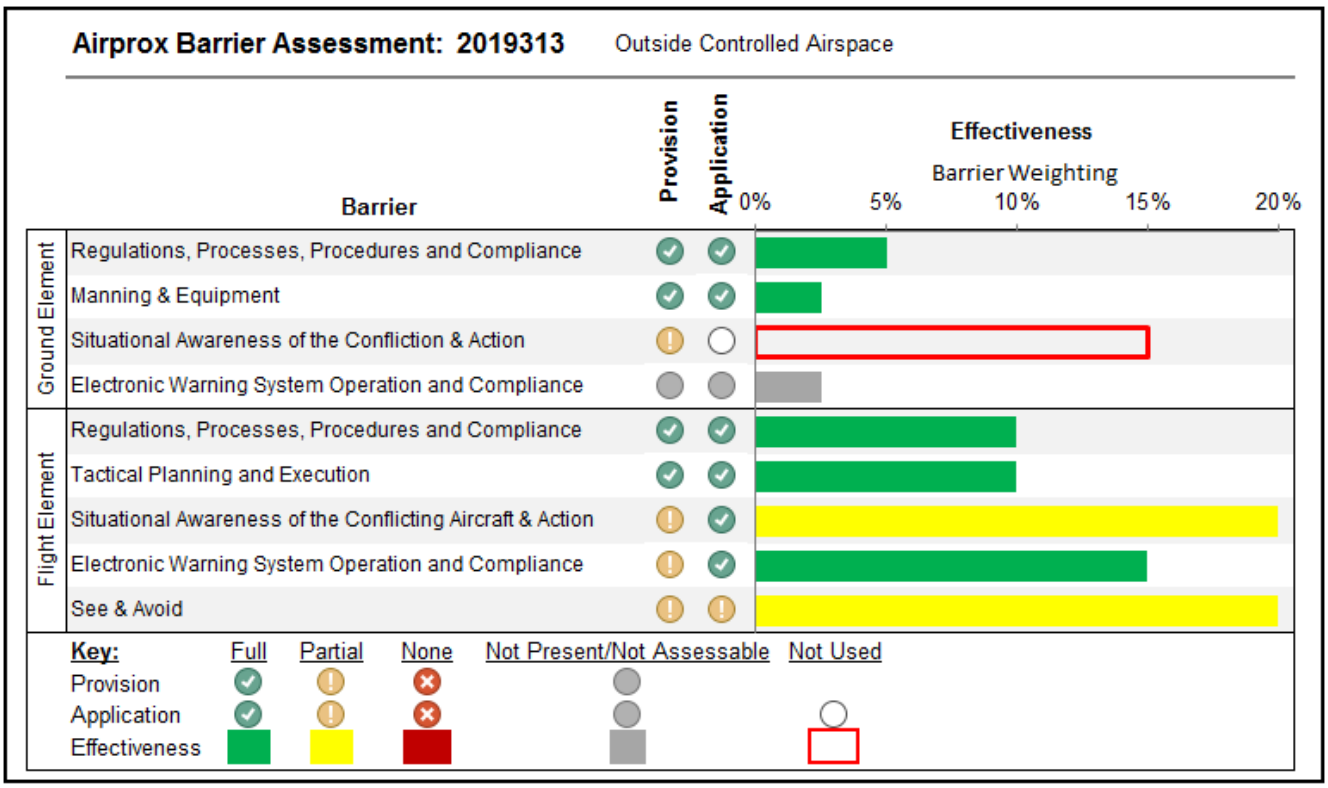
Situational Awareness of the Confliction and Action were assessed as **not used** because the Gloster controller was not required to monitor the aircraft under a Basic Service.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because neither pilot had specific information on the other aircraft.

See and Avoid were assessed as **partially effective** because the DA42 pilot received a TAS alert, saw the PA38 at a late stage, and could only take emergency avoiding action.

[3] 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: 2019313
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