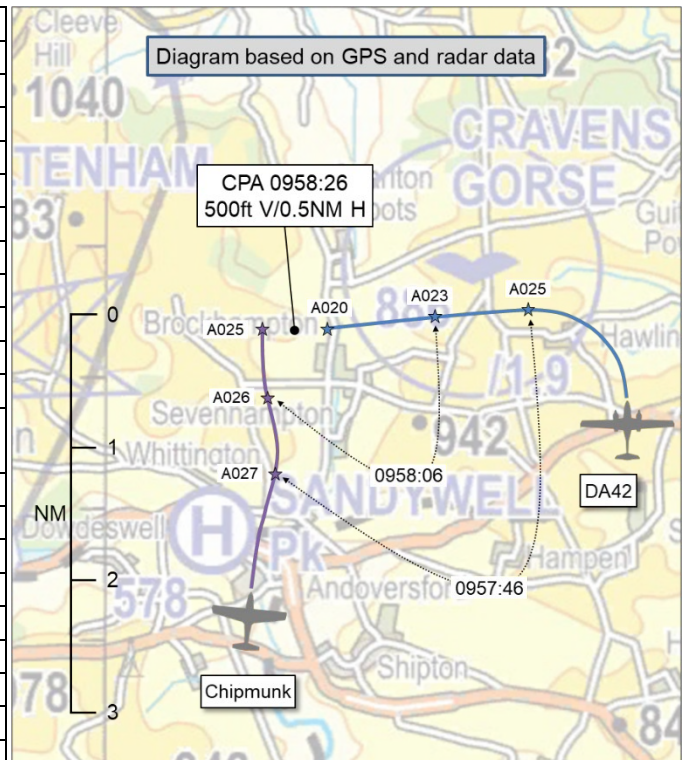


**AIRPROX REPORT No 2024104**

Date: 17 May 2024 Time: 0958Z Position: 5154N 00158W Location: 8NM E Gloucestershire Airport

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	DA42	Chipmunk
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	IFR	VFR
Service	Procedural	Listening Out
Provider	Gloster Approach	Brize LARS
Altitude/FL	2000ft	2500ft
Transponder	A, C, S+	A, C, S
Reported		
Colours	White	Red, white, grey
Lighting	Strobes, position, landing, taxi	Landing, taxi, nav
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2100ft	2000ft
Altimeter	QNH	QNH
Heading	264°	NR
Speed	128kt	90kt
ACAS/TAS	TAS, SkyEcho	Not fitted
Alert	None	N/A
Separation at CPA		
Reported	NK V/0.5NM H	NK
Recorded	500ft V/0.5NM H	



**THE DA42 PILOT** reports that they were the PIC of a DA42 conducting an IR instructional flight under IFR. Whilst executing an RNP approach to RW27 via REKLO and in receipt of a Procedural Service, they were informed by ATC of an aircraft tracking left-to-right across their path on the final track. [The pilot of the DA42] was established on the final approach track 264° and was descending to the platform altitude of 2000ft. The traffic was sighted simultaneously with the ATC call as it passed through their flightpath in the 12 o'clock position slightly above. Avoiding action was not taken due to the late sighting of the aircraft and its passing the 12 o'clock position. The Chipmunk appeared to maintain a constant course and altitude so the threat was deemed to have been reducing to zero. Despite having an inbuilt TAS and an [EC device] supplying data to a company issued iPad, no alerts were received.

[The pilot of the DA42 commented that] there were a few CU clouds in the vicinity blocking some of their view of the approach path.

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

**THE CHIPMUNK PILOT** reports that, as far as they remember, the weather was good and they were trying to keep a good lookout as they crawled around the Little Rissington ATZ (NOTAM'd as active and restricted for parachuting). Although at the northern extent of the [Brize LARS] range, they obtained the regional QNH and gained an impression of the traffic density which, as far as they remember, was light to moderate.

[The pilot of the Chipmunk opined that] it may be possible that, by having to look down to their phone for SkyDemon and their map frequently (as there is no mount possible in the Chipmunk), they may have been spending too much time 'head down' trying to avoid an infringement. Either they did not see the other aircraft or, more likely, they saw it and did not regard it as a potential threat.

The pilot assessed the risk of collision as 'None'.

**THE GLOSTER CONTROLLER** reports that, around 1000, [DA42 callsign] was on an RNP [approach to] RW27 and believed to be on a 2NM final. RW27 was in use and the Approach frequency was 128.555MHz.

At that time, a contact appeared on their ATM, northbound, passing just above the contact believed to be [the DA42]. They passed generic Traffic Information [to all stations] that "*Instrument Approach is active with DA42 believed to be 8NM final RW27*". They then passed possible Traffic Information on that other aircraft (possibly not on frequency) to [the pilot of the DA42] to which the pilot reported "*Near miss*" and confirmed that they would file an Airprox report on landing.

## Factual Background

The weather at Gloucestershire was recorded as follows:

METAR EGBJ 170950Z 0000KT 9999 FEW020 17/13 Q1009

## Analysis and Investigation

### Gloucestershire Airport Investigation

Details of the investigations completed:

Interview with APP ATCO. Interview with pilot of [the DA42]. Collation of weather report and flight progress strip. Reference to FlightRadar24 data.

[The pilot of the DA42] made contact with Gloster Approach at approximately 0943 UTC and reported 20NM west of the field at 5000ft. [The pilot of the DA42] requested an RNP approach to RW27 via REKLO and was placed under a Procedural Service. [The pilot of the DA42] was cleared for the RNP approach to RW27 via REKLO and was asked to squawk 4530 for conspicuity (this is the squawk issued for aircraft staying on frequency with Gloster to conduct IAP training). This squawk is issued even if Gloster ATC is not providing a surveillance service.

Throughout the event the workload of the APP ATCO was relatively light.

Shortly before 1000, [the pilot of the DA42] was believed (by the APP ATCO) to be at approximately 8NM final on the ATM (in the report filed by the ATCO this distance was incorrectly said to be 2NM final). At that time, the ATCO observed an unknown return about to merge with [the DA42] on the primary-only ATM. The ATCO observed this aircraft moving northwards. The ATCO decided to make a generic broadcast to all stations about the instrument approach being active to the east of the field in the hope that the pilot of this unknown aircraft would be listening out. The ATCO was then told by another member of staff that FlightRadar24 software was indicating that the unknown return may be a Chipmunk aircraft. The ATCO advised [the DA42 pilot] about traffic in their vicinity. [The DA42 pilot] then reported traffic in sight and that there had been a near miss.

The following exchange took place between Gloster Approach and [the DA42 pilot] as the DA42 was believed to be approaching 8 mile final for runway 27:

APPROACH: "*All stations, Gloster Approach, the instrument approach is active east of the field with a Twinstar believed to be about 8 mile final for runway 27*"

APPROACH: "[DA42 C/S] *traffic in your vicinity northbound, believed to be a Chipmunk, not under radar service*"

DA42: "*Traffic in sight, near miss, [DA42 C/S]*"

APPROACH: "[DA42 C/S], *roger*"

The Approach ATCO subsequently asked [the DA42 pilot] if they would be filing an Airprox to which they replied "*affirm, I'll speak on the ground*".

During a telephone conversation, the pilot (instructor) of [the DA42] said that they believed the conflicting aircraft to have been a red and white Chipmunk. They believed that the risk of collision was medium, that the conflicting aircraft was approximately 200-300ft above their level, passing left-to-right at a range of about 1/2 mile ahead. The pilot reported the in-flight visibility as good with a few stratocumulus in the vicinity but conditions were VMC. They reported that they did not need to take any evasive action.

The pilot of [the DA42] reported that the Traffic Information passed by the APP ATCO was very helpful. At no time did the pilot of the unknown aircraft contact Gloucester Approach even though it had flown through a notified Instrument Approach track. Information derived from 3<sup>rd</sup> party ADS-B software indicated that the conflicting aircraft may have been a Chipmunk.

### UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft could be positively identified from Mode S data. The Chipmunk was first observed on the radar replay at 0956:14, 3.4NM to the west of the DA42 (Figure 1).

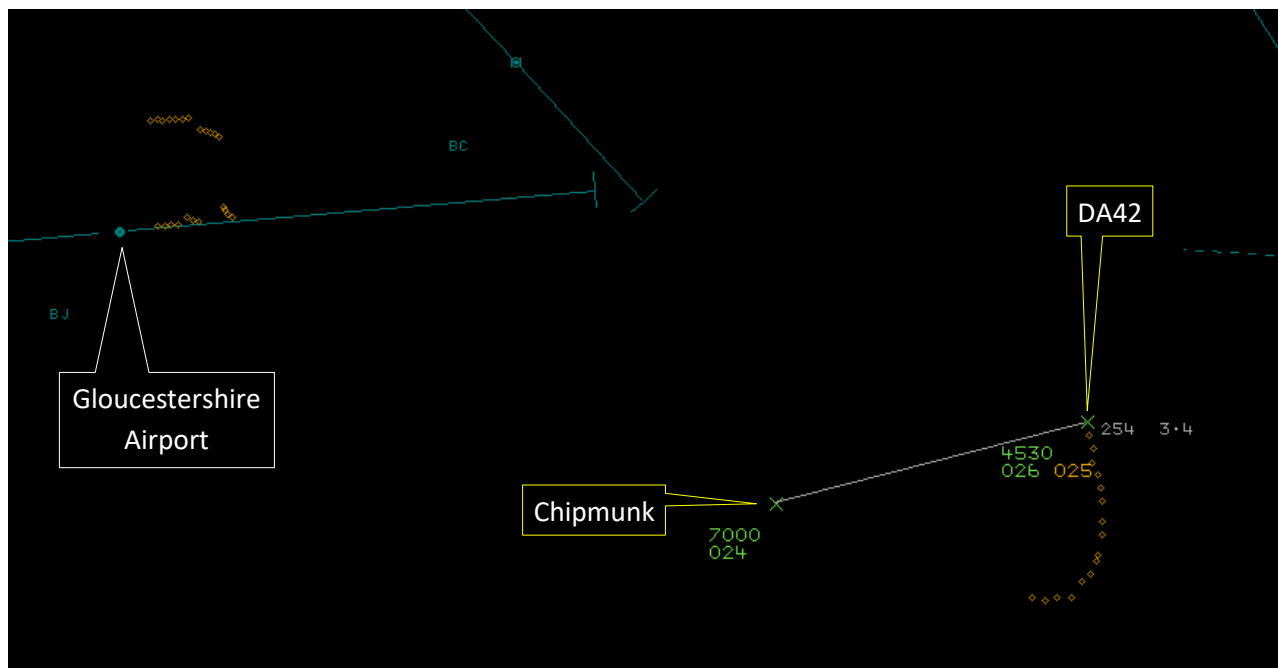


Figure 1 – Aircraft positions at 0956:14

Both aircraft were depicted on the radar replay as having been flown at Flight Levels. A suitable correction was applied to determine their respective altitudes.

The pilot of the DA42 kindly supplied GPS track data for their flight. It was by combining the various data sources that the diagram was constructed and the separation at CPA determined.

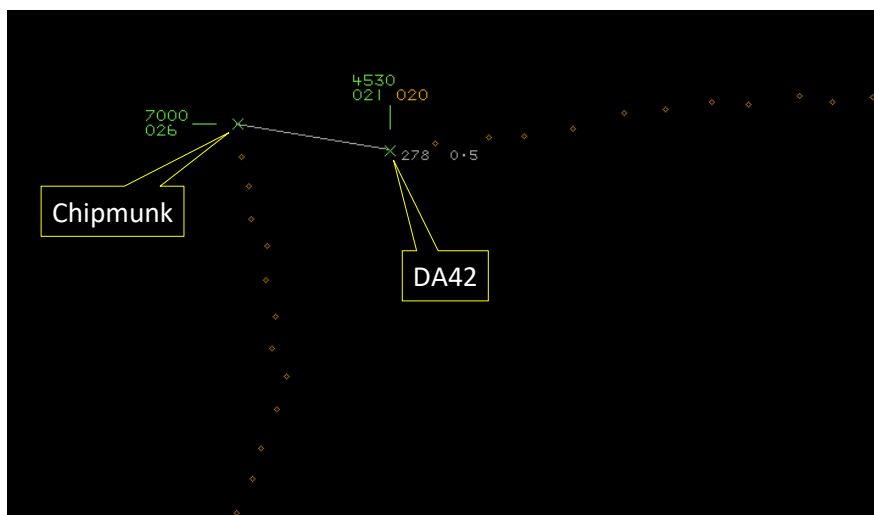


Figure 2 – CPA at 0958:26

The DA42 and Chipmunk pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.<sup>1</sup>

## Summary

An Airprox was reported when a DA42 and a Chipmunk flew into proximity 8NM east of Gloucestershire Airport at 0958Z on Friday 17<sup>th</sup> May 2024. The DA42 pilot was operating under IFR in VMC, in receipt of a Procedural Service from Gloster Approach. The Chipmunk pilot was operating under VFR in VMC, listening out on the Brize LARS frequency.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS track data for the DA42, a report from the air traffic controller 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.

The Board first considered the actions of the pilot of the DA42. Members noted that they had been in receipt of a Procedural Service from the Gloster controller and, as such, would not have expected to have received surveillance-based Traffic Information. Nevertheless, members noted that they been passed information on traffic believed to have been a Chipmunk. The pilot of the DA42 had not been alerted to the presence of the Chipmunk by the TAS device or additional EC equipment fitted to the DA42 and members were in agreement that an alert would have been expected. It was noted that the pilot of the DA42 had visually acquired the Chipmunk in plenty of time to have considered the safest course of action. Appreciating that the proximity of the Chipmunk had caused them some concern, members noted that the pilot of the DA42 had assessed that no avoiding action had been necessary.

Turning their attention to the actions of the pilot of the Chipmunk, members noted that their flight had taken them close to Gloucestershire Airport. Noting the advice to pilots provided on VFR navigational charts, members were keen to emphasise that it would have been strongly recommended for the pilot of the Chipmunk to have contacted the Gloster controller before they had been within 10NM of Gloucestershire Airport, given that it is marked on the chart as having instrument approach 'feathers'. Members agreed that the pilot of the Chipmunk had not had situational awareness of the presence of the DA42 in the area given that they had not tuned their radio to the Gloster frequency, and that the Chipmunk had not been fitted with an additional EC device.

<sup>1</sup> (UK) SERA.3205 Proximity.

The discussion turned to the actions of the Gloster controller. Members noted that, although the Chipmunk had not been ‘known traffic’, the Gloster controller had attempted to bring the presence of the DA42 to the attention of ‘all-stations’ in the hope that the pilot of the (unidentified) Chipmunk had been monitoring the Gloster Approach frequency. Members noted that the Gloster controller had been informed of a probable identity of the unknown traffic subsequently and had passed Traffic Information to the pilot of the DA42 accordingly. Members appreciated that the Gloster controller had passed Traffic Information to the pilot of the DA42 as swiftly as possible, however, it was agreed that, with respect to the timeliness of that information from the DA42 pilot’s perspective, the Gloster controller had acquired their situational awareness of the Chipmunk late. Therefore, it was also agreed that the Traffic Information had been passed to the DA42 pilot late and, consequently, that the pilot of the DA42 had acquired their situational awareness of the Chipmunk late.

In conclusion, members agreed that the separation between the aircraft had been such that normal safety standards and margins had pertained. Members were satisfied that there had not been a risk of collision and assigned Risk Category E to this event.

Members agreed on the following contributory factors:

**CF1.** The Gloster controller had passed Traffic Information on the Chipmunk to the pilot of the DA42 late.

**CF2.** The Gloster controller had acquired situational awareness of the presence of the Chipmunk late.

**CF3.** It would have been most prudent for the Chipmunk pilot to have contacted the Gloster controller before flying within 10NM of Gloucestershire Airport on account that it is marked on VFR navigational charts as having instrument approach ‘feathers’.

**CF4.** The pilot of the Chipmunk had not had situational awareness of the presence of the DA42 in the vicinity. The pilot of the DA42 had acquired late situational awareness of the presence of the Chipmunk.

**CF5.** The TAS device and additional EC equipment fitted to the DA42 would have been expected to have detected the presence of the Chipmunk but no alert was reported by the DA42 pilot.

**CF6.** The pilot of the DA42 had been concerned by the proximity of the Chipmunk.

**PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**

Contributory Factors:

2024104				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
<b>Ground Elements</b>				
<b>• Situational Awareness and Action</b>				
1	Human Factors	• ANS Traffic Information Provision	Provision of ANS traffic information	TI not provided, inaccurate, inadequate, or late
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
<b>Flight Elements</b>				
<b>• Tactical Planning and Execution</b>				
3	Human Factors	• Communications by Flight Crew with ANS	An event related to the communications between the flight crew and the air navigation service.	Pilot did not request appropriate ATS service or communicate with appropriate provider
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>				
4	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
<b>• Electronic Warning System Operation and Compliance</b>				

5	Human Factors	<ul style="list-style-type: none"> <li>Response to Warning System</li> </ul>	An event involving the incorrect response of flight crew following the operation of an aircraft warning system	CWS misinterpreted, not optimally actioned or CWS alert expected but none reported
• See and Avoid				
6	Human Factors	<ul style="list-style-type: none"> <li>Perception of Visual Information</li> </ul>	<del>Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement</del>	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: E.

Safety Barrier Assessment<sup>2</sup>

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 Gloster controller had acquired situational awareness of the presence of the Chipmunk late.

**Flight Elements:**

**Tactical Planning and Execution** was assessed as **partially effective** because it would have been most prudent for the Chipmunk pilot to have contacted the Gloster controller before flying within 10NM of Gloucestershire Airport.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **ineffective** because the pilot of the Chipmunk had not had situational awareness of the presence of the DA42 in the vicinity.

**Electronic Warning System Operation and Compliance** were assessed as **ineffective** because the TAS device and additional EC equipment fitted to the DA42 would have been expected to have detected the presence of the Chipmunk but no alert was reported.

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

<b>Airprox Barrier Assessment: 2024104</b>		Outside Controlled Airspace		<b>Effectiveness</b>				
<b>Barrier</b>		<b>Provision</b>	<b>Application</b>	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	✓	✓					
<b>Key:</b>		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>		
Provision	✓	⚠	✗	○				
Application	✓	⚠	✗	○				
Effectiveness								