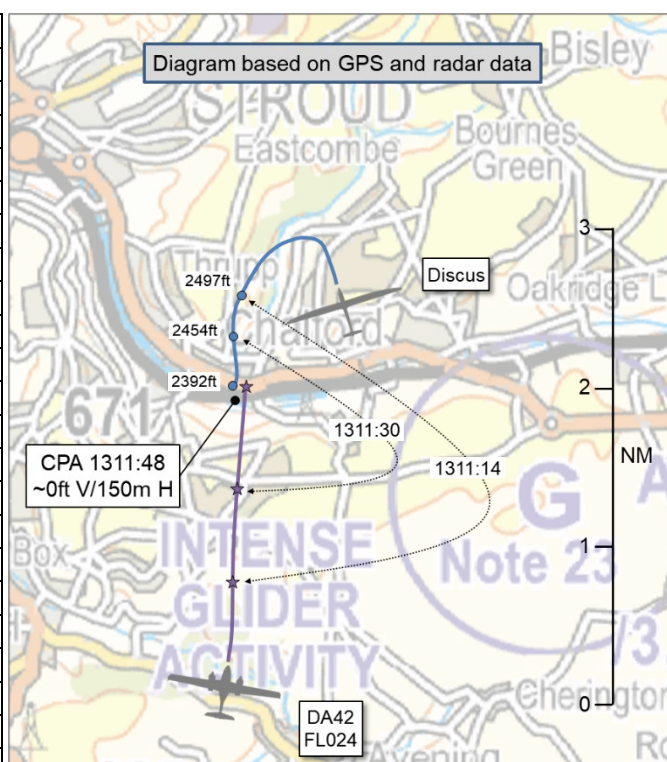


AIRPROX REPORT No 2025075

Date: 02 May 2025 Time: 1312Z Position: 5143N 00211W Location: 2NM SE Stroud

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Discus	DA42
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Traffic
Provider	N/A	Brize Radar
Altitude/FL	2392ft	FL024
Transponder	Not fitted	A, C, S+
Reported		
Colours	White	White
Lighting	None	Strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2975ft	2500ft
Altimeter	QNH	QNH (1016hPa)
Heading	150°	360°
Speed	63kt	140kt
ACAS/TAS	FLARM	TAS
Alert	None	None
Separation at CPA		
Reported	0ft V/<20m H	300ft V/0.7NM H
Recorded	~0ft V/150m H	



THE DISCUS PILOT reports that they had planned a cross-country task with the first leg from Aston Down. They had climbed over Aston Down and had just started their task. Looking ahead to determine the best track, they spotted the aircraft at the same altitude and on an opposing heading. Within a few seconds, it became quite large. They took rapid evasive action, turning positively to the right and lowering the nose a little. They do not think that the other pilot had even seen them as they had taken no action at all. It passed by very close on their left side. Although both aircraft were clear of cloud, the cloudbase in the area was quite variable with lower level clouds in places. Both pilots were operating about 500ft from the cloudbase. The aircraft was spotted against a backdrop of cloud, not sky.

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

THE DA42 PILOT reports that they were on a flight following a routine maintenance inspection. They had been in receipt of a Traffic Service from Boscombe Radar and then from Brize Radar. They had received several traffic reports from Boscombe and Brize with "*altitude unknown*".

They only saw traffic once and this was a glider above them by around 300ft and travelling south-east. They did not take any avoiding action because the glider was moving away from them. That was at 1310.

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

THE BRIZE NORTON CONTROLLER reports that no [radar or voice] recordings were available as [the event occurred beyond the 30 day cut-off period].¹ No Airprox was submitted on frequency and the [DA42] pilot made no comment about another aircraft in close proximity. The [initial] Airprox report was

¹ The RAF Brize Norton unit was informed of the Airprox on 16th May 2025.

submitted by a glider pilot. Gliders, and other small or slow-moving aircraft, are often not visible on their equipment.

The controller perceived the severity of the incident as 'Medium'.

Factual Background

The weather at Gloucestershire Airport was recorded as follows:

METAR EGBJ 021320Z 35004KT 270V030 9999 FEW045 20/13 Q1016

Analysis and Investigation

Military ATM

Utilising occurrence reports and information from the local investigations, outlined below are the key events that preceded the Airprox. Although informed of the occurrence within the timescale to impound the required recordings, there was confusion regarding the actual Airprox event. This resulted in an earlier period being impounded where the DA42 was in proximity with another aircraft, as it was that event that was believed to have been the Airprox. In line with the NATS radar recordings, the local radar recordings did not show the Discus on radar, hence the Airprox was believed to be another event.

The pilot of the DA42 had previously been in receipt of a Traffic Service from Boscombe Down before being handed to the Brize Norton Radar controller at 1304:15.

Without the voice or radar recordings to review, a comprehensive investigation of the ATS-related contributory factors cannot be conducted. However, given the non-display of the Discus on radar to the Brize Norton Radar controller, Traffic Information would not have been possible.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and the DA42 could be positively identified from Mode S data. The Discus was not observed (Figure 1).

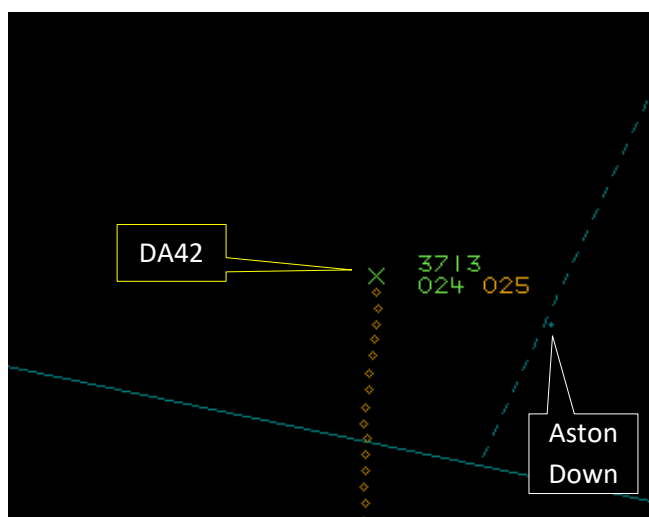


Figure 1 - 1311:42

The pilot of the DA42 had referred in their narrative report to a glider, sighted at 1310, that had been above them by 300ft and tracking south-east. That glider is believed to have been the glider shown in Figure 2 that was not involved in the Airprox encounter.



Figure 2 – 1310:30

Both pilots kindly supplied GPS data for their respective flights. The diagram was constructed and the separation determined by combining the data sources. The aircraft are displayed in the diagram with altitudes based on standard pressure.

The Discus and DA42 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 If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.³

Comments

BGA

This incident occurred in the area of Intense Glider Activity between Aston Down and Nympsfield gliding sites, about 2NM from the former and 4NM from the latter. A greater density of gliders, and aircraft towing gliders, may be expected in the vicinity of gliding sites at any time during daylight hours, and at any altitude up to cloudbase. Both sites operate seven days a week in the summer and were active on this day, with multiple cross-country flights flown mostly to the south and south-east of the sites.

The difficulties of sighting another aircraft approaching head-on with no relative motion are well-known. Many pilots now opt to permanently switch on forward-pointing high-intensity landing lights, even in full daylight, to aid visual conspicuity in this direction.

Almost all glider operators in the UK (including the Discus' owner/operator) have voluntarily fitted proprietary EC equipment that warns of impending conflicts with other similarly-equipped aircraft. Although this system has proved effective at mitigating the risk of Airprox with other gliders, basic installations do not detect aircraft equipped only with transponders or ADS-B Out (including "Mode S+"), as in this case. However, recent versions of this EC equipment can optionally add a 1090MHz receiver subsystem, and thereby warn of conflicts with transponder and ADS-B Out-equipped aircraft. Upgrading glider EC hardware to add such a 1090MHz receiver subsystem would provide a useful additional safety barrier in airspace with a high density of transponder or ADS-B Out-equipped aircraft.

² (UK) SERA.3205 Proximity.

³ (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.

AOPA

It is interesting to note that the two forms of electronic conspicuity did not alert the pilots. Having been warned by the controller, the DA42 pilot was looking-out although a glider is very difficult to spot when approaching from behind. The see-and-avoid barrier worked, albeit somewhat late.

Summary

An Airprox was reported when a Discus and a DA42 flew into proximity 2NM south-east of Stroud at 1312Z on Friday 2nd May 2025. The Discus pilot was operating under VFR in VMC, not in receipt of a FIS. The DA42 pilot was operating under VFR in VMC in receipt of a Traffic Service from Brize Radar.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, a report from the controller involved, radar photographs/video recordings 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 Discus. A member with particular knowledge of gliding operations explained that a large number of glider pilots had been operating in the vicinity of Aston Down and Nympsfield at that time, and emphasised the caution shown on UK VFR navigational charts that there had been 'Intense Gliding Activity' in the area.

Members agreed that the EC equipment fitted to the Discus would not have been capable of detecting the presence of the DA42 (**CF3**) and, without a common frequency in use between the pilots, it was agreed that the pilot of the Discus had not had situational awareness of the presence of the DA42 until it had been visually acquired (**CF2**). Members noted that the pilot of the Discus had described their avoiding action as "*rapid evasive action*" and had perceived that the separation had reduced to "*less than 20m*". As such, members agreed that that description indicated that the DA42 had been sighted late (**CF4**).

Members next turned their attention to the actions of the pilot of the DA42 and it was noted that they had been passed information by the Boscombe Zone and Brize Zone controllers pertaining to several contacts with unknown altitudes. It was agreed that, although the pilot of the DA42 may have been aware of the possibility of intense gliding activity in the area through which they had transited, they had not had specific situational awareness of the relative position of the Discus (**CF2**). Members were in agreement that the EC equipment fitted to the DA42 would not have detected the presence of the Discus (**CF3**) and the DA42 pilot had not visually acquired it at any point (**CF5**). Some members suggested that, if routeing between two particularly active glider sites had not been avoidable, it may have been prudent to have made a call on the appropriate glider site frequencies to have provided some situational awareness for the glider pilots in the vicinity.

Turning their attention to the actions of the Brize controller, members agreed that they had not had situational awareness of the presence of the Discus specifically (**CF1**), but had passed generic Traffic Information pertaining to several contacts with unknown altitudes (which may have been presumed to have been gliders). A military controller advisor to the Board explained to members that the Brize controller had observed a primary-only contact in the vicinity of the DA42 and that it had been that radar return that the subsequent Brize Unit analysis had focussed on. Consequently, and without knowledge of the GPS track data that the Discus pilot had supplied to the UKAB Secretariat, the radar and RT data that had been impounded had covered an incorrect time period, thwarting the Brize Unit's subsequent analysis of the actual Airprox event. Notwithstanding, it was explained that the Discus had not been observed on the RAF Brize Norton local radar at the time of the Airprox.

Concluding their discussion, members agreed that the pilot of the DA42 had not had situational awareness of, and had not visually acquired the Discus. Whilst it was acknowledged that the encounter had been particularly uncomfortable for the pilot of the Discus, some members contended that there had been a reduction in safety but that no risk of collision had existed. Other members suggested that

the horizontal separation had reduced such that safety had not been assured and that emergency action had been required. A vote was conducted and the latter view, that safety had been much reduced, prevailed. The Board concluded that there had been a risk of collision (**CF6**) and the pilot of the Discus had taken emergency avoiding action at the last moment. Risk Category B was assigned to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2025075			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
	Ground Elements			
	• Situational Awareness and Action			
1	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			
	• Situational Awareness of the Conflicting Aircraft and Action			
2	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
	• Electronic Warning System Operation and Compliance			
3	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			
4	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
5	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots
	• Outcome Events			
6	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 Assessment⁴

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 Conflicting Aircraft and Action were assessed as **ineffective** because the Brize Norton controller had not had situational awareness of the Discus.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had situational awareness of the presence of the other aircraft.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the electronic conspicuity equipment fitted to each aircraft would not have been expected to have detected the presence of the other aircraft.

⁴ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

See and Avoid were assessed as **partially effective** because the pilot of the Discus had visually acquired the DA42 at a late stage.

Airprox Barrier Assessment: 2025075		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 Conflicition & 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		■	■	■	■	□		