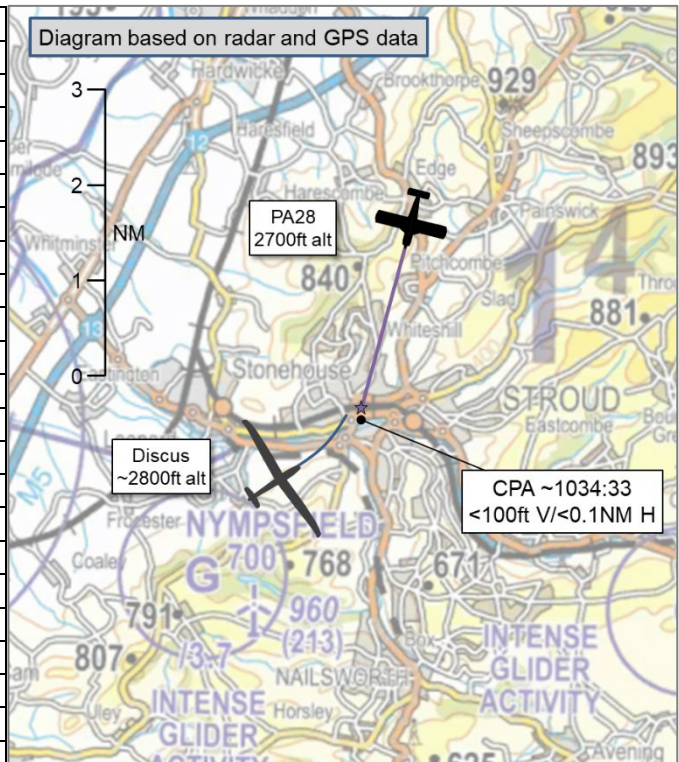


AIRPROX REPORT No 2021046

Date: 02 May 2021 Time: 1034Z Position: 5144N 00214W Location: 2 NM NE Nympsfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Discus	PA28
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	None ¹
Altitude/FL	NK	FL027
Transponder	Not fitted	A, C, S
Reported		
Colours	White	Blue, Cream
Lighting	Nil	Beacon
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	~2900ft	3000ft
Altimeter	QFE (1019hPa)	QNH (1021hPa)
Heading	NK	190°
Speed	55kt	100kt
ACAS/TAS	SkyEcho, FLARM	SkyEcho
Alert	None	None
Separation		
Reported	50ft V/75m H	0ft V/1NM H
Recorded	<100ftV/<0.1NM H ²	



THE DISCUS PILOT reports that they were 1NM east of Nympsfield when they saw an aircraft at a similar level between 0.5-1NM away, on a constant heading generally towards their position. They observed the aircraft bank slightly left in an apparent adjustment to course to reduce collision risk. They believed the other pilot had seen their glider as the pilot seemed to look directly at them as they passed.

The pilot assessed the risk of collision as ‘Low’.

THE PA28 PILOT reports that they planned their route to go mid-way between Nympsfield and Aston Down at an altitude of 3000ft. They were using SkyDemon as their primary navigation tool connected to a SkyEcho Device. They were with Gloucester on a Basic Service as they had transited overhead at 3000ft as there was no known conflicting traffic. They recalled ATC warning of local gliding activity. As they approached Stroud they noted that there was traffic reported ahead of them. They remembered thinking that they didn't yet have a FLARM subscription and were intrigued by seeing the contacts near the gliding site and assumed them to be gliders. They then continued their lookout and spotted a glider in their 10 o'clock at a similar altitude about a mile or so away. It looked like it was gaining height in a thermal so they waggled their wings to catch a glint of sunlight to improve the chance of being seen. They also adjusted course approximately 20° to starboard to increase the separation. They were conscious that they were heading closer to Nympsfield so when they had the glider behind them, they adjusted course back towards their original track again. Their assumption was that this was the glider that had filed the Airprox as they were not aware of any closer traffic. Reflecting on the flight, it would have been better if, having heard of the gliding activity warning at Gloucester, then they should have routed down the River Severn rather than between the gliding sites.

The pilot assessed the risk of collision as ‘Low’.

¹ The PA28 pilot reported receiving a Basic Service from Gloucester, but was between frequencies at the time of the Airprox.
² Separation calculated by comparing GPS data and radar data.

THE GLOUCESTER CONTROLLER reports the pilot of the PA28 made contact with Gloucester Approach 128.555MHz at 1027Z. They were routing north to south via the Gloucestershire overhead, and were placed under a Basic Service. The aircraft passed overhead at 1030Z, southbound over the Cotswold Ridge and left the frequency at 1034Z to freecall Bristol. No mention of an Airprox was made, nor were they working any glider in that area at the time to their knowledge.

They noted that the Gloucestershire ATIS has an appendage for "Intense Gliding activity has been observed in the vicinity of the aerodrome" for use when pilots report gliding activity, or when the radar shows traces believed to be gliders, or if gliding activity has been specifically NOTAM'd, such as a competition. The controllers had not received any reports of intense gliding activity so the appendage was not selected. Nympsfield gliding site is shown on the CAA VFR charts and they do not specifically NOTAM when gliding activity is taking place.

Factual Background

The weather at Gloucestershire airport was recorded as follows:

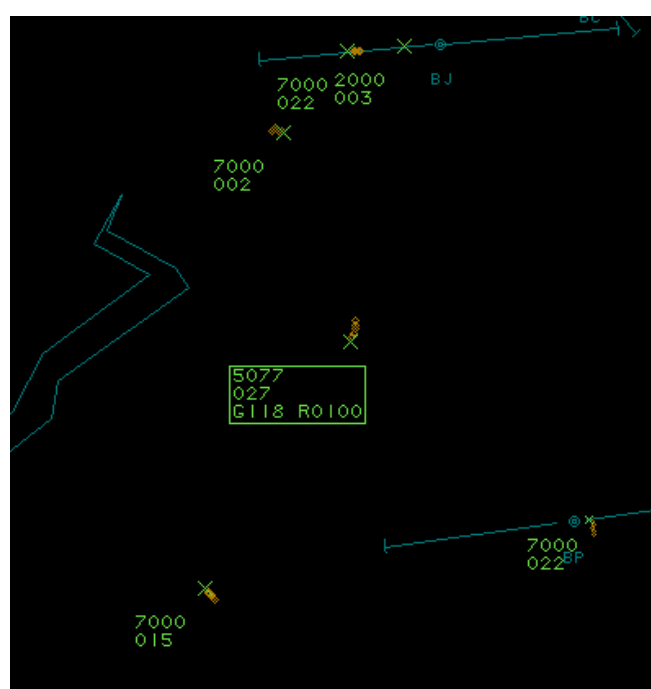
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METAR EGBJ 021020Z 31004KT 250V340 9999 FEW024 12/02 Q1021=
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Analysis and Investigation

CAA ATSI

At 1026.30 the PA28 pilot made initial contact with the Gloucester controller and requested a Basic Service. The pilot advised that they were a PA28, 1POB, [routing], currently just south of Tewksbury, 3000ft and requested to transit the Gloucester overhead at 3000ft. A Basic Service was agreed, QNH1021 passed and the pilot instructed to report 5 miles to the overhead. The pilot read back the QNH and confirmed that they were now 5 miles from the overhead. The pilot was instructed to report passing overhead and to report any change of level.

At 1029.30 the pilot reported overhead and was instructed to report crossing the ridge to the south and going en-route. At 1034.10 the pilot advised the controller that they were abeam Stroud and requested a frequency change to Bristol. The frequency change was approved. CPA was reported as being at 1034.32, at 1034.35 the transponder code changed from 7000 to 5077 (Bristol).



1034.35 (Range selected is 45NM)

The Airprox appears to have occurred during the frequency change from Gloucester to Bristol ATC, and there are no radar contacts within 8NM of the aircraft displaying on the area radar.

UKAB Secretariat

The Discus 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.³ If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.⁴ If the incident geometry is considered as converging then the PA28 pilot was required to give way to the glider.⁵

Comments

BGA

It is gratifying to read that the PA28 pilot was aware of the potential for encountering gliders in this area, and of the potential benefits of compatible EC equipment. Taken together, the pilot reports suggest that the glider the PA28 saw was not in fact the Airprox glider.

Summary

An Airprox was reported when a Discus and a PA28 flew into proximity 2NM NE Nympsfield at 1034Z on Sunday 2nd May 2021. Both pilots were operating under VFR in VMC, neither was in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS data and a report 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.

The Board first looked at the actions of the Discus pilot. They noted that the pilot reported seeing the PA28 between 0.5 and 1NM away and some members wondered why, having seen the other aircraft so early, they had not taken action to avoid it. They were told by gliding members that once in a thermal, glider pilots would be reluctant to move out of it and lose the lift and particularly in this case when only around 2000ft above the ground. They noted that often pilots were working quite hard to ensure they achieve lift at such altitudes and thought that this in itself could have been a distraction to the pilot, drawing their attention away from maintaining contact with the approaching aircraft as they circled (**CF4**). Nevertheless, members thought that having seen the other aircraft at range, the pilot could have taken earlier action to ensure a greater separation (**CF1**). They noted that both the glider and the PA28 were fitted with SkyEcho, but for some reason this hadn't alerted either pilot (**CF3**) and consequently the glider pilot did not have any prior situational awareness that the PA28 would be transiting through the area (**CF2**).

Turning to the PA28 pilot, they had been receiving a Basic Service from Gloucester and had generic situational awareness that there were gliders in the area (**CF2**). On leaving the Gloucester frequency, the pilot changed squawk and dialled into the Bristol frequency at around the time of the Airprox and members thought this had possibly been a distraction (**CF4**). Members noted that there would have been more gliders in the area than just the Airprox glider, indeed a brief look at the BGA ladder indicated that it had been a good day for gliding with many flights in and around the area. Members were

³ (UK) SERA.3205 Proximity.

⁴ (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.

⁵ (UK) SERA.3210 Right-of-way (c)(2) Converging.

concerned that the pilot's description of the geometry of the two aircraft did not match that of the glider pilots, the PA28 pilot described the glider as being in their 10 o'clock and around 1NM away and that they turned starboard to avoid, whereas the GPS data from the glider compared with the radar indicated that the two aircraft were much closer than that and that the glider would have been to the right of the PA28. Consequently, some members thought that it was likely that the PA28 pilot had seen a different glider (**CF5**). Members commended the pilot on their reflection of the flight after the event, indeed they encouraged all pilots to do the same and reflect on what could be learnt for future flights. They agreed with the PA28 pilot that a different routing may have been a better alternative but also urged pilots to be aware of the wind direction when planning a route close to glider sites as this will dictate where gliders are likely to be present.

Members briefly discussed the ATC involvement in the minutes leading up to this event, noting that the PA28 pilot was not on the Gloucester frequency at the time of the Airprox. The pilot was receiving a Basic Service prior to leaving the Gloucester frequency, and the controller was not aware of any specific gliding activity, therefore they thought that on this occasion there was little more ATC could have offered. Although there was no suggestion that the pilot thought otherwise, members wished to remind pilots that when listening out on a frequency and wearing a monitoring squawk, no ATC service was being provided and Traffic Information would not be passed.

Finally, when assessing the risk of collision, members discussed the separation, the glider pilot's assessment of the risk and that the PA28 pilot may not have been visual with this particular glider. Taking everything into consideration, they agreed that, because the glider pilot had been visual with the PA28 from some distance away, there had been no risk of collision but did consider safety to have been degraded and therefore determined this Airprox to be Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2021046			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Flight Elements				
• Tactical Planning and Execution				
1	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
• 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 or only generic, Situational Awareness
• Electronic Warning System Operation and Compliance				
3	Human Factors	• Response to Warning System	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				
4	Human Factors	• Distraction - Job Related	Events where flight crew are distracted for job related reasons	
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

Degree of Risk:

C.

Safety Barrier Assessment⁶

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

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the glider pilot could have taken earlier action to increase the separation.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the glider pilot did not have any prior situational awareness about the PA28 and the PA28 pilot only had generic situational awareness that gliders might be present in the area.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because although both aircraft were fitted with SkyEcho, neither pilot received an alert.

See and Avoid were assessed as **partially effective** because the PA28 pilot was probably visual with a different glider.

Airprox Barrier Assessment: 2021046		Outside Controlled Airspace		Effectiveness				
Barrier		Provision	Application	Barrier Weighting				
				0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	●	●	[Bar chart: 5% effectiveness]				
	Manning & Equipment	●	●	[Bar chart: 5% effectiveness]				
	Situational Awareness of the Conflicting Aircraft & Action	●	●	[Bar chart: 15% effectiveness]				
	Electronic Warning System Operation and Compliance	●	●	[Bar chart: 5% effectiveness]				
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✓	[Bar chart: 10% effectiveness]				
	Tactical Planning and Execution	✓	⚠	[Bar chart: 10% effectiveness]				
	Situational Awareness of the Conflicting Aircraft & Action	⚠	✓	[Bar chart: 20% effectiveness]				
	Electronic Warning System Operation and Compliance	✓	✗	[Bar chart: 15% effectiveness]				
	See & Avoid	✓	⚠	[Bar chart: 20% effectiveness]				
Key:		Full	Partial	None	Not Present/Not Assessable	Not Used		
Provision	✓	⚠	✗	●				
Application	✓	⚠	✗	●	○			
Effectiveness	■	■	■	■	□			

⁶ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).