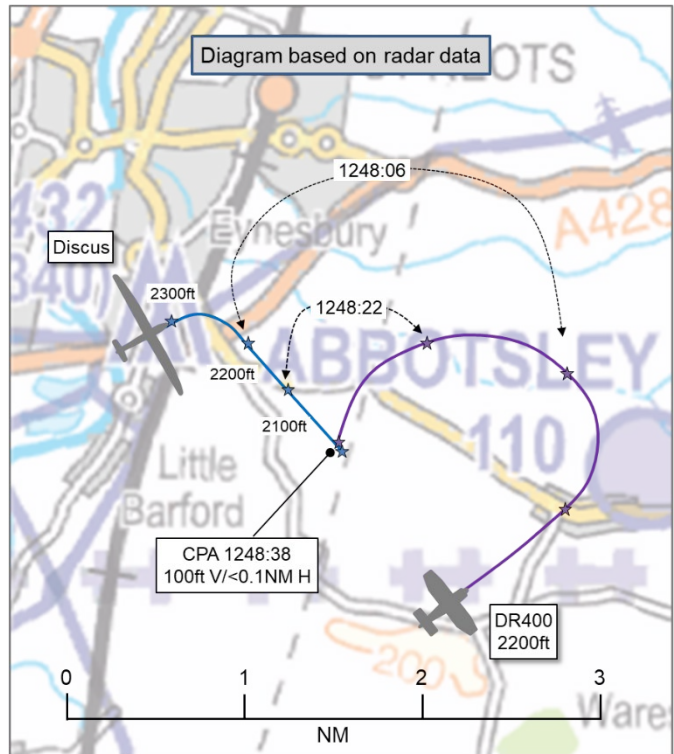


AIRPROX REPORT No 2024087

Date: 10 May 2024 Time: 1249Z Position: 5212N 00014W Location: 2NM west of Abbotsley

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Discus	DR400
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	Listening Out
Provider	Gransden Lodge	Stansted Radar
Altitude/FL	2100ft	2200ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White	White and blue
Lighting	None	Nav, strobe, landing
Conditions	VMC	VMC
Visibility	5-10km	>10km
Altitude/FL	2700ft	2700ft-1500ft
Altimeter	QFE	QNH (1024hPa)
Heading	~090°	Manoeuvring
Speed	50kt	65-130kt
ACAS/TAS	FLARM	SkyEcho
Alert	None	None
Separation at CPA		
Reported	<100ft V/<0.1NM H	Not seen
Recorded	100ft V/<0.1NM H	



THE DISCUS PILOT reports that they were flying locally to [destination airfield], re-familiarising themselves with the aircraft after the winter lay-off. There had been a cumulus cloudbase (about 4/8) at about 4000ft. Visibility had been good but degraded at around 3000ft. The pilot reports that they had been looking for a strong-ish thermal over St Neots; the current thermal had not been strong. They had not seen any other aircraft during this part of the flight. As they had straightened up, they had seen the other aircraft ahead and to their left. It had been turning away and probably a bit lower. It looked as though it had been taking avoiding action though the turn was not sharp. The Discus pilot had maintained their course as there had been no danger of collision at that point. Later it looked as though the other aircraft had turned right to resume its original course. The Discus pilot had then returned to [destination airfield] without incident.

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

THE DR400 PILOT reports that their flight had been to carry out general handling in the area northwest of BKY (Barkway VOR/DME) while being aware of the glider site at Little Gransden [sic¹]. Exercises included 360° turns, low speed flight and simulated approaches. Before each exercise a HASSELL check had been carried out and no other aircraft had been seen either visually or on Skydemon, which had been connected to [electronic conspicuity equipment and configured to display contacts from EC commonly used by glider pilots].

Factual Background

The weather at Cambridge Airport was recorded as follows:

¹ Gransden Lodge glider site is 1.5NM NE of Little Gransden airfield; no gliding activity takes place at Little Gransden airfield.

METAR EGSC 101220Z 13004KT 070V200 9999 FEW035 22/14 Q1024=

Analysis and Investigation

UKAB Secretariat

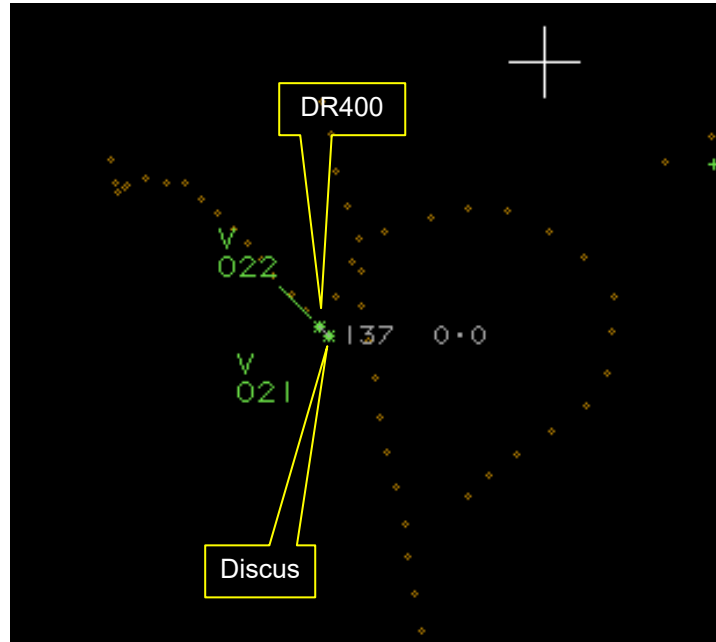


Figure 1: CPA 1248:38 100ft V/<0.1NM H

Both the Discus and the DR400 were tracked on radar and identified using Mode S data. The DR400 track was seen as a constant left-hand turn maintaining 2200ft; the Discus track showed the aircraft on a southeast trajectory in a gentle descent passing through 2100ft at CPA.

The Discus and DR400 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 converging then the DR400 pilot was required to give way to the Discus.³

Comments

AOPA

In this area there are no LARS services available but there are local airfields that could provide situational awareness. Electronic conspicuity wasn't effective, leaving effective lookout pre- and during turns as the final mid-air collision avoidance barrier.

BGA

The DR400 pilot is to be commended for their awareness of the gliding site at Gransden Lodge airfield (which is 1NM northeast of Little Gransden airfield), and also for configuring their carry-on TAS device to receive transmissions from the EC equipment carried by almost all UK gliders (including the Airprox Discus 2). This TAS configuration would be expected to warn of nearby glider traffic via the linked EFB application (in this case, SkyDemon, but other compatible EFB applications are available). However, the DR400 pilot does not report receiving any such alert. It would be useful to understand why this barrier did not function.

² (UK) SERA.3205 Proximity.

³ (UK) SERA.3210 Right-of-way (c)(2) Converging.

Summary

An Airprox was reported when a Discus and a DR400 flew into proximity 2NM west of Abbotsley at 1249Z on Friday 10th May 2024. Both pilots were operating under VFR in VMC, the Discus pilot had been Listening Out on the Gransden Lodge frequency and the DR400 pilot had been Listening Out on the Stansted Radar frequency.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots and radar photographs/video recordings. 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 Discus pilot, the nature of the flight and the weather conditions at the time. Members noted that the Discus pilot had not been in receipt of an active Air Traffic Service but agreed that, within the chosen operating area, there is a paucity of providers, particularly at lower levels. They acknowledged that the Discus pilot had carried electronic equipment common to most gliders, but that this equipment had been incompatible with other systems common to many general aviation operators (**CF2**) and, therefore, agreed that the Discus pilot could not have been alerted to the presence of the DR400. Despite that lack of situational awareness (**CF1**), the Discus pilot had achieved visual contact with the DR400. It was noted that, on achieving visual contact, the Discus pilot had assessed there to have been no risk of collision and had not therefore taken active avoidance. Members felt that it had then been disappointing for the Discus pilot to have flown into conflict with the DR400 (**CF4**).

Turning their attention to the actions of the DR400 pilot, members again noted the nature of the flight and the pilot's diligence in completion of pre-exercise checks. They also recognised in a similar vein to that of the Discus pilot the lack of an active Air Traffic Service. However, in the case of the DR400 pilot, their carriage of electronic conspicuity equipment had included the ability to detect EC equipment commonly carried by gliders, including the Discus involved in this Airprox, and the Board felt that it had been unfortunate that this equipment had not registered any electronic emissions from the Discus (**CF3**), leaving the DR400 pilot with only generic situational awareness of glider operations in the area (**CF1**). They felt that it was disappointing that the DR400 pilot had not gained visual contact with the Discus (**CF5**) as an opportunity to have done so had existed at a range of approximately 2NM where it had been in a right-hand turn towards the DR400, presenting a plan form to the pilot of the DR400 whilst they themselves had been in a left-hand turn and would likely have been looking into the turn, precisely where the Discus had been at that time.

Concluding their discussion, members summarised their thoughts. It was agreed that with a lack of an active Air Traffic Service and electronic conspicuity equipment that had not reacted in this case, of the two pilots involved, only the DR400 pilot had generic situational awareness of activity in the area and that they had not gained visual contact with the Discus at any stage. Although the Discus pilot had seen the DR400 ahead of CPA, they had then flown into proximity with the DR400 and members were divided on the level of risk involved. Ultimately, the Board agreed by a majority that safety margins had been reduced below the norm and that there had been a risk of collision (**CF6**). As such, the Board assigned Risk Category B to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024087			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			
1	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			

2	Technical	<ul style="list-style-type: none"> 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
3	Human Factors	<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> See and Avoid 				
4	Contextual	<ul style="list-style-type: none"> Loss of Separation 	An event involving a loss of separation between aircraft	Pilot flew into conflict
5	Human Factors	<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> Outcome Events 				
6	Contextual	<ul style="list-style-type: none"> 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:

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the Discus pilot had no situational awareness of the presence of the DR400 and the DR400 pilot had only generic situational awareness of potential glider activity in the area.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the equipment carried by the Discus had not been capable of registering electronic emissions from the DR400 and that carried by the DR400 had not registered any electronic emissions from the Discus.

See and Avoid were assessed as **ineffective** because the DR400 pilot had not seen the Discus and the Discus pilot had not taken early enough action on sighting the DR400 to have removed any risk of collision.

⁴ 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: 2024087		Outside Controlled Airspace					
Barrier	Provision	Application	Effectiveness				
			Barrier Weighting				
			0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	●	●	[Bar: 5%]			
	Manning & Equipment	●	●	[Bar: 2.5%]			
	Situational Awareness of the Confliction & Action	●	●	[Bar: 15%]			
	Electronic Warning System Operation and Compliance	●	●	[Bar: 2.5%]			
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✓	[Bar: 10%]			
	Tactical Planning and Execution	✓	✓	[Bar: 10%]			
	Situational Awareness of the Conflicting Aircraft & Action	✗	✓	[Bar: 20%]			
	Electronic Warning System Operation and Compliance	!	✗	[Bar: 15%]			
	See & Avoid	✓	✗	[Bar: 20%]			
Key:		Full	Partial	None	Not Present/Not Assessable	Not Used	
Provision	✓	!	✗	●			
Application	✓	!	✗	●	○		
Effectiveness	■	■	■	■	□		