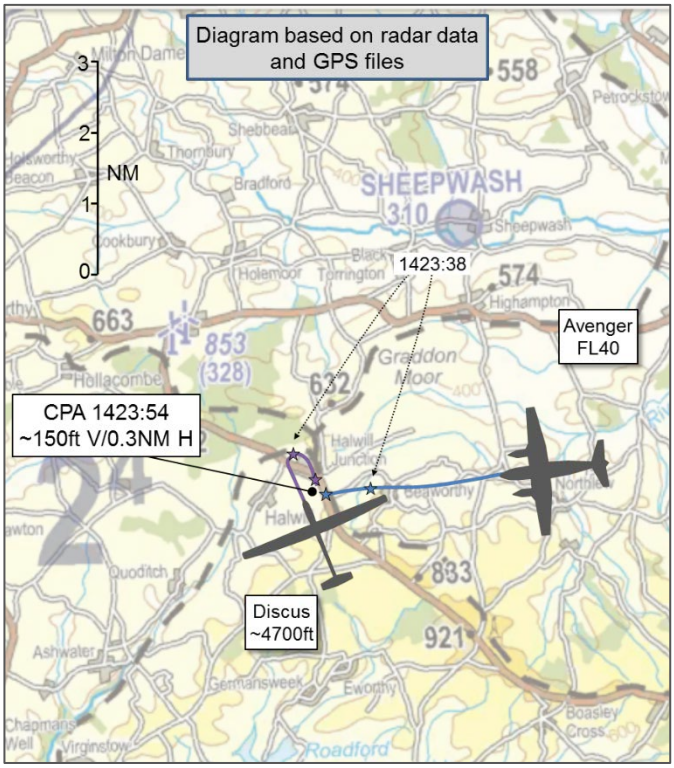
AIRPROX REPORT No 2020047

Date: 27 May 2020 Time: 1424Z Position: 5046N 00412W Location: Halwill, Devon

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Avenger	Discus
Operator	RN	Civ Gld
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Traffic	None
Provider	Newquay	
Altitude/FL	FL40 (4590ft QNH)	4760ft
Transponder	A, C, S	Not fitted
Reported		
Colours	Blue, White	White
Lighting	HISL	Nil
Conditions	VMC	VMC
Visibility	20km	20km
Altitude/FL	FL40	4557ft
Altimeter	1013hPa	NK
Heading	250°	180°
Speed	180kt	55kt
ACAS/TAS	TCAS I	FLARM
Alert	None	None
Separation		
Reported	0ft V/200m H	0ft V/400m H
Recorded	~150ft V/0.3NM[1] H	



THE AVENGER PILOT reports that a glider was observed to pass at the same level and approximately 200m to the right and behind the Avenger. The glider was first sighted in the 3 o'clock position as it was passing astern; it was too late to take any avoiding action. There was nothing observed on the TCAS and no warning from ATC.

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

THE DISCUS PILOT reports that they had been flying for a few hours heading north at approximately 4500ft and decided to return to Brent Tor. After looking right, a turn of 30° of bank was commenced. On rolling out on a heading of 180° they saw the other aircraft passing in front of the glider, from east to west, at approximately 150kts. It was at a similar level and approximately 400m ahead. The glider pilot slowed down by conducting a small climb of about 100ft, by which time the other aircraft was already well out to the west, so they increased speed on the same heading. Although the relative speed difference was a concern, the separation was not an issue from a gliding perspective.

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

THE NEWQUAY CONTROLLER reports that the traffic levels were light with a few aircraft on a Basic Service and two, including the Avenger, on a Traffic Service. The controller did not see any primary returns in the vicinity of the Avenger and therefore did not pass any Traffic Information. The pilot did not report the Airprox at the time.

[1] Separation estimated by comparing glider GPS data with radar trace.

Factual Background

The weather at Newquay was recorded as follows:

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METAR EGHQ 271420Z 02007KT 350V050 9999 FEW036 23/11 Q1035=
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Analysis and Investigation

CAA ATSI

An Airprox was reported by the pilot of the Avenger with the Discus, whilst the Avenger was receiving a Traffic Service from Newquay ATC. The Discus had been airborne for some time and was returning to its landing site. The Avenger had been tracking east and had been receiving a service from Newquay for approximately 15 minutes prior to the Airprox. At 1421:15Z they reported turning right onto a south-westerly heading and commencing descent to 4000ft (Figures 1 & 2).

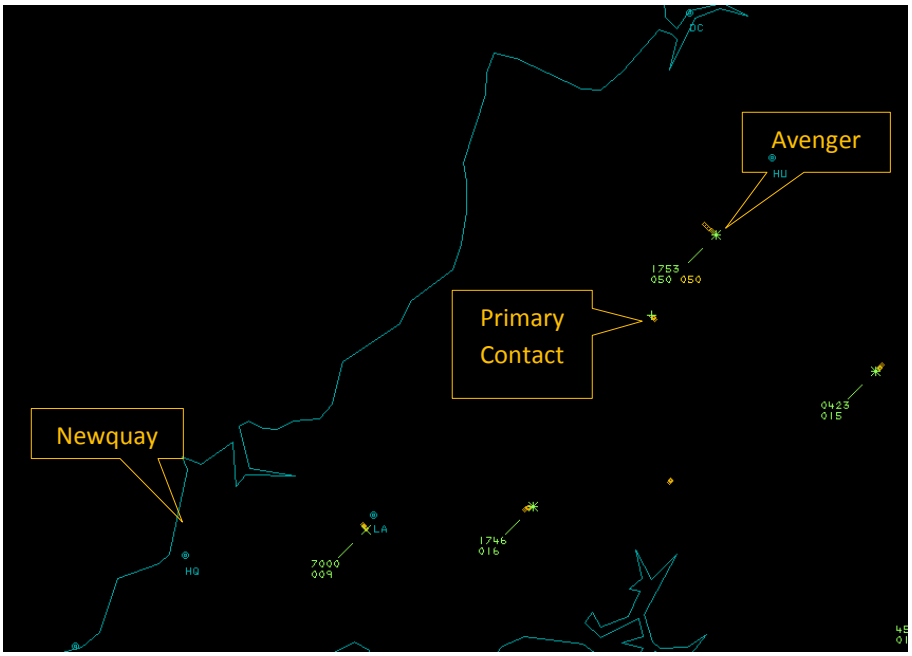


Figure 1: 1421:15 – Avenger 42NM NE of Newquay

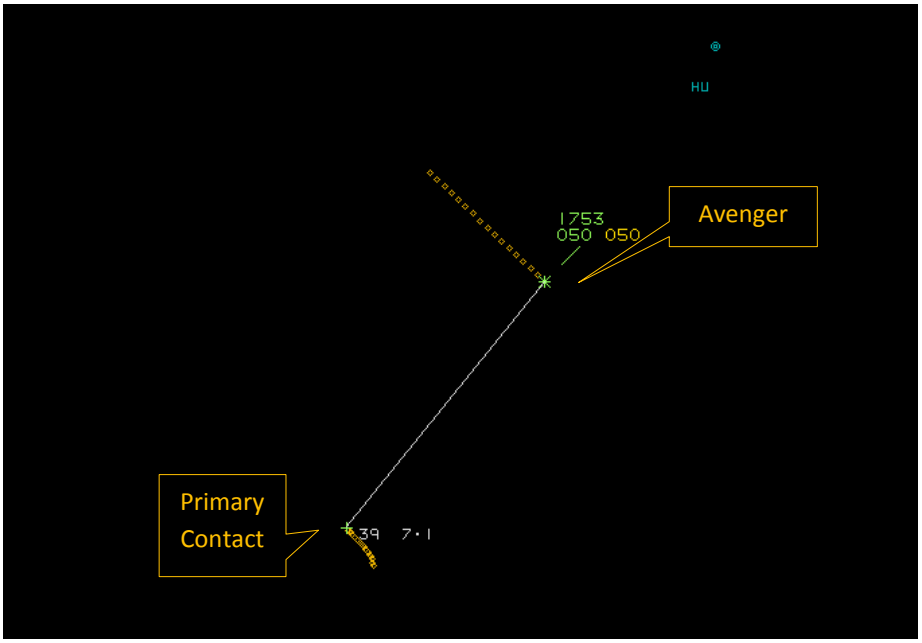


Figure 2 – 1421:15

On the area radar replay a primary-only contact, which could have been the Discus, had been visible since 1418:28, but this is not the surveillance source utilised by Newquay ATC. The primary contact subsequently disappeared from the area radar replay at 1421:26. Newquay ATC provided some snapshots of their radar display but none which showed the area being flown-in by the glider during this period. The Newquay controller reported that they did not see the primary contact associated with the Discus and so no Traffic Information was passed at any time.

Whilst the area radar appeared to show a sustained period where the primary contact was visible, this was not the picture that was being presented to the Newquay controller because they were using a different local source. The controller was handling a couple of other aircraft and a departure during this period. These aircraft were at or in the vicinity of Newquay, whilst the Avenger was operating at a range of between 38-42NM at the time. Newquay ATC is authorised to use their surveillance radar equipment to provide a surveillance service to 62NM.

The Airprox took place in Class G airspace, where ultimately, regardless of the type of ATS being provided, both pilots were responsible for their own collision avoidance.

UKAB Secretariat

The Avenger and Discus 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 Avenger pilot was required to give way to the Discus.[3]

Comments

Navy HQ

The Qualified Observer Instructor (QOI) and crew were interviewed during the investigation instigated by the occurrence report. It was not reported immediately as an Airprox and this action was taken on subsequent reflection. However, during the investigation it was established that this was viewed by the QOI that the glider was at an 'unusual proximity' although it was passing behind. This influenced the decision to submit an Airprox together with the rear crew being surprised by the position of the glider, the fact that the pilot had not observed it, there was no Traffic Information from ATC and no TCAS. The lack of TCAS was not unusual due to the amount of glider traffic that operate in that vicinity without a transponder.

Of note, usually Avengers operate at the lowest available FL as they are training helicopter observers, however, during their planning they consider operating at a higher FL in areas of gliding activity as a mitigation against the risk posed by the non-transponding gliding community.

BGA

This happened in Class G airspace where the primary barrier is see and avoid. Interoperable EC systems and/or access to FLARM-derived data for the Newquay controller would have improved everyone's situational awareness.

Summary

An Airprox was reported when an Avenger and a Discus flew into proximity 11NM NE Oakhampton at 1424Z on Wednesday 27th May 2020. Both pilots were operating under VFR in VMC, the Avenger pilot was in receipt of a Traffic Service from Newquay. The Discus pilot was not in receipt of an ATS.

[2] SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.
[3] SERA.3210 Right-of-way (c)(2) Converging. MAA RA 2307 paragraph 12.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities. 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 first looked at the actions of the Avenger crew. They were receiving a Traffic Service from Newquay and had adapted their planned transit height to try to deconflict from any glider activity. It was therefore unfortunate that they did not receive any Traffic Information from ATC (who couldn't see the glider on the radar) and that the TCAS onboard the Avenger could not detect the non-transponding glider (**CF3**, **CF4**), resulting in no situational awareness that the glider was in the vicinity. Once the pilot did see the glider, it was too late to take any avoiding action, albeit that the separation was probably enough without it and the glider was passing behind (**CF5**).

Turning to the glider pilot, they also did not have any situational awareness because the FLARM in the glider was not compatible with the Avenger's TCAS (**CF3**, **CF4**). However the glider pilot was much more sanguine about the incident and the glider member commented that this was very much normal operations in Class G for gliders, in that on rolling out of the turn, the pilot saw the Avenger, if a little late (**CF6**), still with enough time to make a climb in order to slow down the glider and allow the Avenger to pass ahead.

When looking at the role the controller had to play, the Board wondered whether Newquay had a FLARM display within the tower. They were told that whilst there was not a FLARM display, if notified that there was likely to be glider activity they sometimes utilised a spare controller to look at glidernet on an iPad, but that this could be used for situational awareness purposes only. However, on this occasion due to COVID-19 restrictions, Newquay was operating with only one controller, which meant that there was no spare capacity for the controller to ask someone to look at a separate display. Some controlling members opined that had the glider been transponder equipped then the glider would have displayed on the radar for the controller to see and a separate display would not be necessary, furthermore, the Avenger's TCAS would have alerted. Ultimately, the Newquay controller could not see the glider on the radar display and therefore could not detect the confliction and could not provide any Traffic Information to the Avenger pilot (**CF1**, **CF2**).

In determining the risk, members quickly agreed that there had been no risk of collision, but a discussion followed about whether this had been normal operations in Class G airspace, or whether safety had been degraded. In end they assessed that the unusual proximity of the glider to the Avenger had probably startled the crew and they had been correct to report the Airprox, but given the separation between the two aircraft, the situation had been such that normal safety standards had pertained; Risk Category E.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2020047		
CF	**Factor**	**Description**	**Amplification**
	Ground Elements		
	• **Situational Awareness and Action**		

1	Contextual	• Situational Awareness and Sensory Events	The controller had only generic, late or no Situational Awareness
2	Human Factors	• Conflict Detection - Not Detected	
	Flight Elements		
	• Situational Awareness of the Conflicting Aircraft and Action		
3	Contextual	• Situational Awareness and Sensory Events	Pilot had no, late or only generic, Situational Awareness
	• Electronic Warning System Operation and Compliance		
4	Technical	• ACAS/TCAS System Failure	Incompatible CWS equipment
	• 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: E.

Safety Barrier Assessment[4]

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

Ground Elements:

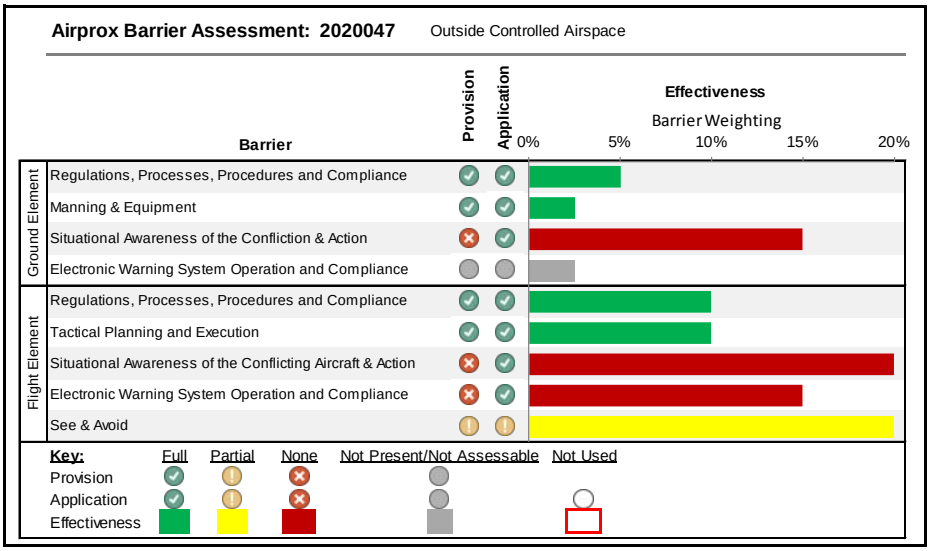
Situational Awareness of the Confliction and Action were assessed as **ineffective** because the Newquay controller did not know the glider was in the vicinity because it could not be seen on the radar.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot knew the other aircraft was in the vicinity prior to seeing it.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the FLARM on the glider and the TCAS on the Avenger were incompatible.

See and Avoid were assessed as **ineffective** because neither pilot saw the other in time to take avoiding action that could materially affect the separation.



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