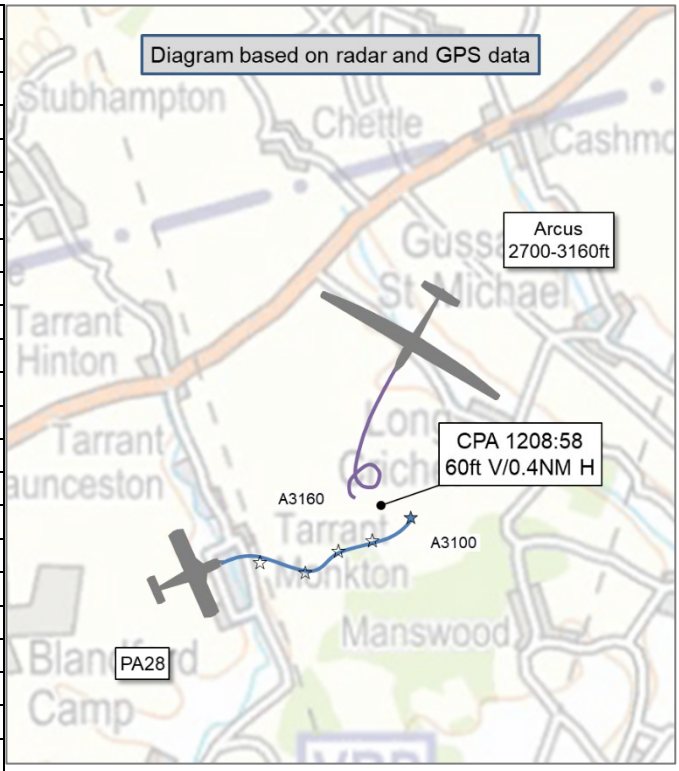
AIRPROX REPORT No 2023077

Date: 17 May 2023 Time: 1209Z Position: 5053N 00203W Location: 2.5NM NNE Tarrant Rushton

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	Arcus
Operator	Civ FW	Civ Gld
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	None
Provider	Bournemouth	N/A
Altitude/FL	3100ft	3160ft
Transponder	A, C, S	Off
Reported		
Colours	Blue/white	White
Lighting	Strobes	NK
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	3000ft	NK
Altimeter	QNH (1029hPa)	NK (NK hPa)
Heading	045°	NK
Speed	80kt	NK
ACAS/TAS	SkyEcho	PowerFLARM
Alert	None	Unknown
Separation at CPA		
Reported	0ft V/0m H	NK
Recorded	60ft V/0.4NM H	



THE PA28 INSTRUCTOR reports conducting a training flight to the north of Bournemouth with stall recovery training. During the flight briefing the instructor and student had discussed the threat of gliders given the weather conditions on the day. They carried a [TAS] and [display device] and agreed to conduct 180° turns for the lookout part of each HASELL check. This was conducted with no traffic seen by either occupant. On recovery from the stall, once the nose was lowered, the instructor saw a glider turning toward them, at the same level, slightly left of the nose and about 200-300m away. The instructor took control and elected for a spiral dive to the right to avoid the traffic; this was seen as the best course of action because it allowed the instructor good visibility out of their window whilst losing altitude away from what appeared to be a soaring glider. Once some altitude [separation] had been gained between the two aircraft the instructor noted that the glider had climbed a little higher and was entering and exiting the lower level of some cumuliform cloud. The instructor observed that, although both aircraft were being operated in Class G airspace, and no individual was at fault, it did seem sensible that all GA traffic use similar traffic avoidance systems. Nothing appeared on the PA28 [TAS] and, while it shouldn't be relied upon, it was a great extra tool. In fact, on that day there were some military helicopters conducting training further to the east that appeared to be carrying [the same TAS] devices because they appeared on the [display device], which helped the PA28 crew decide on an area [in which] to operate that was less congested. The instructor thought that perhaps a common traffic avoidance device should be carried by all GA aircraft.

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

THE ARCUS PILOT reports that they did not recall being in proximity to another aircraft during their flight.

THE BOURNEMOUTH CONTROLLER reports that they were unaware of an Airprox because nothing was reported by the [PA28] pilot at the time of the incident or subsequently.

Factual Background

The weather at Bournemouth was recorded as follows:

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METAR EGHH 171220Z 35006KT 270V030 9999 FEW028 BKN045 16/07 Q1029=
METAR EGHH 171150Z 31009KT 330V050 9999 FEW028 SCT039 16/07 Q1029=
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Analysis and Investigation

UKAB Secretariat

The PA28 and glider pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[1] If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.[2] If the incident geometry is considered as converging then the PA28 pilot was required to give way to the glider.[3]

Bournemouth Airport Occurrence Investigation

On the 17th of May 2023 a PA28 encountered a glider in such close proximity that they considered an Airprox to have occurred. The PA28 [pilot] was operating outside controlled airspace approximately 10NM to the N/NW of the airport. The crew did not notify air traffic of the incident, instead the occurrence was highlighted to the unit by the Airprox Board a few days later. The investigation [found] that the PA28 [pilot] encountered the glider while on a training flight. They saw the glider through the windscreen of the aircraft at an estimated distance of 200-300m away. The PA28 was at an indicated altitude of 3000ft at the time. [PA28 C/S] took an avoiding action turn and descent to deconflict. Shortly afterwards the crew passed a traffic report for an outbound aircraft that there was a glider in and out of cloud at about 3100ft. The controller had notified other aircraft in the vicinity of possible glider activity in the vicinity. An intermittent PSR-only radar return displayed sporadically in the lead-up to the incident, however, [PA28 C/S] was not being continuously monitored as they were in receipt of a Basic Service and at the time of the encounter there was no conflicting traffic displayed on the radar.

Comments

AOPA

This shows the importance of reporting Airprox on frequency, which allows a timely investigation to occur, and the significance of effective lookout as part of HASELL checks.

BGA

The PA28 instructor is to be commended for including awareness of other airspace users in their briefing, and specifically briefing about weather conditions that favour gliding.

The TAS fitted to the PA28 can be configured to receive transmissions from the EC equipment carried by almost all gliders, and display nearby glider traffic via participating EFB applications. Using this option could provide a useful additional safety barrier in airspace where gliders operate.

Summary

An Airprox was reported when a PA28 and an Arcus glider flew into proximity 2.5NM north-northeast of Tarrant Rushton at 1209Z on Wednesday 17th May 2023. Both pilots were operating under VFR in VMC, the PA28 pilot in receipt of a Basic Service from Bournemouth Radar and the Arcus pilot not in receipt of a FIS.

[1] (UK) SERA.3205 Proximity.
[2] (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.
[3] (UK) SERA.3210 Right-of-way (c)(2) Converging.

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.

Board members noted that the correlation of the PA28 radar track and Arcus GPS track indicated that lateral separation at CPA was of the order of 0.4NM and that the PA28 pilot may have perhaps underestimated separation due to a degree of 'startle factor'. A GA member felt that requesting a Traffic Service in a block may have assisted the PA28 pilot. Turning to EC, members noted that an optional licence could have enabled the PA28 TAS to detect the Arcus TAS and that the Arcus transponder was ADS-B out capable but it was not known whether these capabilities had been enabled (and the Arcus transponder was turned off in any case). Some members felt that the EC barrier could not be assessed but the majority felt that the situation was such that an alert could have been expected but did not occur. Overall, the Board felt that although the PA28 pilot had been startled by the proximity of the Arcus glider, normal procedures, safety standards and parameters had pertained, with the following contributory factors:

CF1: The Bournemouth controller was not required to monitor the PA28, under a Basic Service.

CF2: Neither pilot was aware of the relative position of the other aircraft until sighted.

CF3: Neither TAS alerted when an alert could have been expected.

CF4: The PA28 pilot was concerned by the proximity of the Arcus glider.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023077			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Situational Awareness and Action			
1	Contextual	• ANS Flight Information Provision	Provision of ANS flight information	The ATCO/FISO was not required to monitor the flight under a Basic Service
	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	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	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft

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:

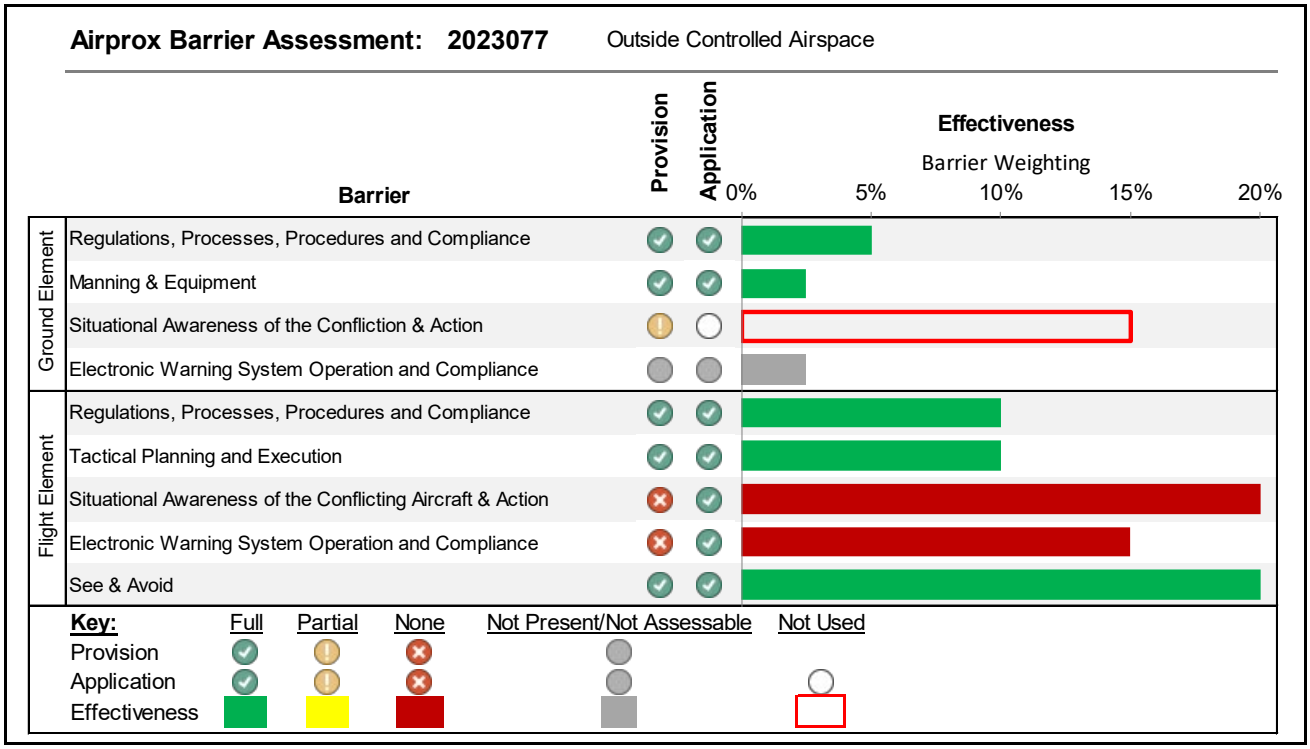
Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **not used** because the Bournemouth controller was not required to monitor the PA28, under a Basic Service.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot was aware of the other aircraft until sighted.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because neither TAS alerted when an alert could have been expected.



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