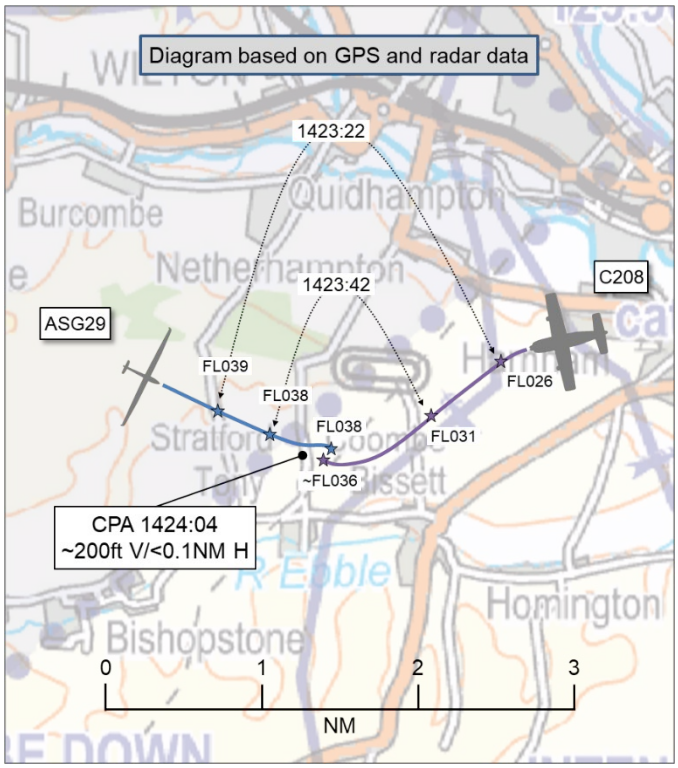
AIRPROX REPORT No 2024086

Date: 11 May 2024 Time: 1424Z Position: 5103N 00152W Location: 2.5NM SW Salisbury

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	ASG29	C208
Operator	Civ Gld	Civ Comm
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	NK
Service	None	NK
Provider	N/A	NK
Altitude/FL	FL038	~FL036
Transponder	A, C, S	A, C, S
Reported		
Colours	White	NR
Lighting	White strobe	NR
Conditions	VMC	NR
Visibility	5-10km	NR
Altitude/FL	3500-4000ft	NR
Altimeter	QNH	NR
Heading	090°	NR
Speed	75kt	NR
ACAS/TAS	PowerFLARM	NR
Alert	"*Imminent collision*"	NR
Separation at CPA		
Reported	"*directly below*"	NR
Recorded	~200ft V/0.1NM H	



THE ASG29 PILOT reports that they were gliding eastwards into the area south of Salisbury and the Old Sarum drop zone. There were very few clouds so their track was a straight line to the cloud that they were heading for. They were flying with [an EC device with ADS-B] with a 'radar-style' screen which showed no other traffic for a 9km radius except the [C208] drop-plane. Having the drop-plane on the ground was really useful as they could see their own track would take them well clear of the drop zone. Whilst they continued to glide, they noticed the drop-plane take-off and head southwards (which would cross their track). They started looking for the drop-plane but the air was very hazy and visibility was quite poor. They were still tracking the aircraft on [the EC device] which reported instantaneous rates of climb which varied between 10,000 and 20,000ft/min [they recall].

They expected the drop-plane to go under their track, either in front or behind. When it became clear that there might be a risk of collision, they pulled up and weaved to the left and then right. Both to help aid their lookout below for the aircraft and to create a changing silhouette that might have helped the pilot(s) of the drop-plane to have seen the glider. They were still looking for the aircraft when the [EC device] alarm went off and they pulled up and to the left instinctively, up to maximise the vertical distance and left to minimise the time where there was a risk of collision. As they went to the left, they saw (to their right) the drop-plane pass underneath them and were able to see [the aircraft registration].

Having subsequently reflected on this incident, [the pilot of the ASG29 noted that:]

- They didn't believe the drop-plane would be at their altitude where the tracks crossed.
- The visibility was very poor.
- When the plane was close and below, the high sides of the glider cockpit give a very restricted downwards view.

- As this was a powered aircraft converging with a glider on the right, multiple rules of the air applied and they expected the drop-plane pilot to have seen the glider and change course if there was any risk of collision.

[In consideration of other contributory factors, the pilot of the ASG29 noted that] their [EC device] was set to 'minimal warnings' (from glider competition flying) and had signalled (by audio) an 'imminent collision'. Having tracked the drop-plane take-off via [EC device]/ADS-B and head towards their track, they were totally aware of its flightpath. As it was a drop-plane, they were not confident that it would continue south(ish), knowing that at some point the pilot would have needed to have turned back to the airfield to drop the parachutists. What had caught them out was what the rate of climb (~1500ft/min from their [EC device]) was going to mean. They have no experience of other aircraft climbing in a straight line towards their track at that rate. If it was to have continued in a straight line they had expected it to have passed well beneath them.

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

THE C208 PILOT, after several requests, declined to submit a report.

Factual Background

The weather at Boscombe Down was recorded as follows:

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METAR EGDM 111420Z AUTO 11006KT 9999 SCT044/// 23/13 Q1019
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Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft could be positively identified from Mode S data. The C208 first appeared on the radar replay at 1423:14 (Figure 1).

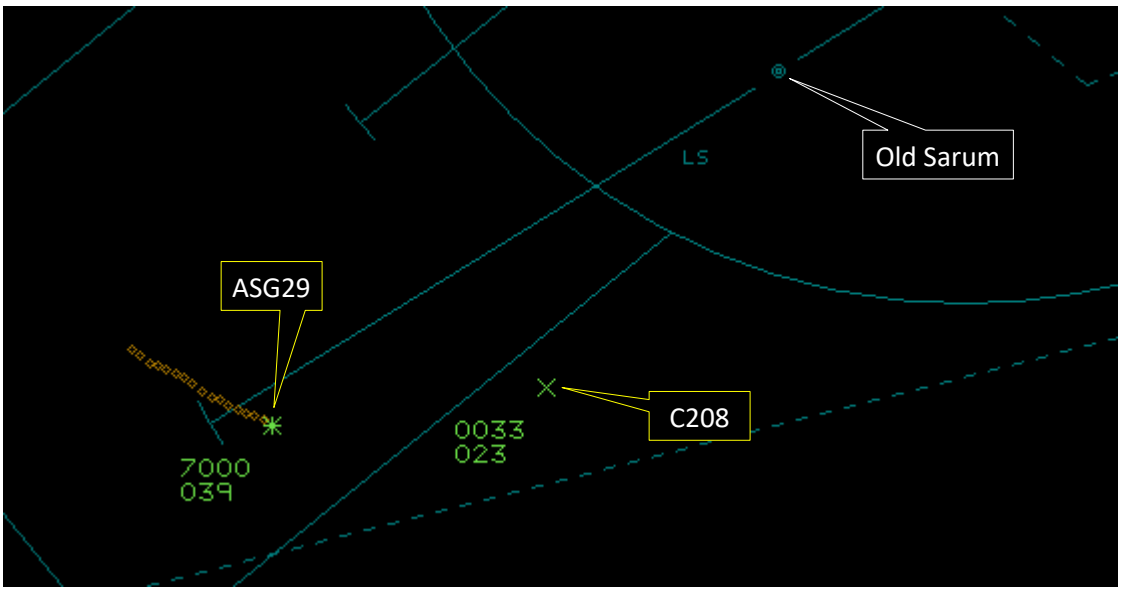


Figure 1 – Aircraft positions at 1423:14

The moment of CPA was determined to have occurred between the radar sweeps of 1424:02 and 1424:06 (Figures 2 and 3). The aircraft were depicted on the radar replay as having been flown at Flight Levels, with the ASG29 observed at FL038 at the moment of CPA. The pilot of the ASG29 kindly supplied a GPS track data file for their flight which recorded the ASG29 as having been at 3812ft Standard Pressure Altitude at CPA. The C208 was observed to have been at FL035 in the radar sweep before CPA, and at FL037 in the sweep afterwards. It has therefore been shown in the diagram as having been at approximately FL036 at the moment of CPA. The diagram was

constructed and the separation determined by combining the data sources. Both aircraft have been shown in the diagram at Flight Levels for ease of comparison.

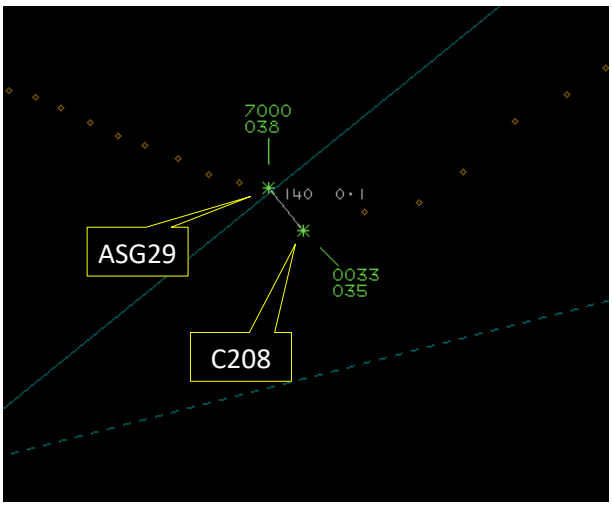


Figure 2 – The radar sweep before CPA

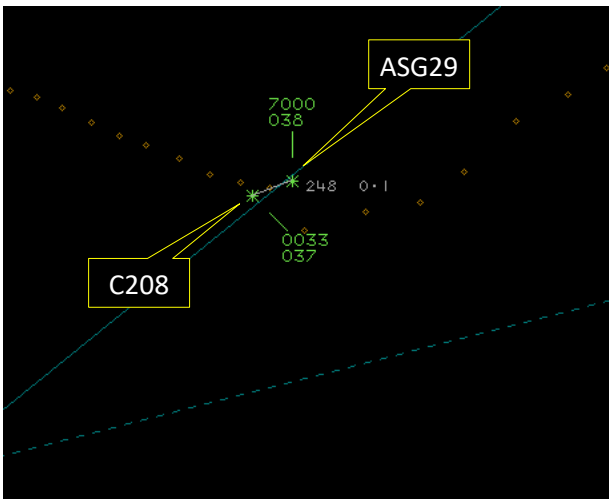


Figure 3 – The radar sweep after CPA

The ASG29 and C208 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 C208 pilot was required to give way to the ASG29.[3]

Comments

BGA

The ASG29's Traffic Advisory/Alerting System (TAS) display gave its pilot situational awareness of the approaching C208's relative lateral position throughout the latter's 2-3min flight towards the glider, despite the ASG29 pilot not having the C208 in sight for much of that time. However, the ASG29 pilot was not aware of the C208's vertical proximity until a few seconds before CPA. Selecting a lower collision warning threshold on the ASG29 TAS would have given the ASG29 pilot earlier notice that avoiding action would be prudent.

Summary

An Airprox was reported when an ASG29 and a C208 flew into proximity 2.5NM south-west of Salisbury at 1424Z on Saturday 11th May 2024. The ASG29 pilot was operating under VFR in VMC and not in receipt of a service. The flight rules under which the C208 pilot was operating could not be determined, nor if the pilot of the C208 had been in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the pilot of the ASG29, radar photographs/video recordings and GPS track data for the flight of the ASG29. 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 ASG29. Members appreciated that they had reflected on the encounter but noted that they had 'expected the drop-plane pilot to have seen the glider and change course if there was any risk of collision', and that they were 'totally aware of [the C208's] flightpath'. Notwithstanding the SERA regulations concerning the 'rights of way', members were keen

[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.

to point out that both pilots had shared an equal responsibility for collision avoidance and not to have operated in such proximity to other aircraft as to have created a collision hazard. As such, some members suggested that, whilst the pilot of the ASG29 had correctly predicted that the C208 pilot would climb through their level, they had not taken any positive action to have avoided (or to have reduced) the likelihood of a conflict until moments before the C208 had passed by. Members appreciated that the pilot of the ASG29 had taken action to visually acquire the C208 once a risk of collision had been perceived, and agreed that the sides of the glider cockpit had partially hindered their lookout (**CF4**). Members noted that the pilot of the ASG29 had not been in receipt of an ATS and agreed that it may have been prudent to have relayed their position and intentions on the Old Sarum frequency for the benefit of the pilot of the C208 (**CF1**).

Members agreed that the EC device fitted to the ASG29 had provided an alert to the presence of the C208 (**CF2**), albeit seemingly late, but noted that it had been in time for the ASG29 pilot to have taken emergency avoiding action. Noting that the pilot of the ASG29 had mentioned that their EC device had been set to 'minimal warnings', a member with particular knowledge of gliding operations wondered whether the associated display had been set to depict rates of climb rather than altitudes. If that had been the case, they wondered if that had hampered the ASG29 pilot's assimilation of the position of the C208. Notwithstanding, members agreed that the C208 had not been visually acquired until the moment of CPA and that that effectively constituted a non-sighting (**CF3**).

Turning their attention to the actions of the pilot of the C208, members were disappointed that they had not participated in the Airprox process. It was suggested that their non-participation had prevented a more fulsome analysis of the encounter and, therefore, may have impacted the benefit to flight safety awareness to be gleaned by a wider audience. Notwithstanding, members noted that no avoiding action had been apparent on the radar replay and surmised that the pilot of the C208 had not been aware of, nor had sighted, the ASG29.

Concluding their discussion, members agreed that the pilot of the ASG29 had had situational awareness of the C208 but had not fully assimilated its rate of climb and trajectory towards their position, and had not sighted it until CPA. Members agreed that safety margins had been reduced much below the norm and that there had been a risk of collision (**CF5**). However, members were in agreement that it had been the last-minute emergency action taken by the pilot of the ASG29 that had increased the separation between the aircraft such that a collision had been avoided. Accordingly, the Board assigned Risk Category B to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024086			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Tactical Planning and Execution			
1	Human Factors	• Accuracy of Communication	Events involving flight crew using inaccurate communication - wrong or incomplete information provided	Ineffective communication of intentions
	• Electronic Warning System Operation and Compliance			
2	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
	• See and Avoid			
3	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
4	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other
	• Outcome Events			
5	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.

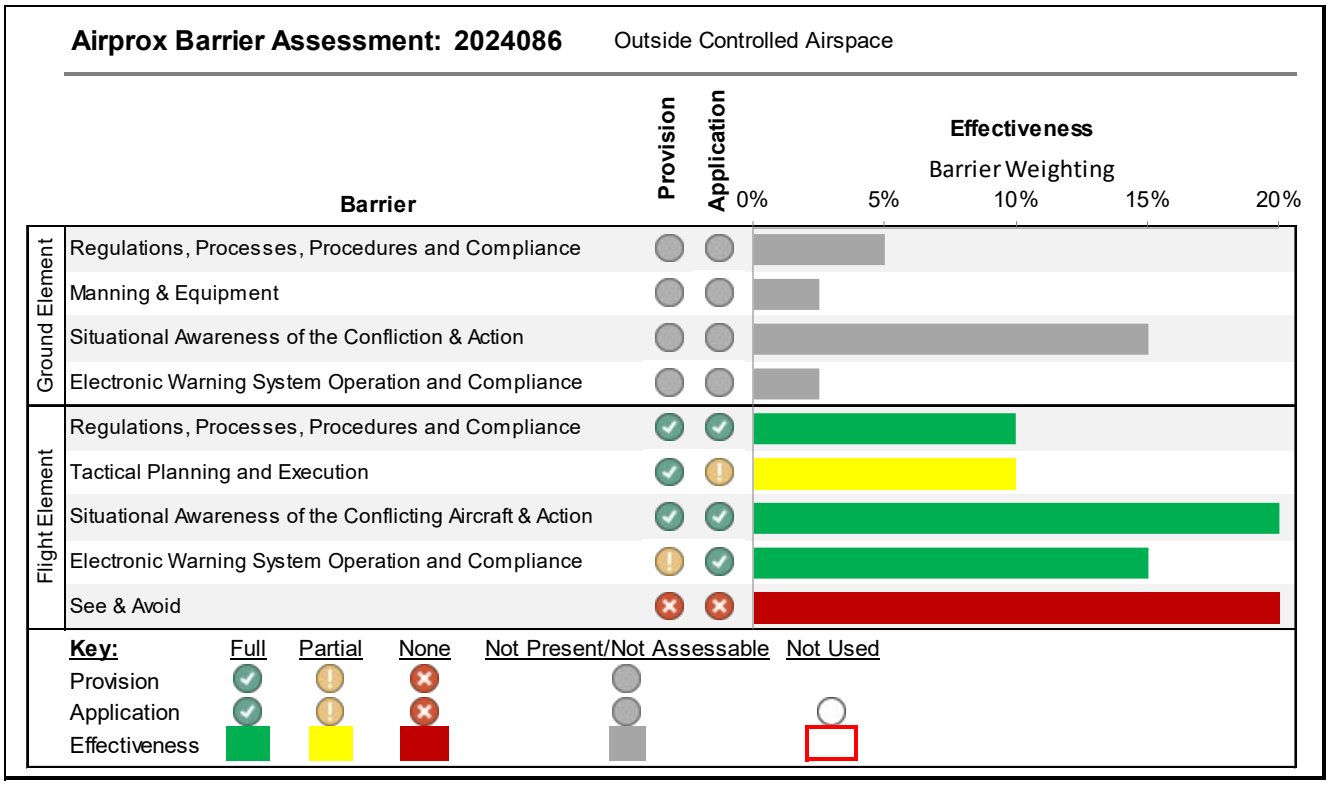
Safety Barrier Assessment[4]

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 it may have been prudent for the pilot of the ASG29 to have transmitted their intentions on the Old Sarum frequency.

See and Avoid were assessed as **ineffective** because the pilot of the ASG29 had not visually acquired the C208 until the moment of CPA.



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