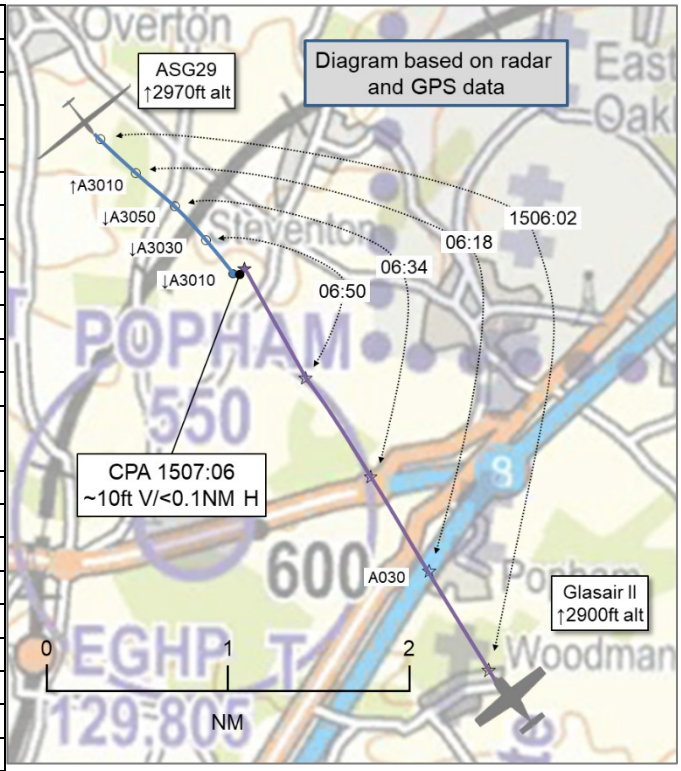
AIRPROX REPORT No 2022032

Date: 17 Mar 2022 Time: 1507Z Position: 5113N 00114W Location: 1.5NM N Popham airfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	ASG29	Glasair II
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Listening Out
Provider	N/A	Farnborough West
Altitude/FL	3010ft	3000ft
Transponder	Not fitted	A, C, S
Reported		
Colours	White	White, maroon
Lighting	None	Anti-col, HISL, Strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2900ft	2900ft
Altimeter	QNH (1030hPa)	QNH (NR hPa)
Heading	139°	330°
Speed	55kt	155kt
ACAS/TAS	FLARM	PilotAware
Alert	None	None
Separation at CPA		
Reported	20ft V/20m H	0ft V/200m H
Recorded	~10ft V/<0.1NM H	



THE ASG29 PILOT reports that they were returning to [departure airfield] after a cross-country flight and made a relatively late spot of the aircraft, which they think would have hit them had they not taken avoiding action, [although] it might just have passed to their left but they appeared to be exactly the same height. The other aircraft pilot did not appear to take any avoiding action, they don't think [the pilot of the other aircraft] saw them. They passed close enough to easily note the G reg. They add that following this event they have fitted a strobe canopy flasher to the glider to improve its visibility to other aircraft.

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

THE GLASAIR II PILOT reports that it was a clear day with 20NM visibility. They know the area is populated by gliders as well as other GA aircraft so they were at a state of heightened alert. In addition to the EC equipment that they fly with, they also fly with a pulsing landing light. They were in level flight at 2900ft when they saw the glider about 1/4NM away in their 11 o'clock position and, they believe, they saw that the glider pilot had made a positive turn to de-conflict. It appeared that it would pass safely down their left side so they maintained track and height as avoiding action would have meant turning right and losing sight of the glider under their wing. There was no electronic indication coming from the glider on their EC equipment, however, other gliders were showing. The moment passed very quickly.

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

Factual Background

The weather at Odiham was recorded as follows:

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METAR EGVO 171450Z 25009KT 9999 FEW040 13/03 Q1032 NOSIG RMK BLU BLU
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METAR EGVO 171520Z 26010KT 9999 FEW040 13/03 Q1033 NOSIG RMK BLU BLU

Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft were detected in the moments leading up to the Airprox however, as the ASG29 was not transponder equipped, it was displayed as primary only return, which had been jittery on occasion. Fortunately the ASG29 pilot supplied a GPS data file to the UKAB secretariat which has been combined with the radar data to determine CPA.

From the data available it can be seen that the pilots of both aircraft had been maintaining a relatively straight and level track until the CPA (Figures 1 & 2) which, due to the necessity to combine radar and GPS data, and the differing tolerances in how the altitude data is captured, is recorded as an approximation of less than 0.1NM horizontally and 10ft vertically.

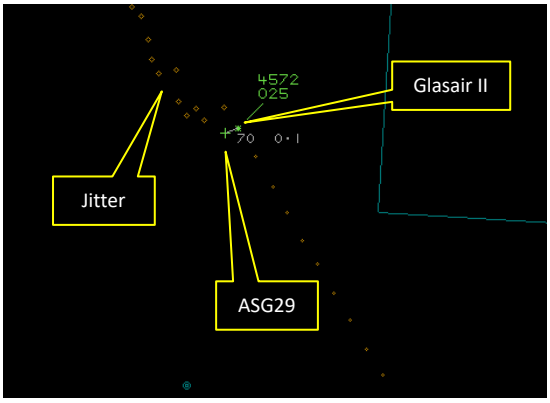


Figure 1 –
Radar track of both aircraft

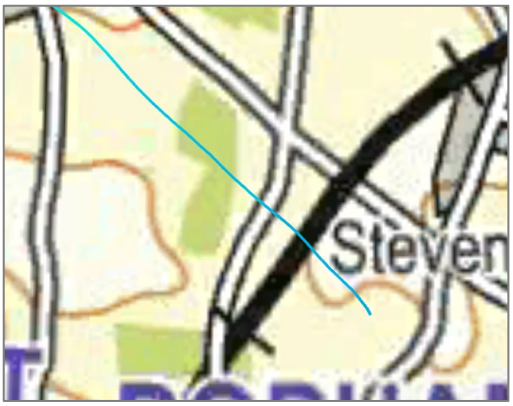


Figure 2 –
GPS track of ASG29 glider

The ASG29 and Glasair II 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]

Comments

AOPA

Due to the changes in the airspace in this area, it is now recognised as a very busy piece of uncontrolled airspace. With an increased number of Airprox occurring, it is good to see EC being carried by both pilots, unfortunately due to their incompatibility, neither system alerted. This event shows the importance of lookout and ensuring adequate separation. We are heartened that the Glasair pilot is also mitigating mid-air collision by the fitting of a pulsing landing light to improve conspicuity. When on a constant relative bearing, almost head on, it is difficult to spot another aircraft, it is therefore worthwhile rocking the wings or weaving in the horizontal plane which could improve visibility and change the bearing and, if possible, communicate with an air traffic control unit for a Traffic Service.

BGA

This area has always been busy with a varied mix of traffic, but after the expansion of Farnborough's airspace westward it appears to have become even more so, with aircraft being funnelled between this, Southampton and the Boscombe Down complex. There are opportunities for GA traffic to obtain

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

clearances into these airspaces, which would reduce the density of traffic in the choke point between. Both pilots are to be commended for voluntarily fitting additional Electronic Conspicuity equipment, but unfortunately the two products chosen use incompatible radio protocols, so this did not provide an additional safety barrier. See-and-avoid remains the final safety barrier in Class G airspace, but two white aircraft with small frontal cross-sections approaching each other head-on at the same level at a relative speed of 210 knots gives each pilot very little time to see the other and take avoiding action.

Summary

An Airprox was reported when an ASG29 glider and a Glasair II flew into proximity 1.5NM north of Popham airfield at 1507Z on Thursday 17th March 2022. Both pilots were operating under VFR in VMC, the Glasair II pilot was listening out on the Farnborough LARS West frequency and the ASG29 pilot was not 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 and GPS data. 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 discussed the actions of the ASG29 pilot and noted that, although they had been carrying EC equipment, this had been incompatible with the EC equipment carried by the Glasair II pilot (**CF2**) and as such, had not alerted the pilot to its presence. As a result, it was determined by members that the ASG29 pilot had not had any prior knowledge or awareness of the presence of the Glasair II (**CF1**). Members agreed that the small frontal cross-section of the aircraft and the head-on aspect of the trajectory would have made visual acquisition of the other aircraft difficult and, although the ASG29 pilot had become visual with the Glasair II, this had been at a late stage (**CF3**). The Board had been encouraged that the ASG29 pilot had taken action to avoid the Glasair II when they had been uncertain that the separation would be sufficient, and members agreed that in these situations, early and exaggerated manoeuvres are preferable.

Members next considered the actions of the Glasair II pilot and again agreed that they had had no prior awareness of the presence of the other aircraft (**CF1**), and that the incompatibility of the EC equipment had again been contributory (**CF2**). Considering the difficulties posed by the trajectory of the two aircraft, members had been encouraged that the Glasair II pilot had become visual with the ASG29 pilot early. A GA pilot member stated that, despite the pilot's concerns about obscuring the ASG29 with their wing, a large and obvious avoidance manoeuvre is always preferable to continuing toward another aircraft and flying in to conflict with it which, the Board agreed, had occurred here (**CF4**). Members stated that pilots should not assume that their aircraft has been seen by other pilots and that sudden and unpredictable manoeuvres from other aircraft are always a possibility.

The attention of the Board then turned to the location of the Airprox and a glider pilot member stated that this is an extremely busy area of airspace where a variety of different types of operation happen simultaneously. Members agreed that there could be a channelling or funnelling effect in this area due to the local airspace structure and pilots often fly through the area because an alternative routing through controlled airspace may not be always possible.

Finally, in assessing the risk of collision, the Board discussed that as neither pilot had had any awareness of the presence of the other, both had been relying on their lookout for collision avoidance. Members agreed that, in this case, safety had not been assured and that there had been a risk of collision (**CF5**) but, as the Glasair II pilot had been visual with the ASG29, the risk had been reduced however, as they had continued to fly toward it, the risk had not been entirely removed. Accordingly, the Board assigned a Risk Category B to this Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2022032			
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	• 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
	• See and Avoid			
3	Human Factors	• Identification/Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
4	Contextual	• Loss of Separation	An event involving a loss of separation between aircraft	Pilot flew into conflict
	• 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[3]

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

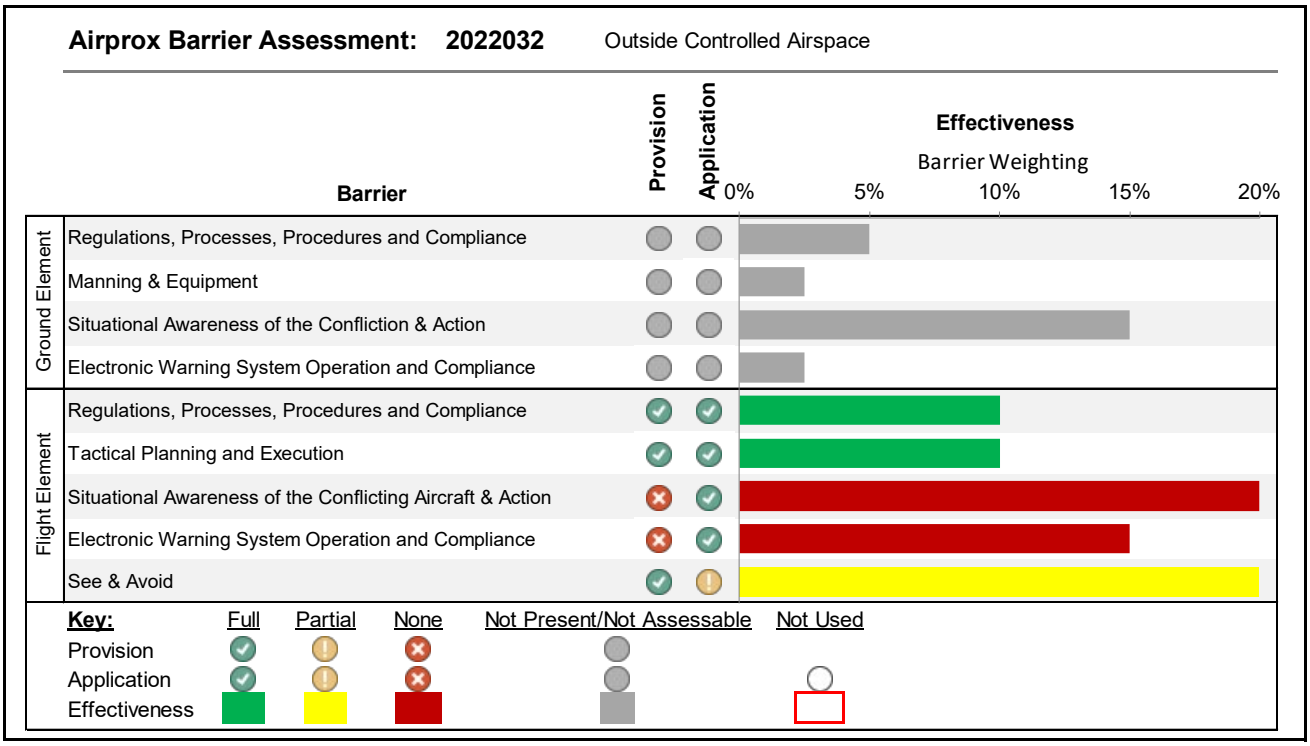
Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had any awareness of the presence of the other aircraft prior to becoming visual with it.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because although both pilots had been carrying EC equipment, it had not been compatible with the equipment carried on the other aircraft.

See and Avoid were assessed as **partially effective** because the ASG29 pilot had only become visual with the Glasair at a late stage.

[3] 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: 2022032
Outside Controlled Airspace
Barrier
Provision
Application
Effectiveness
Barrier Weighting
0%
5%
10%
15%
20%
Ground Element
Regulations, Processes, Procedures and Compliance
Manning & Equipment
Situational Awareness of the Confliction & Action
Electronic Warning System Operation and Compliance
Flight Element
Regulations, Processes, Procedures and Compliance
Tactical Planning and Execution
Situational Awareness of the Conflicting Aircraft & Action
Electronic Warning System Operation and Compliance
See & Avoid
Key:
Full
Partial
None
Not Present/Not Assessable
Not Used
Provision
Application
Effectiveness