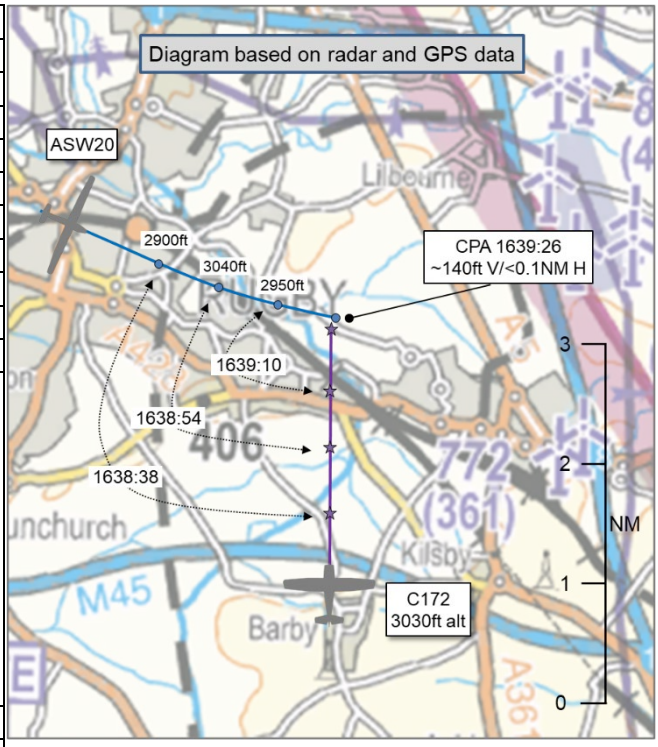
AIRPROX REPORT No 2025163

Date: 30 Jul 2025 Time: 1639Z Position: 5222N 00112W Location: Rugby

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	ASW20	C172
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	NK
Service	Listening Out	Basic
Provider	Cmn gliding freq	East Midlands[1]
Altitude/FL	~2890ft	3030ft
Transponder	Not fitted	A, C, S
Reported		
Colours	White	NR
Lighting	None	
Conditions	VMC	
Visibility	>10km	
Altitude/FL	3000ft	
Altimeter	QNH (1019hPa)	
Heading	100°	
Speed	75kt	
ACAS/TAS	FLARM	
Alert	None	
Separation at CPA		
Reported	30ft V/60ft H	NR
Recorded	~140ft V/<0.1NM H	



THE ASW20 PILOT reports that they had been piloting the glider and had been heading easterly with a heading of 090-100°. This had coincided with an energy line formed with cumulus clouds. At around 1639 they had been flying with a True Airspeed of 75kt at 3000ft (on 1019hPa (QNH)). With their peripheral vision they noticed movement at their altitude and turned their head to the right (south). This is when they had seen what looked like a Cessna 152/172, maybe 30ft above them, at [an estimated maximum] range of 60ft. There was no time to take any action and they observed it pass by their tail plane. They did not note the registration but could see the G- lettering on the aircraft over their right shoulder.

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

THE C172 PILOT did not respond to requests to submit a report.

Factual Background

The weather at Birmingham Airport was recorded as follows:

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METAR EGBB 301620Z 31011KT 9999 SCT044 24/12 Q1018=
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[1] The C172 was tracked on radar under a 4571 squawk which is allocated to East Midlands LARS Basic Service.

Analysis and Investigation

UKAB Secretariat

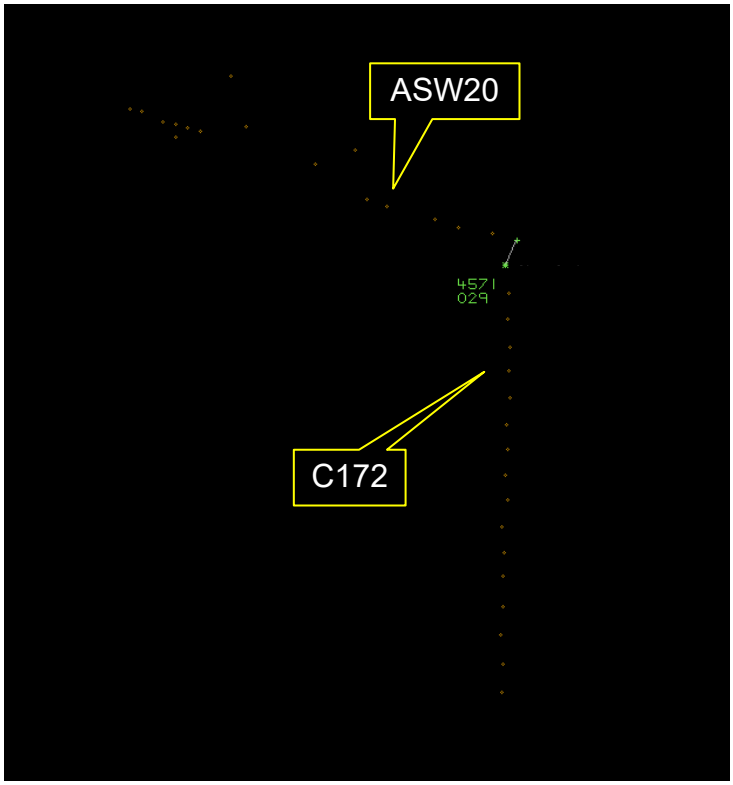


Figure 1: At CPA (1639:26)

Figure 2: From the AAT at CPA

The ASW20 was displayed as a primary return on radar. The pilot provided a GPS-track file which was combined with the available radar data to construct the diagram at page 1, allowing a direct comparison of relative altitudes at CPA. The C172 was tracked via radar and identified via Mode S data.

The ASW20 and C172 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 C172 pilot was required to give way to the ASW20.[3]

Comments

AOPA

It is unfortunate that the C172 pilot didn't engage with the Airprox investigation, having only one viewpoint of the Airprox makes it incredibly difficult for the Board to consider the actions of both pilots, which then impinges on the learning points for others.

BGA

The available data indicate that these two aircraft approached each other in wings-level flight for at least 48sec prior to CPA. During this time the ASW20 was using a linear band of rising air under cumulus clouds to maintain altitude, with the Cessna approaching at a relative speed of about 185kt on a constant bearing of between 1 and 2 o'clock relative to the glider's heading. With no alert from their TAS, the glider pilot was solely reliant on see-and-avoid to warn them of the other aircraft.

The difficulties of sighting an approaching aircraft that appears stationary in a pilot's field of view are discussed in a 1991 Australian Transport Safety Bureau (ATSB) research report "Limitations of the See-and-Avoid Principle" (Limitations of the See-and-Avoid Principle | ATSB). It notes that the human visual system is particularly attuned to detecting movement but is less effective at detecting stationary objects. When performing a systematic visual scan under optimal conditions, a pilot is unlikely to detect an aircraft whose angular size is less than 0.2°. Under sub-optimal conditions this threshold may be as high as 0.5°. A C172 with a wingspan of 11m viewed from 35° off its longitudinal axis subtends an angle of 0.2° at a range of 1.4NM, while 0.5° corresponds to a range of 0.55NM. The Cessna would have been at 0.55NM range about ten seconds before CPA, so to maximise the chances of sighting it before CPA the glider pilot would have had to perform a visual scan at least once every 10sec.

Summary

An Airprox was reported when an ASW20 and a C172 flew into proximity at Rugby at 1639Z on Wednesday 30th July 2025. The ASW20 pilot was operating under VFR in VMC and had not been in receipt of a Flight Information Service. The C172 pilot did not respond to requests for a report.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings and GPS track data for the flight of the ASW20. 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 firstly discussed the actions of the ASW20 pilot, thanking them for their report. Members noted that this event had been an example of a classic constant-bearing conflict highlighting the difficulty in visually acquiring an aircraft with no relative movement. It highlighted the value that can be gained by the carriage and use of electronic conspicuity (EC) equipment and utilising, where possible, an active air traffic service to build situational awareness. Although the ASW20 pilot had carried a form of EC common to the gliding fleet in the UK, it had not registered any electronic emissions from the C172 (**CF2**) and this, coupled with a lack of ATS support, had led to the ASW20 pilot having no situational awareness of the presence of the C172 (**CF1**). Members felt that the very late sighting by the ASW20

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

pilot had left no time for avoidance action (**CF3**) and all agreed that it had been fortuitous that this event had not ended with a different outcome.

When reviewing the actions of the C172 pilot, members expressed a degree of disappointment that the pilot had not responded to the UKAB Secretariat's outreach and wished to remind all involved in such events that the process does not apportion blame and looks only to understand how and why an Airprox occurred to enable learning for all.

When considering the risk, members acknowledged that, with no engagement from the second pilot, such events are more difficult to produce a full understanding of the circumstances, and determination of known barrier strengths and contributing factors is a more difficult task. However, the report from the ASW20 pilot and the lack of EC warning, matched with the radar replay available, had allowed the Board to assess that providence had played a major part in the event and that a serious risk of collision had existed (**CF4**) awarding this event a Risk Category A.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2025163			
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	• 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
	• Outcome Events			
4	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: A.

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:

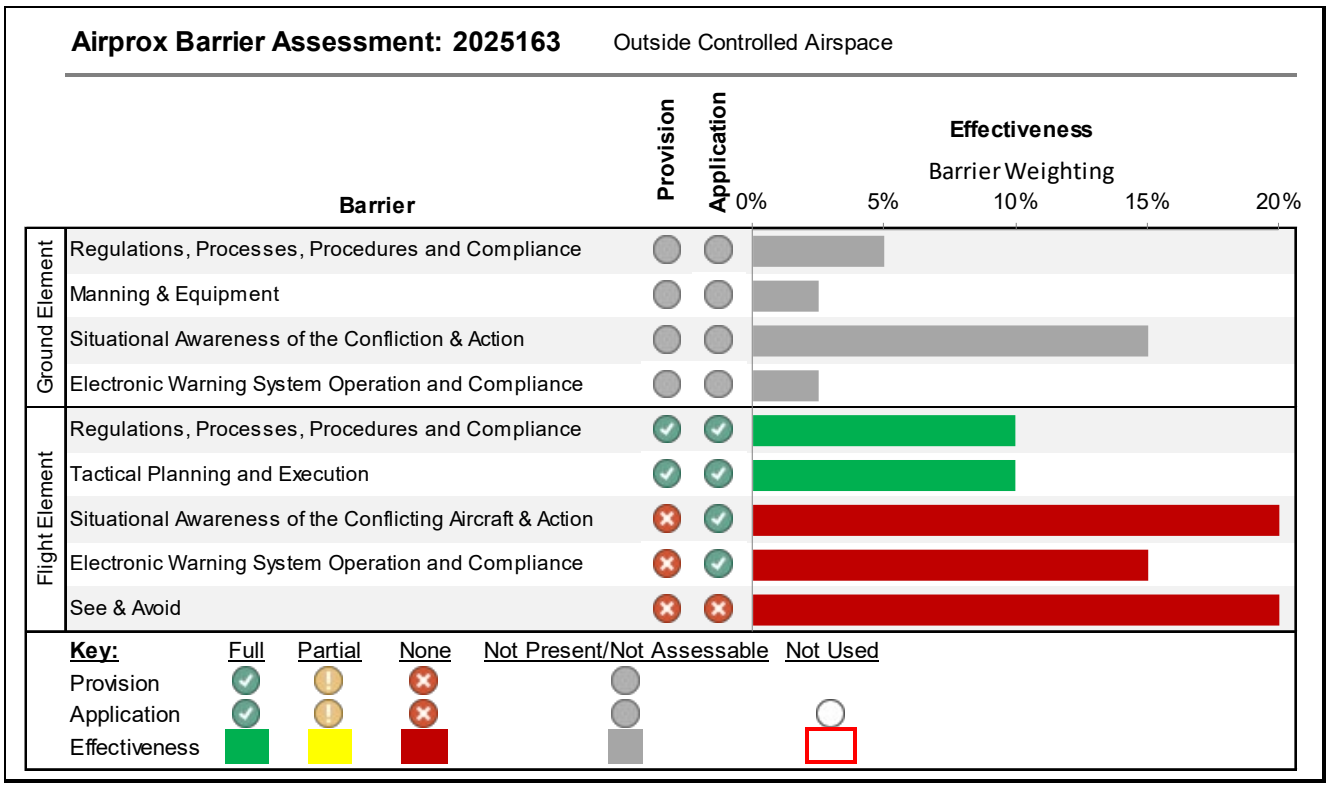
Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the ASW20 pilot had no situational awareness of the presence of the C172.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the equipment carried by the ASW20 did not register any electronic emissions from the C172.

See and Avoid were assessed as **ineffective** because the ASW20 pilot sighted the ASW20 effectively at CPA.

[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: 2025163
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