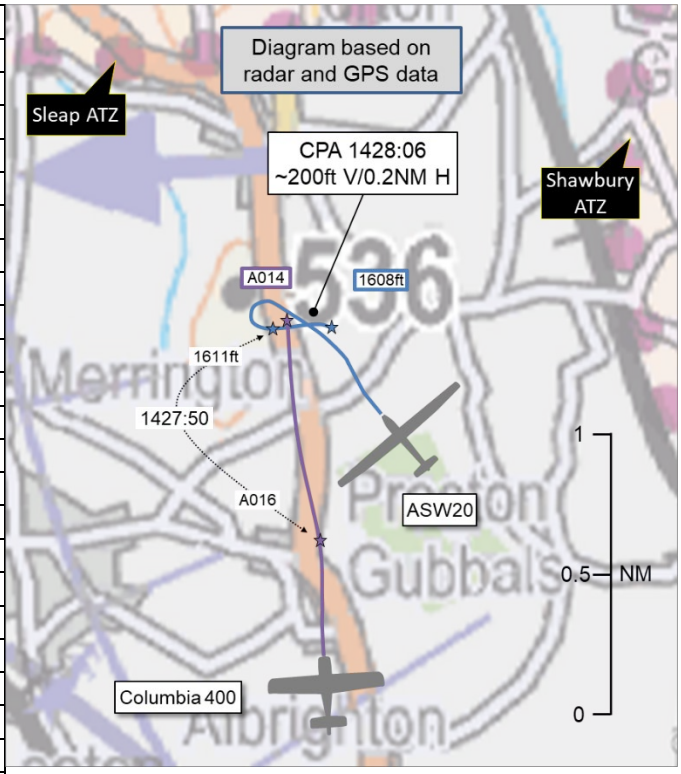
AIRPROX REPORT No 2023053

Date: 15 Apr 2023 Time: 1428Z Position: 5247N 00245W Location: 3NM W Shawbury

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	ASW20	Columbia 400
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Listening Out
Provider	N/A	Sleap Radio
Altitude/FL	1608ft	1400ft
Transponder	Not fitted	A, C, S
Reported		
Colours	White, orange	Blue, white
Lighting	NR	Strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1200ft	2000ft
Altimeter	QFE (NR hPa)	QFE (NK hPa)
Heading	110°	010°
Speed	53kt	165kt
ACAS/TAS	SkyEcho, FLARM	TCAS I
Alert	None	None
Separation at CPA		
Reported	"*150ft*"	NR V/0m H
Recorded	~200ft V/0.2NM H	



THE ASW20 PILOT reports that, whilst gliding on a soaring flight from [departure airfield], they undertook a 180° turn towards Shawbury on a heading of 115° at 1200ft agl. They saw a fast moving light-aircraft to their right, flying towards them at their altitude and tracking north. They spotted the aircraft at some 200m as it appeared in front of the leading edge of their starboard wing. They were approximately 0.5NM outside the ATZ. This aircraft looked to be of GRP construction and was coloured white with blue detail. It passed below them at an estimated 150ft, flying at approximately 130kts and, as a glider pilot, they considered this to be close enough to file an Airprox. Their glider is painted white with a dayglow nose, wingtips and rudder, and equipped with [an EC device with ADS-B, not connected to a screen] and [another EC device commonly fitted to gliders]. They called an Airprox on Shawbury 133.150MHz asking for the duty instructor to make a note of the time, and also transmitted to Sleap on 122.455MHz their intention to file an Airprox. They later spoke to Sleap Ops. Later that evening, the [Columbia 400] pilot phoned them to say that they had been the pilot who had flown beneath them taking avoiding action.

[The ASW20 pilot described that] vision from their glider is very good and it was as they rolled 'wings-level' that the other aircraft appeared in front of the leading edge. They did not see the other aircraft as they turned and would have been looking at it head on. It had a fast closing-speed.

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

THE COLUMBIA 400 PILOT reports that they were [en-route] to Sleap on a VFR flight plan. Their position and intentions to join downwind for RW18L were transmitted. They, and their passenger, noted an aircraft doing 'aeros' at a similar level to their right in, or near to, the south of Shawbury ATZ. There was traffic departing Sleap and they spotted a glider on the east of the centreline circling anticlockwise. With limited options, as [the glider's] position was not ideal, they continued to descend to join downwind as transmitted. The glider then appeared to straighten-out and converge from the left. As they were

flying at approximately 170kt, the safest option was to continue to descend and go under [the glider] (as they were unsure whether they had seen them). [The pilot of the Columbia 400] could not go left as that would have put them on the extended centreline and nearer to the glider, or right due to the proximity of the active Shawbury ATZ and the 'aeros' traffic. There were no TCAS notifications from either aircraft. Therefore, they descended below and there was no risk of collision. They then heard a radio transmission from the [glider] pilot saying that they wanted to report an Airprox. They phoned [the glider pilot] afterwards, who [reportedly] confirmed that they had not seen [the Columbia 400].

[The pilot of the Columbia 400 opined that] although having been in a somewhat challenging geographic position, [the glider pilot] seemed in good humour and [reportedly] confirmed that they had been startled. [The pilot of the Columbia 400 further opined that], arguably, they had right-of-way but they do not believe that was relevant as [the other aircraft] was a glider. [The pilot of the Columbia 400] descended underneath as they considered this the safest option as they could not predict what [the glider pilot] was going to do.

The pilot assessed the risk of collision as 'None'.

Factual Background

The weather at Shawbury was recorded as follows:

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METAR EGOS 151420Z AUTO 21004KT 9999 BKN033/// 13/06 Q1022
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Analysis and Investigation

Sleap Safety Committee Meeting

[An] ASW20 pilot had an Airprox with a Columbia 400 just north of Shrewsbury as the Columbia pilot was [en-route] to the field. The glider pilot reported the occurrence via radio and filed a DASOR. Both pilots submitted reports.

- Local glider activity to be included on the PPR brief when active and in warnings-in [the AIP entry for Sleap] on next renewal.
- An email on local glider activity to be sent to stakeholders and members of Sleap to make them aware of the increased glider traffic at weekends.

UKAB Secretariat

RAF Shawbury was not active at the time of the Airprox but the Unit radar had been operational throughout the period. Figures 1 and 2 are screenshots taken from the Shawbury Unit radar replay. An analysis of the NATS radar replay was undertaken and the Columbia 400 could be positively identified from Mode S data. The ASW20 was not observed on the NATS radar at the time of CPA (see Figure 3). The pilot of the ASW20 kindly supplied GPS track data for their flight. It was by combining these separate data sources that the diagram was constructed and the separation at CPA determined.

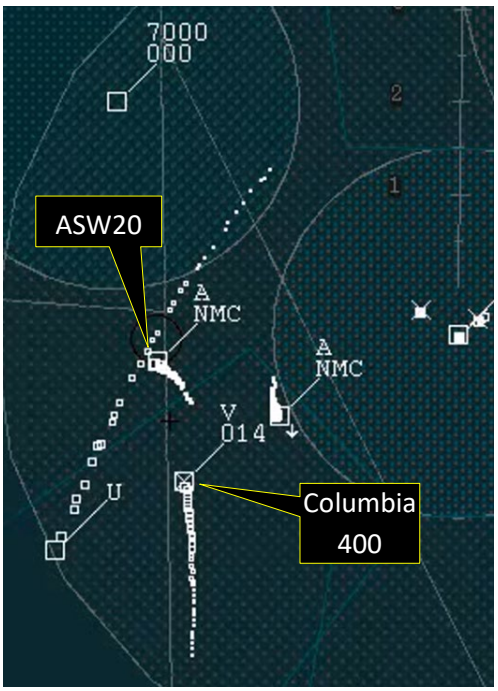


Figure 1 - 1427:35

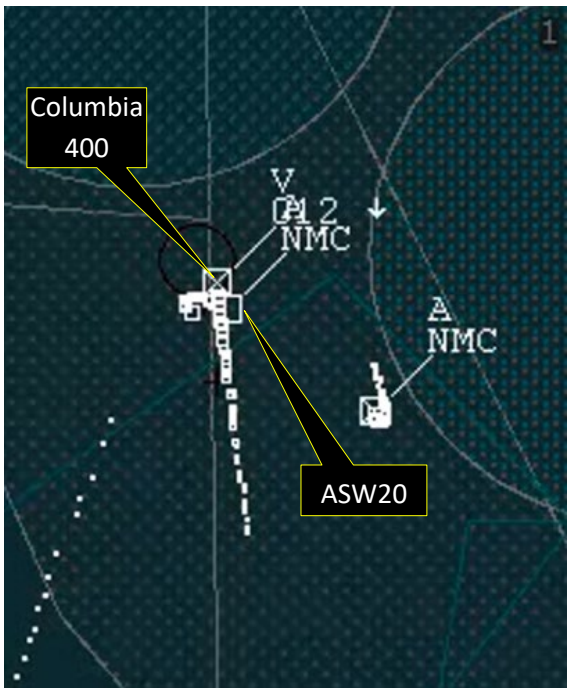


Figure 2 - CPA at 1428:06

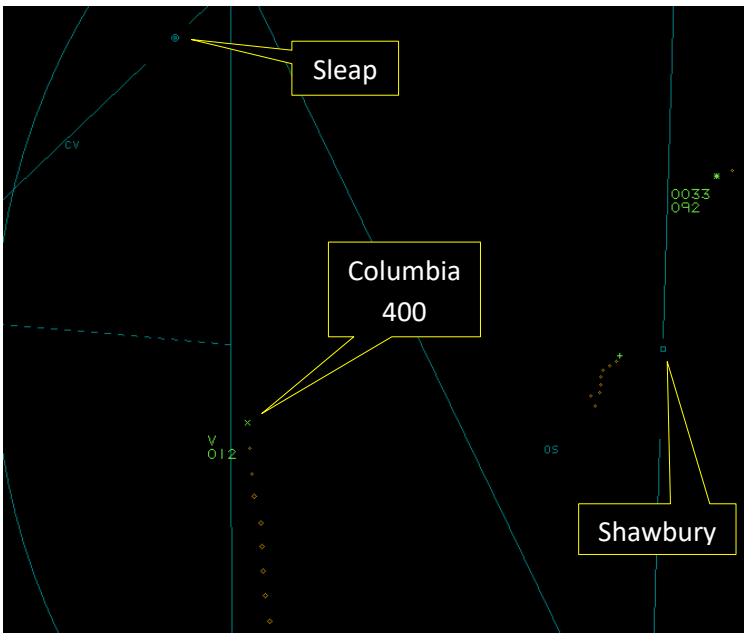


Figure 3 - CPA at 1428:06

The ASW20 and Columbia 400 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 converging then the Columbia 400 pilot was required to give way to the ASW20.[2]

Comments

BGA

CPA occurred at a point approximately equidistant from Sleap and Shawbury airfields, shortly after the ASW20 turned towards Shawbury. From this height and position in still air the glider would have arrived at Shawbury appropriately positioned to fly a circuit and land.

With no interoperable Electronic Conspicuity between the ASW20 and the Columbia, and no shared ATS, see-and-avoid was the only operating MAC safety barrier in this incident.

As the glider commenced its turn, the Columbia would have been flying towards it from the glider pilot's 8 o'clock direction, at similar altitude (so probably obscured by the glider's port wing), and at a range of about 1.4NM (see Figure 1). As the glider turned towards the Columbia, the latter would have been in the glider pilot's field of view, but head-on at a similar altitude from the glider pilot's perspective. The difficulties of sighting another aircraft approaching head-on with no relative motion are well-known. Many pilots now opt to permanently switch on forward-pointing high-intensity landing lights, even in full daylight, to aid visual conspicuity in this direction.

AOPA

When flying close to other airfields, an effective lookout is paramount even if a common standard of Electronic Conspicuity is established. Planning an arrival to an airfield, as this case shows, can be complicated and may involve re-planning an approach from a different direction that might be less busy.

Summary

An Airprox was reported when an ASW20 and a Columbia 400 flew into proximity 3NM west of Shawbury at 1428Z on Saturday 15th April 2023. The ASW20 pilot had been operating under VFR in

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

VMC not in receipt of an ATS, the Columbia 400 pilot operating under VFR in VMC listening-out on the Sleap Radio frequency.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS track data and reports from the appropriate 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.

The Board first discussed the actions of the pilot of the ASW20 and members noted that they had been operating in the vicinity of both Sleap and Shawbury airfields, approximately 3NM equidistant from each. Given that location, members agreed that it could have been reasonably expected that there may have been traffic approaching those airfields. Consequently, increased vigilance and a thorough and effective visual scan had been of paramount importance. The pilot of the ASW20 had not had any situational awareness of the presence of the Columbia 400 in the area, and members noted that they had visually acquired the Columbia 400, albeit later than desirable perhaps, and appreciated that they had been concerned by the proximity.

In consideration of the EC equipment fitted to each aircraft, members noted that the ASW20 had been fitted with a device commonly used by glider pilots as well as another device which had outputted an ADS-B signal. The Columbia 400 had been fitted with a transponder with TCAS I capability. Consequently, neither configuration would have been expected to have detected the presence of the other aircraft.

Members next turned their attention to the actions of the pilot of the Columbia 400. It was noted that, on their approach to Sleap, the pilot had been aware of traffic that had departed Sleap, and aware of traffic to their right performing aerobatics in the vicinity of Shawbury. The pilot of the Columbia 400 had not had situational awareness of the presence of the ASW20 ahead of them until it had been visually acquired and members agreed that the safest approach to Sleap had therefore required very careful consideration. It was noted that the pilot of the Columbia 400 had concluded that the best course of action had been to have maintained their course and to have flown behind the ASW20. Whilst members were in agreement that the pilot of the Columbia 400 had been required to give way to the ASW20 pilot, it was concluded that it may have been more prudent to have altered course slightly to provide greater separation. Members agreed that, if the pilot of the Columbia 400 had considered that the traffic situation on the approach to Sleap had been too busy at that moment, the safest course of action might have been to have discontinued the approach from that direction and to have re-routed or, for example, to have 'held-off' for a while to allow the aircraft departing from Sleap to have vacated the area. Notwithstanding, members agreed that the ASW20 and Columbia 400 pilots had seen the other in time to have assessed that they could maintain their course and speed without the requirement to have taken emergency avoiding action. Members were satisfied that there had not been a risk of collision and, as such, assigned Risk Category E to this event. Members agreed on the following contributory factors:

CF1. Neither pilot had had situational awareness of the other until they had been visually acquired.

CF2. The EC equipment fitted to each aircraft would not have been expected to have detected the presence of the other aircraft.

CF3. The pilot of the ASW20 had been concerned by the proximity of the Columbia 400.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023053			
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	• 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[3]

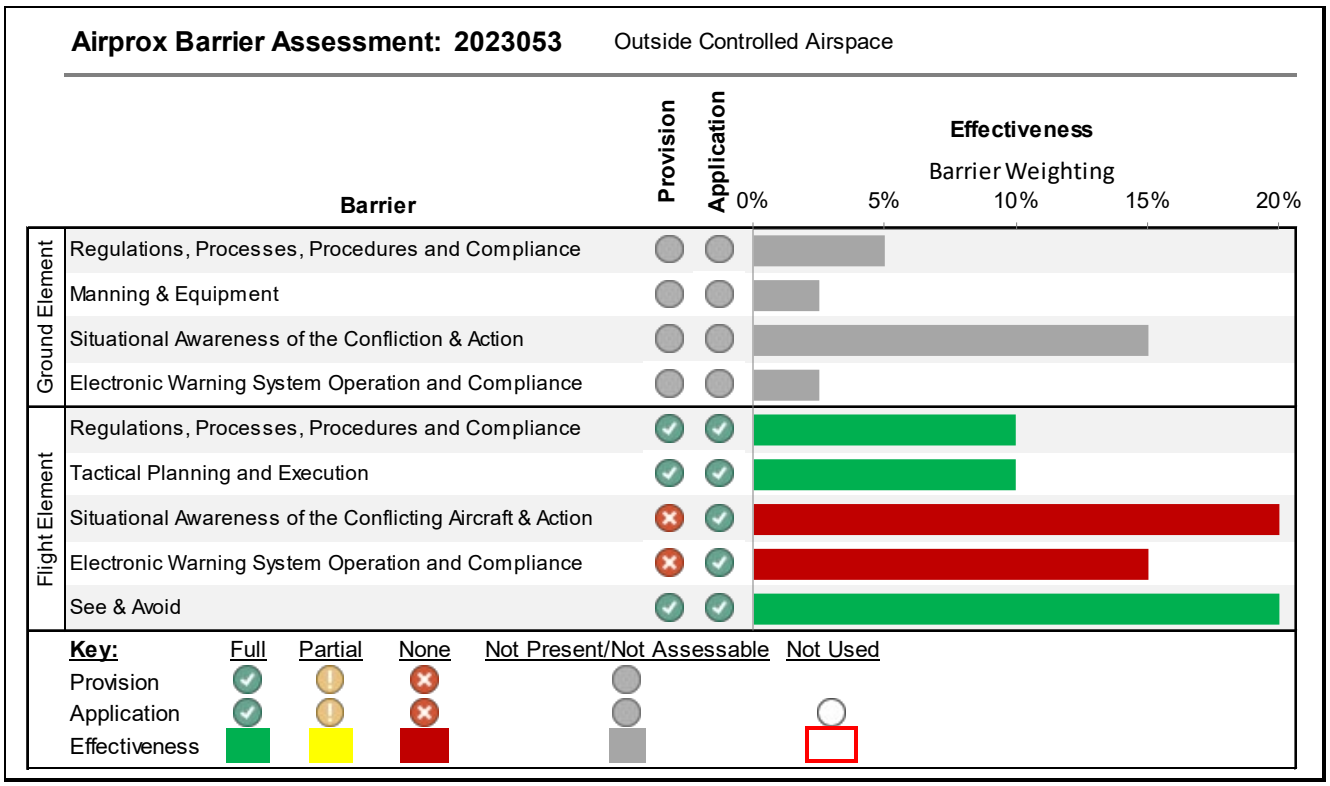
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had had situational awareness of the other until they had been visually acquired.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the EC devices fitted to each aircraft would not have been expected to have detected the presence of the other aircraft.

[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: 2023053
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