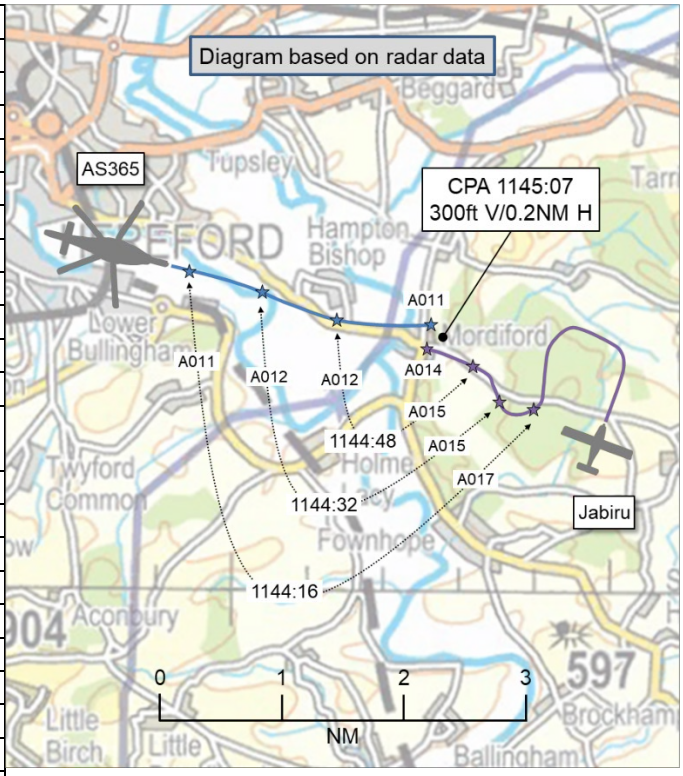
AIRPROX REPORT No 2023030

Date: 14 Mar 2023 Time: 1145Z Position: 5202N 00237W Location: 3.5NM SE Hereford

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	AS365	Jabiru
Operator	HQ JHC	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Listening Out
Provider	Gloster Approach	Shobdon Radio
Altitude/FL	1100ft	1300ft
Transponder	A, C	A, C
Reported		
Colours	Dark blue, white	White
Lighting	Nav, anti-col, strobe	Nose light
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1500ft	1700ft
Altimeter	QNH (1008hPa)	QNH (NK hPa)
Heading	120°	NK
Speed	130kt	90kt
ACAS/TAS	Other	Not fitted
Alert	TA	None
Separation at CPA		
Reported	100ft V/0.1NM H	200ft V/0.5NM H
Recorded	300ft V/0.2NM H	



THE AS365 PILOT reports that they were in the cruise at approximately 1500ft AMSL heading east. They were crossing the ridgeline between Hereford and Ledbury when they visually identified another aircraft in their 12 o'clock. It was crossing left-to-right ahead of them and initially posed no conflict. As the other aircraft reached their 1 o'clock, it turned towards them and now seemed to be on a conflicting path. The [pilot of the AS365] amended their heading to the left to deconflict. The other aircraft seemed to then turn again towards them and presented another conflicting flight path. [The pilot of the AS365] immediately turned further to the left and descended below 500ft agl in the belief that this would provide the best separation as it would be unusual for a civilian fixed-wing aircraft to descend below 500ft agl. The civilian aircraft flew reasonably close down the right-hand side of their aircraft, estimated to have been within 0.1NM. Although wary of the other aircraft, they did not find this uncomfortable. As the civilian aircraft approached their 3 o'clock position, slightly above, it turned sharply towards them and descended into their 6 o'clock position where they lost sight of it. [The pilot of the AS365] descended further to 250ft agl, accelerated to maximum cruise speed and followed a saddle feature in the ridgeline. Turning further left initially, they re-acquired it in their 7 o'clock, now heading in the same direction as [the AS365] moving towards their 6 o'clock. Further turns to re-acquire failed to re-identify the fixed-wing, which was assumed to have turned to leave the area.

[The pilot of the AS365] then climbed to 500ft agl and spoke to Gloster Approach to see if they were aware of any callsign working with them that had transited in their direction. Gloster informed them that they had no-one on frequency they expected to be in that area. Once on the ground, [the pilot of the AS365] rang [the Gloster controller] to discuss the situation further but, due to a lack of radar, they were unable to provide any further assistance. The civilian aircraft looked like a light, single-engine plane, with a high-wing. It was predominantly white.

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

THE JABIRU PILOT reports that they were on a scenic flight, manoeuvring in the Mordiford area. Conditions were very good (VMC and extensive visibility). They saw the helicopter as it flew towards their position from Hereford at a distance of approximately 5NM. They were in visual contact with this traffic at all times until it passed their position. They estimate that it passed no less than 0.5NM horizontally and 200ft below their altitude as it tracked east overhead Mordiford. At no time was there any risk of collision, as they were visual with the traffic until it passed their position.

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

THE GLOSTER CONTROLLER reports that they were the [Gloster Approach ATCO at the time of the Airprox]. They had not listened to the recording nor seen any radar replays, and their comments relating to this incident are from memory.

When they took over the Approach position, [the pilot of the AS365] was already under a Basic Service from Gloster Approach and believed to be in the Ledbury area. They were not aware of their exact location. The ATM, which is for situational awareness only, tends to only show traces up to a range of 5NM from the airfield, so it is [often] not possible to see aircraft flying in the local area.

Although pilots that depart Gloucestershire on a local flight [provide] their initial direction of turn after departure, they are not required to provide updates on their flight and can change track and level as required under a Basic Service. Likewise, [a Gloster controller] is not required to monitor their flight.

[The Gloster controller] took a phone call from the pilot when they rang the Tower to advise that they had set down in a field and thought they may have been followed by a light-aircraft. This was a strange thing to say, which is why [the Gloster controller] remembers the phone call. Having checked the flight progress strips, [the Gloster controller] advised that the [pilots of the] aircraft [that they had been] working, were unlikely to have been following a helicopter. It was possible that there were aircraft in the local area not on the Gloster frequency, as it is in Class G, and pilots are not obliged to receive a service from Gloster.

The pilot did not make any mention of an Airprox during the phone call.

THE SHOBDON RADIO OPERATOR reports that RW26LH was in use and there was Air/Ground service [only] as the duty FISO [was unavailable]. [The pilot of the Jabiru] requested a Basic Service, (which they were unable to provide as an A/G).

Summary of Radio transmissions:

11:31 [The pilot of the Jabiru] reported [their position as south of the zone] at 2000ft and [that they] would maintain a listening watch.

11:40 Shobdon Radio contacted [the pilot of the Jabiru] to advise they were going to use a handheld radio for five minutes. ([The pilot of the Jabiru] was the only pilot on frequency). [The pilot of the Jabiru] acknowledged and reported that they were overhead Hereford at 2000ft.

11:45 A/G operator returned to using the main radio and contacted [the pilot of the Jabiru] who reported being 2 miles north of Hereford.

11:55 [The pilot of the Jabiru] reported 5 miles to the south at 1500ft on QFE 998hPa.

At no point during the day did [the pilot of the AS365] make contact with Shobdon Radio.

Factual Background

The weather at Gloucestershire Airport was recorded as follows:

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METAR EGBJ 141150Z 29006KT 240V340 9999 SCT024 08/01 Q1008
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Analysis and Investigation

Gloucestershire Airport Unit Investigation

Runway 27RH [had been in use], the QFE was 1004hPa, [and the] frequencies were split. The only transmissions that were found in the time period near to the time [of the Airprox] were as follows:

> 1053 [AS365 callsign] (the pilot couldn't hear ATC initially). QNH 1007hPA, operating in vicinity of Ledbury up to 8000ft and asked about Cotswold CTA (they were told it was not active until 1700). A Basic Service was given. 'No reported traffic in that area' was given by the controller and no transmissions were made or received until 1146.
>
> 1145 (No report on frequency of an Airprox at this time).
>
> 1146 [The pilot of the AS365] called to ask if Approach had any light, fixed-wing traffic operating between 1000-1500ft routing to Hereford. [The controller responded that there were] '4 aircraft local-flying but no radar and not specifically aware of aircraft flying in your vicinity'.
>
> [Attempts were made to contact the pilot of the AS365 again] but no response on any occasion.
>
> 1156 A telephone call from the pilot of the AS365 to advise the controller that they had landed at a local site and were checking again to see what traffic the controller had [been aware of] when they had previously asked on frequency at 1146.

Findings and observations:

- [The pilot of the AS365 had been] under a Basic Service in vicinity of Ledbury.
- Cheltenham races had been on and specific airspace within the period had been monitored. The airspace was busy with arrivals and departures within this period to Gloucestershire Airport and Cheltenham Racecourse Heliport.
- The Gloster Approach controller changed at 1130.
- No transmissions had been made from the pilot or controller from 1053 to 1146.
- Generic Traffic Information was requested by the pilot at 1146 but the controller couldn't see Ledbury on the ATM and would not have known where each VFR departure from Gloster would have been operating. It is Class G airspace at Ledbury.
- [The pilot of the AS365] had been on a Basic Service and the controller would not have been able to ascertain if a definite risk of collision at any point would have existed in this location.
- The controller did not pass any information to [the pilot of the AS365] from 1053 to 1146.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken. In the absence of Mode S data, both aircraft were identified by reference to the respective pilot's narrative reports.

Radar data from a single-source radar was used, and both aircraft were observed. Notwithstanding, the periodicity of the radar sweep was 8 seconds and the moment of CPA could not be precisely determined (see Figure 1). A multi-source radar replay was used which, having a 4 second data refresh rate, meant the CPA could be observed (see Figure 2). However, the observed tracks of the aircraft, given that they had been combined by the radar system from the multiple radar sources, were not clear. The moment of CPA and the separation between the aircraft were determined by comparison of the two radar replays. Additionally, the radar replays presented the aircraft at Flight Levels so an appropriate conversion factor was used to display the aircraft altitudes in the diagram.

Further radar screenshots have been included to highlight the relative positions of the aircraft at approximately 1min and 2min after CPA (see Figure 3 and 4).

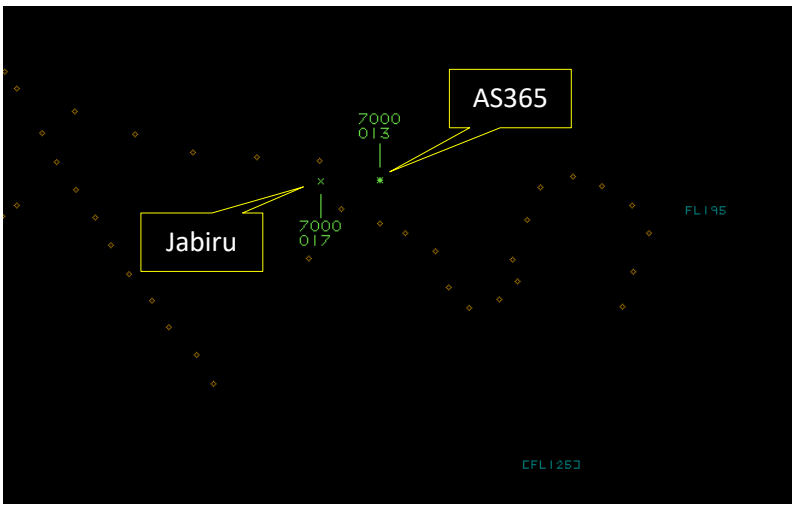


Figure 1 - The relative positions of the aircraft at 1145:12 using single-source radar data. The aircraft tracks appear smooth but the CPA could not be determined.

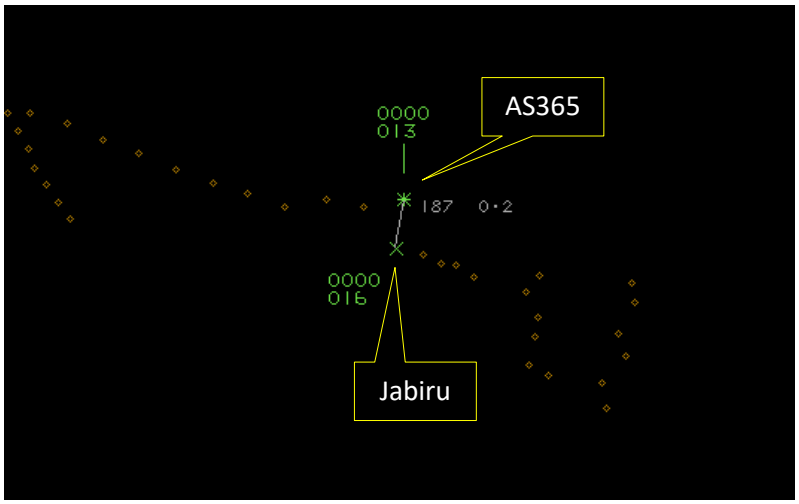


Figure 2 - The relative positions of the aircraft at 1145:07 using multi-source radar data. This is the moment determined to have been CPA but the aircraft tracks from the replay were not smooth.

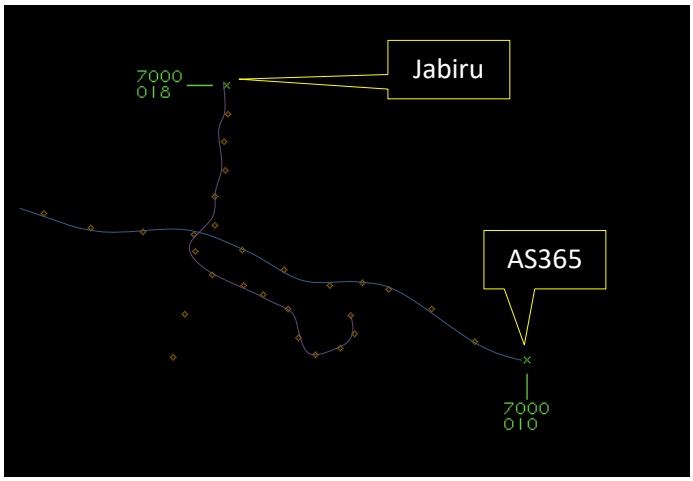


Figure 3 - The relative positions of the Jabiru and AS365 approximately 1min after CPA. The tracks have been coloured for clarity (blue: AS365, purple: Jabiru).

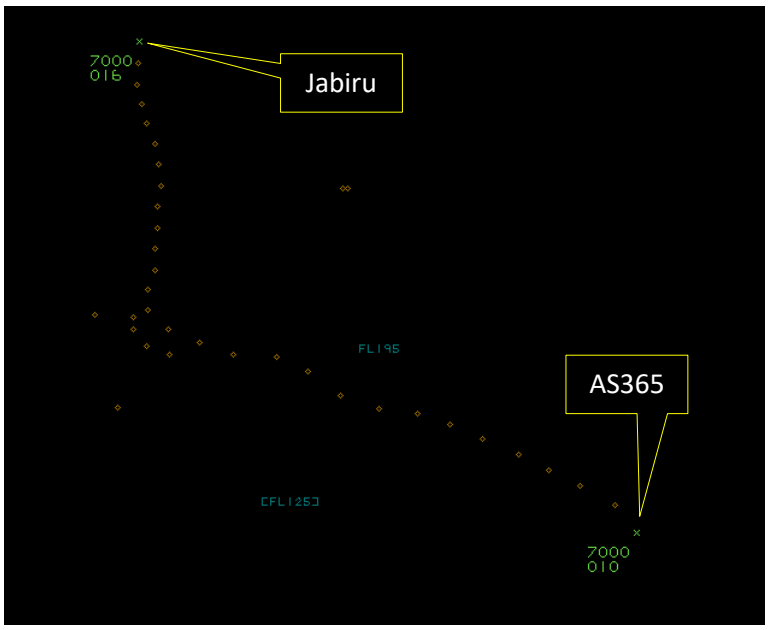


Figure 4 - The relative positions of the Jabiru and AS365 approximately 2min after CPA.

The AS365 and Jabiru 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

JHC

The strong lookout of the AS365 crew spotted this traffic at a decent distance and had a TAS contact from 7-8NM. Although the risk of collision was low due to the crew maintaining visual contact, there was a danger that the crew could have been distracted by the Jabiru and therefore suffer from reduced lookout for other potential conflicts. The AS365 crew were so concerned over the actions of the Jabiru pilot that they dropped to below 500ft agl and increased their speed to remove themselves from the area. This had the potential to have impacted the rest of their sortie.

AOPA

Whilst flying, an effective lookout is vitally important at all times, especially when in a non-radar environment when a Traffic Service and standardised Electronic Conspicuity aren't available. When other aircraft are observed, it is incumbent on both pilots to ensure adequate separation and expect the unexpected. The timely reporting of an Airprox on the relevant frequency, and the completion of an Airprox reporting form, are important to ensure appropriate learning points can be disseminated.

Summary

An Airprox was reported when an AS365 and a Jabiru flew into proximity 3.5NM southeast of Hereford at 1145Z on Tuesday 14th March 2023. Both pilots were operating under VFR in VMC, the AS365 pilot in receipt of a Basic Service from Gloster Approach and the Jabiru pilot listening out on the Shobdon Radio frequency.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the air traffic controller and Air/Ground Radio operator involved and reports from the appropriate

[1] (UK) SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.
[2] (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on. MAA RA 2307 paragraph 13.

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 considered the actions of the pilot of the AS365. Members noted that the pilot had been in receipt of a Basic Service from Gloster Approach but that their distance from Gloucestershire Airport had meant that, at best, only very limited information on the traffic situation could have been provided. Members noted that the AS365 had been equipped with a TAS and that the AS365 pilot had been alerted to the presence of the Jabiru, which was subsequently acquired visually at a range of approximately 3NM. Members noted that the pilot of the AS365 had estimated that the Jabiru had passed down the right-hand side of their aircraft with a separation of 0.1NM. Although having described that they had been wary of the Jabiru at that stage, the pilot of the AS365 opined that they had not found this to have been uncomfortable. Members were in agreement that, whilst the pilot of the AS365 had been somewhat concerned by the proximity of the Jabiru, they had appeared to have been more concerned by the perception that they had been subsequently followed. Reviewing the radar replay screenshots taken after CPA, members agreed that that appeared not to have been the case. It was acknowledged, however, that the flightpath of the Jabiru may have appeared to the pilot of the AS365 to have been unpredictable.

Turning their attention to the Ground Elements, members were in agreement that the Gloster controller had not been required to have monitored the flight of the AS365 under the terms of a Basic Service. It was further agreed that the Gloster controller would not have had any specific situational awareness of traffic operating in the area where the Airprox occurred. Members noted that the Shobdon Air/Ground Radio operator had had no communication with either pilot around the time of the Airprox and could not have influenced events.

Members next considered the actions of the pilot of the Jabiru and noted that they had described that they had been in receipt of an AGCS from Shobdon Radio. Members were in agreement that, given that their location at the time of the Airprox had been some 15NM away from Shobdon, maintaining a listening watch on the Shobdon Radio frequency had not provided the pilot of the Jabiru with any situational awareness of the presence of the AS365. Members wondered whether the Jabiru pilot may have been better served by contacting the Gloster controller given that their flight had taken them to an area equidistant from Shobdon and Gloucestershire Airport. Notwithstanding, members noted that the AS365 had been visually acquired in plenty of time for the Jabiru pilot to have considered the best course of action to maintain reasonable separation. Acknowledging that the pilot of the Jabiru had previously been flying a meandering track during their scenic flight, members considered that they had maintained a broadly steady course as they had passed the AS365.

In conclusion, members agreed that both pilots had visually acquired the other in plenty of time and that there had been reasonable separation between the aircraft. Members were satisfied that there had been no risk of collision and that normal safety standards had pertained. As such, the Board assigned Risk Category E to this event. Members agreed that the following factors (detailed in Part C) had contributed to this Airprox:

CF1. The Gloster controller had not been required to monitor the flight under the terms of a Basic Service.

CF2. Neither pilot had situational awareness of the presence of the other until they had been visually acquired.

CF3. The TAS fitted to the AS365 had alerted the AS365 pilot to the presence of the Jabiru.

CF4. The pilot of the AS365 had been concerned by the proximity of the Jabiru.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023030			
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	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
	• 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[3]

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

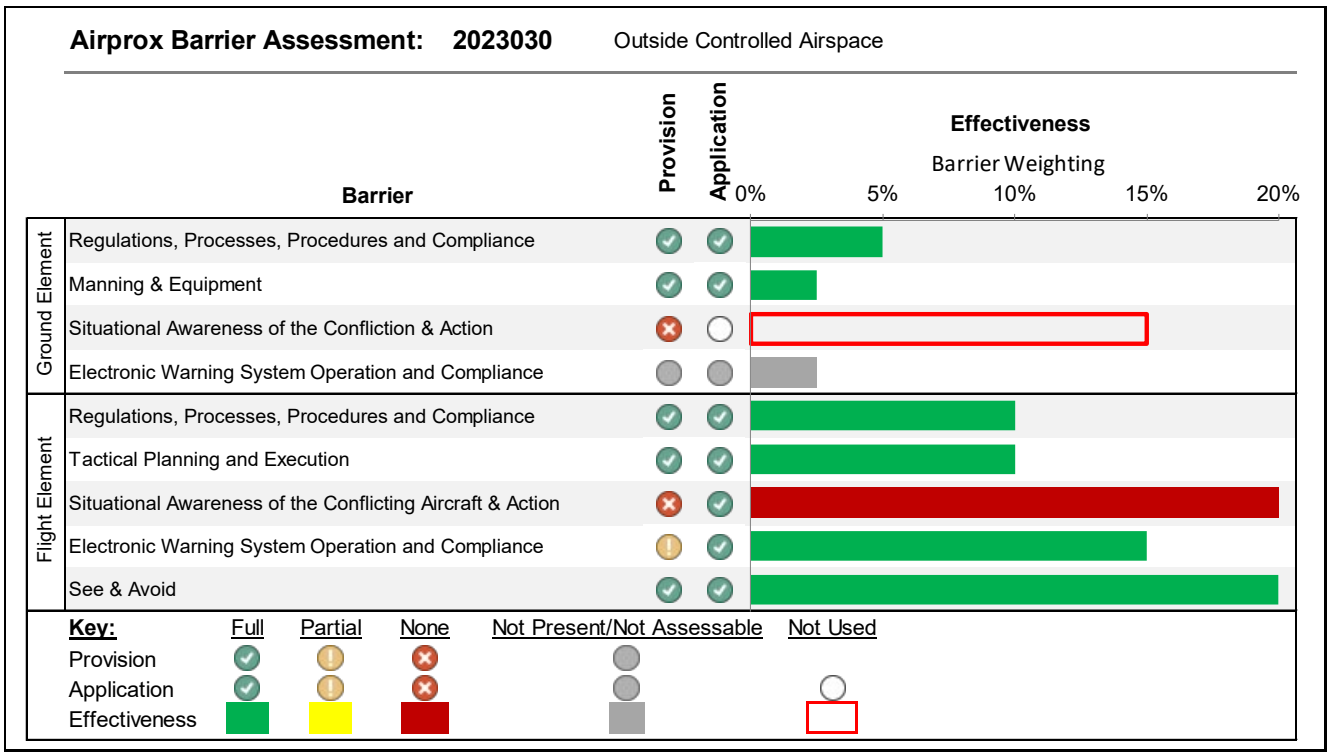
Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **not used** because the Gloster controller had not been required to monitor the flight of the AS365 under the terms of a Basic Service.

Flight Elements:

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

[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: 2023030
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