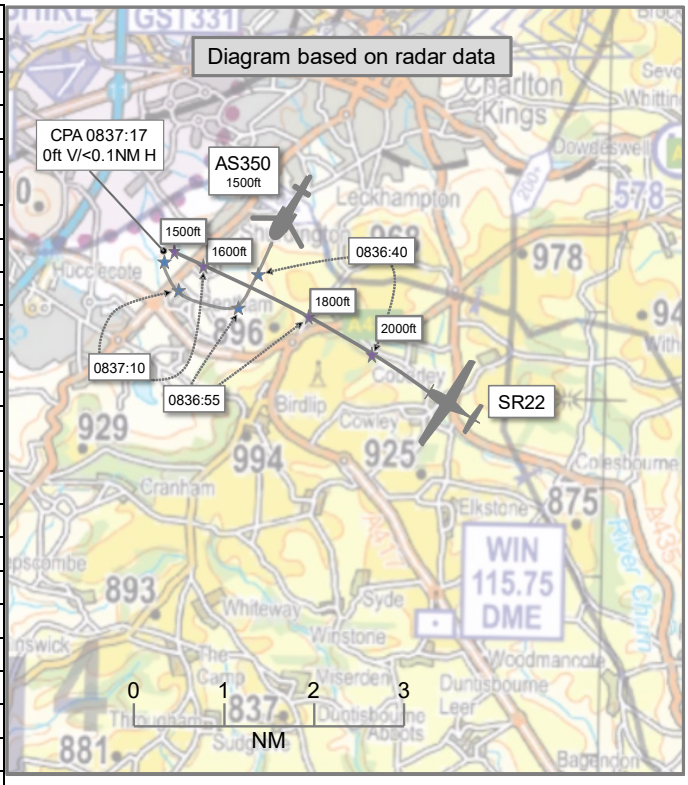
AIRPROX REPORT No 2023056

Date: 20 Apr 2023 Time: 0837Z Position: 5151N 00207W Location: 3NM SE of Gloucester

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	AS350	SR22
Operator	Civ Helo	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Basic
Provider	Gloster Approach	Gloster Tower
Altitude/FL	1500ft	1500ft
Transponder	A, C, S	A, C, S+
Reported		
Colours	Blue	Blue
Lighting	Red anti-collision, navigation, landing	Standard
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1500ft	NK
Altimeter	QNH (1024hPa)	QNH
Heading	360°	NK
Speed	NK	NK
ACAS/TAS	Unknown	TAS
Alert	N/A	Unknown
Separation at CPA		
Reported	0ft V/10ft H	100ft V/ NK H
Recorded	0ft V/ 0.1NM H	



THE AS350 PILOT reports they had planned to fly (1 POB) from [departure point] to a private site, to meet the aircraft owner and pilot and on to [destination] 2 POB. They departed at 0742 and landed at 0753 at the private site. On arrival they were told that the destination had changed to a [hotel] private site in Cheltenham, then on to [destination]. The aircraft owner took the RH seat and was pilot flying, and they [the reporter] took the LH seat and were pilot monitoring. Dual controls were always fitted. They departed at 0824. The RH pilot asked them to take control near [the hotel private site] whilst they looked at the surroundings of the hotel. They [the reporter] took control and were LH pilot flying. A right-hand orbit was set at approximately 1500ft 800-1000m radius. The Airprox was at 0835, turning right, into sun whilst looking past the RH pilot. They landed [at the hotel] at 0843 and contacted Gloucester ATC at 0848 by phone. Notes: The LH pilot has no flight instruments. [The hotel] site is frequently visited. [The LH and RH pilots] have been flying together during last 3 years and previously on and off since 2012. They heard an aircraft reporting Chedworth to join right base for RW09. [The pilot of] an aircraft reported visual with them. They had not seen the Airprox traffic until converging and gave way with an immediate right turn, descending whilst accelerating.

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

THE SR22 PILOT reports they were told on the radio about a helicopter operating near a hotel on their port side as they were cleared for a base leg join. They saw a helicopter some distance away at about 10 o'clock moving right-to-left, significantly lower than them, which then disappeared behind their port wing. They then looked for circuit traffic (downwind they think) that they were also told about. As they approached the ATZ they saw a helicopter, presumably the same one, on their port side about a half-mile away on a slowly converging course. As 'stand-on aircraft' they 'stood on'. Just as they were about to turn away to maintain separation the helicopter turned towards them and passed behind them.

The pilot assessed the risk of collision as 'Low'

THE GLOUCESTER AERODROME CONTROLLER reports the AS350 hovering in the vicinity of a hotel (approximately 3NM SE of Gloucester) before landing. The SR22 pilot called at 0834 at Chedworth and was given a direct join right base RW09, to report 5NM from Gloucester. Traffic believed to be [the SR22] was seen on the ATM approximately 5NM SE of Gloucester and was advised of [the AS50]. [The SR22 pilot] reported that they could identify the AS350 on their instruments and immediately after this stated that they were visual with the helicopter. The helicopter [pilots were] advised of the SR22 and that the SR22 [pilot] was visual with them. SR22 landed RW09 at time 0841. The AS350 pilot reported letting down at [the hotel] at time 0842.

They surmised that there had been the close proximity of a visiting Cirrus under a Basic Service joining right base RW09 from the south against an AS350 helicopter operating overhead a private site under a Basic Service 3NM SE of Gloucester. Traffic information was attempted to be passed both ways although application wasn't fully achieved with the use of an incorrect abbreviation to [a wrong callsign]. The SR22 [pilot] did have the helicopter in sight, as [they] reported visual, but [there was] no indication if this pilot adjusted or changed track to avoid. There was no radar at Gloucester and an ATM only used as a situational [awareness] tool. Pictures were viewed to show the two returns were close.

Factual Background

The weather at Gloucester was recorded as follows:

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METAR EGBJ 200750Z 35007KT 9999 FEW012 08/05 Q1024
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Analysis and Investigation

Gloucester Investigation

Gloucester was operating a combined frequency of ADI/APP, although from 0830 it was NOTAM'd as ADI only. Traffic levels assessed as low. RW09 was in use, wind 020/7. The fixed-wing circuit active LH.

The timeline provided as follows,

0827: The AS350 pilot called "1400ft Honeybourne area." [The controller] responded "Basic Service (BS), QNH1024 RW09. The instrument approach [was] not active, to report [at the] racecourse."

0831: Change of controller

0832: The AS350 pilot reported 3NM E of Cheltenham racecourse. The controller passed information on traffic, with the fixed-wing circuit being active, RW09, asking the AS350 pilot to report letting down at [the hotel site].

0833: The controller passed reciprocal information to [other aircraft] in the circuit.

0834: The SR22 pilot called descending through 3500ft to 2500ft at Chedworth and a Basic Service was given with a direct right base join for RW09, QFE1021, to report at 5 miles.

0835: The AS350 [pilot] reported "approaching the [hotel site], going to be above it for 5 mins before letting down" . The controller gave the wind as 030/7.

0836: The controller passed the Traffic Information to the SR22 pilot "traffic operating 3NM SE of the airfield low level AS350." The pilot reported "visual with the traffic, report established. Got him on the screen."

0837: The controller called the AS350 pilot "[incorrect callsign] traffic 4NM SE of airfield is a Cirrus, joining for right base RW09, has you in sight. The AS350 heard the [incorrect] registration only as the transmission had been clipped with that of [a Robinson].

0838: The SR22 was joining right base and the pilot was told to extend downwind due to a PA28 turning on to a 1.5 mile final.

0840: The SR22 [pilot] was given a land after clearance.

0841: The AS350 [pilot] letting down at the [hotel site] called "was that Robinson the red one?" The controller gave the wind as 020/6 and the [Robinson] pilot will lift again in 30 minutes to [destination].

Note: Reciprocal traffic was reported to both the Robinson and AS350 pilots. The AS350 pilot reported that they were at 1500ft.

0848: The AS350 pilot phoned the controller and declared a possible Airprox. (The controller spoke to this pilot later in the morning once the details were received.)

The notes and observations from the above are as follows,

Chedworth is approximately 6NM SE of Gloucestershire Airport.

The 'hotel' is 3NM SE of Gloucestershire Airport.

The ATM picture attached (Figure 1) shows the returns in question. The controller could have considered using the clock code when passing Traffic Information, however, the ATM is only used as a situational awareness tool. Previous attempts to look at the FID had been unsuccessful due to the coverage, trial basis of such equipment and costs.

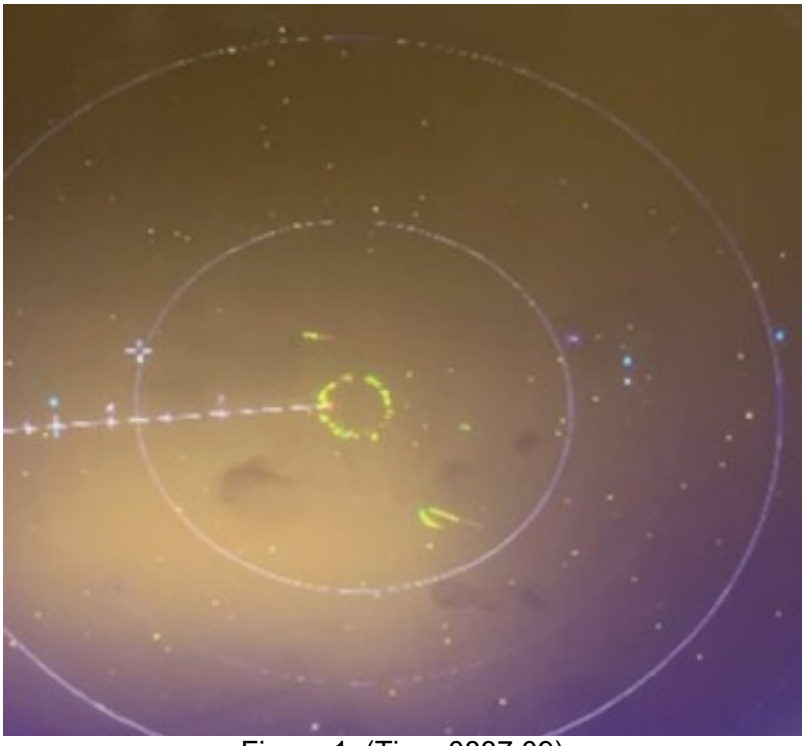


Figure 1 (Time 0837:09)

CAA ATSI later confirmed that the frequencies were band-boxed and that all traffic could hear and be heard on both Gloster Approach and Gloster Tower frequencies.

UKAB Secretariat

An analysis of the radar returns showed, at time 0836:01, the SR22 was to the southeast of the AS350 which was tracking southwest 2.5NM ahead and 700ft below the SR22, which was tracking northwest (Figure 2).

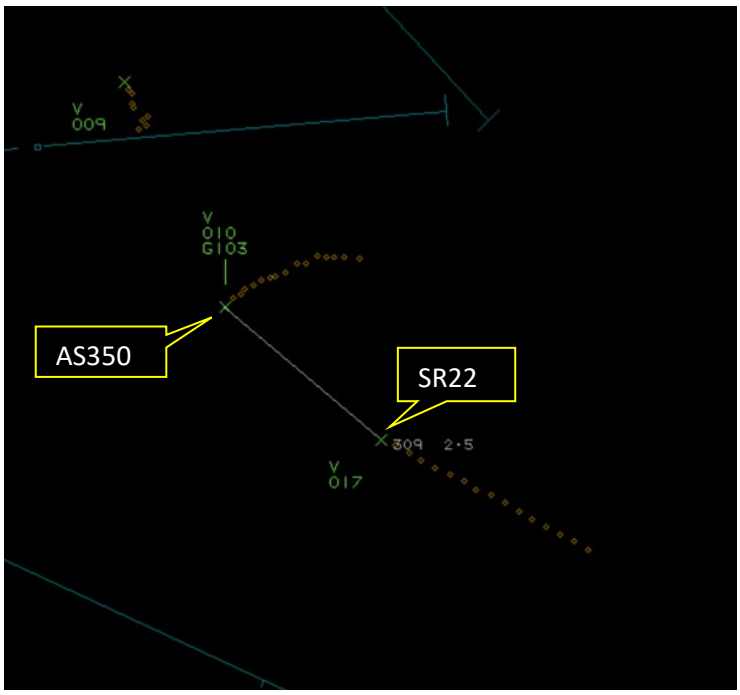


Figure 2 (Time 0836:01)

At time 0836:27 the AS350 had changed heading and was tracking south. The SR22 remained to the southeast and was maintaining track. Separation displayed as 1.2NM and 600ft (Figure 3).

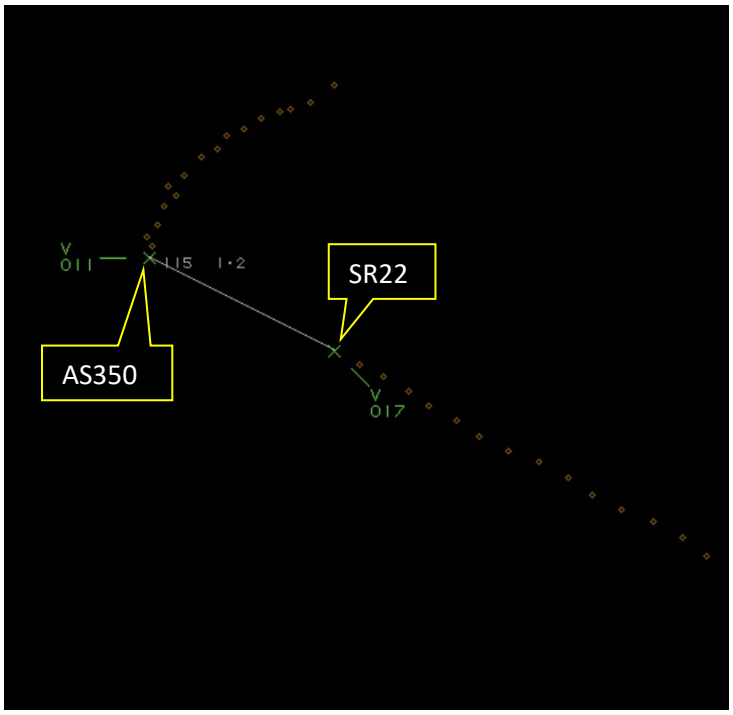


Figure 3 (Time 0836:27)

At time 0836:46 the AS350 was manoeuvring to the west of the SR22, which maintained track with a displayed reduction in separation to 0.8NM and 400ft (figure 4).

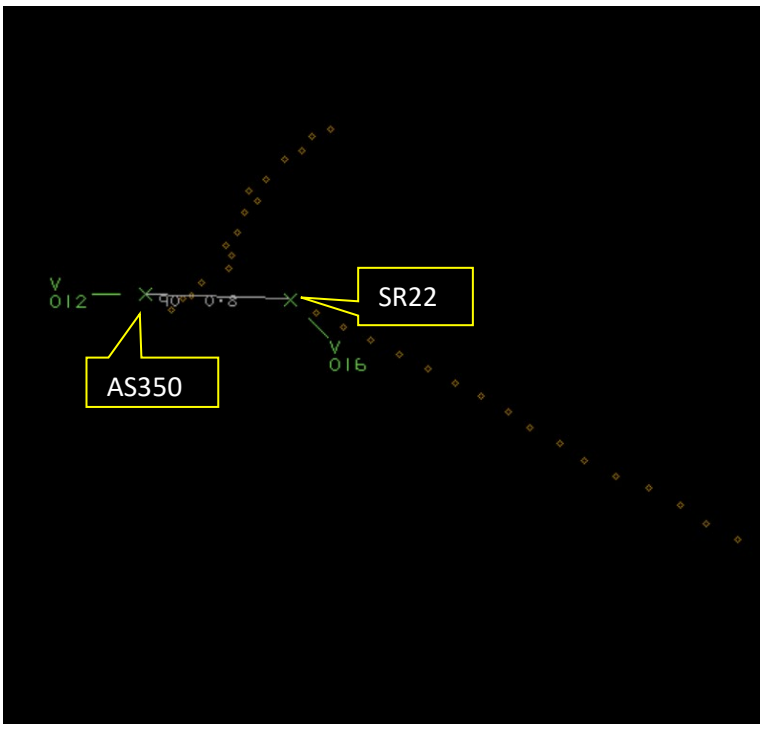


Figure 4 (Time 0836:46)

At time 0837:03 the AS350 and SR22 tracks appeared to parallel to the northwest and separation further reduced to 0.5NM and 200ft with the SR22 descending (Figure 5).

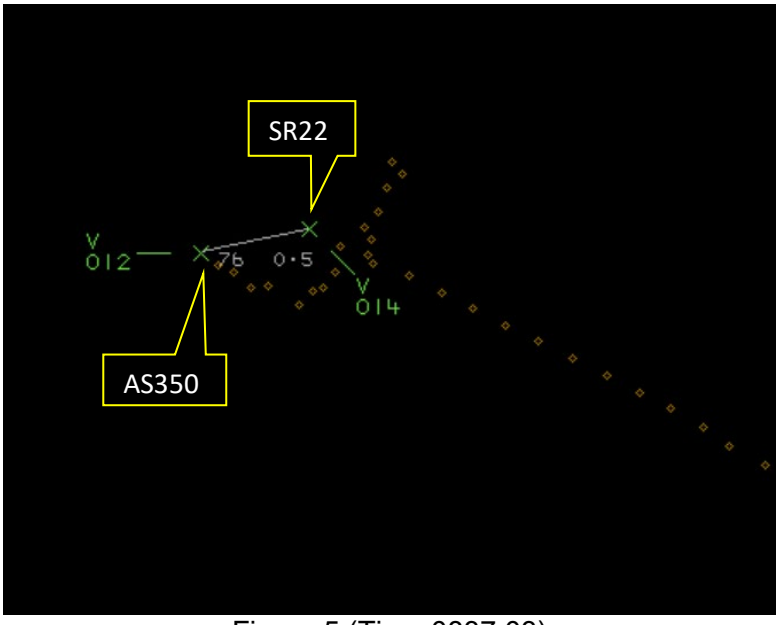


Figure 5 (Time 0837:03)

CPA occurred at time 0837:15 with the AS350 facing north. The SR22 had maintained track to the northwest and continued descent. The separation displayed as 0.1NM and 0ft (Figure 6).

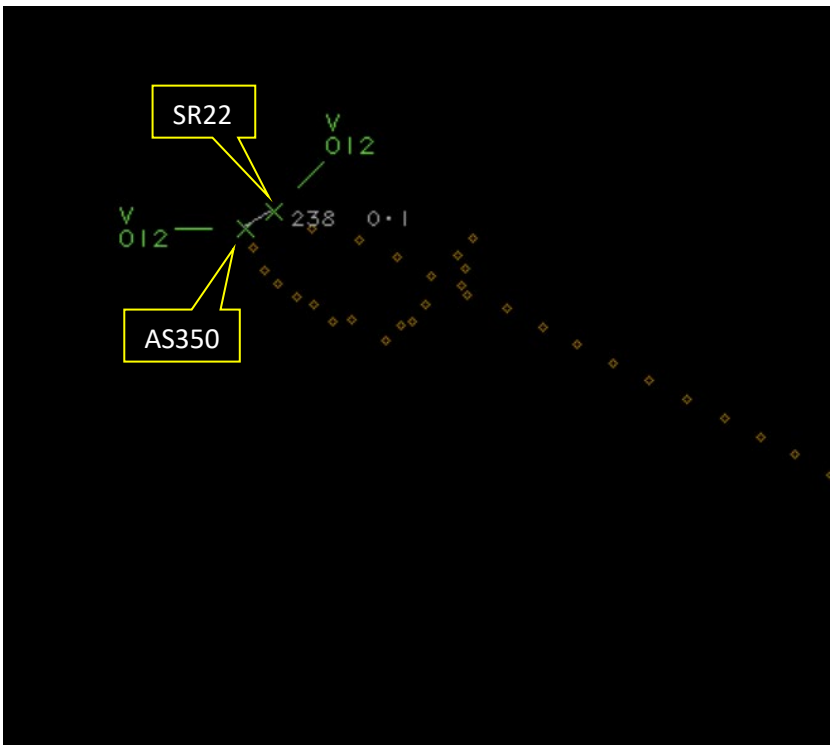


Figure 6 (Time 0837:15)

At time 0837:22 the AS350 passed behind the SR22 and the separation increased (Figure 7).

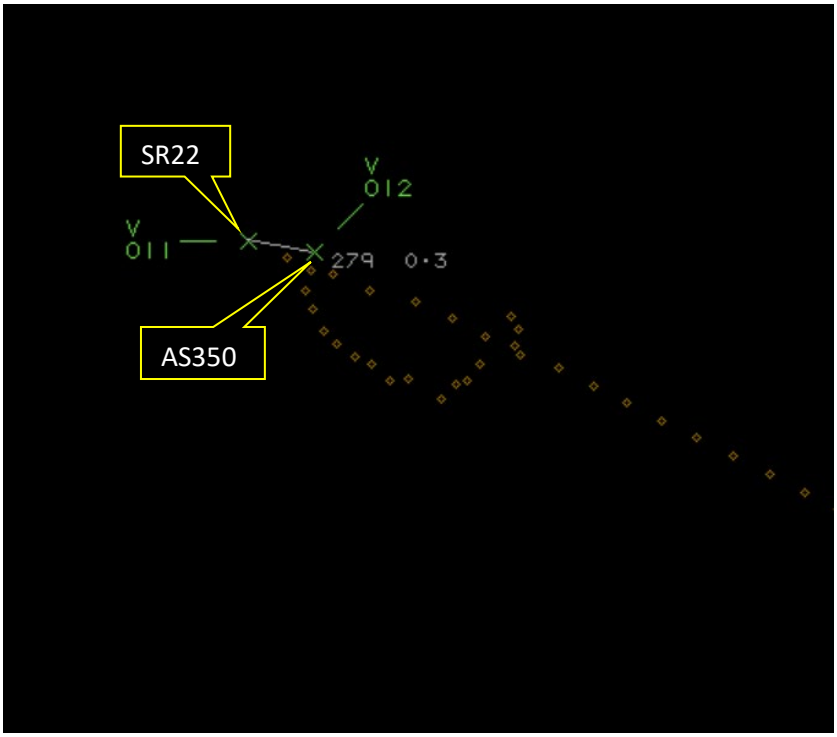


Figure 7 (Time 0837:22)

The AS350 and SR22 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 AS350 pilot was required to give way to the SR22.[2] If the

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

incident geometry is considered as overtaking then the AS350 pilot had right of way and the SR22 pilot was required to keep out of the way of the other aircraft by altering course to the right.[3]

Summary

An Airprox was reported when an AS350 and a SR22 flew into proximity 3NM southeast of Gloucestershire Airport at 0837Z on Thursday 20th April 2023. Both pilots were operating under VFR in VMC, the AS350 pilot in receipt of a Basic Service from Gloster Approach and the SR22 pilot in receipt of a Basic Service from Gloster Tower.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, a report from the air traffic controller involved and a report from the appropriate operating authority. 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 was briefed about the circumstances leading to the CPA and discussed the AS350 pilot's intentions when the reporting pilot had taken control from the left hand seat pilot and circled right for the right hand set pilot to view the hotel landing site, making sighting of the SR22 difficult from that position. It was noted that the AS350 pilot had had situational awareness of another aircraft, despite the Traffic Information transmission being clipped and to the wrong callsign, but they had heard that the pilot of that traffic had reported visual with them and had been satisfied with that situation. However, it was noted that the AS350 pilot had not sighted the approaching SR22 until shortly before CPA and the Board agreed that this had constituted a late sighting of the SR22 on the part of the AS350 pilot but that they had taken appropriate avoiding action as early as they could have done (**CF3**).

Turning its attention to the actions of the SR22 pilot, the Board wondered why, after observing the AS350 tracking from right-to-left below, visually and on their TAS equipment, they had not considered that the AS350 may be manoeuvring in the vicinity of a local landing site. It was agreed that the SR22 pilot had not fully understood the situation regarding the intentions of the AS350 pilot (**CF2**) and had not requested further information after losing sight of the helicopter (**CF1**). It was noted that the SR22 pilot had continued their descent for their arrival at Gloucester, but that this had also been towards the altitude of the AS350. Although the respective aircraft tracks had briefly been parallel, the AS350 pilot had been in a right-hand turnback towards the track of the SR22 and, when the SR22 pilot reacquired visual contact with the AS350, it was on their left and so the SR22 pilot had maintained course and speed believing that it had been for the AS350 pilot to give way to their aircraft (SERA.3210 Right-of-Way (Converging))(**CF3**). The Board spent some time discussing the geometry of this encounter to determine which of the SERA3210 Right-of-Way rules applied in this case, the outcome of which was that the Board was in agreement that this had been an overtaking encounter and that the AS350 pilot, as the aircraft being overtaken by the SR22, had had the right-of-way.

When discussing the actions of the Gloster Tower controller, the issue of a miscommunicated callsign was mentioned but not considered as a contributing factor, as all pilots were receiving transmissions on both frequencies, and all pertinent information had been passed. The Board agreed that the Gloster Tower controller had passed relevant Traffic Information to both pilots and that there had been little else that they could have done to improve the situation.

Turning to the risk involved in this Airprox, the Board considered that neither pilot had seen the other aircraft until it had been too late to materially increase separation. Considering the late avoiding action taken by the AS350 pilot and the separation at CPA as described by the pilots of both aircraft, and that measured on the NATS radar, members agreed that the aircraft proximity had resulted in safety margins being much reduced below the norm (**CF4**). Consequently, the Board assigned a Risk Category B to this event.

[3] (UK) SERA.3210 Right-of-way (c)(3) Overtaking.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023056			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			
1	Human Factors	• Lack of Communication	Events involving flight crew that did not communicate enough - not enough communication	Pilot did not request additional information
2	Human Factors	• Understanding/ Comprehension	Events involving flight crew that did not understand or comprehend a situation or instruction	Pilot did not assimilate conflict information
	• 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
	• 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: B.

Safety Barrier Assessment[4]

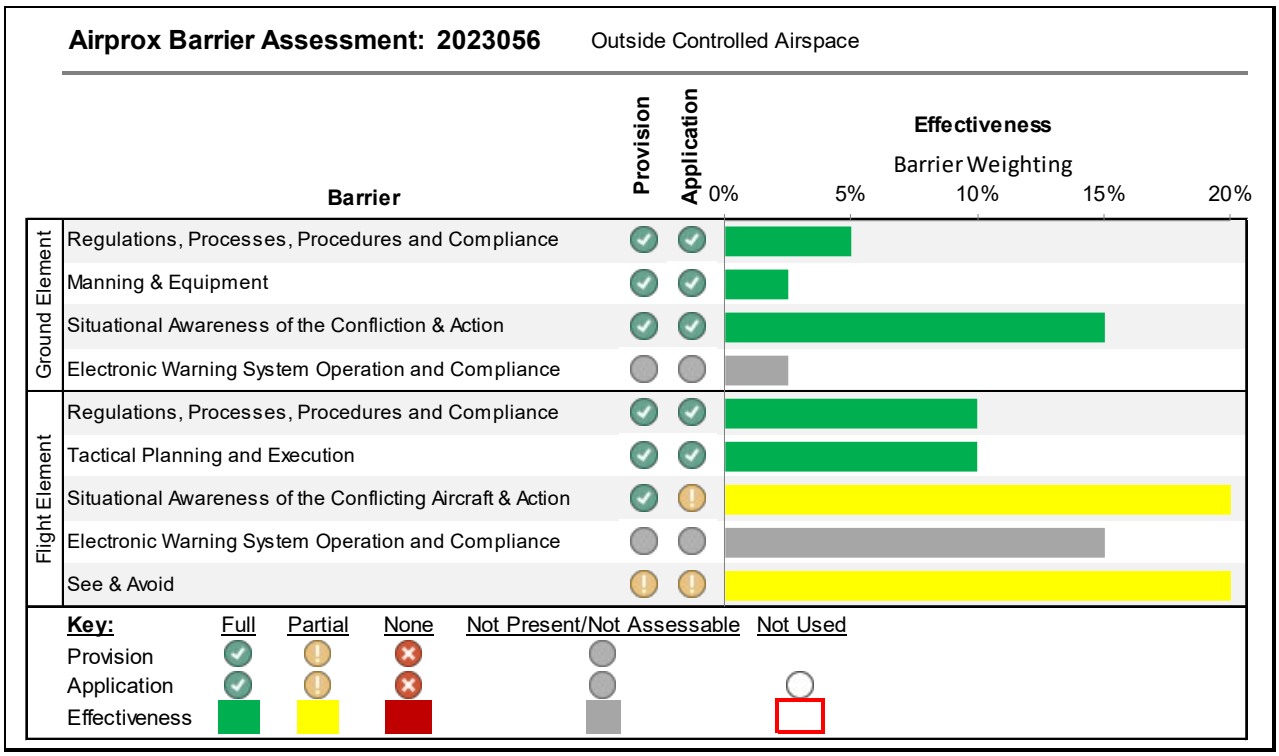
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the SR22 pilot had lost visual contact with the AS350 after seeing it crossing left-to-right and was unaware of the AS350 pilot's subsequent orbit.

See and Avoid were assessed as **partially effective** because of the late sighting of each conflicting aircraft by both pilots.

[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: 2023056
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