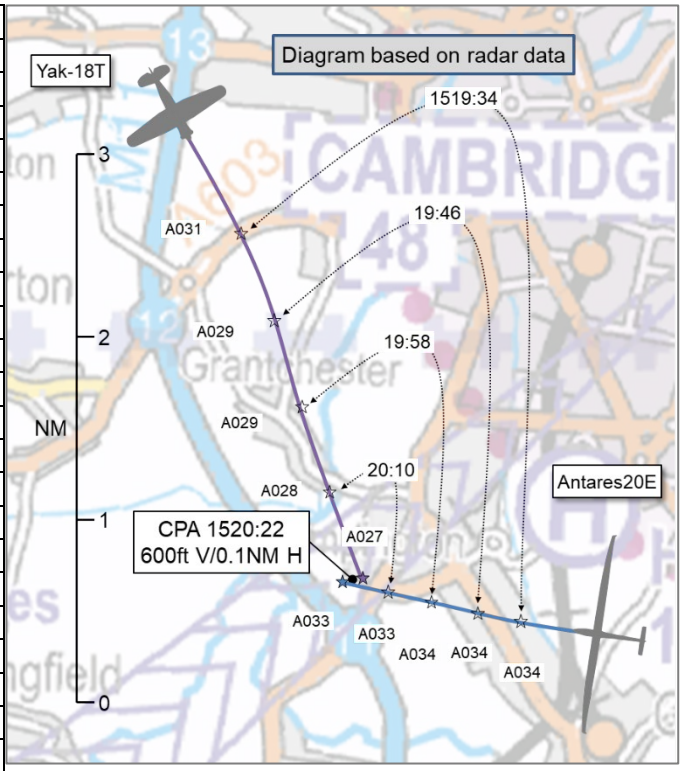
# AIRPROX REPORT No 2025197

Date: 05 Sep 2025 Time: 1520Z Position: 5210N 00006E Location: 3.5NM SW Cambridge Airport

## PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

| Recorded | Aircraft 1 | Aircraft 2 |
|---|---|---|
| Aircraft | Antares 20E | Yak-18T |
| Operator | Civ Gld | Civ FW |
| Airspace | London FIR | London FIR |
| Class | G | G |
| Rules | VFR | VFR |
| Service | Basic | None |
| Provider | Cambridge | N/A |
| Altitude/FL | 3300ft | 2700ft |
| Transponder | A, C, S | A, C, S |
| **Reported** | | |
| Colours | White | Cream/burgundy |
| Lighting | Not fitted | Beacon, landing |
| Conditions | VMC | VMC |
| Visibility | >10km | >10km |
| Altitude/FL | 3266ft | 3000ft |
| Altimeter | QNH (1020hPa) | QNH (NR hPa) |
| Heading | 283° | 180° |
| Speed | 79kt | 150kt |
| ACAS/TAS | FLARM | Not fitted |
| Alert | None | N/A |
| | **Separation at CPA** | |
| Reported | 250ft V/0m H | 300ft V/0.5NM H |
| Recorded | 600ft V/0.1NM H | |




**THE ANTARES PILOT** reports [conducting a] cross-country flight. [They] contacted Cambridge Radar when routeing north of Cambridge, receiving [a] Basic Service and squawking 6196 (Mode S, no ADS-B in/out). [They] remained in contact with Cambridge Radar under their Basic Service. [They] called turning [at] Bury St Edmunds and returning to [the] west. [They] called after climbing west of Newmarket with position and height and advised [they would be] routeing round the south side of [the] Cambridge zone. [They] preferred not to route through [the] Cambridge overhead as incoming traffic was intending to route through the overhead. [They] routed [along the] southern edge of [the] Cambridge zone until able to take [a] direct route to [destination]. [They were] flying straight and level (gliding descent) when [they had a] late sighting of two low-wing single-engine aircraft in close formation around 250m to [their] right, flying straight and level, to pass underneath by maybe 250ft. [The aircraft], one yellow and the other natural metal colour, appeared to be routeing down [the] east of [the] M11, possibly enroute to Duxford. Converging courses probably contributed to [the] late sighting. [It was] not known if the other [pilots] saw [them]; [the other plots] were not in communication with Cambridge. [They] reported [the] Airprox to Cambridge Radar shortly afterwards and passed basic Airprox information and [their] contact details to Cambridge Radar.

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

**THE YAK-18T PILOT** reports leading a 2-ship formation flight recovering to [destination] from a relatively high altitude (8500ft) photo sortie to the north of the reported location. In the descent, the Lead aircraft [pilot] and wingman both saw [a] glider to the right and above, orbiting in the approximate reported position. [The] Lead aircraft [pilot] was happy that the rate of descent and forward speed provided sufficient clearance to the orbiting glider, passing below and to the east of the glider with an ever-increasing margin of vertical separation. [The] Lead aircraft [pilot] was particularly aware [of] traffic as a regular operator [in that area] and as the location is in the instrument approach area for Cambridge.

Seeing a glider orbiting in [that] location was somewhat of a surprise given the proximity to any instrument approach traffic.

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

**THE CAMBRIDGE CONTROLLER** reports that an Airprox was reported via the radio at 1522 by [the glider pilot] who, at the time, was under a Basic Service with Cambridge Radar. The report was that '2 Warbirds' passed directly underneath the glider with an estimated vertical separation of 150ft by the pilot. At the time, the Duxford Restricted Airspace was in effect due to an airshow being conducted. They observed on the radar a single primary and secondary contact that passed the glider. The Mode C displayed a vertical separation of 500-600ft with the aircraft inbound to [destination] on a continued descent profile. As the glider was under a Basic Service and deeming there to be no risk of collision, generic Traffic Information was not passed. Approximately one minute after the aircraft passed, [the glider pilot] reported an Airprox over the radio. Information was collected along with a call to the Tower controller to confirm if any additional information was required. [They were] relieved of the Radar position whilst a review of the recordings took place.

## Factual Background

The weather at Cambridge Airport was recorded as follows:

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METAR EGSC 051520Z 24008KT 200V260 9999 SCT048 21/09 Q1020=
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The Imperial War Museum Duxford Airfield (EGSU) Information for Pilots (updated June 2025) states as follows:

> 'CAMBRIDGE AIRPORT (EGSC) 7nm [sic] north of Duxford
> When intending to route/operate to the north of Duxford outside of the Duxford ATZ it is strongly advised that you establish communication with **Cambridge APP/RAD** due to **Cambridge ATSU** operations and **please note the Instrument Approach feathers.**'

## Analysis and Investigation

### CAA ATSI

Whether or not there is a risk of collision is down to controller judgement. Both aircraft were tracking towards each other at the same level (albeit the actual level varied) between 1518:04 and 1519:27, when the aircraft were between 7.2 and 3NM apart. With [the formation pair's] intentions unknown, as they were not in communication with Cambridge, the vertical distance of 500ft could have very quickly been reduced further. The passing of Traffic Information to the Antares pilot would have assisted in them obtaining timely visual acquisition of the Yak formation to enable them to consider whether avoiding action was necessary.

The Yak formation was not in communication with Cambridge whilst passing within 3.4NM of the airport, which has a published IAP.

### UKAB Secretariat

The Antares and Yak-18T formation lead 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 Yak-18T pilot was required to give way to the Antares.[2]

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

**Cambridge Occurrence Investigation**

Incident Summary

Glider [Antares registration] was on a local flight from [airfield] to [airfield], when the pilot reported an Airprox [with an] aircraft crossing from right-to-left (north-to-south) overhead the M11 at Trumpington. They reported that the aircraft were two 'warbirds' approximately 150ft below. One of the 'warbird' aircraft was squawking and could be seen from the recordings (Mode S) as [Yak 18T registration] (YAK-18T). The glider [pilot] was under a Basic Service, initially with Approach and then, from 1500, with Radar.

Incident Details

The investigator reviewed the recordings and discussed the incident with the controller concerned.

The Radar controller took over the position (from Approach) at 1500. They were informed of [Antares C/S] as part of the handover and [that] there were a number of other gliders on frequency.

At 1502:16, [Antares pilot]: "*Cambridge Radar, Glider* [Antares C/S], *4000 feet, south of Newmarket, tracking west. To go south of your zone*."

Radar: "*Glider* [Antares C/S], *roger*."

The radar recording show[ed] the glider's Mode C readout as A038.

The glider [pilot] then continued to track west-southwest, routeing around the south of Cambridge airport. The glider's Mode C was showing altitude[s] between 3500ft and 3800ft.

At 1519:24, [The Antare s'] position [could] be seen approximately 3 miles to the southwest of Cambridge (see [Figure 1]) tracking towards the west. [Yak-18T C/S] [could] also be seen heading south towards Duxford. [The Yak-18T pilot was] not in contact with Cambridge Radar.


Figure 1: Cambridge Radar picture at 1519:24

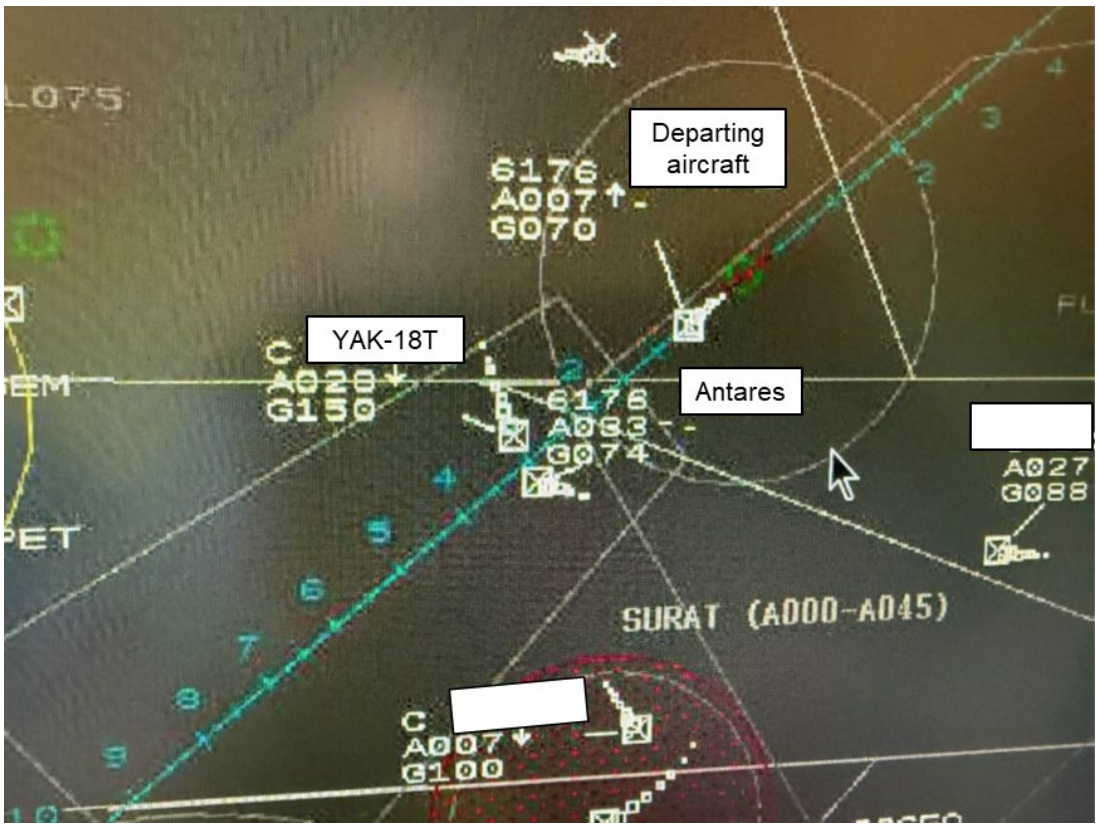



Figure 2: Cambridge Radar picture at 1520:09

At 1520:22, the radar contacts appear[ed] to merge, with the Mode C showing approximately 500ft in vertical separation (see [Figure 3]). The aircraft [were] approximately 3 miles to the southwest of Cambridge. At this time, [another pilot] made contact with Cambridge Radar following departure from Cambridge.

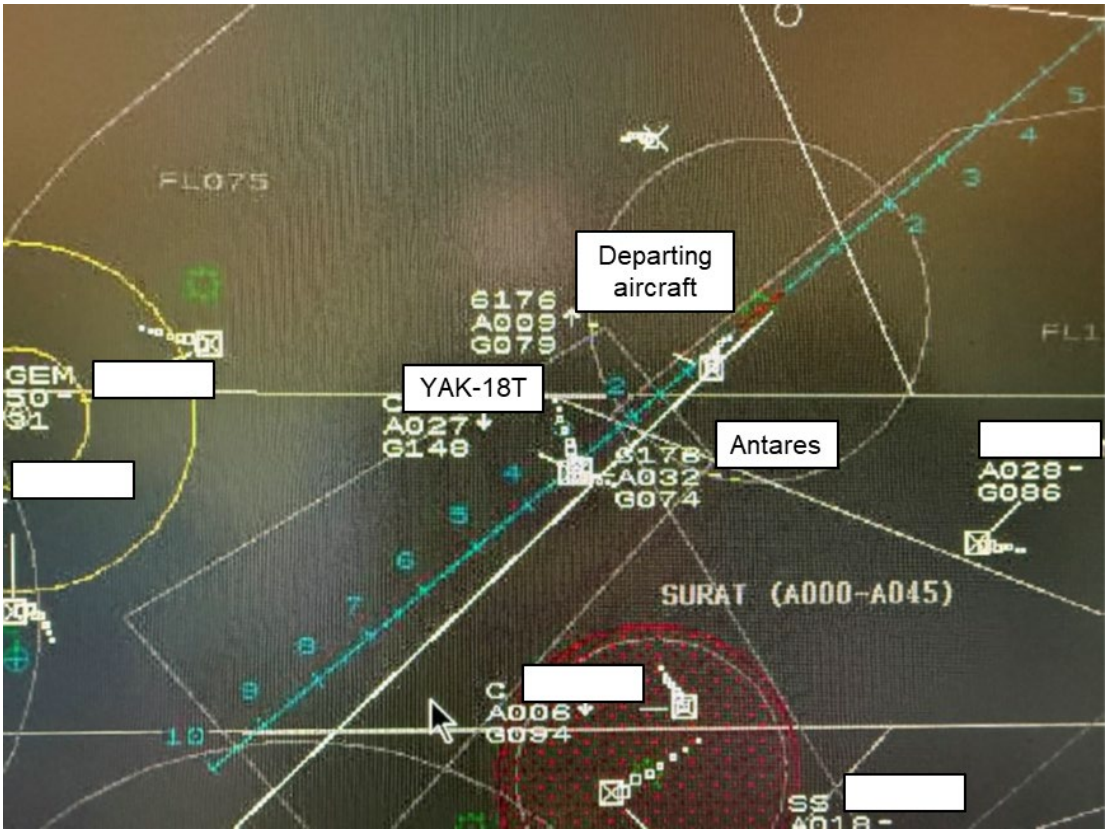



Figure 3: Cambridge Radar picture at 1520:22

As the Mode C of [Yak-18T C/S had] not been verified it [was] difficult to ascertain the exact vertical separation, however, it [could] be determined that the actual vertical separation could be 200ft lower based on [Antares C/S] Mode C readout [A038] when the altitude report was made [4000ft] at 1502:16.[3]

The glider pilot then reported the Airprox at 1520:54. They stated that [a] '*two aircraft formation passed beneath me*'. The estimated separation was stated as '*horizontal separation zero, vertical separation 150 feet*'. The controller then confirmed other details, so that the pilot could be contacted once they were on the ground.

The Radar controller then requested that they [be] removed from duty, to ensure that a review could be completed. Once this was completed the controller returned to operational duty on the same day.

Radar controller post-incident Interview

The controller's recollection of the event [was] very similar to the recording's detail. They noted that they had also notified [glider airfield] of the RA(T) at Duxford during the days before the 5th of September. It [was] believed that the glider pilot would have been aware of the increased likelihood of encountering aircraft departing from and arriving [at] Duxford.

The controller stated that they had been monitoring the aircraft returning back to Duxford from the north and saw that the Mode C readout was well below the [Antares C/S] Mode C (which had been verified). They were also monitoring the departure [of another aircraft from Cambridge], so [the] general scan was in that area of airspace.

As the controller believed that [Yak-18T C/S] (formation) was not in direct risk of collision/conflict with [Antares C/S] (based on the Mode C readouts), no additional Traffic Information was required. They were slightly surprised that the pilot of [Antares C/S] did report the Airprox and made the request to be removed from duty for a review.

Reviewers Comments

CAP774 (UK FIS) para 2.1 defines a Basic Service as the following:

> A Basic Service is an ATS provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights. This may include weather information, changes of serviceability of facilities, conditions at aerodromes, general airspace activity information, and any other information likely to affect safety. The avoidance of other traffic is solely the pilot's responsibility.
>
> Basic Service relies on the pilot avoiding other traffic, unaided by controllers/ FISOs. It is essential that a pilot receiving this ATS remains alert to the fact that, unlike a Traffic Service and a Deconfliction Service, the provider of a Basic Service is not required to monitor the flight.

Paras 2.8 and 2.9 go on to state:

> If a controller/ FISO considers that a definite risk of collision exists, a warning shall be issued to the pilot ((UK) SERA.9005(b)(2) and GM1 (UK) SERA.9005(b)(2)).
>
> Whether traffic information has been provided or not, the pilot remains responsible for collision avoidance without assistance from the controller.

The Mode C readouts suggest[ed] there was approximately 500ft vertical separation when the radar contacts merged. The [Yak-18T C/S] formation was also seen to be descending back into Duxford, therefore, against the glider, the vertical separation was increasing. Based on this, and the report

[3] By comparison of the GPS track log file and radar replay, it was determined that the Antares altitude and Mode C were in agreement.

by the glider pilot, the risk of collision [could] be classed as relatively low. However, this [was] subject to an investigation being carried out by the UK Airprox Board and the CAA ATSI.

It [was] evident that the controller was monitoring the situation and would have provided further Traffic Information if they had determined that there was a risk of collision.

## Comments

### AOPA

The Skyway Code[4] (page 130, 'Avoiding Collisions') offers the following advice to pilots:

> 'Almost all mid-air collisions occur in good VMC and at relatively low level, reflecting the circumstances in which traffic density tends to be higher. Around half of mid-air collisions in the UK happen near aerodromes, many in the circuit.
>
> The avoidance of collisions in uncontrolled airspace is achieved as much by the 'big sky' as it is by 'see-and-avoid'. Even when operating an effective visual scan, most pilots will not achieve a 100% traffic detection rate, especially if the conflicting aircraft is outside the area normally visible from the cockpit. The risk of collisions can never be mitigated entirely, however by taking a number of precautions you can improve the odds in your favour.'

One of these precautions is:

> 'Avoid crossing the final approach track of aerodromes outside controlled airspace, even if outside the ATZ. The feathered arrows on charts indicate the instrument approach paths of larger aerodromes – aircraft descend along these at around 300ft per NM.'

And on page 132:

> 'Talking to ATC and obtaining a Traffic Service will also reduce the risks. Remember that a Basic Service does not include specific traffic information.'
>
> 'You should always consider which of the nearby ATSUs will provide the best information on other traffic, for example, if passing close to an aerodrome, it may be best to contact them.'

### BGA

The Yak-18T pilot reported seeing a glider "orbiting" (probably climbing in a thermal) near where their track crossed that of the Antares. However, the Antares pilot did not make any 360° turns for at least 8min and 8NM either side of CPA. Hence it seems likely that the Yak-18T pilot was reporting a sighting of another glider, not the Antares.

The two aircraft were approaching each other on a near-constant bearing for about 90sec before CPA. The difficulties of sighting an approaching aircraft that appears stationary in a pilot's field of view under these circumstances are well-known and may have contributed to a late sighting by the Antares pilot and probable non-sighting by the Yak-18T pilot. Fortunately, on this occasion, there was adequate vertical separation.

## Summary

An Airprox was reported when an Antares glider and a formation pair flew into proximity 3.5NM southwest of Cambridge Airport at 1520Z on Friday 5th September 2025. All the pilots were operating under VFR in VMC, the Antares pilot in receipt of a Basic Service from Cambridge Radar and the formation pair pilots not in receipt of a FIS.

[4] https://www.caa.co.uk/general-aviation/safety-topics/the-skyway-code/

## PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS track data, a report from the air traffic controller involved 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.

Members first discussed the Yak-18T pilot's recollection of events and noted that they had reported that both they and the wingman had observed a '*glider to the right and above, orbiting in the approximate reported position*', whereas the Antares had not orbited for about 10min each side of CPA. The gliding Board member had been able to identify another glider in the area at the time of CPA that did orbit and, on this basis, the Board opined that both the Yak-18T pilot and wingman had not seen the Antares glider (**CF5**), but rather the other glider. Without the see-and-avoid barrier, the crews had been relying on other barriers to provide effective collision avoidance. One such barrier, provision of a surveillance-based FIS, is known to be effective, but the Yak-18T pilot had elected not to contact Cambridge ATSU. Members felt that, with 'feathers' on the VFR chart highlighting advice that contact with the ATSU was 'strongly advised', the Imperial War Museum Duxford Airfield Information for Pilots stating that contact with Cambridge when operating to the north of Duxford was 'strongly advised' and a promulgated IAP hold at an altitude of 3000ft in the Cambridge overhead, it would have been appropriate for the Yak-18T pilot to have contacted Cambridge (**CF1**). That they had not, resulted in their having had no situational awareness of the Antares' position and intentions (**CF2**). Indeed, members were struck by the irony of the Yak-18T pilot commenting on the glider operating 'in the instrument approach area for Cambridge', in this case in receipt of a Basic Service from Cambridge, when they had been doing exactly the same but without contacting the Cambridge ATSU. The remaining 'on-board' barrier, EC, had been ineffective because although, unusually in the Board members' experience, the Antares glider pilot had been operating an SSR transponder (and had been in receipt of a Basic Service), the Yak-18T had not been equipped with a TAS and so could not display or alert on the Antares' EC (**CF3**). The Antares had been equipped with a TAS but, without equipment with which to receive its signals, could not be received by the Yak-18T (**CF3**).

Considering ATC aspects, the Board spent some time discussing the provision of Traffic Information under a Basic Service and agreed that, whilst such provision would have been useful, in this case it had been hard to justify the qualifying condition of passing Traffic Information under a Basic Service, namely, '*If a controller/ FISO considers that a definite risk of collision exists*, …'. Although the aircraft had been tracking towards each other at about the same level initially, and the Cambridge controller had not been aware of the Yak-18T pilot's intentions, the controller had also been dealing with a departing aircraft and the Yak-18T formation had started a shallow descent. Ultimately, the aircraft had been separated by 600ft at CPA, although the Antares pilot had only seen the Yak-18T formation at a late stage (**CF4**), due in no small part to the constant relative bearing approach of the aircraft and which, as they had reported to the gliding member in a subsequent conversation, had resulted in significant startle (**CF6**) and their probable under-estimation of vertical separation at CPA.

Turning to risk, some members felt that separation at CPA had been such that normal parameters had applied, Risk E, but the majority were of the opinion that, despite the significant vertical separation, the lack of barrier effectiveness had resulted in a situation where safety had not been assured, Risk C. Lastly, the Board members unanimously commended the Antares pilot for their proactive use of an SSR transponder and their establishing a FIS whilst transiting in the vicinity of Cambridge Airport. In the Board's opinion, this stood as the template of considerate and proactive airmanship for the gliding community, at least for those equipped with an SSR transponder.

## PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

| | 2025197 | | | |
|---|---|---|---|---|
| CF | **Factor** | **Description** | **ECCAIRS Amplification** | **UKAB Amplification** |
| | **Flight Elements** | | | |
| | **• Tactical Planning and Execution** | | | |
| 1 | Human Factors | • Communications by Flight Crew with ANS | An event related to the communications between the flight crew and the air navigation service. | Pilot did not request appropriate ATS service or communicate with appropriate provider |
| | **• 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 | 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** | | | |
| 4 | 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 |
| 5 | 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 |
| 6 | 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: C.

Safety Barrier Assessment[5]

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

**Flight Elements:**

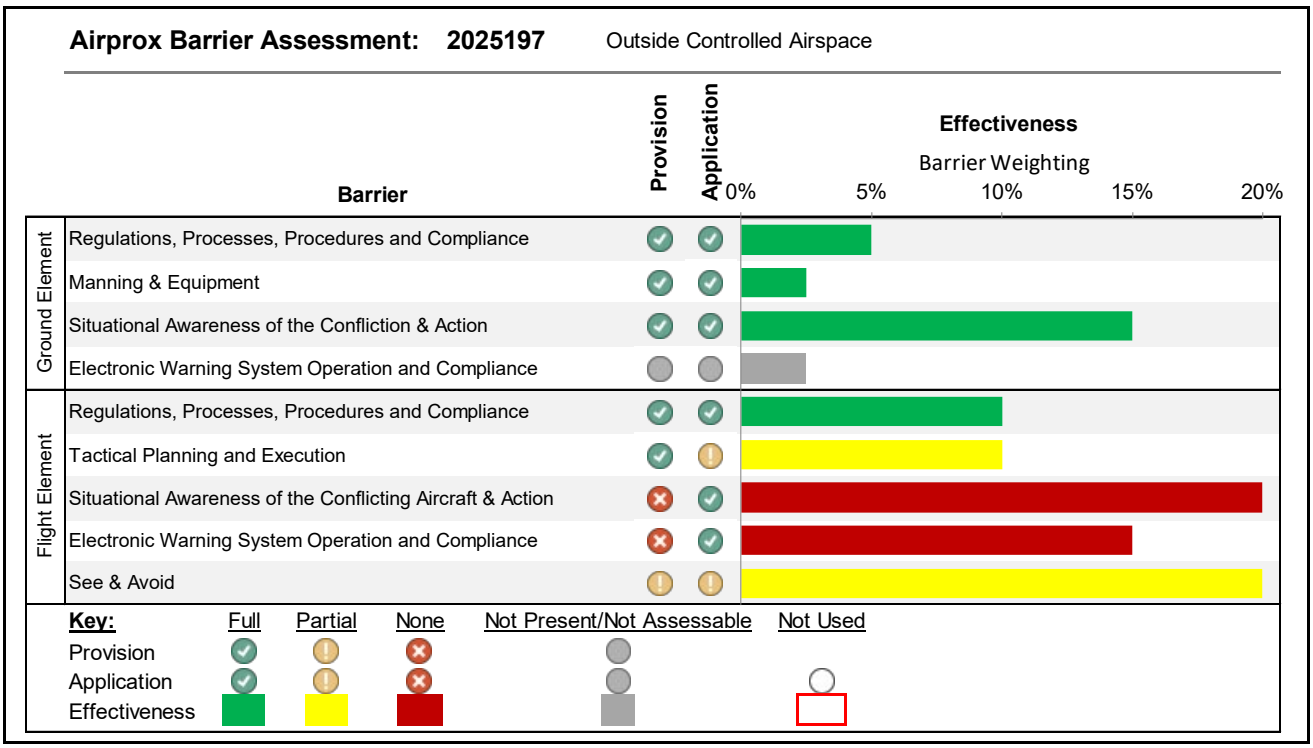
**Tactical Planning and Execution** was assessed as **partially effective** because the Yak-18T formation had not contacted Cambridge Radar.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **ineffective** because none of the pilots had had situational awareness of the other aircraft until sighted.

**Electronic Warning System Operation and Compliance** were assessed as **ineffective** because the Antares TAS could not alert on the Yak-18T EC equipment.

**See and Avoid** were assessed as **partially effective** because the Yak-18T pilot had not seen the Antares and the Antares pilot had seen the Yak-18T formation at a late stage.

[5] 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: 2025197
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