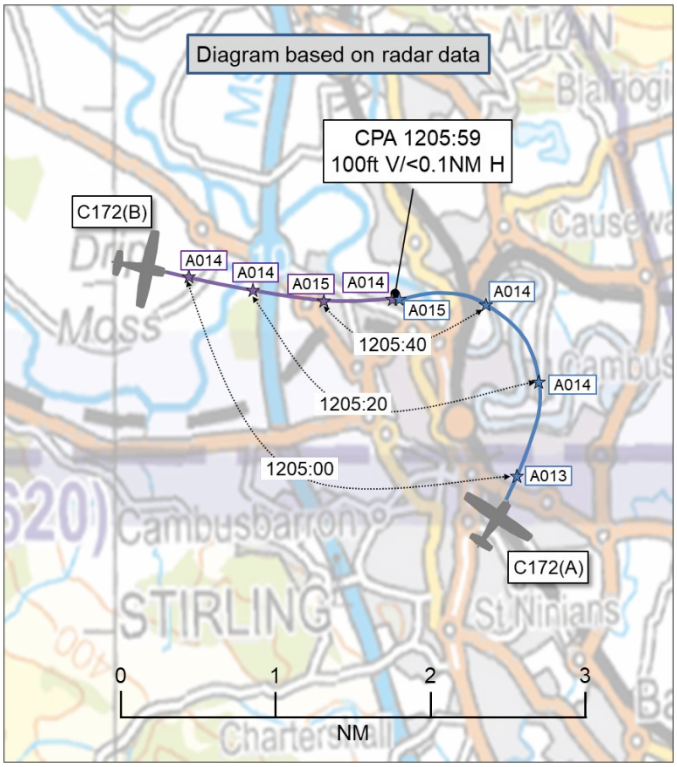
# AIRPROX REPORT No 2025015

Date: 13 Feb 2025 Time: 1206Z Position: 5608N 00357W Location: North of Stirling

## PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

| Recorded | Aircraft 1 | Aircraft 2 |
|---|---|---|
| Aircraft | C172(A) | C172(B) |
| Operator | Civ FW | Civ FW |
| Airspace | Scottish FIR | Scottish FIR |
| Class | G | G |
| Rules | VFR | VFR |
| Service | Listening Out | Basic |
| Provider | Cumbernauld Radio | Scottish Info. |
| Altitude/FL | 1500ft | 1400ft |
| Transponder | A, C, S | A, C, S |
| **Reported** | | |
| Colours | White with grey | White |
| Lighting | Bcn, landing, nav. | LED landing |
| Conditions | VMC | VMC |
| Visibility | >10km | >10km |
| Altitude/FL | 1500ft | 1700ft |
| Altimeter | QNH (1027hPa) | QNH (1027hPa) |
| Heading | 220° | 105° |
| Speed | 95kt | 100kt |
| ACAS/TAS | Not fitted | Not fitted |
| **Separation at CPA** | | |
| Reported | 50ft V/15m H | 20ft V/0m H |
| Recorded | 100ft V/<0.1NM H | |




**THE C172(A) PILOT** reports they were on an introductory flight [operating in the vicinity of Falkirk and Stirling]. While flying straight they noticed other traffic which seemed to be turning towards them. They descended and turned left as the other aircraft appeared to be aiming to their right, so no right turn. It was quite close.

After passing the aircraft it seemed to be turning towards them again so they manoeuvred round to the southeast of Stirling. The aircraft appeared to be facing them again so they routed south towards Falkirk to avoid the other aircraft. They were uncertain if the [pilot of the] other aircraft had seen them and they were not on the same frequency. They did not report this at the time on frequency.

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

**THE C172(B) PILOT** reports that they were transiting from Prestwick to Fife. En-route to Fife at 1500-1800ft on QNH 1027hPa, avoiding some occasional wintry showers northwest of Stirling. They had lights on, were sitting in the left-hand seat, and speaking to Scottish [Information], passing the weather information for another [aircraft pilot] to the north. It was good visibility, 20km or more, with 3000ft cloudbase to the east of Stirling. Approaching Stirling at approximately 1700ft they routed to the north of the castle to point out landmarks to their passenger in the right-hand seat, then, as they were leaning over and looking out the right-hand window, the other aircraft flashed by less than 10m below their starboard side. It was over in a second, they were completely surprised and in quite a state of shock at how close this was. They immediately felt a bump as they flew through propwash/wake. They turned to follow the other aircraft from a safe distance to get a better identification. They immediately reported the Airprox to Scottish [Information] to assist tracing action. Two minutes later the other aircraft appeared on their phone's FlightRadar24 app. They continued the flight to Fife and landed at 1225 somewhat shaken!

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

**THE CUMBERNAULD AIR/GROUND OPERATOR** reports that, after investigation regarding the [Airprox between the C172(A) and the C172(B)], it was confirmed that [the C172(A) pilot] requested to leave their ATZ at 1200 and rejoined at 1214. No transmissions were heard or reported by Cumbernauld in that period, therefore, in this instance, they had nothing to add.

**THE SCOTTISH INFORMATION FISO** reports that [the C172(B) pilot] had called on to the frequency at 1144 in the vicinity of Loch Lomond at 1600ft altitude routeing [from departure point] to [destination]. Five other aircraft were also on frequency at this point. They asked the pilot to report at Stirling as this was on their route. At approximately 1206 [the C172(B) pilot] reported over Stirling. [The C172(B) pilot] then stated that they were reporting an Airprox with a C152. [The FISO] was asked by [the C172(B) pilot] if they were able to see them on flight radar. [The FISO] replied *"negative"* and asked [the C172(B) pilot] how close the other aircraft got, and [the pilot] replied *"about 10 metres, so close I could feel the wake as it passed by".* At this point [the FISO] called the Operations supervisor over to explain what was happening and switched on the loudspeaker whenever [the C172(B) pilot] transmitted. [The C172(B) pilot] then reported the other aircraft to be [C172(A) reg] (which was not on frequency). The workload started to increase as [the pilot of the C172(B)] took up a lot of R/T time while [the FISO] still had to manage requests from the aircraft on frequency as well as having to tell a further 5 aircraft that were subsequently calling on for first time for a service to standby. They had no support FISO to call on as their colleague on DTS was not FISO valid. [The pilot of the C172(B)] asked for a phone number for Prestwick Centre (which they issued) so [the C172(B) pilot] could phone about the incident. [The C172(B) pilot] then transferred to [en-route] without further incident.

## Factual Background

The weather at Edinburgh Airport was recorded as follows:

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METAR EGPH 131150Z 10009KT 9999 FEW020 BKN034 05/01 Q1027
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## Analysis and Investigation

### Scottish Information

The Airprox occurred when VFR aircraft [C172(B)] (in receipt of a Basic Service from the FISO) and [C172(A)] (not on the FIS frequency) came within close proximity over the town of Stirling, at 1500/1600ft, in Class G airspace. The Closest Point of Approach (CPA) occurred at 1206:00 and was recorded on multi-track radar as 0NM and 100ft. [Pilot reports included in this investigation are as above].

[The C172(B)] pilot checked in with the Scottish Flight Information Services Officer (FISO) at 1144:06. The pilot reported they were overhead Loch Lomond at 1600ft on 1027hPa and requested a Basic Service. In response, the FISO issued the FIS SSR code of 7401 and agreed a Basic Service. As prescribed in CAP774, the provider of a Basic Service is not required to monitor a flight.

At 1153:38, the pilot of [C172(B)] reported to the FISO that they, *"…probably won't be above 1500ft towards Stirling and Fife"*. The FISO asked the pilot to report at Stirling and asked for the cloudbase at Loch Lomond to relay to another aircraft. The pilot of [C172(B)] explained that the cloudbase was around 2300ft with good visibility and, *"There's a bit of a shower around about Stirling, just in the hills between Stirling and Carron Valley Reservoir* [which is to the southwest of Stirling]". The [C172(B)] was not visible on radar replay at this time.

During their transit from Loch Lomond to Stirling, the radar returns from [C172(B)] were sporadic, and when displayed were primary only, with no identifying Mode-A or Mode-C displayed. This was possibly due to the high terrain in the area. [The C172(A)] departed Cumbernauld at 1159, VFR on a squawk of 7000, for a pleasure flight to Stirling, the Falkirk Wheel and then to return to Stirling. The pilot of this aircraft was not in receipt of a Service from the FISO and did not report onto the FIS frequency at any time. In their Airprox report, the pilot of [C172(A)] reported they were on the Cumbernauld frequency during the incident. After departure, the pilot of [the C172(A)] turned north, towards Stirling.

At 1202:17 the pilot of [C172(B)] reported they were approaching Stirling and passed further weather information to the FISO; *"The visibility out to the east is good. Cloudbase is about three thousand. Couple of showers, could be snow showers, just north of the Carron Valley Reservoir as you pass Thornhill but east of that is pretty clear"*.

After the period of primary only radar coverage, as detailed above, at 1203:43 NODE began displaying Mode-A and Mode-C data from [the C172(B)] which was indicating 1300ft approximately 2.5NM west of Stirling, tracking steadily east. A radar snapshot at this time, showing the relative locations of C172(B) and C172(A), which was at 2300 feet, is shown in Figure 1.

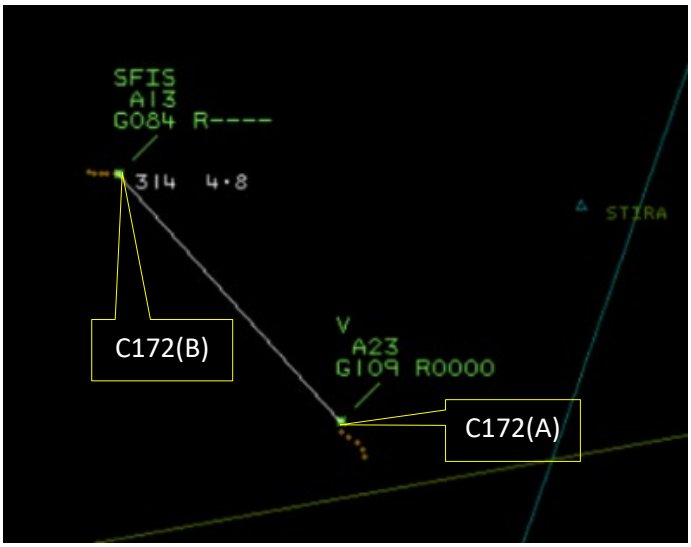



Figure 1 Time 1203:43

The pilot of [the C172(A)] then turned onto a more northerly track and started a slow descent. At 1205:29, whilst at 1500ft, [C172(A)] turned left on to a heading directly reciprocal of that of [the C172(B)] which was at 1600ft.

The closest point of approach between [C172(B)] and [C172(A)] occurred at 1206:00, 4NM west of reporting point STIRA (approximately 1NM north of Stirling Castle), in Class G airspace and was recorded on NODE radar as 0NM and 100ft as shown in Figure 2.

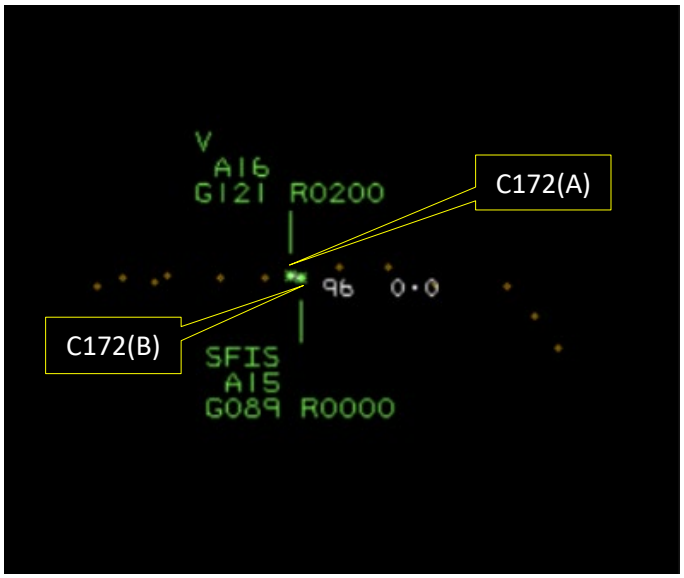



Figure 2 Time 1206:00

The pilot of [the C172(B)] continued on their existing track immediately following the encounter, whilst [the C172(A)] made a left turn.

Whilst the FISO was in a telephone call, pre-noting a domestic PC sector of an aircraft that would shortly be transferred to them from the FIS frequency, the pilot of [the C172(B)] called on frequency twice, the first time at 1206:08 but was told to stand by. When the FISO returned to the pilot after a few seconds the pilot stated, *"I'm just over Stirling. I'd like to report an Airprox. Really close!"*

The pilot of [C172(B) had] explained they, *'…turned to follow the other aircraft from a safe distance'* and in line with this, after passing [C172(A)] in Figure 3, the pilot turned right and proceeded to follow the other aircraft.

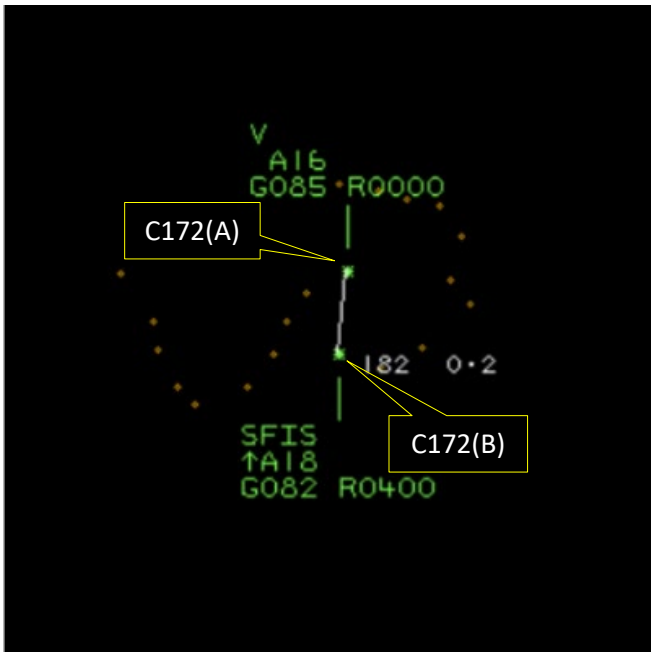



Figure 3 Time 1206:50

The pilot of [the C172(B)] asked the FISO, at 1209:00, *"Just out of interest have you got me on flight radar?"* and the FISO replied *'negative'.* The pilot then explained, *"The other aeroplane is, I would say, two miles southeast of Stirling, heading south…."*. At 1215:47 the pilot of [the C172(B)] informed the FISO that they were changing frequency to [en-route] but afterwards returned to the FISO frequency to inform the FISO that they had an identity for the other aircraft involved.

**UKAB Secretariat**

An analysis of the NATS radar replay was undertaken, and both aircraft were positively identified using Mode S data. CPA was assessed as having occurred at 1205:59 with 100ft vertical and less than 0.1NM lateral separation, 1sec before the radar screenshot at 1206:00 where the two aircraft had passed (Figure 2).

The C172(A) and C172(B) 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]

## Summary

An Airprox was reported when C172(A) and C172(B) flew into proximity north of Stirling at 1206Z on Thursday 13th February 2025. The C172(A) pilot was operating under VFR in VMC listening out on Cumbernauld Radio and the C172(B) pilot was operating under VFR in VMC in receipt of a Basic Service from Scottish Information.

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

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

Information available consisted of reports from both pilots, radar photographs/video recordings, and reports from the Scottish Information FISO and Cumbernauld AGCS operator. 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 looked at the actions of C172(A) pilot and noted that they had remained with Cumbernauld AGCS. Members discussed which frequency may have been the most appropriate to use in that vicinity and some members queried if Leuchars radar may have been an option. However, ATC members noted that local terrain and the low altitudes flown by the C172s would not have been conducive to the receipt of a satisfactory radar return from either aircraft, and that Scottish Information could at least have provided a Basic Service. The Board agreed that the pilot could have called Scottish Information, and that a FIS from them would probably have been more appropriate than remaining with Cumbernauld AGCS (**CF2**). As it was, members agreed that without R/T communications or electronic conspicuity equipment the pilot had had no situational awareness of the presence of the C172(B) (**CF3**) until they had first sighted it manoeuvring towards them. The Board noted that the pilot had seen and avoided C172(B) on more than one occasion after the Airprox had occurred and on` reviewing the radar track data, agreed that at the time of CPA the pilot had first sighted it at a late stage (**CF5**) and manoeuvred left to avoid it.

Turning their attention to the actions of the C172(B) pilot, the Board was satisfied that the pilot had been in receipt of a FIS from Scottish Information, while also recognising the limitations of a Basic Service. However, members agreed that because there had been no information available to the pilot, either by R/T communications or electronic conspicuity equipment, they had had no situational awareness of the presence or position of C172(A) (**CF3**). Members considered that, as the pilot had been concentrating on pointing out local features to their passenger, they had been distracted from their visual scan (**CF4**) and had seen the C172(A) sufficiently late as to have been unable to take avoiding action, effectively a non-sighting (**CF6**).

The Board had been disappointed that neither aircraft had been equipped with additional electronic conspicuity devices to have complemented their transponders and provided ADS-B in/out information, especially in an area where radar tracking posed some difficulties. Remaining on the topic of situational awareness, members returned their attention to the matter of R/T communications and the best solution for pilots operating in the area and some members thought that it was a shame that Edinburgh ATC, for example, had not been a LARS provider. There had followed a debate about the usefulness of Flight Information Displays (FIDs) used by some FISOs to enhance their situational awareness and it was confirmed that although a FID may provide generic situational awareness it did not have a direct radar feed and was not to be equated with one. ATC members explained that the FISO license would have precluded use of any such information and that they were not allowed to identify, validate, or pass Traffic Information in any case. One member felt that there was potential for FISOs to indicate the presence of traffic, perhaps using phraseology such as *"we can observe a number aircraft in the vicinity of …"* for example, if required under Duty of Care.[3] As it was, the Board acknowledged that, although the Scottish Information FISO had provided the C172(B) pilot with a helpful service, members agreed that they had not been required to monitor the C172(B) under the terms of a Basic Service (**CF1**).

In determining the category of risk for this Airprox, the Board agreed that safety had not been assured and that the proximity of C172(A) and C172(B) had been much reduced below the norm. Members agreed that the last minute left turn taken by the pilot of C172(A) had materially increased separation and averted a likely collision (**CF7**). As such, the Board assigned a Risk Category B to this event.

[3] CAP 774 ATS Principles, Duty of Care Chapter 1, 1.3

## PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

| | 2025015 | | | |
|---|---|---|---|---|
| CF | **Factor** | **Description th** | **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** | | | |
| | **• Tactical Planning and Execution** | | | |
| 2 | 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** | | | |
| 3 | 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 |
| | **• See and Avoid** | | | |
| 4 | Human Factors | • Distraction - Job Related | Events where flight crew are distracted for job related reasons | |
| 5 | 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 |
| 6 | 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** | | | |
| 7 | 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:

**Ground Elements:**

**Situational Awareness of the Confliction and Action** were assessed as **not used** because the Scottish Information FISO was not required to monitor the C172(B) under a Basic Service.

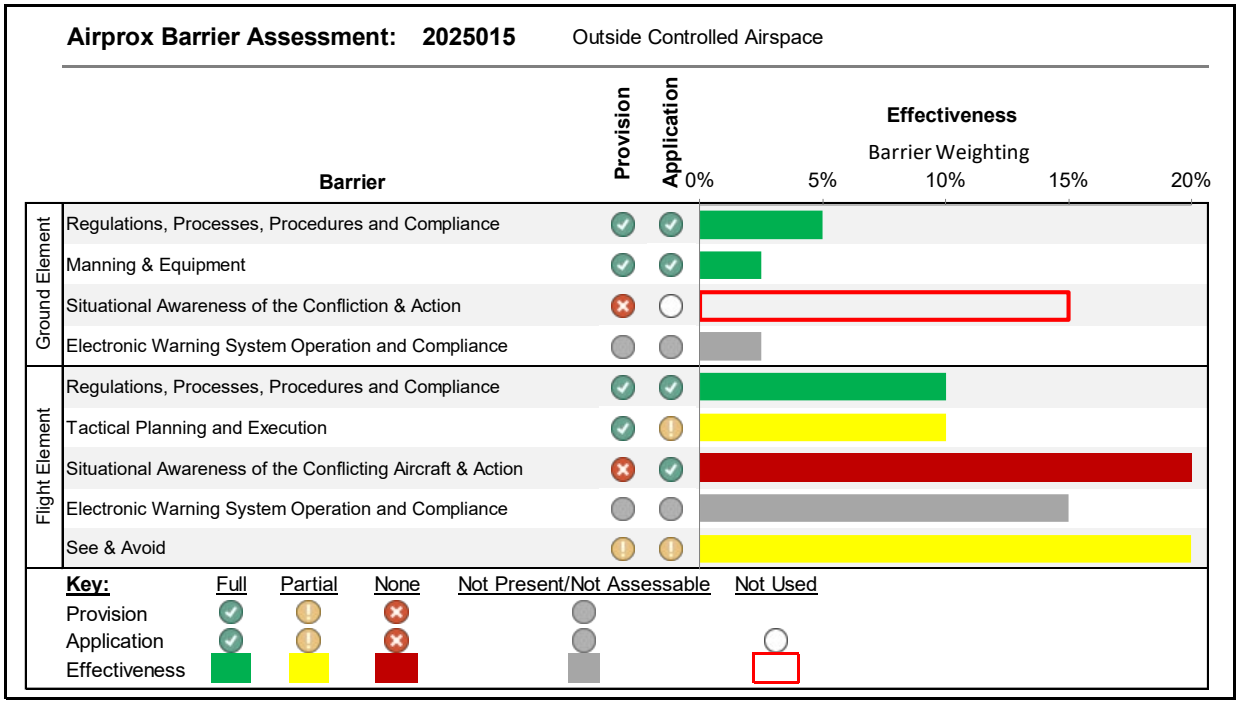
**Flight Elements:**

**Tactical Planning and Execution** was assessed as **partially effective** because the C172(A) pilot could have utilised a Basic Service from Scottish Information.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **ineffective** because neither the C172(A) pilot nor the C172(B) pilot had situational awareness of the presence or position of the other's aircraft.

**See and Avoid** were assessed as **partially effective** because the C172(A) pilot sighted C172(B) at a late stage, and the C172(B) pilot had seen C172(A) too late to make a significant input to increase separation, effectively a non-sighting.

[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: 2025015
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