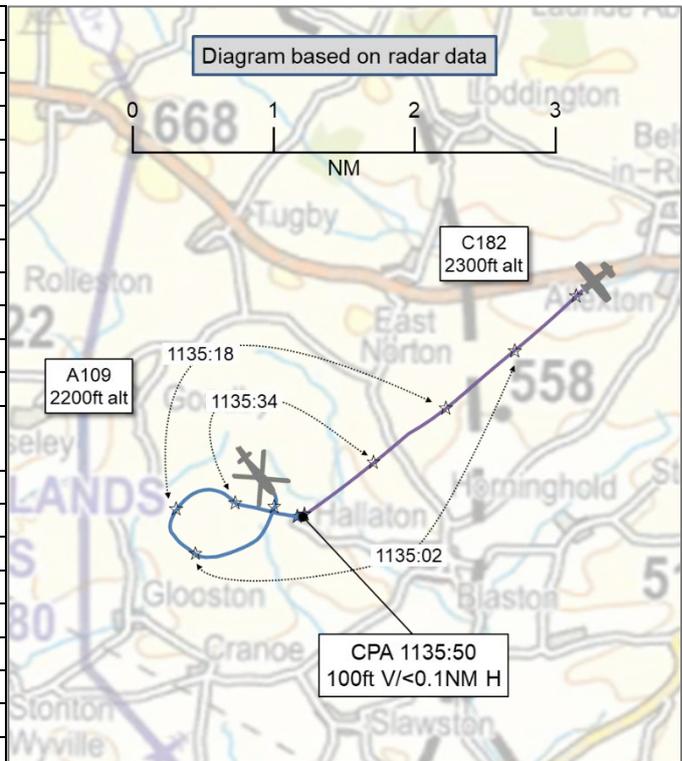


AIRPROX REPORT No 2021157

Date: 24 Aug 2021 Time: 1136Z Position: 5234N 00052W Location: 5.5NM ESE of Leicester Airport

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

| Recorded | Aircraft 1 | Aircraft 2 |
|-------------------|------------------|---------------------|
| Aircraft | A109 | C182 |
| Operator | Civ Helo | Civ FW |
| Airspace | London FIR | London FIR |
| Class | G | G |
| Rules | VFR | VFR |
| Service | AGCS | Basic |
| Provider | Leicester Radio | London Info |
| Altitude/FL | 2200ft | 2300ft |
| Transponder | A, C | A, C, S |
| Reported | | |
| Colours | White | White, Red |
| Lighting | NR | Nav, Beacon, Strobe |
| Conditions | VMC | VMC |
| Visibility | >10km | <5km |
| Altitude/FL | 2200ft | 2250ft |
| Altimeter | QNH (1032hPa) | QNH (NK hPa) |
| Heading | 045° | 232° |
| Speed | 100kt | 120kt |
| ACAS/TAS | Not fitted | Not fitted |
| Separation | | |
| Reported | 100m V/0ft H | 1000m V/100ft H |
| Recorded | 100ft V/<0.1NM H | |



THE A109 PILOT reports that they were conducting a Type Rating training flight, conducting rate 1 turns through 360° to the left [they recalled]. Passing through 045° the type rating instructor (TRI) saw a white, fixed-wing aircraft, at the same level, left of the nose and on a collision course. The instructor took control, increased the angle of bank and lowered the collective to avoid the fixed-wing aircraft which passed in front of the nose at an estimated distance of 100m.

The pilot assessed the risk of collision as ‘High’.

THE C182 PILOT reports that they were on their way back from [departure airfield], the weather was deteriorating, with pitch-black clouds around them. They descended constantly to a lower altitude, to stay beneath the clouds and remain VMC but, as they descended, the visibility worsened as well. When they passed Leicester, the airport wasn't visible as the view was blocked by clouds. They did their scan and realised there was a helicopter just below them, visible through the very corner of their right window, ascending out of the clouds directly towards them. Due to very bad visibility and the clouds, they hadn't seen the helicopter before that. They opined that both pilots must have seen each other at the same time, as both took avoiding action immediately and simultaneously, turning 45° to the left. They didn't receive any information about the helicopter, which may have been because they were on a different frequency and the G1000 in the C182 is not equipped with any Traffic Information system. As both of pilots took action immediately, a collision was avoided and both then continued on their original courses.

The pilot assessed the risk of collision as ‘Medium’.

THE LEICESTER AIR/GROUND OPERATOR reports That they have no recollection of any relevant information.

THE LONDON INFORMATION FISO reports that [the] safety investigations [department] informed them that the UKAB had notified NATS that an Airprox report had been filed regarding [the C182] pilot on Tuesday 24th August. The pilot of [the C182] did not report anything on the RT.

Factual Background

The weather at Wittering was recorded as follows:

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METAR EGXT 241150Z 06008KT 9999 BKN030 18/13 Q1031 BLU=
METAR EGXT 241050Z 04008KT 9999 FEW017 BKN031 BKN037 18/13 Q1031 RMK BLU=
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Analysis and Investigation

NATS investigation report

Safety Investigations was notified by the UK Airprox Board of an Airprox involving [an A109] and [a C182]. The pilot of [the C182] was in communication with London Information however no report was made over the RT concerning the event.

Information available to the investigation included:

- CA4114 [ATS occurrence reporting form] from the London Information FISO.
- Radar and R/T recordings

The pilot of [the C182] called on the London Information frequency at 1042:50 using the prefix 'student' and reported that they were on a navigational exercise from [departure airfield] to [destination airfield] via Rugby and Boston. The London Information FISO provided a Basic Service and issued a squawk of 1177. [The A109] first appeared on radar in the vicinity of Leicester Airport and began tracking in a south-easterly direction, at this time [the C182 pilot] was routing towards [destination airfield] and tracking in a south-westerly direction. At 1134:44 [the A109 pilot] appeared to begin a right hand orbit in a position approximately 2.4NM to the east of the reporting point UPDUK. As [the A109 pilot] completed the orbit and re-established on the south-easterly track the aircraft came into close proximity with [the C182], which was continuing their previously established south-westerly track, maintaining an indicated altitude of 2300ft.

The closest point of approach (CPA) between the aircraft occurred at 1135:50 and was recorded on the Multi Track Radar as 0NM and 100ft. (Figure 1).



Figure 1

The Mode C indication displayed by [the A109] changed from an altitude of 2200ft at CPA, to an altitude of 2400ft on the subsequent radar update.

London Information provides Basic and Alerting Services only and is not radar equipped. The pilot of [the A109] was not in contact with London Information, therefore the FISO was unaware of the aircraft.

CAP774 – UK Flight Information Services, Chapter 2 Paragraph 1 defines a Basic Service as: '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.' The pilot of [the C182] made no reference to the event over the RTF and continued to their destination, leaving the London Information frequency at 1144:53.

The Airprox occurred when [an A109 pilot] and a [C182 pilot] flew into close proximity whilst outside controlled airspace. Closest Point of Approach occurred at 1135:50 and was recorded on Multi-Track Radar as 0NM and 100 feet.

UKAB Secretariat

The A109 and C182 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 C182 pilot was required to give way to the A109.²

Summary

An Airprox was reported when an A109 and a C182 flew into proximity 5.5NM ESE of Leicester Airport at 1136Z on Tuesday 24th August 2021. Both pilots were operating under VFR in VMC, the A109 pilot in receipt of an AGCS from Leicester Radio and the C182 pilot in receipt of a Basic service from London Information.

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 controllers 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.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided a combination of written contributions and dial-in/VTC comments.

The Board first considered the actions of the A109 pilot and a helicopter pilot member, who is familiar with training of this kind, commented that it would have been a high workload situation for the pilot. The Board agreed that, in this area of operation, there are other air traffic services available which could have better aided the pilot in discharging their responsibilities regarding collision avoidance whilst undertaking this kind of training and, that utilising a service such as East Midlands LARS, may have been more appropriate (**CF2**).

The Board then considered the level of service that the C182 pilot had been receiving. The C182 pilot had been in receipt of a Basic Service, under which there is no requirement for the FISO to monitor the flight (**CF1**). London Information is non-surveillance equipped and so the FISO had no information available to them that could have been used to build situational awareness of the event. The Board agreed that there may have been benefit to the C182 pilot in utilising a LARS provision (**CF2**).

Finally, in assessing the risk of collision, the Board discussed that neither pilot had had any awareness of the presence of the other (**CF3**), and so both had been relying on their lookout. The Board also

¹ (UK) SERA.3205 Proximity.

² (UK) SERA.3210 Right-of-way (c)(2) Converging.

discussed that, for a time, the A109 would have been visually obscured from the pilot of the C182 (**CF5**). Both pilots had become visual with the other aircraft at a late stage (**CF4**), but they had had time to take emergency avoiding action. Members agreed that, in this case, safety had not been assured and that there had been a risk of collision (**CF6**), but that the action of the pilots had generated sufficient separation to reduce the risk of collision, although not remove it entirely. Accordingly, the Board assigned a Risk Category B to this Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

| | 2021157 | | | |
|---|---------------|--|---|--|
| 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 | | | | |
| • 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 or only generic, Situational Awareness |
| • 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 | Contextual | • Visual Impairment | Events involving impairment due to an inability to see properly | One or both aircraft were obscured from the other |
| • Outcome Events | | | | |
| 6 | 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 Assessment³

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, under a Basic Service, the FISO is not required to monitor the flight.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the A109 pilot remained under an AGCS whilst operating away from the airfield when they may have been better served seeking a LARS from a local provider.

³ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot was aware of the presence of the other.

See and Avoid were assessed as **partially effective** because both pilots only became visual with the other aircraft after it was too late to take effective action to increase separation.

| Airprox Barrier Assessment: 2021157 | | 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 Conflicting & 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 | | | | | | | | |