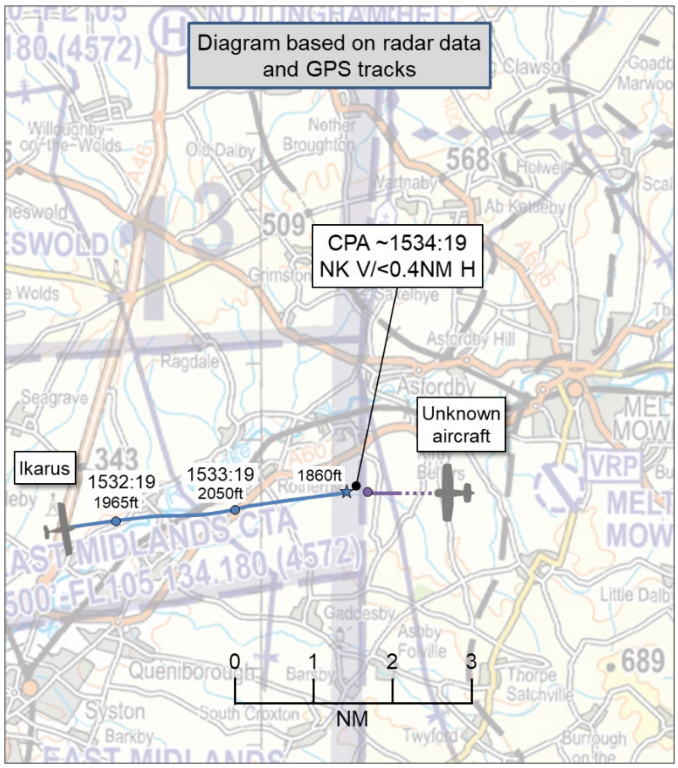
AIRPROX REPORT No 2025018

Date: 22 Feb 2025 Time: ~1534Z Position: 5244N 00058W Location: 3NM WSW Melton Mowbray

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Ikarus	Unknown[1]
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Unknown
Provider	East Midlands Rdr	NK
Altitude/FL		NK
Transponder	A, C, S	NK
Reported		Not reported
Colours	White	
Lighting	none	
Conditions	VMC	
Visibility	>10km	
Altitude/FL	1900ft	
Altimeter	QNH (1012hPa)	
Heading	090°	
Speed	75kt	
ACAS/TAS	SkyEcho	
Alert	None	
Separation at CPA		
Reported	250ft V/50m H	NR
Recorded	NK V/ <0.4NM H	



THE IKARUS PILOT reports they were routeing underneath East Midlands airspace from [departure to destination] in a steady cruise around 1900ft on Basic Service. They suddenly spotted an aircraft slightly high and to the right, but largely on a reciprocal heading. They descended to increase separation and informed East Midlands Radar of an Airprox as they were unsure if they could report via radio to them. [East Midlands ATC] advised logging the Airprox online. They were conscious of the low sun and them being in the blind spot under the cowling of the other aircraft. The Ikarus pilot further reported that they had first sighted the unknown aircraft at approximately ½NM.

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

THE UNKNOWN AIRCRAFT PILOT. Despite extensive enquiries, the UKAB Secretariat was unable to establish contact with the unknown aircraft pilot.

THE EAST MIDLANDS CONTROLLER reports that the personnel on duty at the time logged the event in the ATC log book, but took no further reporting action.

[The Ikarus pilot] had called on the LARS frequency 2NM west of Melton Mowbray requesting a Basic Service routeing from [departure to destination]. The EMA LARS conspicuity squawk 4571 was allocated and a Basic Service was provided which the pilot read back. There were several other aircraft squawking 4571 at the time. [The Ikarus] was not identified, but was on a route which would remain outside controlled airspace (CAS). The pilot reported their altitude as 1900ft.

The 4571 squawk (displayed as 'L') soon disappeared from the display. As the flight progressed, the SSR response of a PSR contact that could have been [the Ikarus] re-appeared briefly on two occasions. At times the PSR contact also disappeared.

[1] The unknown aircraft was described as a high wing Cessna by the Ikarus pilot.

At approximately 1535 [the Ikarus pilot] reported they had had an Airprox which had been 'uncomfortably close' and sought advice on what to do. The pilot was directed to the CAA website to file a report, which the pilot acknowledged. There were no known conflicting aircraft in the location at the time.

Factual Background

The weather at East Midlands Airport was recorded as follows:

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METAR EGNX 221520Z 26011KT 9999 FEW032 SCT049 11/06 Q1013
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Analysis and Investigation

East Midlands Airport

Timeline Description.

1505:08 There was a free-call received from [the Ikarus pilot] requesting a Basic Service. RAD [the Radar controller] replied *'standby'*.

1506:02 RAD: "[Ikarus c/s] *pass your details"*. [The Ikarus pilot] replied "[c/s] *C42 microlight on a VFR flight from* [departure to destination] *via Melton Mowbray, 2 miles west of Melton Mowbray on a QNH of 1012"*. RAD: *"*[Ikarus c/s] *roger, QNH correct, Basic Service squawk 4571"*. [The Ikarus pilot] read back "*Basic Service, squawk 4571* [c/s]" (Figure 1).

Figure 1 Time 1506:02

1507:26 RAD: "[Ikarus c/s] *just confirm your altitude".* [The Ikarus pilot] replied *"1900ft"* (There were 3 other 4571 squawks displayed)

1507:55-1527:05 The squawk believed to be from [the Ikarus] disappeared and reappeared intermittently.

1533:40 The PSR contact believed to be [the Ikarus] had unknown traffic at 12 o'clock, 3NM opposite direction (Figure 2).

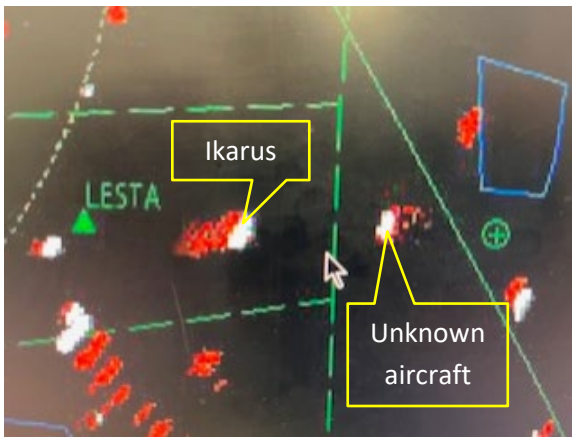


Figure 2 Time 1533:40

1534:19 The closing distance was ½NM, still 12 o'clock opposite direction. After the merge, there was no change in the tracks of either contact (Figure 3).

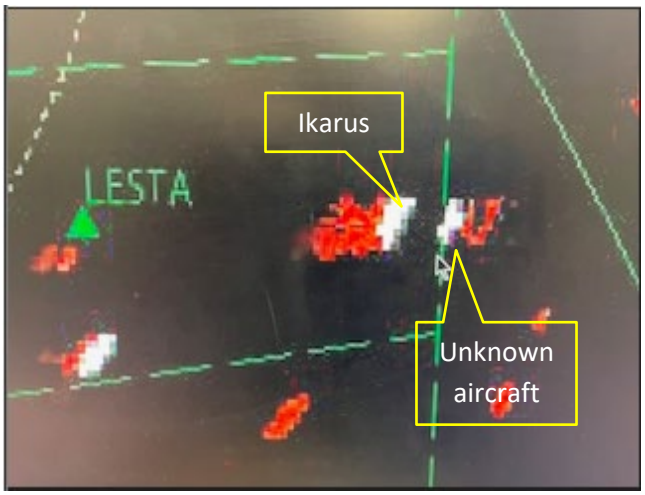


Figure 3 Time1534:19

1535:05 [Ikarus pilot]: *"*[Ikarus c/s]*, can you advise on an Airprox 4 miles west of Melton Mowbray at 2000ft".*

1535:22 RAD: *"*[Ikarus c/s] *sorry, just clarify you've just had an Airprox?"* [Ikarus pilot]: *"Yes I would say that was uncomfortably close, er, just wondering for a bit of advice* [c/s]*".* RAD: "*Roger* [Ikarus c/s] *you're on a Basic Service*". [Ikarus pilot]: *"Roger* [Ikarus c/s]*, just wondering about reporting it".* RAD: *"I believe there's a er, CAA, er, on the CAA website you can find the form to report that".* [Ikarus pilot]: *"Roger I wasn't sure if I could do it over the radio thanks,* [Ikarus c/s]*".* RAD: "[Ikarus c/s] *just be advised that I cannot see your transponder at the moment*". [Ikarus pilot]: *"Affirm,* [Ikarus c/s] *we'll be changing to [en-route] anyway right now".* RAD: "*Roger* [Ikarus c/s] *I did see your transponder when I first issued it but it's been intermittent all the way and you can squawk conspicuity and free-call* [en-route]*".* [The Ikarus pilot] acknowledged.

The investigation findings were that an Airprox was reported on frequency, but the ATCO [did not] complete an MOR, and the conflicting aircraft was not displaying Mode A or Mode C and was not traced.

Initial Investigation Summary.

[The Ikarus pilot] requested a Basic Service routeing [departure] to [destination]. Correct procedures were followed and a Basic Service was given and read back by [the Ikarus pilot]. The SSR response believed to be from [the Ikarus] was only visible on the display over 3 periods for a total of 2min 32sec during the 28min from the pilot reading back the squawk, to reporting the Airprox. It was never

identified. At times, the PSR contact believed to have been [the Ikarus] also disappeared from the display. [The Ikarus pilot] reported in a position and on a route that would remain outside CAS. They reported at 1900ft.

The unknown conflicting contact was weak and slow, no squawk displayed. The contacts merged, opposite direction. No track deviation is apparent after the merge. The [investigation speculated that], at this time of day and year there was possibly sun in the eyes of the unknown conflicting pilot. The unknown conflicting aircraft was tracked into [an airfield] overhead where it appeared to make an overhead join before disappearing 1.5NM east of [that airfield], possibly turning [onto a final approach]. If so, it would have landed at 1612.

Workload at the time was moderate(+) with LARS traffic. [There was a rostered Director] but there were no IFR inbounds to delegate. The Radar controller could have informed [the Ikarus pilot] earlier that their transponder was rarely visible. The display shows 'clutter' drifting with the forecast 1000ft wind of 250/15kt, and the 3000ft forecast wind of 260/20kt. The Radar controller log book entry at 1535 quotes: *"Ikarus microlight* [pilot] *reports possible Airprox.* [The Ikarus pilot] *was on a Basic Service, not identified, intermittent mode A. Did not specify against what or where. Advised* [the pilot of the UKAB] *portal to file online."* No report was filed by ATC at the time. The Radar controller did not take the opportunity to request further details whilst [the Ikarus pilot] was still on frequency, or on the phone after landing.

Investigation Summary

[The Ikarus pilot] free-called East Midlands LARS requesting a Basic Service (flying entirely within Class G airspace), this was agreed and provided with the allocation of the East Midlands Basic Service conspicuity squawk. No Traffic Information was given to [the Ikarus pilot] on any conflicting traffic. However, there is no requirement to and the aircraft was not identified - again there is no requirement to. The SSR label of [the Ikarus] was intermittent at best; furthermore, the PSR return disappeared and reappeared several times meaning identification and monitoring would have been difficult. The conflicting traffic was following the wind, there was no SSR label and the radar return could have been mistaken for clutter - if it had been observed. The pilot of [the Ikarus] reported the Airprox to the Radar controller and was advised to visit the CAA website for guidance on filing a report; an MOR was not filed by the ATCO.

The investigation noted technical issues with the SSR provision from the NATS Claxby radar head as being inadequate to the south of East Midlands at lower altitudes. Moreover, the quality of the PSR was substandard the majority of the time with a high degree of radar clutter.

The secondary radar coverage from the Claxby feed was very poor at the distance around where the Airprox took place; furthermore, EMA provides a LARS further south of this position. Therefore, it was recommended to resolve the issues surrounding the MLAT SSR provision as soon as possible and return it to service. The PSR located at East Midlands [was described as] old and in need of replacement/upgrade; it was recommended East Midlands Airport investigate the replacement of this radar provision.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and the Ikarus was identified using Mode S data but disappeared from the radar replay at 1531:19. No other aircraft could be seen in the vicinity, although a primary track appeared in the vicinity of the reported Airprox at 1533:49. Further analysis of ADS-B sourced data was undertaken, and only the Ikarus was positively identified.

East Midlands was able to provide information from its radar equipment and it was assessed that the CPA was at approximately 1534:19 with less than 0.4NM separation laterally (with the aircraft tracks still closing) and vertical separation unknown. The Ikarus pilot also supplied their track from their GPS device.

The Ikarus and unknown aircraft pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[2]

Summary

An Airprox was reported when an Ikarus and an unknown aircraft flew into proximity 3NM west-southwest of Melton Mowbray at approximately 1534 on Saturday 22nd February 2025. The Ikarus pilot was operating under VFR in VMC in receipt of a Basic Service from East Midlands Radar and the unknown aircraft pilot could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report and GPS track file from the Ikarus pilot, 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 first discussed the actions of the Ikarus pilot and was heartened that the pilot had reported the Airprox on frequency, but also noted the limitations of receiving a Basic Service. However, given that the radar at East Midlands had only been able to detect the Ikarus intermittently as a primary return and likewise with the unknown aircraft, members considered that upgrading to a Traffic Service had not been a viable option. The Board noted that the Ikarus had been fitted with an electronic conspicuity device that, unfortunately, had been unable to detect the unknown aircraft (**CF3**) which had not been emitting an ADS-B signal. Members agreed, therefore, that the pilot had had no situational awareness of the presence or position of the unknown aircraft (**CF2**) until they had sighted it and had subsequently become concerned by its proximity (**CF4**).

The Board briefly discussed the actions of the unknown pilot, primarily noting their disappointment in the obvious difficulty in tracing the pilot of a non-transponding and non-ADS-B emitting aircraft, where the pilot seemingly had neither booked in nor out of the assumed point of landing. Referring to both aircraft, one pilot member mentioned the potential problem of flying on a straight track, particularly in scenarios where aircraft are approaching on a constant aspect, where the lack of relative movement may lead to difficulty in visually acquiring them; they recommended creating occasional deviations from straight and level flight, with left and right turns for example, to improve the aircraft's visibility to other pilots and to change the relative aspect of their own aircraft.

Turning their attention to the actions of the East Midlands controller, members noted that the controller had issued the Ikarus pilot with a LARS conspicuity squawk despite having had problems with their radar feed and had acknowledged that their PSR had not been operating at an optimum level. Nonetheless, the Board agreed that the controller had not been required to monitor the Ikarus on a Basic Service (**CF1**).

In conclusion, the Board was mindful that, although the primary radar picture had demonstrated that the two aircraft could be seen at less than 0.4NM lateral separation, they both appeared to have continued on seemingly straight tracks after CPA and, likely, passed considerably closer laterally, with a reported but not recorded vertical separation of 250ft. A few members felt that there was insufficient information to determine a risk category, whereas some members felt that safety had not been assured and that serendipity had averted a likely collision. Equally, other members felt that there was sufficient information available to judge that, although safety had been degraded, the Ikarus pilot had been able to simply monitor the situation. The Chair put it to the vote and an equal number of members voted for Risk Category B (safety not assured, risk of collision) and Risk Category C (safety degraded, but no risk of collision). As such, the Chair had the casting vote and assigned Risk Category C to this event.

[2] (UK) SERA.3205 Proximity.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2025018			
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	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	• 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[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:

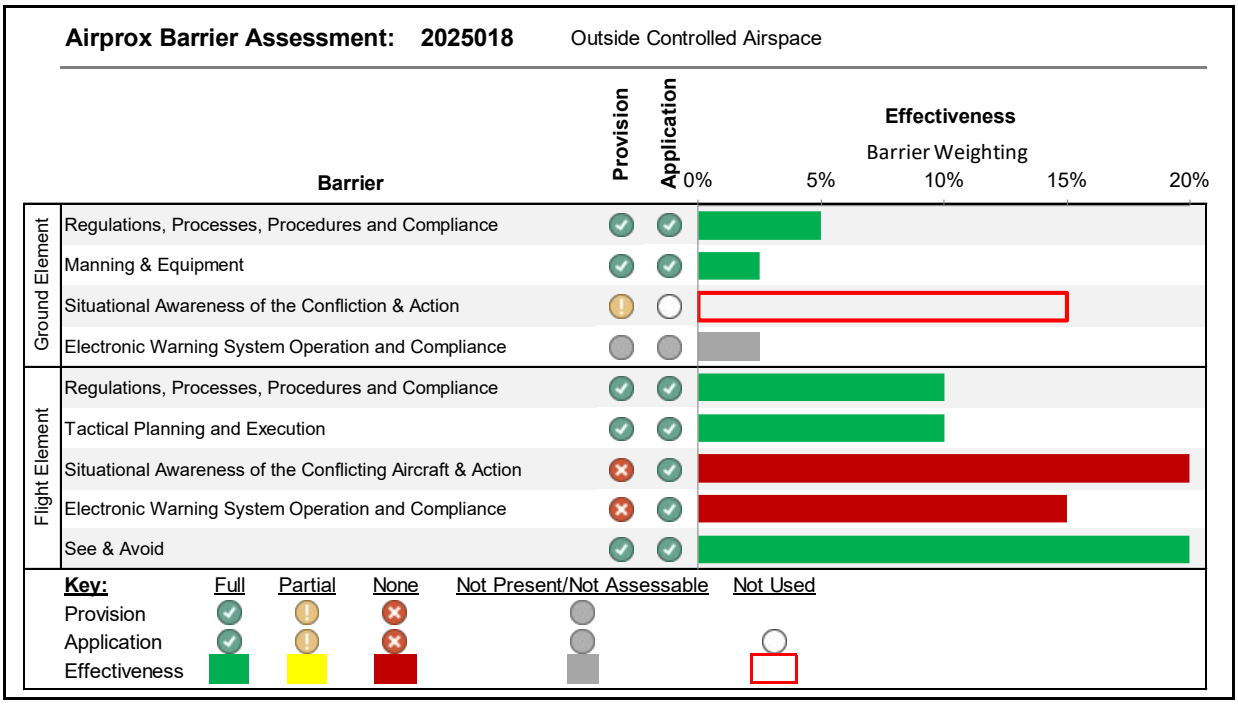
Situational Awareness of the Confliction and Action were assessed as **not used** because the East Midlands controller was not required to monitor the Ikarus under the terms of a Basic Service.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the Ikarus pilot had no situational awareness of the presence or position of the unknown aircraft until visually acquired.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the Ikarus electronic conspicuity could not detect the unknown aircraft which had not emitted any electronic conspicuity signals.

[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: 2025018
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