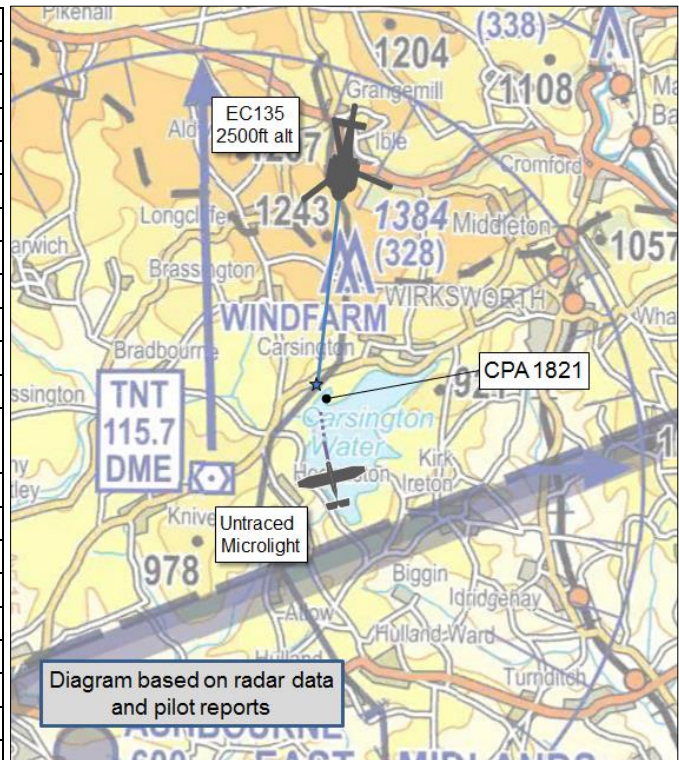


**AIRPROX REPORT No 2017221**

Date: 08 Sep 2017 Time: 1822Z Position: 5303N 00137W Location: Carsington Water

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	EC135	Microlight
Operator	NPAS	Unknown
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	
Service	Basic	
Provider	East Midlands	
Altitude/FL	2500ft	
Transponder	A, C, S	
<b>Reported</b>		<b>Not Reported</b>
Colours	Dark blue	
Lighting	Nav, HISL, Strobes	
Conditions	VMC	
Visibility	>25km	
Altitude/FL	2500ft	
Altimeter	QNH (995 hPa)	
Heading	190°	
Speed	120kt	
ACAS/TAS	TCAS II	
Alert	None	
<b>Separation</b>		
Reported	200ft V/0.5nm H	
Recorded		NK



**THE EC135 PILOT** reports that he was in the cruise at 2500ft, there was very little traffic about, and it was a nice CAVOK evening. He looked up to scan outside following a fuel calculation and saw a small, yellow, high-wing microlight in his 9:30 to 10 o'clock position. It had an engine mounted on the wing, was in a right turn above his altitude, and he thought it was likely that it had previously been on a reciprocal heading to himself. At that point, because of the altitude of the other aircraft, there was no risk of collision and therefore no need to take avoiding action. However, he thought that it could have been possible that the other aircraft had already taken avoiding action.

He assessed the risk of collision as 'Medium'.

**THE MICROLIGHT PILOT** could not be traced.

**Factual Background**

The weather at East Midlands was recorded as follows:

METAR EGNX 081720Z 28008KT 9999 -SHRA BKN037 15/11 Q0996=

**Analysis and Investigation**

**CAA ATSI**

The area radar replay was reviewed but no contact attributable to a second Airprox aircraft was observed. Other primary contacts observed in the vicinity of the EC135 during this period were discounted because they were considered to be wind-turbine reflections. A review of the East

Midlands ATC radar recording confirmed a much stronger primary-only contact, which could not be identified, but closely matched the reported movement of the second aircraft, identified as a microlight-type by the pilot of the EC135. Screenshots in this report have been taken from the East Midlands radar recording.

Figure 1 shows the situation at 1820:00 when the EC135 first contacted the East Midlands radar controller.

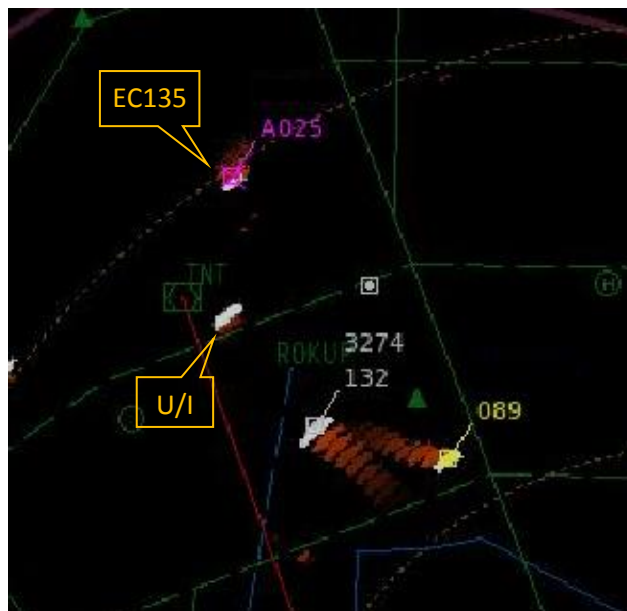


Figure 1 – 1820:00

The primary contact believed to be the microlight had been a strong but intermittent contact, and had generally been maintaining a north-northwesterly track south of Carsington Water. After their initial call at 1820:00, the EC135 pilot confirmed that they were en-route for Birmingham at 2500ft, and requested a Basic Service. The controller confirmed the Basic Service, and, although they then requested the pilot to squawk ident, they did not advise the pilot that they were identified.

Figures 2 and 3 illustrate the situation as it continued to develop, with Figure 3 showing the situation just prior to both radar contacts merging. CPA could not be illustrated using the East Midlands radar replay because both primary radar contacts disappeared when they merged fully at approximately 1821:11. Figure 4 shows the situation shortly after CPA.



Figure 2 – 1820:57



Figure 3 – 1821:04



Figure 4 – 1821:18

The EC135 pilot reported seeing the microlight already in a turn, which they assumed was to avoid them, and therefore did not deem it necessary to take any avoiding action of their own. No report was received from the second aircraft, which was not in communication with East Midlands Radar.

Under a Basic Service the controller was not required to monitor the flight of the EC135, and they were actively involved in providing surveillance services to 3 IFR aircraft inbound to East Midlands, and 1 outbound. It was noted that the outbound aircraft was advised that it would be a reduced Traffic Service due to poor radar performance, and radar 'spoking' was observed on the radar replay including the quadrant both the EC135 and the microlight were operating within.

Both aircraft were operating in Class G airspace and so the pilots were responsible for their own collision avoidance.

### UKAB Secretariat

The EC135 and Microlight pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard<sup>1</sup>. If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right<sup>2</sup>.

### Comments

#### NPAS

The NPAS operation sees its fleet deployed widely across England and Wales in a mix of airspace environments. Our crews take their responsibilities for lookout very seriously while balancing the need to operate complex aircraft and deliver the key function of keeping communities safe. In this instance, with the pilot flying in the right-hand seat, contacts in the position reported are not as easy to see as in the ahead to 3 o'clock quadrant. While inconclusive, without the other pilot's perspective, it is pleasing that the incident was reported as it is in all our interests to reduce the risk of airborne conflict.

<sup>1</sup> SERA.3205 Proximity.

<sup>2</sup> SERA.3210 Right-of-way (c)(1) Approaching head-on.

## Summary

An Airprox was reported when an EC135 and a microlight flew into proximity at 1822 on Friday 8<sup>th</sup> September 2017. The EC135 pilot was operating under VFR in VMC, and in receipt of a Basic Service from East Midlands. The microlight pilot could not be traced.

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

Information available consisted of reports from the EC135 pilot, radar photographs/video recordings, and reports from the appropriate ATC operating authorities.

The Board noted that this Airprox took place in Class G airspace, where both pilots were entitled to operate and see-and-avoid was the primary means of collision avoidance. Although the EC135 was receiving a Basic Service from East Midlands, the controller was busy with other aircraft and was not required to pass Traffic Information or monitor its flight on radar. The EC135 was fitted with CWS, but the microlight did not appear to be transponder equipped, (SSR data was not seen on the radar) therefore the TCAS would not have picked up the microlight. Although the EC135 pilot saw the microlight later than he would have liked due to work-load within the cockpit, it seemed possible that the microlight pilot had also seen the EC135 and had taken action accordingly.

Turning to the cause of the Airprox, the Board quickly agreed that although the incident met all the criteria for reporting an Airprox, the distances involved (0.5nm horizontally and 200ft vertically) meant that this was deemed to be a sighting report and that normal safety standards had pertained. Accordingly, the risk was assessed as Category E. Notwithstanding, the Board were keen to highlight that the EC135 pilot had been right to submit the report reflecting his concerns at the time, it had simply been by further analysis that this assessment had been made.

## PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A sighting report.

Degree of Risk: E.

### Safety Barrier Assessment<sup>3</sup>

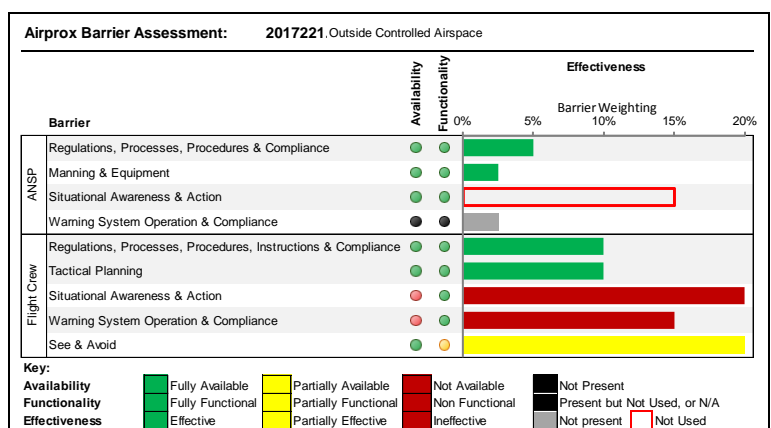
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

### **Flight Crew:**

**Situational Awareness and Action** were assessed as **ineffective** because the EC135 pilot did not receive any information, either from ATC or from his CWS, about the microlight before he saw it.

**Warning System Operation and Compliance** were assessed as **ineffective** because the EC135's TCAS could not detect the non-transponding microlight.

**See and Avoid** were assessed as **partially effective** because the EC135 pilot saw the microlight later than desirable.



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