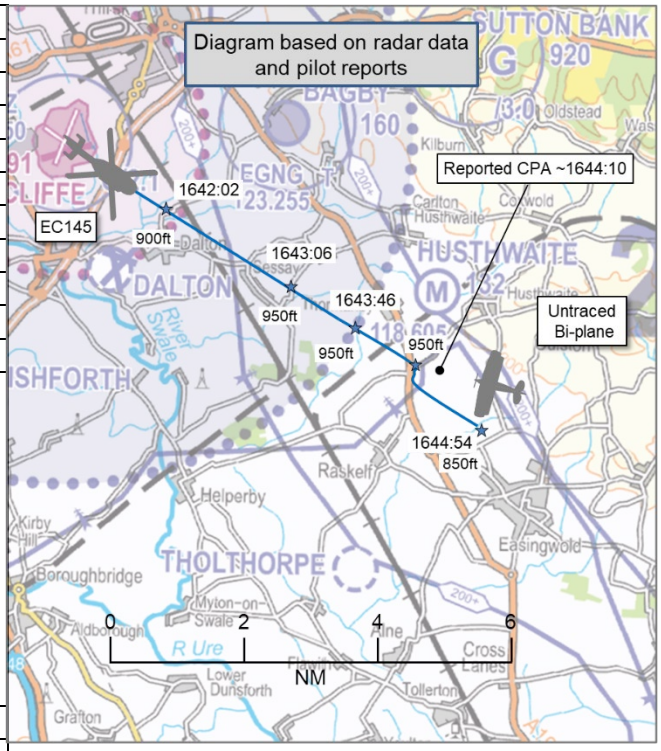
AIRPROX REPORT No 2024089

Date: 10 May 2024 Time: ~1644Z Position: 5409N 00114W Location: 6NM ESE of Topcliffe

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	EC145	Unknown
Operator	HEMS	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	NK
Service	Listening Out	NK
Provider	Leeming/Husthwaite	NK
Altitude/FL	950ft	NK
Transponder	A, C, S	Not fitted
Reported		
Colours	Grey	Untraced
Lighting	Navigation, anti-coll	
Conditions	VMC	
Visibility	>10km	
Altitude/FL	1000ft	
Altimeter	QNH (1024hPa)	
Heading	121°	
Speed	120kt	
ACAS/TAS	TCAS I	
Alert	None	
Separation at CPA		
Reported	0ft V/100m H	Untraced
Recorded	NK	



THE EC145 PILOT reports that, while on a HEMS task late into their shift with the pilot thinking about extending the FTL and the paramedics thinking about the task they were going to, they may have been a little distracted. The pilot notes that they would normally fly at altitudes [such as] 1250ft to avoid other aircraft that fly at 1000ft or 1500ft. On this occasion they had elected to stop climb at 1000ft QNH. While monitoring Husthwaite microlight site on 118.605MHz and making blind calls on 133.375MHz (Leeming Radar) the TCM (HEMS Navigator) brought the crew's attention to an aircraft in the 11 o'clock at the same level. The EC145 pilot took avoiding action at the same time as the biplane with a right turn. Factors the pilot thinks contributed to this Airprox: their choice of altitude, the time of day at the end of a long busy HEMS week, the fact that the biplane didn't have a transponder or a radio [they opined]. Also, the EC145 pilot believed it to be a risk that there are 3 minor airfields to the east of the Topcliffe MATZ that all operate on different frequencies. Husthwaite on 118.605MHz, Bagby on 123.255MHz and Felixkirk that has Leeming and Topcliffe frequencies in its Pooley's plate. The EC145 pilot feels that these 3 small airfields should operate on the same frequency so traffic passing close to them only needs to monitor and/or make blind calls on one frequency.

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

THE BIPLANE PILOT could not be traced.

Factual Background

The weather at Teesside was recorded as follows:

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METAR EGNV 101220Z 17008KT 140V220 9999 FEW045 22/15 Q1023=
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Analysis and Investigation

UKAB Secretariat

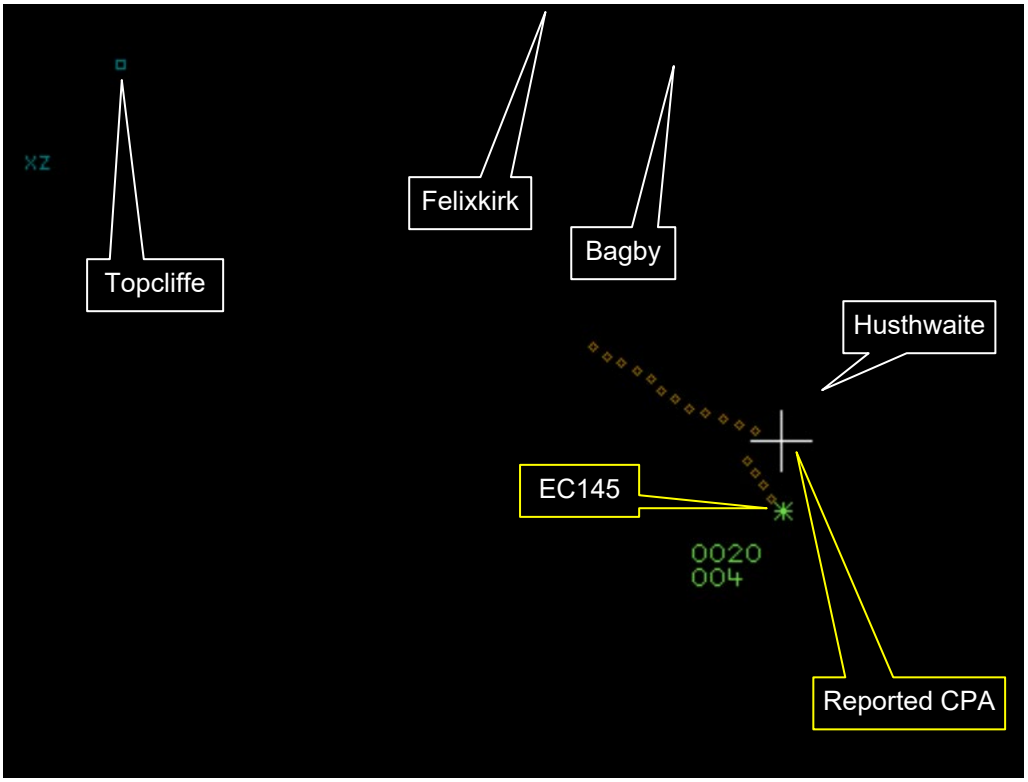

Figure 1: Reported CPA ~1644:10

The EC145 was tracked via radar and identified through Mode S data. The Biplane did not appear on radar or other proprietary aircraft tracking systems and could not be traced. Figure 1 shows the EC145 track – a distinctive right turn was recorded at or around the point at which the pilot reported sighting thew Biplane. Also shown are the relative positions of the clutch of airfields commented on in the same report.

The EC145 and Biplane 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 an EC145 and an untraced Biplane flew into proximity 6NM east-southeast of Topcliffe at about 1644Z on Friday 10th May 2024. The EC145 pilot was operating under VFR in VMC and not in receipt of an Air Traffic Service. The Biplane pilot could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the EC145 pilot and radar photographs/video recordings. 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 considered all the information available to them. The EC145 pilot had submitted a report, and radar tracing had enabled the plotting of its flightpath. Unfortunately, the EC145 pilot had not been in receipt of an active Air Traffic Service and any potential situational awareness gain through such had been denied. Although the EC145 had carried electronic conspicuity equipment, it had not registered any electronic emissions from the Biplane (**CF3**) thereby further reducing opportunities for situational awareness (**CF2**). Members praised the actions of the TCM who had managed to gain visual contact

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

with the Biplane, albeit late (**CF4**), and enabled late avoidance action to have been initiated. The Board noted the EC145 pilot's reference to their normal desire to operate at intermediate altitudes to avoid more congested levels and thereby reduce risk of events such as these, observing that in this case they had not (**CF1**) and the resulting Airprox had occurred. As the Biplane could not be seen on radar or ADS-B based tracking systems, no CPA could be accurately calculated. Members wished to remind all operators of the value of contributing to the Airprox process to allow learning for all.

In considering the EC145 pilot's comments regarding multiple local airfields operating multiple frequencies, members commented that such close operations under a single frequency can be extremely confusing and that perhaps even greater cooperation regarding current operations between active sites can be an alternative path to greater situational awareness for pilots.

Concluding their discussion, members summarised their thoughts. They felt that it had been unfortunate that, despite significant effort, it had not been possible to trace the pilot of the Biplane, accepting that this had greatly reduced the opportunity for a full understanding of the circumstances in this event. It was agreed that with a lack of an active Air Traffic Service, and electronic conspicuity equipment that had not reacted in this case, the EC145 pilot had no situational awareness of activity in the area and had gained visual contact with the Biplane at a late stage and then taken avoiding action. Members agreed that safety margins had been reduced below the norm but that late avoiding had averted the risk of collision. As such, the Board assigned Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024089			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Tactical Planning and Execution			
1	Human Factors	• Insufficient Decision/Plan	Events involving flight crew not making a sufficiently detailed decision or plan to meet the needs of the situation	Inadequate plan adaption
	• 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

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:

Flight Elements:

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

Tactical Planning and Execution was assessed as **partially effective** because the EC145 pilot had not chosen to operate at an intermediate altitude and had transitted the area of 3 airfields at or around circuit altitude.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the EC145 pilot had no situational awareness of the presence of the Biplane.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the equipment carried by the EC145 had not been able to register any electronic emissions that may have been emitted from the Biplane.

See and Avoid were assessed as **partially effective** because the EC145 pilot achieved only a late sighting of the Biplane.