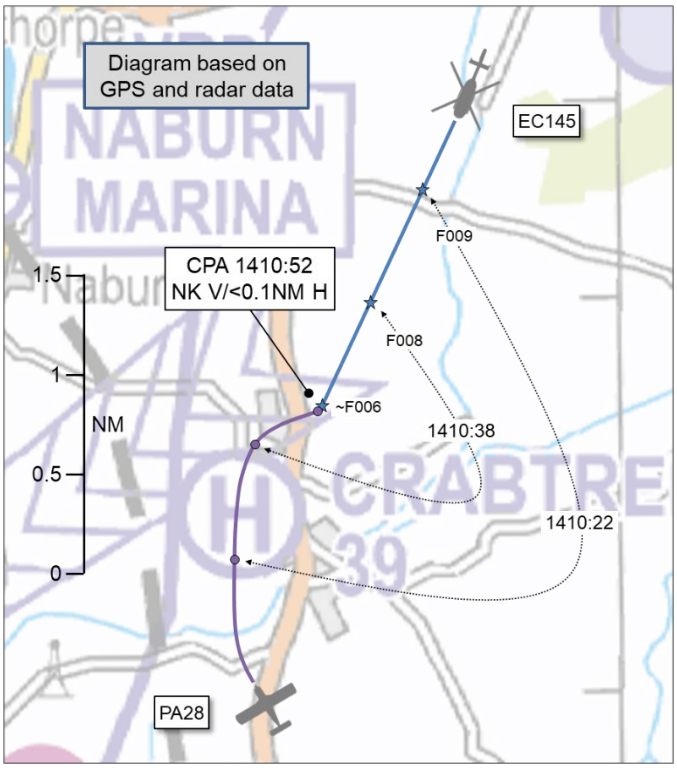
AIRPROX REPORT No 2025089

Date: 18 May 2025 Time: 1411Z Position: 5353N 00103W Location: 6NM NE Leeds East airfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	EC145	PA28
Operator	HEMS	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Listening Out
Provider	Leeds Bradford Rdr	Full Sutton Radio
Altitude/FL	~F006	NK
Transponder	A, C, S	A, S[1]
Reported		
Colours	Yellow	White, blue
Lighting	Strobes, nav, ldg	Strobe, nav
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1000ft	1500ft
Altimeter	QNH (1021hPa)	QNH
Heading	205°	NK
Speed	120kt	115kt
ACAS/TAS	TCAS I	PilotAware
Alert	Information	None
Separation at CPA		
Reported	50ft V/100m H	"*unsure*"
Recorded	NK V/<0.1NM H	



THE EC145 PILOT reports that, about 3min before the Airprox, they noticed a Mode A (only) [contact] at the 11 o'clock position, at 5NM on their TCAS screen. As they had estimated that it would be an older, small fixed-wing as it was only Mode A, they elected to start a descent to below 1000ft AGL so that they could be within HEMS rules but below 1000ft (which is normally the minimum transit height for fixed-wing PPL pilots). Then, they spotted an aircraft at the same level in the 1 o'clock position, very close. The Tactical Crew Member (Navigator) made an avoiding action call and they descended to avoid a collision. They don't think the fixed-wing [aircraft] had a landing light on which would have made it easier to see. They also feel that Mode A-only hindered finding the aircraft.

[The EC145 pilot commented that] they had requested only a Basic Service from Leeds Bradford Radar because the controller was busy feeding-in ILS traffic.

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

THE PA28 PILOT reports that they were flying northbound, avoiding the ATZ at Leeds East [airfield] and the villages of Riccall and Escrick. They followed the A19 loosely to overfly the outskirts of Deighton. There, they turned eastbound where, they estimate, the Airprox happened a short time afterwards. They observed the EC145 approaching and took avoiding action by climbing to stay clear of it.

[The pilot of the PA28] reported that they had first sighted the EC145 at a range of 2NM.

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

[1] The pilot of the PA28 reported that the PA28 was fitted with a Mode A, C, S transponder. The NATS radar replay did not detect Mode C returns.

THE LEEDS BRADFORD RADAR CONTROLLER reports that, at 1410, [the pilot of the EC145] called for a Basic Service [and that they were returning to base]. A Basic Service and the QNH were provided but the aircraft was not identified.

At that time, they had been busy with multiple IFR inbounds, multiple IFR outbounds, VFR outside CAS and transits. They have no ATM in the VCR and [were engaged in other] coordination activity.

At approximately 1415, [the pilot of the EC145] called as [EC145 C/S – A] and advised that they had been tasked to Rotherham. They also reported they had had an Airprox at 1410 and would be filing an MOR. Further details were obtained: They had been monitoring a TCAS contact showing as Mode A-only that was difficult to spot. They had spotted it late and it was tracking directly at them and they had descended to avoid it.

Factual Background

The weather at Leeds Bradford Airport was recorded as follows:

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METAR EGNM 181420Z 03011KT 350V060 9999 BKN023 13/06 Q1022
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Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft could be positively identified from Mode S data. CPA was determined to have occurred between the radar sweeps at 1410:50 and 1410:54 (Figures 1 and 2). The EC145 was depicted on the radar replay at a Flight Level. No altitude information was available for the PA28.

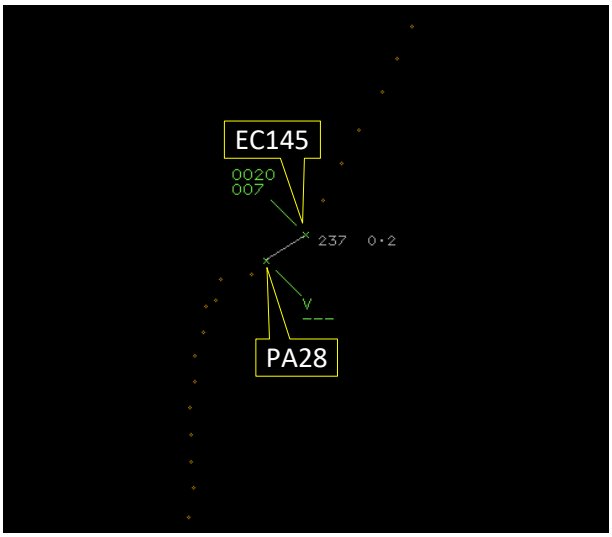


Figure 1 – 1410:50

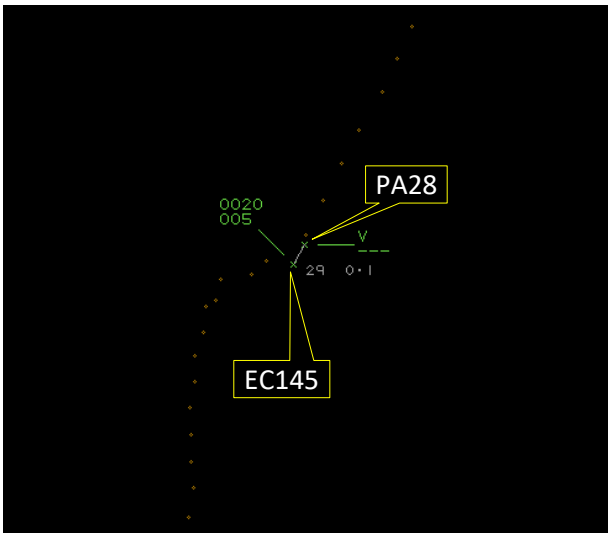


Figure 2 – 1410:54

The pilot of the EC145 kindly supplied GPS track data for their flight. The diagram was constructed and the horizontal separation at CPA determined by combining the data sources. The vertical separation could not be determined.

The EC145 and PA28 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] If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.[3] If the incident geometry is considered as converging then the EC145 pilot was required to give way to the PA28.[4]

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

When the aircraft carries serviceable Mode C equipment, the pilot shall continuously operate this mode unless otherwise dictated by ATC.[5]

Summary

An Airprox was reported when an EC145 and a PA28 flew into proximity 6NM north-east of Leeds East airfield at 1411Z on Sunday 18th May 2025. The EC145 pilot was operating under VFR in VMC in receipt of a Basic Service from Leeds Bradford Radar. The PA28 pilot was operating under VFR in VMC, listening out on Full Sutton Radio.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, a report from the air traffic controller involved, GPS track data for the EC145 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 first considered the actions of the pilot of the EC145 and members noted that they had been in receipt of a Basic Service from the Leeds Bradford controller. A member with particular knowledge of HEMS operations explained that the EC145 would have been fitted with at least two radios and suggested to the other members that the EC145 pilot may have tuned their second radio to the Leeds East frequency in order to monitor the station for their situational awareness. Although that could not be confirmed, members agreed that, due to their proximity to the Leeds East ATZ, it may have been prudent for the pilot of the EC145 to have contacted the Leeds East AGO to have informed them of their presence and intentions (**CF2**). Nevertheless, members agreed that they had gleaned generic situational awareness of the presence of the PA28 (**CF5**) from information presented by their TCAS equipment (**CF6**) but had not known its altitude. Members noted that the lack of altitude information for the PA28 had required careful adaptation of their dynamic plan. Members also noted that the pilot of the EC145 had elected to descend, below a level at which they believed the pilot of an 'older-style' aircraft might have operated. However, members noted that the PA28 had been subsequently sighted co-altitude at low-level. It was agreed that the pilot of the EC145 had visually acquired the PA28 late (**CF8**) but had reacted quickly to take effective avoiding action by descending further.

Members noted that the EC145 had been depicted on the radar replay at a Flight Level and that the pilot had descended from F007 to F005 around the moment of CPA. Members calculated that the EC145 had therefore descended through approximately 900ft to 700ft AGL when the PA28 had been described as having been co-altitude.

Turning their attention to the actions of the pilot of the PA28, members agreed that the EC equipment fitted to the PA28 would have been expected to have detected the EC145 but no alert was reported (**CF7**). Members pondered the selection of the frequency for Full Sutton Radio and agreed that it may have been prudent for the pilot of the PA28 to have also been in contact with the Leeds East AGO (**CF2**) given that their track had passed within 3NM of the ATZ and adjacent to the instrument approach track for RW24. It was agreed that, in the absence of a common frequency between the pilots, the pilot of the PA28 had not had situational awareness of the EC145 until it had been visually acquired (**CF5**).

It was noted that the pilot of the PA28 reported that they had first seen the EC145 at a range of 2NM. Members were therefore surprised that they had elected to turn right to cross in front of the helicopter. Some members wondered whether the pilot of the PA28 had misjudged the converging geometry and closing-speed, and had believed that, as the EC145 had appeared initially to have been tracking slightly to their left, a turn to the right would have increased the separation. Notwithstanding, it was clear to members that, although the pilot of the PA28 had reported that they had visually acquired the EC145 at distance, they had subsequently flown into conflict with it (**CF9**). As such, members were in agreement that the pilot of the PA28 had not adapted their dynamic plan sufficiently to have met the

[5] (UK) SERA.13010 Pressure-altitude-derived information (a)

needs of the situation (**CF3**) although noted that they had described having initiated a climb to have increased the separation.

Members noted that the PA28 had been observed on the radar replay without Mode C returns. It was not clear to members whether the lack of Mode C had been as a consequence of a partial failure of the transponder, a technological reason (perhaps a lack of altitude encoder) or that the transponder had not been operated correctly by the pilot. Whilst the reason could not be determined, members agreed that the lack of Mode C returns had reduced the situational awareness available to the EC145 pilot and had complicated their plan to have ensured separation from the PA28 (**CF4**).

Members next considered the actions of the Leeds/Bradford controller and agreed that they had not been required to have monitored the flight of the EC145 under the terms of a Basic Service (**CF1**). Noting how busy they had been with the provision of higher levels of service, members agreed that there had been little else that they could have done to have helped matters.

Concluding their discussion, members recalled their thoughts. It was agreed that the pilot of the PA28 had visually acquired the EC145 at distance but had elected to cross its track. It was further agreed that the pilot of the EC145 had sighted the PA28 late but had taken decisive action to have descended further to have increased the separation. Whilst the exact separation at CPA could not be determined, members noted that several safety barriers had either not been present or had not been fully effective. It was concluded that the safety of the aircraft had not been assured and that a risk of collision had existed (**CF10**). The Board assigned Risk Category B to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2025089			
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
3	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
4	Human Factors	• Transponder Selection and Usage	An event involving the selection and usage of transponders	
	• Situational Awareness of the Conflicting Aircraft and Action			
5	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			
6	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
7	Human Factors	• Response to Warning System	An event involving the incorrect response of flight crew following the operation of an aircraft warning system	CWS misinterpreted, not optimally actioned or CWS alert expected but none reported
	• See and Avoid			
8	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
9	Contextual	• Loss of Separation	An event involving a loss of separation between aircraft	Pilot flew into conflict

	• Outcome Events			
10	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[6]

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

Ground Elements:

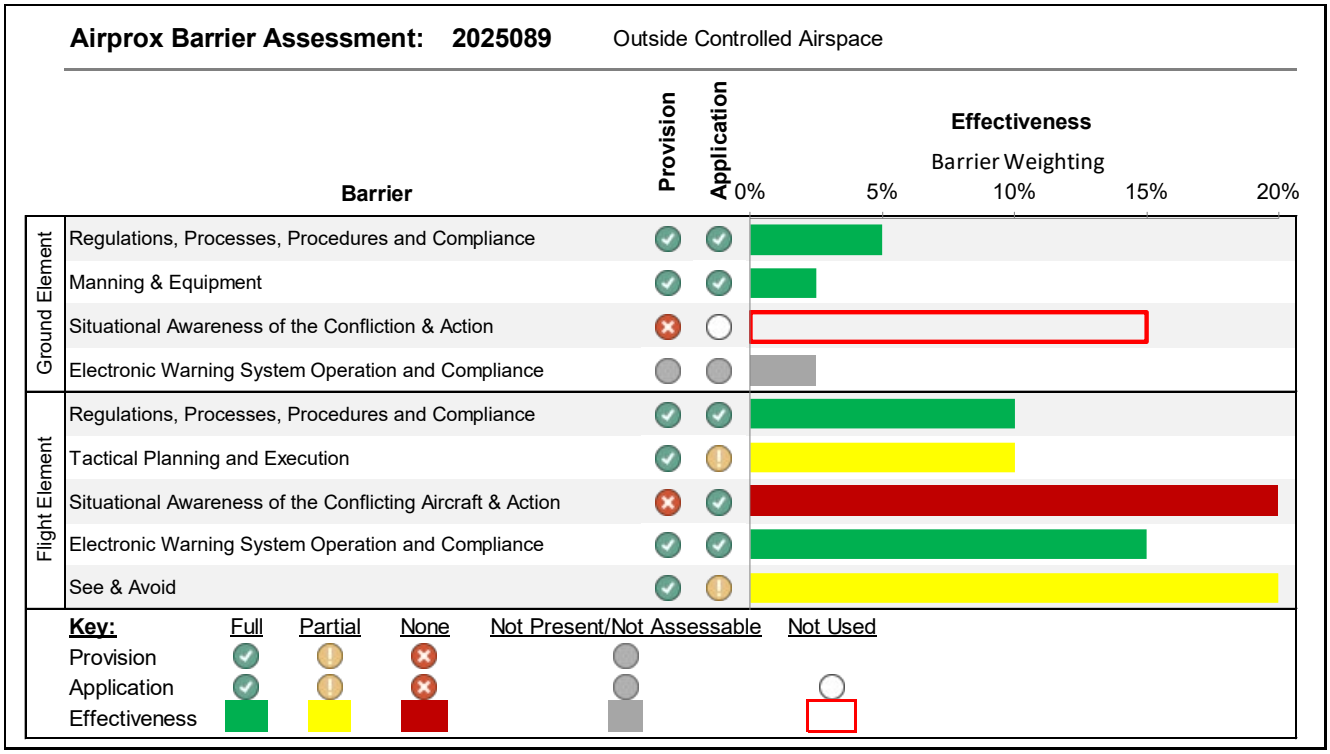
Situational Awareness of the Confliction and Action were assessed as **not used** because the Leeds Bradford controller had not been required to have monitored the flight of the EC145 under the terms of a Basic Service.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because, having visually acquired the EC145 at distance, the pilot of the PA28 had not ensured adequate separation from it.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the pilot of the PA28 had not had situational awareness of the presence of the EC145 prior to sighting it.

See and Avoid were assessed as **partially effective** because the pilot of the EC145 had visually acquired the PA28 at a late stage and had taken avoiding action.



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