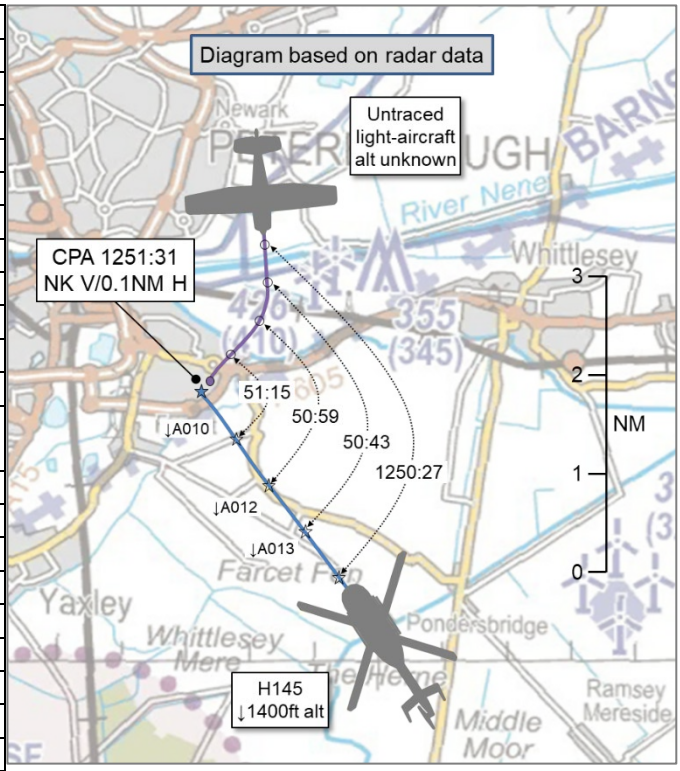
AIRPROX REPORT No 2022007

Date: 30 Jan 2022 Time: 1252Z Position: 5233N 00012W Location: Peterborough

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	H145	Unk light-aircraft
Operator	HEMS	Unknown
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	NK
Service	Listening Out	None
Provider	Conington Radio	N/A
Altitude/FL	1000ft	NR
Transponder	A, C, S+	None
Reported		
Colours	Yellow	NK
Lighting	Nav, strobes, landing	NK
Conditions	VMC	NK
Visibility	>10km	NR
Altitude/FL	1300ft	NK
Altimeter	QNH (1031hPa)	NK
Heading	325°	NK
Speed	125kt	NK
ACAS/TAS	TAS	Unknown
Alert	None	N/A
Separation at CPA		
Reported	100ft V/150m H	NK
Recorded	NK V/0.1NM H	



THE H145 PILOT reports that the crew was tasked to a HEMS mission in Peterborough city centre. The aircraft captain had noticed on FlightRadar that the airspace in the east of England was busy due to it being a Sunday and CAVOK. All landing lights were kept on for the entire flight for this reason and a specific request for all on-board to be looking out. The helicopter was coupled to a 4-axis autopilot to allow the crew (2 pilots & 2 medical passengers) more capacity for lookout and other cockpit admin. On a direct track to the mission location, the crew had already identified several light fixed-wing aircraft in the area but none conflicting. During the transit, with a few minutes until arrival in the overhead, the captain, sat in the RHS, whilst carrying out a lookout scan, saw the aircraft in the low 2 o'clock moving to the 3 o'clock. It looked to be straight with possibly a slightly nose-high attitude. Its flight path would have cleared behind the helicopter, but a natural reaction of a left turn (away) was made, only through 10-20°, however. The fixed-wing did not look to make any adjustment to its flightpath. When in the 2 o'clock from the helicopter, it was heading 20° behind the cockpit of the helicopter. The helicopter therefore could have been high in the 1 o'clock in the fixed-wing's cockpit. The helicopter was equipped with ACAS and [other EC equipment], none of which showed this traffic before or after the event. No audio or visual alert was activated. The crew assessed if they were still fit to continue on the HEMS mission and elected to proceed and make a report when on the ground. The weather was CAVOK with a low winter sun which the white, high-wing aircraft would have been pointing almost directly towards. The helicopter crew had informed Conington Radio of their location, track and altitude. Conington circuit was active on RW28. It was noted that the track was outside the ATZ, but if an aircraft extended downwind, they may be a threat. In addition to Conington Radio, the Helimed crew were making blind calls on Glider Common 129.975MHz due to the proximity of Upwood.

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

THE LIGHT-AIRCRAFT PILOT could not be traced.

A REPRESENTATIVE FROM CONINGTON reports that they took a call from the Helimed pilot/crew late afternoon reporting an Airprox with a high-wing aircraft – possibly blue and white and an approximate time of 1230. The crew were not on their frequency at the time of the Airprox and wanted to know if such an aircraft had landed with them, with a view to identifying it.

They have cameras recording aircraft parked and arriving throughout the day and there was not an aircraft on the apron answering the description given.

There is only one entry on the movement sheet (recorded between the entry of a 1222 arrival and another entry of a 1226 arrival) involving an aircraft which might match the description given by the Helimed crew. [UKAB note: the C172 was not the aircraft involved in the Airprox.]

Aircraft that do not land would not normally be recorded on the movement sheet.

Factual Background

The weather at Wittering was recorded as follows:

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METAR EGXT 301250Z AUTO 20010KT 9999 NCD 07/01 Q1029=
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Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken. The H145 was detected by both primary and secondary surveillance radars and could be seen tracking in a north-westerly direction, towards Peterborough, at approximately 1400ft (altitude data is presented on the radar as flight levels and the QNH entered into the radar processor was 1031hPa; therefore, 486ft should be added to the displayed flight level to determine aircraft altitude). The untraced light-aircraft was detected by primary radar only and could be seen tracking in a southerly direction (see Figure 1). The H145 continued on track, gradually descending from 1400ft to 1000ft as it crossed the path of the untraced light-aircraft. CPA was measured on the radar as 0.1NM laterally with an unknown vertical separation due to the lack of Mode C information from the untraced light-aircraft (see Figure 2).

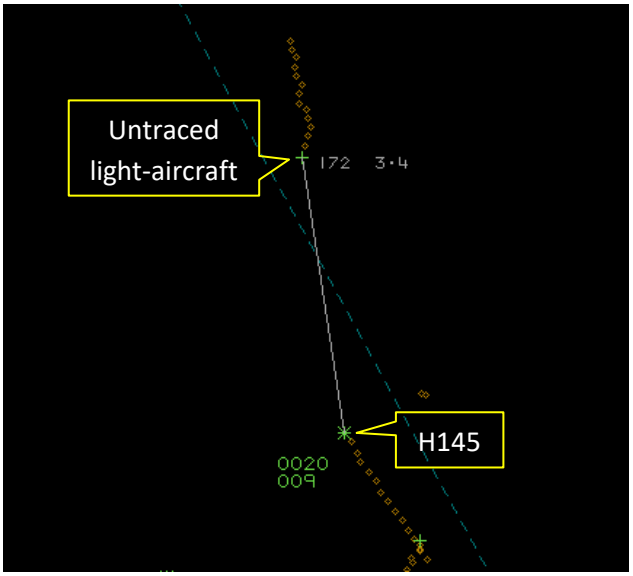


Figure 1 – 1250:27

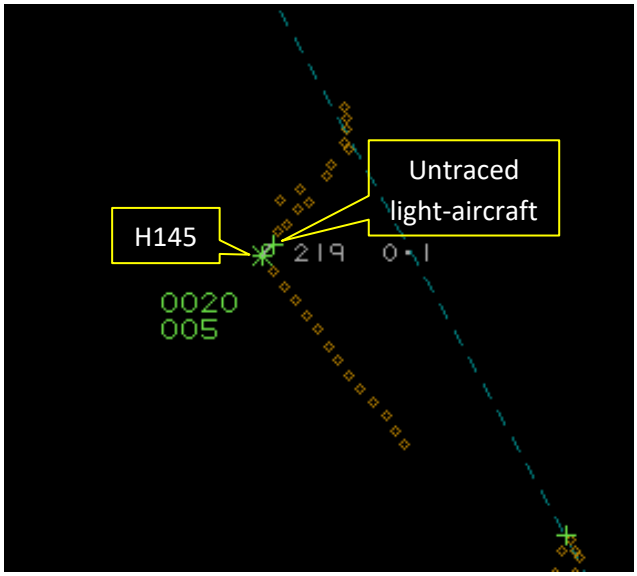


Figure 2 – 1251:31 - CPA

The H145 and untraced light-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.[1] If the incident

[1] (UK) SERA.3205 Proximity.

geometry is considered as converging then the H145 pilot was required to give way to the untraced light-aircraft.[2]

Summary

An Airprox was reported when an H145 and an untraced light-aircraft flew into proximity over Peterborough at 1252Z on Sunday 30th January 2022. The H145 pilot was operating under VFR in VMC and listening-out on the Conington Radio frequency; the light-aircraft pilot could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the H145 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 it unfortunate that the light-aircraft pilot could not be traced as this hindered their understanding of the event. That said, members judged that there was sufficient information provided by the H145 pilot's account and the recorded data for the Board to assign a limited number of contributory factors and allocate a Risk Category.

The Board was encouraged by the proactive approach shown by the H145 pilot in calling Conington Radio as they passed by the airfield and also making radio calls on the common glider frequency. Members noted that there had been no option for a LARS in that area on a Sunday but that the H145 had been equipped with TCAS II which would have supplemented the pilot's lookout. The Board agreed that, because the untraced light-aircraft had not been displaying a Mode A/C transponder code, the TCAS II could not have detected its presence (**CF2**) and, therefore, the H145 pilot had not had any situational awareness of the proximity of the light-aircraft (**CF1**). However, members noted that the H145 pilot had sighted the light-aircraft with sufficient time to assess that it had been passing behind the helicopter but, nonetheless, had manoeuvred to increase the separation between the 2 aircraft.

The Board noted that the Electronic Warning System Barrier had been ineffective in this case and wished to highlight to all pilots that additional funding has been made available for electronic conspicuity devices through the CAA's Electronic Conspicuity Rebate Scheme, which has been extended until 31st March 2023.[3]

Finally, the Board considered the risk involved in this Airprox. Although information available to the Board was limited, members took into account the H145 pilot's estimate of separation and the lateral separation recorded by the NATS radars. This information, coupled with the H145 pilot's description of an encounter where the light-aircraft was passing behind the helicopter, led the Board to conclude that, although safety had been degraded, there had been no risk of collision. Accordingly, the Board assigned a Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2022007			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			
1	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			

[2] (UK) SERA.3210 Right-of-way (c)(2) Converging.
[3] https://www.caa.co.uk/general-aviation/aircraft-ownership-and-maintenance/electronic-conspicuity-devices/

2	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

Degree of Risk: C

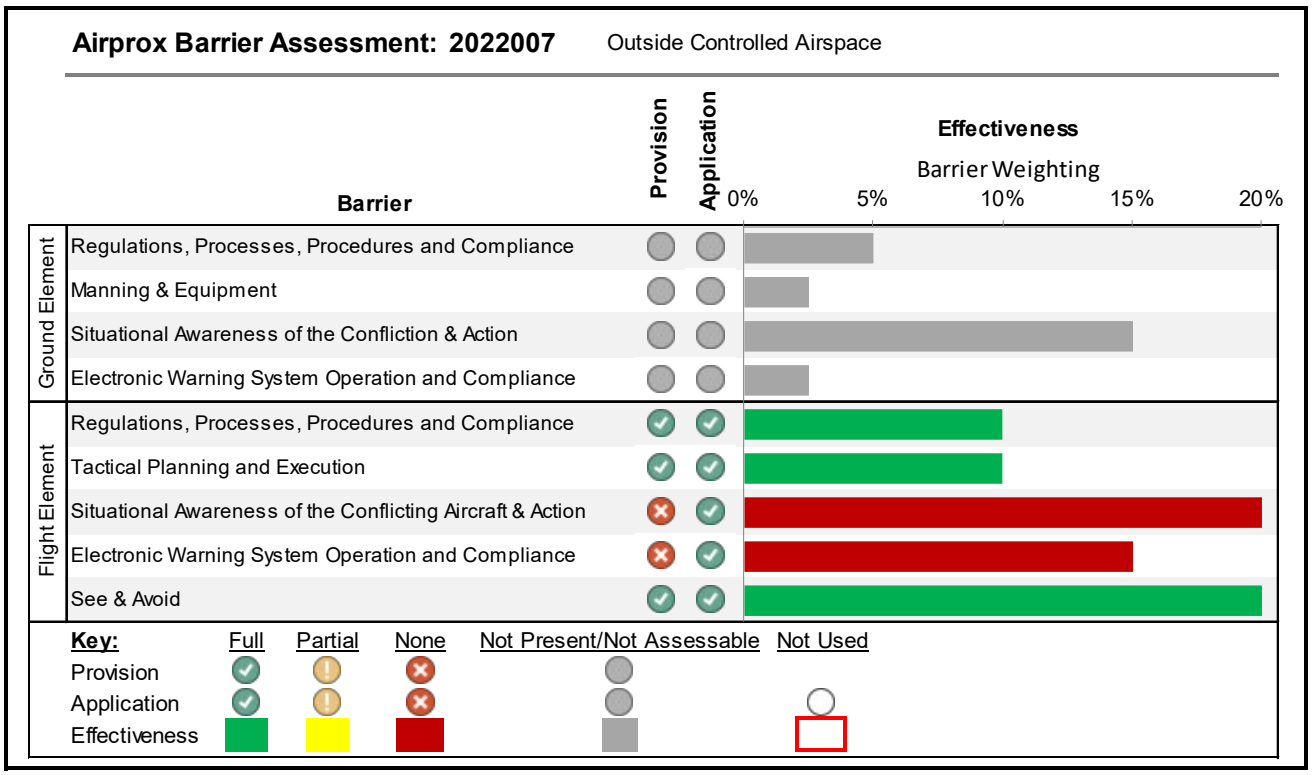
Safety Barrier Assessment[4]

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

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the H145 pilot did not have any situational awareness regarding the presence of the untraced light-aircraft.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the TAS fitted to the H145 could not detect the non-transponding light-aircraft.



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