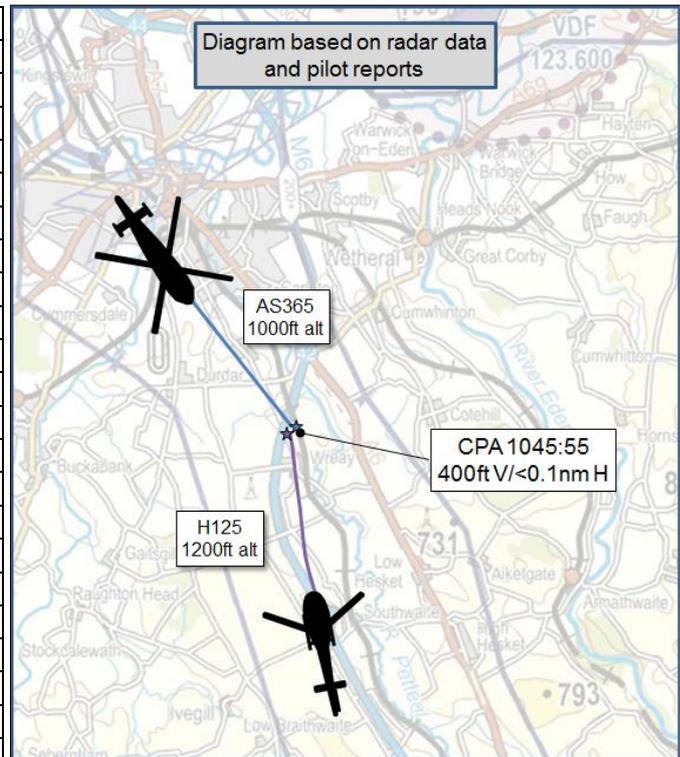


**AIRPROX REPORT No 2016090**

Date: 13 May 2017 Time: 1045Z Position: 5450N 00253W Location: 6.5nm SSW Carlisle Airport

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	AS365	H125
Operator	HEMS	Civ Pte
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	None
Provider	Carlisle	N/A
Altitude/FL	1000ft	1200ft
Transponder	On/C	On/C
<b>Reported</b>		
Colours	White, Green	Black
Lighting	Nav, Strobe	Nav, Strobe
Conditions	VMC	VMC
Visibility	>10km	Not Reported
Altitude/FL	1000ft	Not Reported
Altimeter	RPS (1000hPa)	NK
Heading	150°	NW
Speed	140kt	120kt
ACAS/TAS	TCAS I	TCAS
Alert	TA	Unknown
<b>Separation</b>		
Reported	200ft V/0.5nm H	500ft V/NK H
Recorded	400ft V/<0.1nm H	



**THE AS365 PILOT** reports that he had lifted out of a hospital site in Carlisle and was climbing to 1000ft. Whilst getting information from Carlisle Radio to check if there was any traffic going in/out of Carlisle via the race course to the south (none was notified), the TCAS screen was being checked by the pilot and medic/navigator and was only showing traffic in the area of the Solway Firth and Carlisle Airport. Once level at 1000ft a TCAS warning appeared in their 1 o'clock, very close and only 200ft above. The other aircraft was spotted by the pilot, who elected to make a rapid descent to ensure safe separation. The other aircraft seemed to be flying in a northerly direction, following the M6, and did not appear to deviate from his course.

He assessed the risk of collision as 'Medium'.

**THE H125 PILOT** reports that he saw the helicopter then also on his TCAS. He made an adjustment to height and heading but they [the AS365] took no action, obviously not seeing him until the last minute.

He assessed the risk of collision as 'None'.

**Factual Background**

METAR EGNC 131050Z NIL=

## Analysis and Investigation

### UKAB Secretariat

The AS365 and H125 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>. If the incident geometry is considered as converging then the AS365 pilot was required to give way to the H125<sup>3</sup>.

Figure 1 shows the radar recording at CPA (10:45:55); the 2 aircraft were separated by <0.1nm (radar resolution limit) and 400ft.

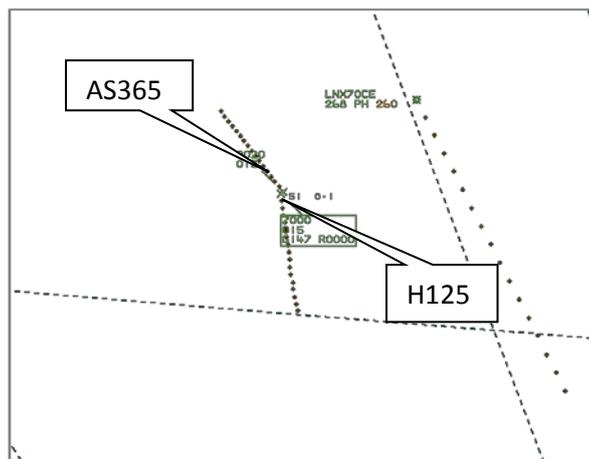


Figure 1: Radar picture at CPA (1045:55)

### Summary

An Airprox was reported when an AS365 and a H125 flew into proximity at 1045 on Saturday 13<sup>th</sup> May 2017. Both pilots were operating under VFR in VMC, the AS365 pilot in receipt of a Basic Service from Carlisle and the H125 pilot not in receipt of a Service.

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

Information available consisted of reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board began by discussing the actions of the AS365 pilot. They agreed that by talking to Carlisle to gain local traffic information, monitoring his TCAS, and climbing to 1000ft to transit, he had done everything he could to improve his SA. Having just lifted from the hospital site, helicopter members commented that he would likely have been completing his post-take-off checks and that this would have required him to focus in the cockpit at the expense of lookout to a certain extent. Unfortunately, the late TCAS indication then meant that he only saw the H125 just before CPA and was only able to conduct an emergency avoiding manoeuvre (a rapid descent) to increase the separation.

The Board then looked at the actions of the H125 pilot. He had indicated that he had seen the AS365 at a fairly early stage and had felt that only a minor adjustment to height and heading was required. Members opined that he could have either done much more to indicate to the AS365 pilot that he had seen him or take more effective action to positively avoid it. The Board noted that the radar trace

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

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

<sup>3</sup> SERA.3210 Right-of-way (c)(2) Converging.

showed that he had not deviated significantly from his track, and they believed that, even if he did perceive that this was a converging situation in which the AS365 pilot was required to give way, he should have altered his course to fly past the AS365 at a safer distance than he did. Relying on pilots who were required to give way to do so was a flawed plan because, as in this case, if they haven't seen you then they will not manoeuvre.

The Board then considered the cause and risk of the incident. The Board quickly agreed that the H125 pilot had seen the AS365 early enough to carry out a course change and avoid it. For his part, they noted that the AS365 pilot saw the H125 late and had carried out an emergency avoiding descent to increase the separation. After some discussion over who was required to give way to whom, and whether the H125 pilot had effectively flown into conflict with the AS365, the Board finally agreed that the cause of the Airprox was that the H125 pilot had flown close enough to the AS365 to cause its pilot concern. Turning to the risk, members noted that 400ft vertical separation had been achieved at CPA, but only after the AS365 pilot's rapid descent. Notwithstanding, they also agreed that the H125 had been visual with the AS365 throughout and, although he flew closer than was necessary (to the extent that safety had been degraded), there had ultimately been no risk of collision; accordingly, the Board assessed the risk as Category C.

### **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: The H125 pilot flew close enough to the AS365 to cause its pilot concern.

Degree of Risk: C.

#### Safety Barrier Assessment<sup>4</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 Regulations, Procedures, Instructions & Compliance** was considered to be **ineffective** because the H125 pilot did not make a practical turn to avoid the AS365 either by turning right or giving way IAW SERA.

**Flight Crew Tactical planning** was considered to be **ineffective** because the H125 pilot saw the AS365 but didn't alter his plan by changing either course or height.

**Flight Crew Situational Awareness and Action** was considered to be **ineffective** because the H125 pilot did not act on the available SA that he had (he had seen the AS365 and it had displayed on his TCAS).

**Warning System Operation and Compliance** was considered to be **partially effective** because although both aircraft had TCAS the AS365 did not receive indications until a late stage and the H125 pilot only partially acted on the information to resolve the situation.

**See and Avoid** was considered to be **partially effective** because although the H125 pilot saw the AS365 at an early stage, his actions to avoid were not adequate, and the AS365 pilot only saw the H125 late, and had to carry out emergency avoiding action.

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<sup>4</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

