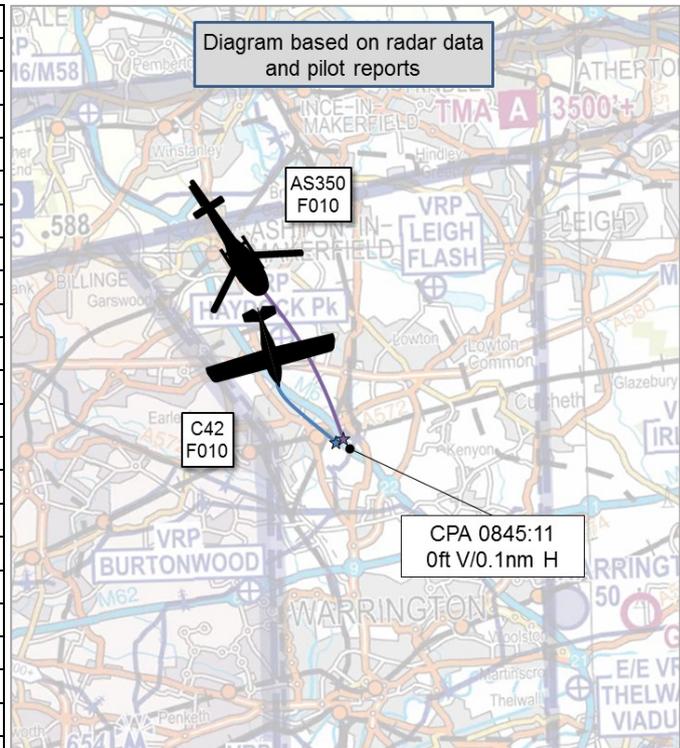


**AIRPROX REPORT No 2018083**

Date: 12 May 2018 Time: 0845Z Position: 5327N 00235W Location: 1nm E Newton-Le-Willows

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	C42	AS350
Operator	Civ FW	Civ Comm
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Listening Out
Provider	Barton	[Manchester]
Altitude/FL	F010	F010
Transponder	A, C, S	A, C, S
Reported		
Colours	White, Red	Blue, Silver
Lighting	Strobe, Landing	HISL, Nav
Conditions	VMC	VMC
Visibility	>10km	Not reported
Altitude/FL	1000ft	1200ft
Altimeter	QNH (1013hPa)	NK
Heading	150°	180°
Speed	70kt	120kt
ACAS/TAS	Not fitted	TCAS I
Alert	None	None
Separation		
Reported	0ft V/100m H	Not seen
Recorded	0ft V/0.1nm H	



**THE C42 PILOT** reports that he was conducting an instructional flight and tracking to the right of the M6 as they headed south in the Manchester LLR. His student was handling the aircraft and maintaining 70kts and 1000ft on the Manchester QNH. After lifting the left wing to clear the area into which he was turning, and keeping a good lookout for reciprocal traffic, they then commenced a turn to the left to follow the Chat Moss railway line due-east back to Barton. During the turn, he and the student simultaneously noticed movement to their left 9 o'clock, it was a light blue helicopter, (possibly a Bell 206 or Airbus H125 or similar) which rapidly overtook them left-to-right heading south, at the same level and no more than 100m away. He took control of the aircraft and immediately stopped the turn to maintain separation. The helicopter didn't appear to take any avoiding action and maintained its altitude and heading, south down the LLR. The helicopter's speed was significantly higher than theirs and so he didn't get the registration. Once it was well past, they completed the turn onto an easterly heading and he noted that they flew through its wake turbulence. After discussion with Barton AFISO they confirmed a light blue Airbus H125 [AS350] was operating in the area at the time [registration supplied].

He assessed the risk of collision as 'High'.

**THE AS350 PILOT** reports that he did not see the other aircraft and did not receive any TCAS warnings.

**Factual Background**

The weather at Manchester was recorded as follows:

METAR EGCC 120850Z AUTO VRB03KT 9999 BKN008 09/07 Q1013 BECMG SCT020

## Analysis and Investigation

### UKAB Secretariat

The C42 and AS350 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 overtaking then the C42 pilot had right of way and the AS350 pilot was required to keep out of the way of the other aircraft by altering course to the right<sup>2</sup>.

Figures 1-4 below are screenshots of radar recordings that show the aircraft up to CPA.

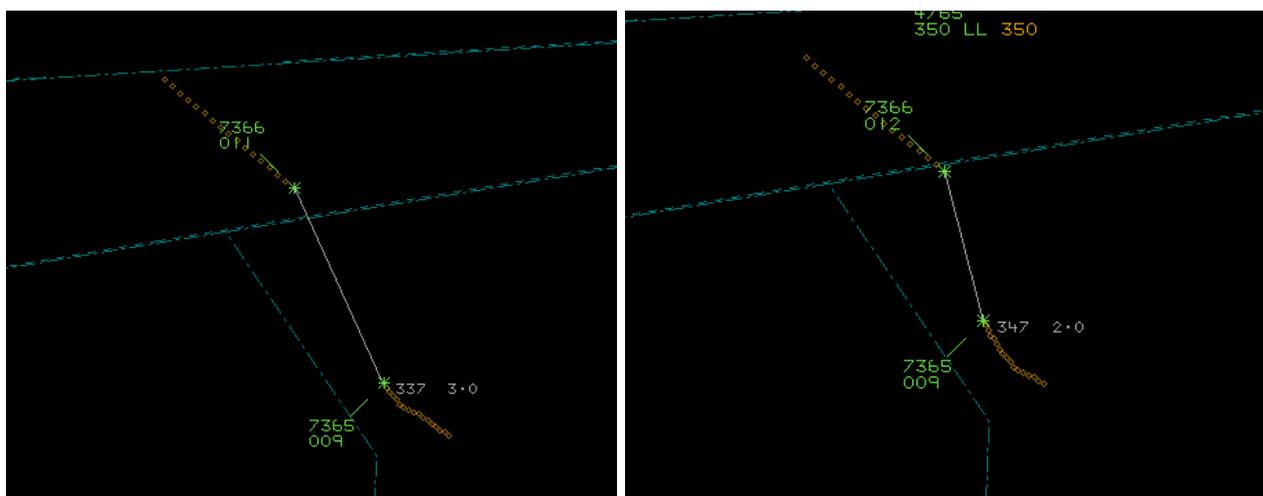


Figure 1: 0843:15

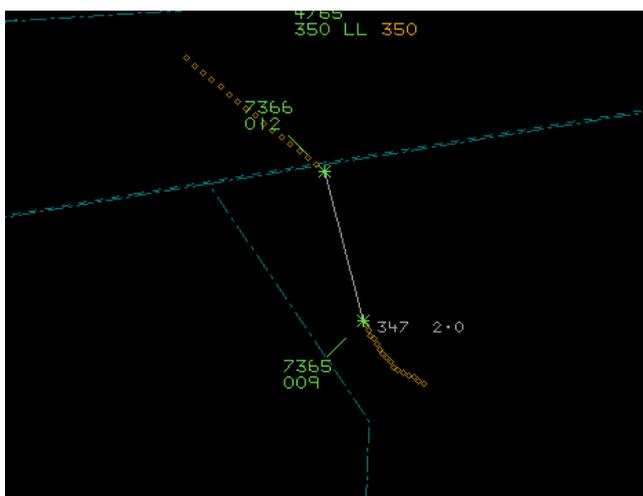


Figure 2: 0843:35

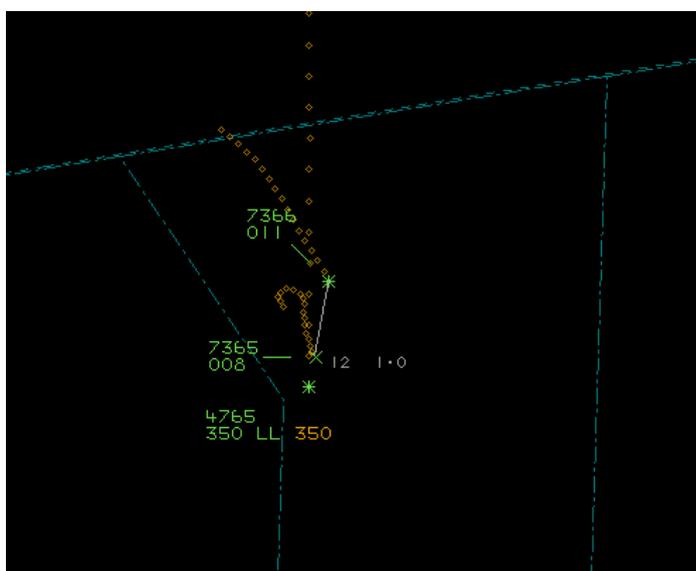


Figure 3: 0844:31

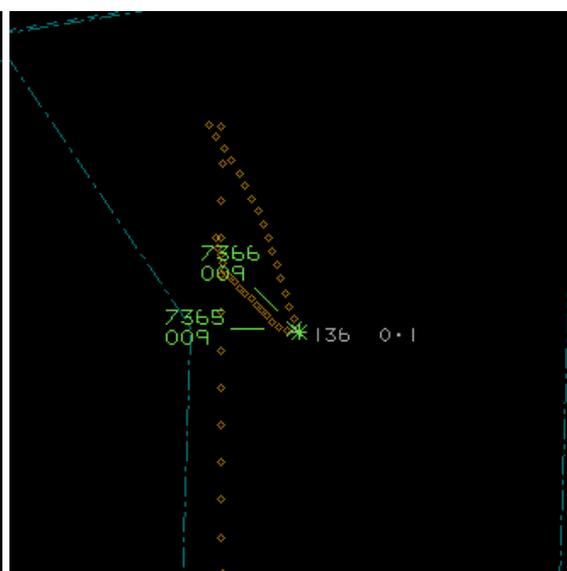


Figure 4: CPA 0845:11

## Summary

An Airprox was reported when a C42 and an AS350 flew into proximity in the Manchester LLR at 0845hrs on Saturday 12<sup>th</sup> May 2018. Both pilots were operating under VFR in VMC, the C42 pilot in receipt of a Basic Service from Barton and the AS350 pilot listening out on Manchester.

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

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

## **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 looking at the actions of the AS350 pilot. A helicopter member commented that some AS350s were fitted with an early TCAS I that was known for its unreliability in displaying conflicts and that this might account for the AS350 pilot not receiving an alert on the C42. He also commented that the Manchester Low Level Route (LLR) was becoming increasingly busy as more and more aircraft were using it rather than having to otherwise route around the Manchester TMA. He wondered whether now was the time for Manchester to review the provision of services for the LLR so that a dedicated controller might be assigned rather than the increased workload being placed on existing controllers. Given that the cloud base was reported as 800ft at Manchester at the time, some members wondered whether, being at 1200-900ft descending, the AS350 pilot may have been operating near to a decreasing cloud base and therefore somewhat preoccupied with ensuring he remained VMC to the detriment of lookout. That being said, members acknowledged that the C42 would have been a small aircraft to see as the AS350 pilot approached from the rear and it may have been obscured by canopy architecture or displayed a lack of contrast with the background horizon. Ultimately, the Board noted that the AS350 pilot did not see the C42 as he transited the area, nor did he receive a TCAS alert.

The Board then turned to the actions of the C42 pilot. They noted that he was instructing in the Manchester LLR and GA members opined that he would probably have been better served in obtaining a service from Manchester, which may have increased his SA by providing information on other LLR traffic. Notwithstanding, members agreed that the C42 pilot would not realistically have been able to see the AS350 as it approached from behind him, and only saw it as he turned coincidentally as it flew past. Noting that the C42 was not fitted with a collision warning system, members commented that operations in this busy airspace would be made safer with one installed, especially given that available systems are now increasingly capable and affordable.

The Board then looked at the cause of the Airprox. They agreed that neither pilot saw the other prior to CPA, albeit that the C42 pilot would not be expected to see the AS350 as it approached from behind. It was the responsibility of the AS350 pilot to avoid the C42 as he approached and overtook, and so the cause was determined to be that the AS350 pilot did not see the C42 as he overtook it. Turning to the risk, the Board agreed that although the C42 pilot had been able to roll-out from his turn when he saw the AS350, this had probably only marginally improved matters, if at all. As a result, the Board agreed that providence had played a major part and so the risk was assessed as a Category A.

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

Cause: The AS350 pilot did not see the C42 as he overtook it.

Contributory Factor(s): The AS350 TCAS did not indicate the C42 in proximity.

Degree of Risk: A.

### 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:

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<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](#).

**Flight Crew:**

**Situational Awareness and Action** were assessed as **ineffective** because neither pilot was aware of the other aircraft.

**Warning System Operation and Compliance** were assessed as **ineffective** because the AS350 was fitted with TCAS I, and the C42 was transponding, but the AS350 pilot reports that his TCAS I did not alert when it should have considering the actual separation as derived from the radar recordings.

**See and Avoid** were assessed as **ineffective** because neither pilot saw the other aircraft in time to take effective avoiding action.

