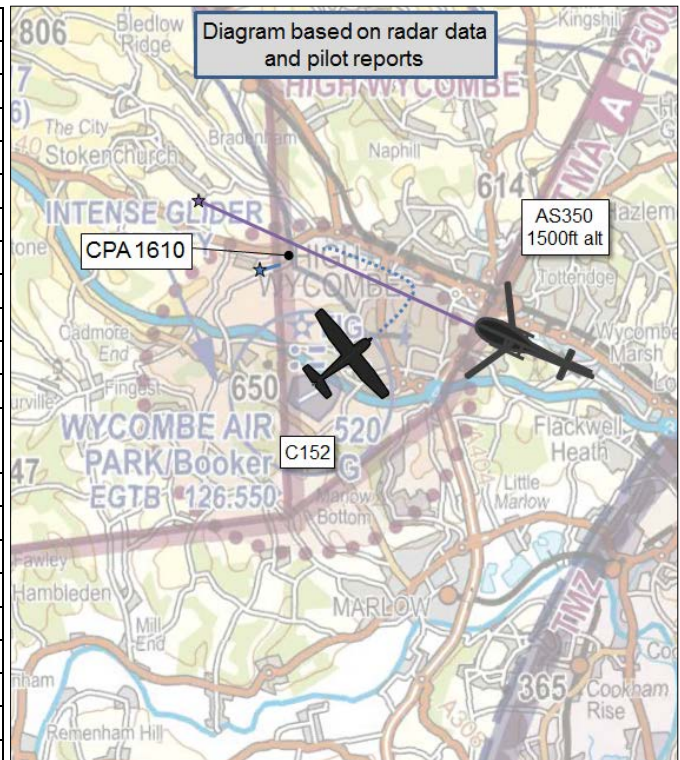


**AIRPROX REPORT No 2017012**

Date: 19 Jan 2017 Time: 1610Z Position: 5138N 00048W Location: Wycombe Air Park

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	C152	AS350
Operator	Civ Trg	Civ Pte
Airspace	Wycombe ATZ	Wycombe ATZ
Class	G	G
Rules	VFR	VFR
Service	Aerodrome	Information
Provider	Wycombe	Denham
Altitude/FL	NK	1500ft
Transponder	A, C	A, C, S
Reported		
Colours	White, Blue Red	Blue
Lighting	Nav, Beacon	HISLs, anti cols, Landing
Conditions	VMC	VMC
Visibility		10km
Altitude/FL	1000ft	700ft
Altimeter	QFE	QNH
Heading	240°	360°
Speed	90kt	100kt
ACAS/TAS	Not fitted	TCAS I
Alert	N/A	No alert
Separation		
Reported	0ft V/70m H	NK
Recorded	NK	



**THE C152 PILOT** reports that he was in the visual circuit at Wycombe; he had just taken-off from RW06 following a touch and go. He was following the noise abatement procedure precisely and was in a level turn left at 1000ft to turn from crosswind to downwind. Lookout was undertaken before turning, but nothing was seen. However, as he was rolling wings level, Wycombe tower informed him there was a helicopter, not in contact with them, crossing left to right (south to north). The instructor took control to roll the wings level and the helicopter crossed 200ft in front at the same level, it was moving fast enough for the instructor to assess that avoiding action was not necessary at this time. The helicopter continued northbound.

He assessed the risk of collision as ‘High’.

**THE AS350 PILOT** reports that she departed Denham, but had inadvertently taken off from RW24 instead of RW06. The tower called and she immediately released her mistake and apologised. They replied that she wasn’t the first pilot to do it. But she was now concerned that she would get into trouble and was fully absorbed in flying the aircraft to get out of the area of conflict and not infringe London Airspace. She was shaken by the event and didn’t see any TCAS indications, or the other aircraft involved in the Airprox, although she noted that they could well have been there.

She assessed the risk of collision as ‘Low’.

**Factual Background**

The weather at Benson was recorded as follows:

METAR EGUB 191550Z 04004KT 9999 FEW017 SCT300 05/02 Q1036 BLU NOSIG=

## Analysis and Investigation

### CAA ATSI

Following a review of the Swanwick MRT it was not possible to positively identify either the C152 or the second aircraft involved in the Airprox, nor the point of CPA. However an aircraft subsequently identified as an AS350 was seen to transit the Wycombe ATZ at this time, (Wycombe ATZ has a notified radius of 2nm, extending from surface to 2000ft), the aircraft was maintaining a north-westerly track and indicating an altitude of 1400ft. The callsign associated with this helicopter did not contact Wycombe ATC and had been transponding code 7000 until 1610:09.

At 1610:57 a primary contact was observed for 12 seconds tracking in a manner consistent with the report from the C152 pilot. The tracks of both aircraft can be seen to have crossed at a period of time before the primary contact became visible (Figure 1).

The Wycombe Tower controller had passed traffic information to the C152 at 1610:28, advising that a helicopter appeared to be passing ahead (of the C152), and that it wasn't speaking to them. The pilot of the C152 reported having been visual with the helicopter, and that it had crossed approximately 150ft ahead of them. The C152 reported being at 1000ft on the Wycombe QFE in their written report (approximately 1520ft altitude), the helicopter observed on radar was indicating between 1400ft and 1500ft altitude.

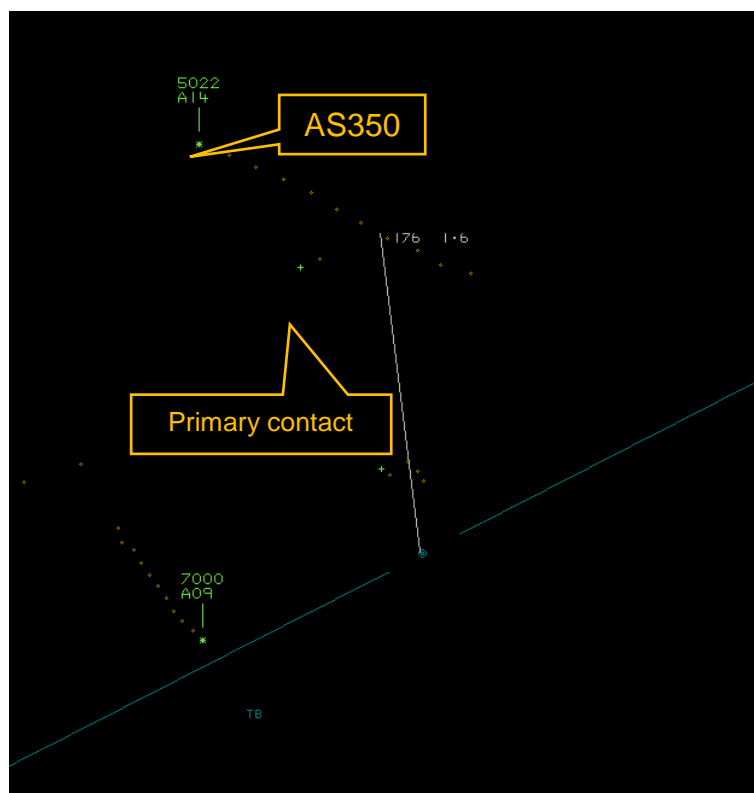


Figure 1 - 1610:57

### UKAB Secretariat

The C152 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>. An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation<sup>2</sup>.

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

<sup>2</sup> SERA.3225 Operation on and in the Vicinity of an Aerodrome.

## Comments

### The C152's Operating Authority.

The reporter filed an internal SMS Report. Due to the other aircraft not talking to Wycombe Tower we don't have access to sufficient data in order to conduct an internal investigation. To the west of EGTB the circuit pattern extends outside the ATZ and therefore there are occasions where aircraft skimming past the ATZ using GPS come into close proximity with circuit traffic. Given that, this aircraft was turning downwind for RW06 (northeast of the airfield), in their opinion the helicopter was most likely inside the ATZ.

### Summary

An Airprox was reported when a C152 and an AS350 flew into proximity at 1610 on Thursday 19<sup>th</sup> January 2017. The C152 was operating under VFR in VMC, in the Wycombe visual circuit and receiving an Aerodrome Service from Wycombe Tower. The AS350 pilot was operating VFR in VMC but was not receiving an ATS.

### **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, and reports from the appropriate ATC and operating authorities.

In looking first at the actions of the C152 pilot, the Board thought that there was very little more that he could have done in the circumstances. He was in the visual circuit and, as such, was not expecting to see conflicting traffic. Having been alerted to the helicopter by ATC, he looked out and saw it. Fortunately, it was crossing about 200ft ahead because he did not have time to take any avoiding action. The Board noted that the transponder on the C152 was not showing on the NATS radars and, noting that the AS350 pilot didn't think she had seen any TCAS alerts, they wondered whether the C152 pilot had either not turned his transponder on, had turned it off, or whether it was not working on the day. Whatever the reason, the Board noted that its non-availability rendered the barrier of TCAS ineffective in the AS350.

Noting that the Wycombe controller was not speaking to the AS350, and had not received any Traffic Information from any other source, the Board commended the controller for his good awareness and prompt Traffic Information to the C152 pilot.

Finally, the Board turned to the actions of the AS350 pilot. Members could understand that she was probably rattled by her earlier mistake in getting airborne from Denham on the wrong runway, and some members wondered whether this had caused a continued lack of concentration and mistakes, including entering the Wycombe ATZ and subsequently having an Airprox with the C152. This incident should serve as a reminder to all pilots to ensure that they were in the correct frame of mind to conduct their flight. If she was distracted by the takeoff incident (it appeared that her navigation and lookout had been severely compromised) then it may have been wiser to land again at Denham, compose herself and then start the flight again. Some members also wondered whether her initial flight planning had been sufficiently thorough. Accepting that if she had planned to get airborne from RW06 at Denham she had probably intended to keep clear of Wycombe Airpark, they nevertheless thought that she should have planned a route, which allowed for either runway departure. After getting airborne from the wrong runway, it appeared that she had stuck to her original planned heading, which, now south of her intended track, took her through the Wycombe ATZ. The Board assumed she did not know she was flying through the ATZ, but thought it good airmanship anyway to call airfields if the intention is to route close by.

In assessing the cause and risk of the Airprox the Board very quickly agreed that the AS350 pilot had inadvertently flown through the Wycombe ATZ and into conflict with the C152. The Board debated the risk of the Airprox at some length. Some members thought that the C152 pilot's comment that he had

assessed that the AS350 was moving fast enough that avoiding action was not necessary indicated that there was no risk of collision. However, other members interpreted this comment to mean that the AS350 had simply passed so quickly in front that by the time the pilot had assimilated the situation CPA had been passed. In the end it was agreed that it had been providence that the AS350 was 200ft in front of the C152 and that the C152 pilot had only seen the helicopter at or around CPA. Given that the AS350 pilot had not seen the other aircraft at all, the Board assessed the risk as Category A, separation had been reduced to the bare minimum and chance had played a major part in events.

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

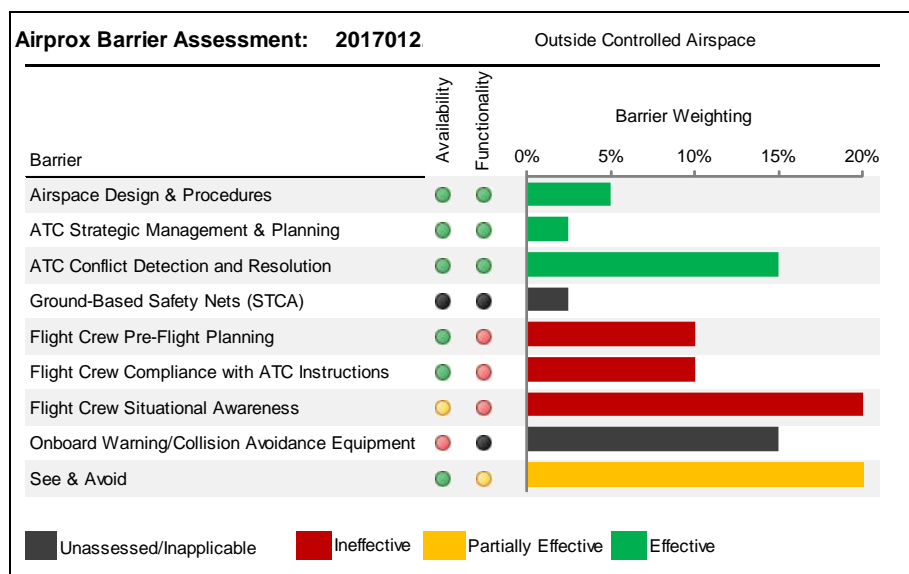
**Cause:** The AS350 pilot inadvertently flew through the Wycombe ATZ and into conflict with the C152.

**Degree of Risk:** A.

**Safety Barrier Assessment<sup>3</sup>:**

The Board decided that the following key safety barriers were contributory in this Airprox:

- **Flight Crew Pre-Flight Planning** was **ineffective** because the AS350 had flown through the ATZ without calling Wycombe ATC.
- **Flight Crew Compliance with ATC instructions** was **ineffective** because the AS350 had not complied with ATC procedures.
- **Flight Crew Situational Awareness** was **ineffective** because neither pilot was aware of each other in time to affect the outcome.
- **Onboard Warning/ Collision Avoidance Equipment** was **inapplicable** because the C152's transponder was not visible to the AS350's TCAS.



<sup>3</sup> Modern safety management processes employ the concept of safety barriers that prevent contributory factors or human errors from developing into accidents. Based on work by EASA, CAA, MAA and UKAB, the table depicts the barriers associated with preventing mid-air-collisions. The length of each bar represents the barrier's weighting or importance (out of a total of 100%) for the type of airspace in which the Airprox occurred (i.e. Controlled Airspace or Uncontrolled Airspace). The colour of each bar represents the Board's assessment of the effectiveness of the associated barrier in this incident (either Fully Effective, Partially Effective, Ineffective, or Unassessable/Inapplicable). The chart thus illustrates which barriers were effective and how important they were in contributing to collision avoidance in this incident. The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).