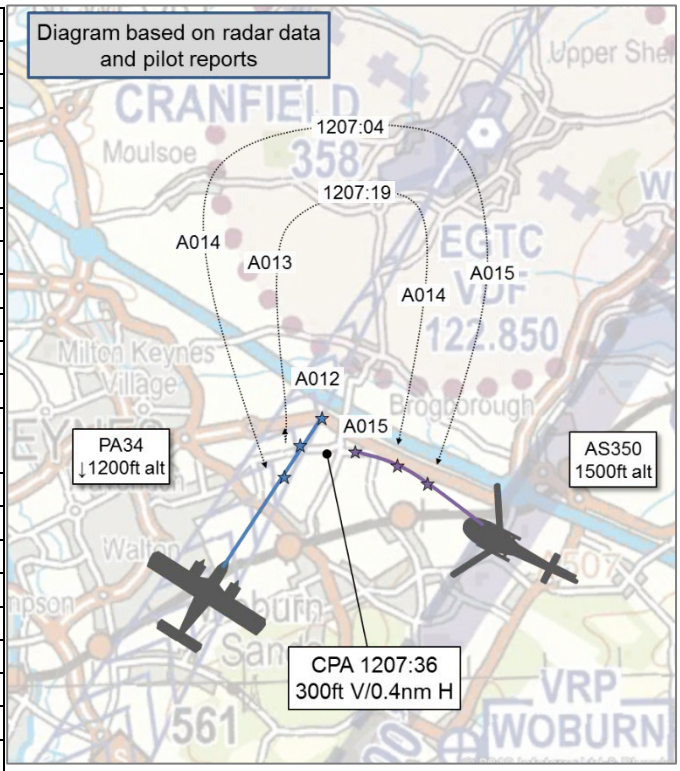
AIRPROX REPORT No 2018285

Date: 22 Oct 2018 Time: 1207Z Position: 5201N 00038W Location: Cranfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA34	AS350
Operator	Civ FW	Civ Helo
Airspace	London FIR	London FIR
Class	G	G
Rules	IFR	VFR
Service	Procedural	Listening Out
Provider	Cranfield	NK
Altitude/FL	1200ft	1500ft
Transponder	A, C, S	A, C, S
Reported		
Colours		Dark Blue
Lighting	N/R	Strobe, HISL, Position lights
Conditions	VMC	VMC
Visibility	N/R	
Altitude/FL	N/R	1500ft
Altimeter	QNH (1037hPa)	QNH
Heading	030°	300°
Speed	N/R	100kt
ACAS/TAS	TAS	Not fitted
Alert	TA	N/A
Separation		
Reported	Not seen	300ft V/400m H
Recorded	300ft V/0.4nm H	



THE CRANFIELD CONTROLLER reports that he witnessed an AS350 pass south-to-north through the final approach of RW03 at about 1500ft. Traffic Information was passed to the PA34 pilot, who was at 2nm on the instrument approach. He believed that the helicopter was inside the ATZ. The incident was witnessed by a second ATCO and both felt there to be a high risk of collision.

He assessed the risk of collision as 'High'.

THE CRANFIELD SATCO reports that the unit has no surveillance radar and it was hard to tell from the tower which aircraft was in front, but that both the controllers believed the helicopter was passing in front of the fixed-wing.

THE PA34 PILOT reports that during a GNSS approach to RW03 at Cranfield, the controller asked whether he had 'seen that helicopter'. When he replied that he had not, the controller responded that they were going to file an Airprox and requested that he telephoned after landing. During the subsequent landline discussion he confirmed that he had not seen the aircraft in question. His student had been simulated IMC and had been operating 'under the hood' and would not have seen anything visually. The PA34 is equipped with a TAS, and the instructor recalled that the TAS presented a very fleeting (about 1sec) indication of an aircraft as he crossed the M1 motorway during his approach, but he could recall no further detail as the indication was transitory. As a result of the telephone conversation with the controller, he formed the impression that the helicopter was probably low-level following the motorway and had probably crossed behind.

THE AS350 PILOT reports that he lifted from a private site just south of Cranfield at 1205, having just had new headsets and cabling fitted. He was listening out on the Cranfield frequency with the volume turned up but, on climb-out, was distracted by a 'high wind noise' through the headset and so had not

contacted Cranfield. Whilst trying to work out the problem, he had inadvertently turned the volume down. He was clear of the Cranfield ATZ by 0.5-1nm and in Class G airspace at 1500ft. He saw the other aircraft significantly below, descending, and ahead of him. Although it was a late sighting, he did not think there had been an Airprox. After he had passed the other aircraft he realised the volume was turned down and he changed frequency to Sywell.

He assessed the risk of collision as 'None'.

Factual Background

The weather at Cranfield was recorded as follows:

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METAR EGTC 221150Z 35007KT 300V030 CAVOK 12/05 Q1037=
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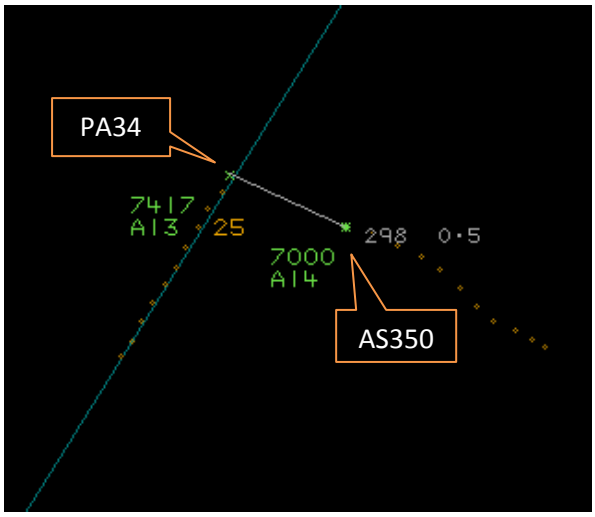
Analysis and Investigation

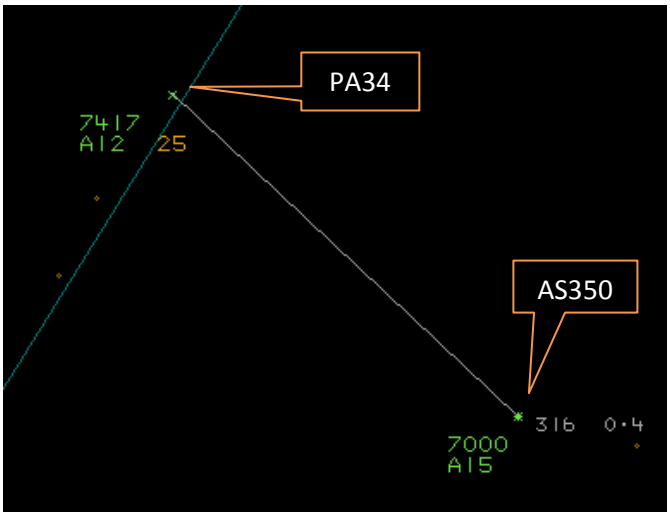
CAA ATSI

An Airprox was filed by the Cranfield Approach (non-radar) controller, as a result of witnessing an AS350 helicopter coming into proximity with a PA34 while the PA34 was in the final approach segment of an RNAV Approach at Cranfield Aerodrome.

At 1207:30 (Figure 1), Traffic Information was passed to the PA34 pilot as "callsign, helicopter not talking to me, routing south-to-north up the motorway." The pilot responded with "roger what side is it, left or right, I can't see anything".



1207:30 - Figure 1



1207:36 - Figure 2 CPA

CPA occurred at 1207:36 (Figure 2), with the aircraft separated by 0.4nm laterally and 300ft vertically.

At 1207:40 the controller advised the pilot "just going past your nose now." The pilot responded with "roger nothing seen I'm afraid". The controller advised "Ah he's passed you now ……. just report your range?" The Pilot responded "er… 1.5.". Figure 3 shows the geometry as the AS350 pilot crosses the extended centre-line at 1400ft indicated, behind the PA34, and, at 2.8nm from Cranfield, outside the 2nm ATZ.

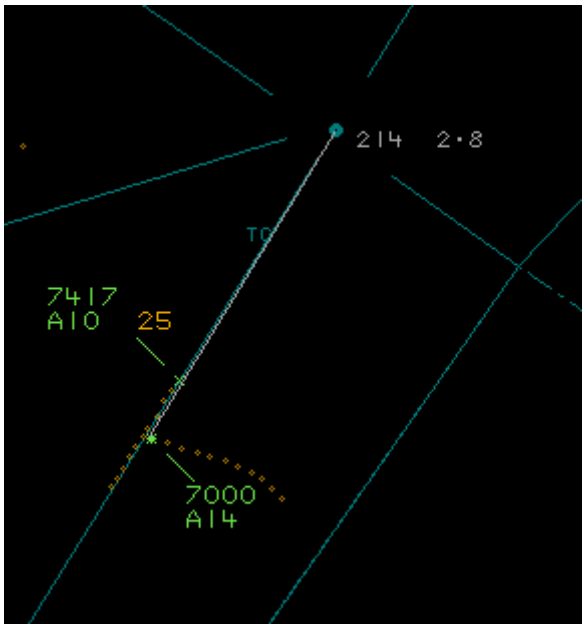


Figure 3 1207:49

The AS350 pilot was not participating in an ATC Service at the time of the Airprox. The PA34 pilot was participating in a Procedural Service where, in addition to the provisions of a Basic Service, the controller provides restrictions, instructions, and approach clearances, which if complied with, will achieve deconfliction minima against other aircraft participating in the Procedural Service. Neither Traffic Information nor deconfliction advice can be passed with respect to unknown traffic.

The Cranfield controller did not have the benefit of having surveillance equipment available to enable them to detect the presence of the AS350. The AS350 was therefore unknown traffic to the Cranfield controller. However, as soon as the controller spotted the AS350 and recognised that a potential confliction existed, they passed a warning to the PA34 pilot. Therefore, the Cranfield controller discharged their responsibilities in the provision of a Procedural Service. In Class G airspace, pilots are ultimately responsible for their own collision avoidance.

UKAB Secretariat

The PA34 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[1]. If the incident geometry is considered as converging then the PA34 pilot was required to give way to the AS350.

Summary

An Airprox was reported when a PA34 and an AS350 flew into proximity on the approach path to Cranfield at 1207hrs on Monday 22nd October 2018. The PA34 pilot was operating under IFR in VMC, and in receipt of a Procedural Service from Cranfield and the AS350 pilot was VFR in VMC and not in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

The Board first looked at the actions of the PA34 pilot. He was simulating IMC with a student 'under the hood' and the instructor looking out. The Board were very surprised that he didn't see the AS350 on his right as he flew down the approach path, especially after Traffic information had been passed

[1] SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

by the controller. However, given that the controller called the AS350 as 'just going past your nose' it was possible that he was looking in the wrong direction (the AS350 was actually on his right). Members noted that the PA34's TAS had displayed a TA according to the PA34 pilot's report, but only for a short time. This was probably because the geometry of the incident was such that the AS350 would go behind, although it might be expected that the TAS would have shown the AS350 as proximate traffic well before this. The Board then briefly discussed that technically, despite being established on an approach procedure, the PA34 pilot was required to give way to the helicopter on his right. However, having not seen it, and not being aware of it until the last minute, then he could not comply. Fortunately, the AS350 pilot was visual with the PA34 and had turned to go behind.

For his part the Board noted that the AS350 pilot had just lifted from a private site and was having difficulties with his new headset. Members thought that this had probably distracted him and that had meant that he didn't make adequate provision for talking to Cranfield as he crossed their approach path; together with the volume being turned down, he therefore had no knowledge about the PA34 until he saw it. Helicopter members commented that in their view he would have been better placed to have called Cranfield before he lifted, especially given his proximity to the Cranfield approach path and intended track. Other members opined that Cranfield was a busy training airfield and he was crossing the feathers at a range and height that was almost exactly that of any approach traffic; in their view the AS350 pilot would have been better served by either staying lower, or routing further out to avoid such a confliction. Nevertheless, in the event he saw the PA34 with enough time to assess that he would go behind it.

Finally, the Board discussed the actions of the Cranfield controller. The Airprox had been reported by the controller because he thought that the AS350, which he knew nothing about prior to seeing it from the VCR window, had routed too close to the PA34 and possibly within the ATZ. Noting that Cranfield is not equipped with a radar and that the controller was looking at the incident visually from some distance away, controller members commented that it was notoriously difficult to gain perspective in such circumstances. He rightly called the traffic to the PA34 pilot, and when he asked the PA34 pilot his range from the airfield the student had replied 1.5nm; members concluded that it had been this call that had probably led him to believe the AS350 was within the ATZ when in fact the radar showed that the AS350 was just outside the ATZ. Nevertheless, the Board commended him for his vigilance, and agreed that the incident certainly met the criteria for reporting an Airprox even though after analysis it was determined that the AS350 had flown behind the PA34 rather than in front, as he perceived.

The Board agreed that the incident was probably best described as the Cranfield controller being concerned by the proximity of the two aircraft, with a contributory factor that the AS350 pilot had not called Cranfield before routing through the approach feathers. In assessing the risk, they quickly agreed that because the AS350 pilot had routed behind the PA34 and was visual with it, there had been no risk of collision. However, they did not think that normal safety standards and procedures had pertained because the AS350 pilot had flown through the airfield approach path without talking to Cranfield. Accordingly, they assessed the risk as Category C.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The controller was concerned by the proximity of the two aircraft.

Contributory Factor: The AS350 pilot did not communicate with Cranfield ATSU before passing through 'the feathers'.

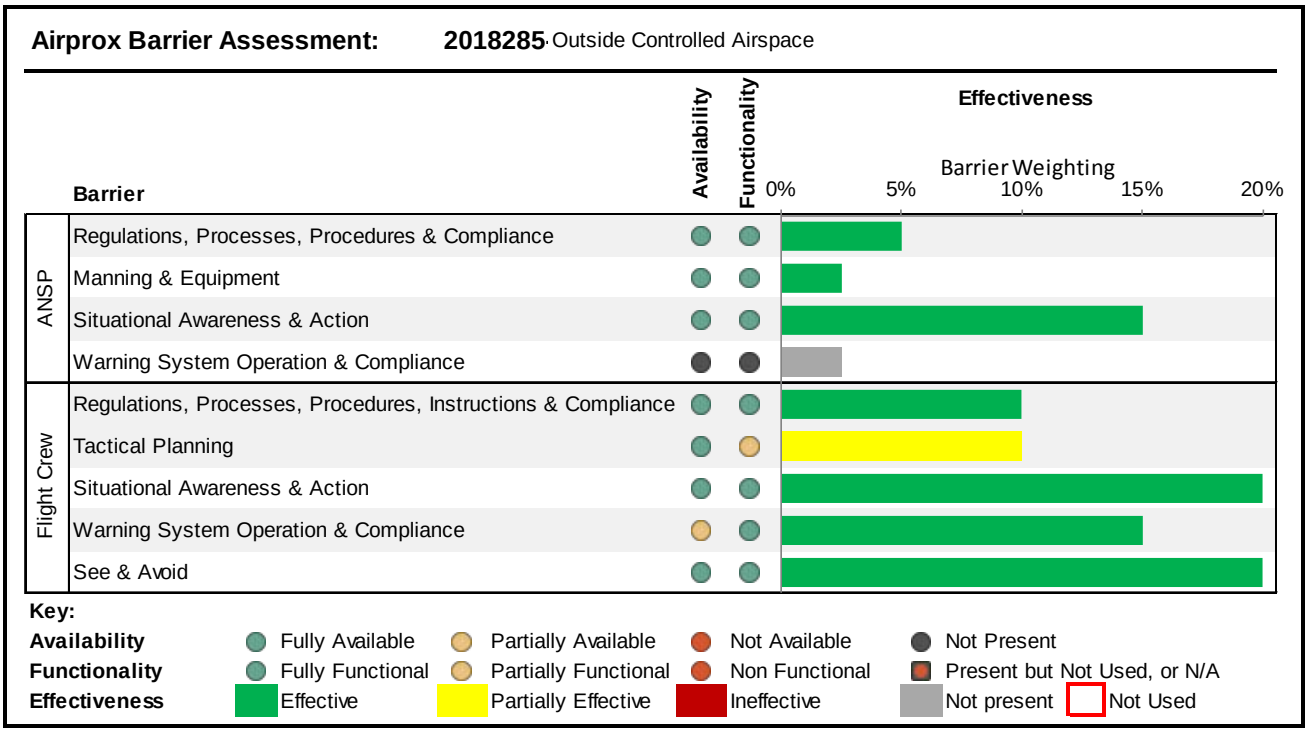
Degree of Risk: C.

Safety Barrier Assessment[2]

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

Flight Crew:

Tactical Planning was assessed as **partially effective** because the AS350 pilot crossed the approach path within the feathers without calling Cranfield ATC.



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