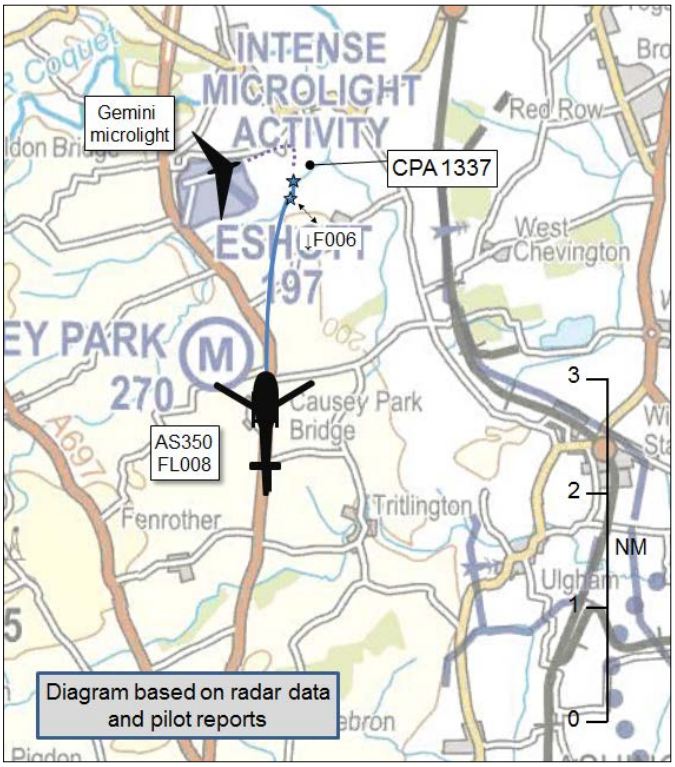
AIRPROX REPORT No 2016202

Date: 15 Sep 2016 Time: 1337Z Position: 5516N 00142W Location: Eshott

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Gemini Flash 2 flexwing microlight	AS350
Operator	Civ Pte	Civ Comm
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	None
Provider		
Altitude/FL		FL006
Transponder	Not fitted	A, C ,S
Reported		
Colours	White, Yellow	
Lighting	None	
Conditions	VMC	VMC
Visibility	10km	6nm
Altitude/FL	600ft	1000ft
Altimeter	QFE (1010hPa)	RPS
Heading	080°	360°
Speed	45kt	110kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	200ft V/150m H	Not seen.
Recorded	NK	



THE GEMINI PILOT reports that he was lined-up and holding on RW08 at Eshott, behind a departing training flight. Once the aircraft in front was turning crosswind, he commenced his take-off run and climbed out as normal. At 600ft he looked right to check the position of the student in the aircraft ahead before turning, and saw another aircraft approaching from the south and descending rapidly. He applied full-power and climbed out at max rate and the other aircraft passed approximately 150m behind and 200ft below his aircraft. He completed his circuit, landed on RW08 and reported the Airprox to Newcastle ATC.

He assessed the risk of collision as 'High'.

THE AS350 PILOT reports that he was transiting from Newcastle City Heliport at 1000ft and receiving a Basic Service from Newcastle ATC. He transited to the east of Eshott. The Newcastle controller told him to watch out for other aircraft in the vicinity, which he did. He saw a couple of ultra-lights in the circuit. Newcastle ATC didn't call any traffic close to him, and he didn't see anything that he would consider to be close.

Factual Background

The weather at Newcastle was recorded as follows:

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EGNT 151320Z VRB02KT 9000 NSC 22/22 Q1011=
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Analysis and Investigation

CAA ATSI

Only the AS350 (transponding code 3751) was visible on the area radar recordings. Screenshots used in this report were taken from the Newcastle Radar recordings.

The Gemini was on a local flight, and had just become airborne behind a training aircraft which was conducting circuit training at Eshott. The AS350 was on a short flight from a heliport in the Newcastle city centre and left the Newcastle CTR at 1332:36. At 1333:03 the Newcastle Radar controller advised the pilot that they were being provided with a Basic Service and the regional QNH was passed. On the Newcastle Radar recordings, a contact believed to be the training aircraft became visible at 1335:46 (Figure 1).

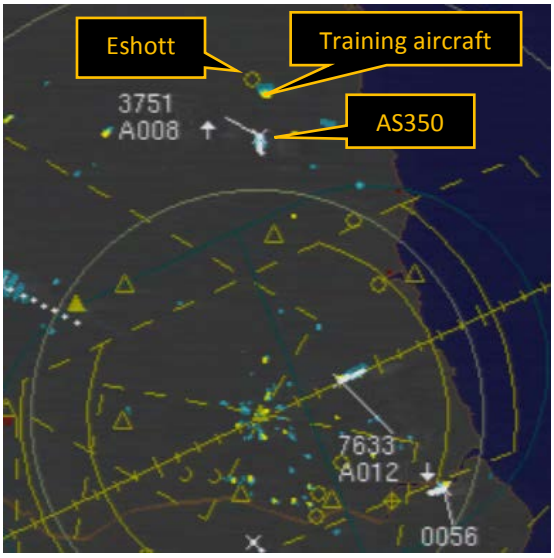


Figure 1 – 1335:46

At 1336:21 the AS350 pilot reported approaching their landing site. The Newcastle controller passed the Newcastle surface wind, questioned them on the estimated time on the ground, instructed them to squawk 7000, and the AS350 then left the frequency. At 1336:30 the radar contact from training aircraft and the AS350 were seen to merge (Figure 2).

Figure 2 – 1336:30

At 1336:50 a contact believed to be the Gemini was observed to the east of Eshott (Figure 3).

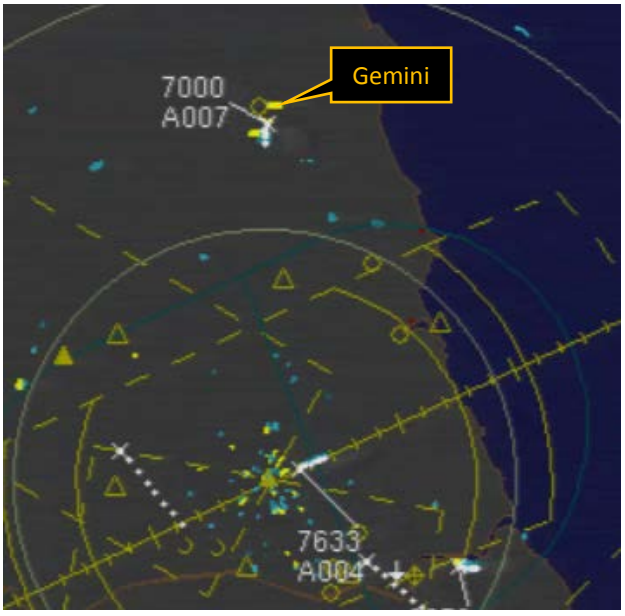


Figure 3 – 1336:50

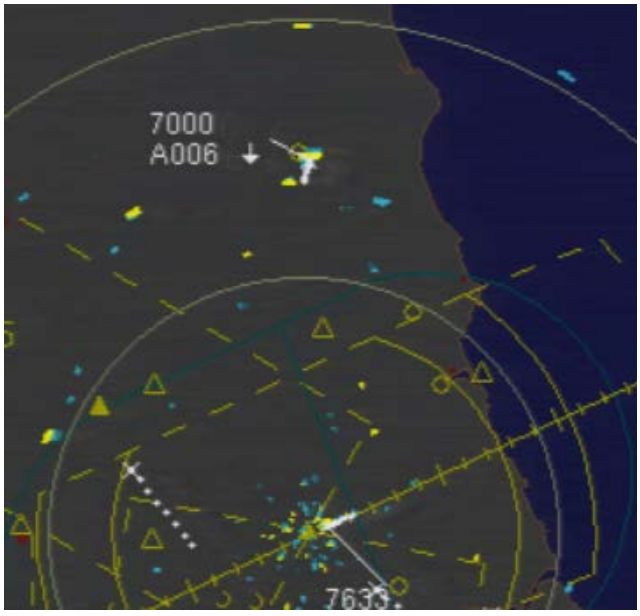


Figure 4 – 1337:04

The Gemini turned south and the radar contact merged with the AS350 at 1337:04, believed to be CPA (Figure 4).

When questioned, the Newcastle controller advised that they had only glanced at that part of the radar screen following the AS350 pilot's report of approaching his landing site. The controller stated that they hadn't noticed the two contacts in the vicinity of Eshott, and that if they had, they would have passed generic traffic information to the AS350 pilot on activity being observed at Eshott, as is standard practice at Newcastle.

The Newcastle controller was sequencing two other aircraft inbound from the south for an instrument approach at Newcastle, and was also involved in assessing and subsequently implementing a change of runway at the same time.

The Airprox was reported to Newcastle ATC by telephone (voicemail) by the Gemini pilot once he landed back at Eshott. When the ATC Watch Manager spoke with him later that day, the pilot reported that the first aircraft had apparently not seen the helicopter. The AS350 pilot reported (incorrectly) that he had been passed Traffic Information on other aircraft *"in the vicinity"* by the controller. The AS350 pilot reported that they had seen *"a couple of ultra light aircraft in the pattern"*, although he also stated that he had not been advised of and did not see any traffic close to him.

CAP774 advises that;

> *"the provider of a Basic Service is not required to monitor the flight, pilots should not expect any form of traffic information from a controller/FISO. A pilot who considers that he requires a regular flow of specific traffic information shall request a Traffic Service.*
> *However, where a controller/FISO has information that indicates that there is aerial activity in a particular location that may affect a flight, in so far as it is practical, they should provide traffic information in general terms to assist with the pilot's situational awareness. This will not normally be updated by the controller/FISO unless the situation has changed markedly, or the pilot requests an update."*
>
> *"Whether traffic information has been provided or not, the pilot remains responsible for collision avoidance without assistance from the controller".*

UKAB Secretariat

The Gemini 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]. 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[2].

The relevant aeronautical charts are annotated with warnings of "Intense Microlight Activity" in the vicinity of Eshott.

Summary

An Airprox was reported when a Gemini ultra-light aircraft and an AS350 flew into proximity at approximately 1337 on Thursday 15th September 2016. Both pilots were operating under VFR in VMC, the Gemini pilot was in the visual circuit at Eshott and the AS350 pilot was in receipt of a Basic Service from Newcastle.

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 operating authorities.

The Board first looked at the actions of the Gemini pilot and commented that he had just taken off from Eshott, a promulgated and active airfield, and was rightly concentrating on his separation from the other aircraft within the circuit. Not expecting to come head-to-head with an aircraft flying through the circuit, he fortunately saw the AS350 approaching from the south and managed to take avoiding action by climbing out of its way. It was clear to members that he had rightly been very worried by the incident because he elected to land his aircraft immediately and report the Airprox...

The Board then turned to the actions of the AS350 pilot. Members noted that he had been receiving only a Basic Service from Newcastle ATC and the Board wondered whether he was fully aware of the limitations that a Basic Service entailed. In his report he had noted that Newcastle did not call any traffic in his vicinity but, under a Basic Service they were not required to. Some members wondered whether the pilot was familiar with the airspace and the existence of Eshott; noting that drawing a straight line between his points of departure and arrival took him almost directly overhead Eshott, this appeared to be the route he took. Eshott is a known busy GA airfield, and even without any local knowledge, was marked on the VFR charts with a warning of 'intense microlight activity'. The Board considered that to plan to fly so close to it was, at the very least, unwise. Some members wondered whether the pilot had perhaps simply followed an electronic routing without regard for what was in the way, and was perhaps focusing in the cockpit as he prepared to land at his destination to the detriment of his look-out.

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

- **Flight Crew Pre-flight Planning** was judged to be **ineffective** due to the routing the AS350 pilot took in flying too close to Eshott, a promulgated and active airfield with intense microlight activity.
- **Flight Crew Situational** awareness was **ineffective** because neither pilot was aware that the other was there.
- **See and Avoid** was **partially effective**, because the Gemini pilot saw the MD500 in time to take action, albeit later than ideal.

[1] SERA.3205 Proximity.
[2] SERA.3225 Operation on and in the Vicinity of an Aerodrome.

Turning to the cause of the Airprox, the Board agreed that it was for the AS350 to keep clear of Eshott under SERA 3225, operation in the vicinity of an Aerodrome. Therefore the cause was determined to be that the AS350 pilot had flown close to a promulgated and active microlight site and into conflict with the Gemini microlight. Turning to the risk, although the AS350 pilot had reported that he did not see anything he would regard as close, and recognising that different pilots have different risk appetites and therefore a different perception of the definition of 'close', the Board noted that, nevertheless, the radar pictures from Newcastle show the contacts merging, both with the training aircraft ahead of the Gemini, and with the Gemini itself. Furthermore, and although the exact vertical separation could not be verified, the Gemini pilot reported a separation of 200ft, after he had taken a maximum rate climb avoiding action. As a result, they determined the risk to be Category B, safety had been much reduced below the norm.

The Board noted that, although not suggesting that this was the situation here, anecdotal evidence suggested that increasing numbers of pilots were planning using Skydemon or similar applications, and then faithfully flying along the track shown on their electronic tablets. The Board wished to highlight the dangers of this practise and urged GA pilots to be mindful of the airspace and other users around them.

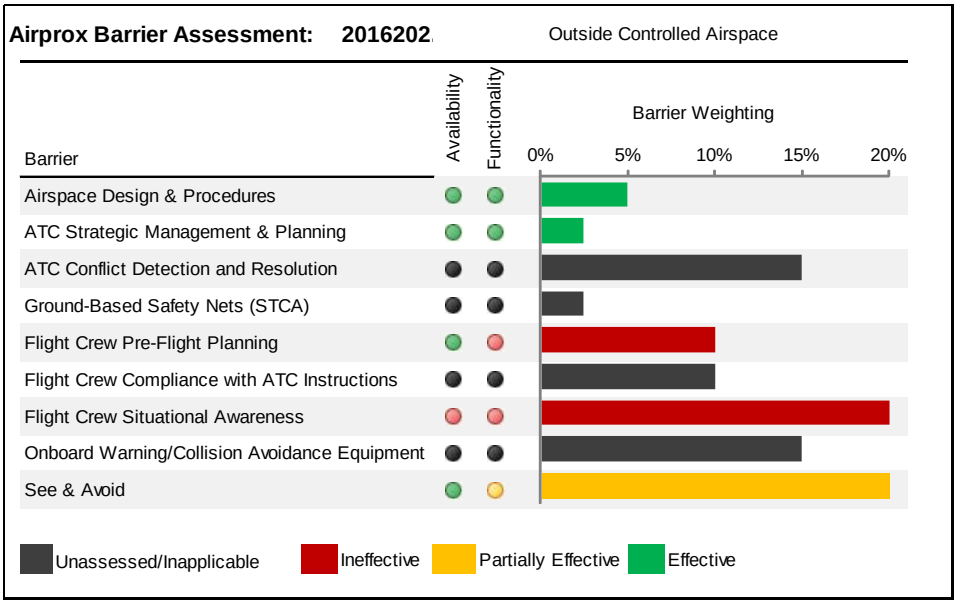
PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The AS350 pilot flew close to a promulgated and active microlight site and into confliction with the Gemini microlight.

Degree of Risk: B.

Barrier Assessment[3]:

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 following 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).[4] 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/Absent). The chart thus illustrates which barriers were effective and how important they were in contributing to collision avoidance in this incident.



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

[4] Barrier weighting is subjective and is based on the judgement of a subject matter expert panel of aviators and air traffic controllers who conducted a workshop for the UKAB and CAA on barrier weighting in each designation of airspace.