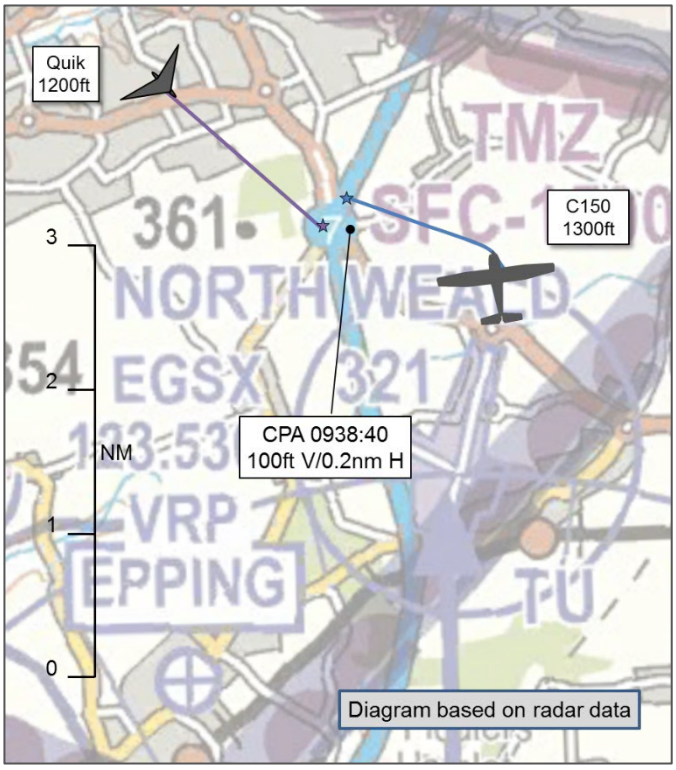
AIRPROX REPORT No 2019220

Date: 02 Aug 2019 Time: 0938Z Position: 5143N 00008E Location: North Weald

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C150	Quik Flex-wing
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	AGCS	Basic
Provider	North Weald	London Information
Altitude/FL	1300ft	1200ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White, Red	Yellow, White
Lighting	Nav, Strobes	Nil
Conditions	VMC	VMC
Visibility	7km	
Altitude/FL	1200ft	1200ft
Altimeter	QNH (1019hPa)	NR
Heading	290°	119°
Speed	65kt	73kt
ACAS/TAS	Not fitted	PilotAware
Alert	N/A	None
Separation		
Reported	0ft V/0.1nm H	Not Seen
Recorded	100ft V/0.2nm H	



THE C150 PILOT reports that just after take-off from North Weald, while climbing on crosswind leg to circuit height, he was advised by the AGO about traffic ahead, picked up by the ADSB receiver within the tower. The traffic was reported at a similar altitude. At that moment he was reaching 1200ft AMSL (circuit height) and, once he lowered the nose, spotted a microlight directly ahead, less than half a mile away. The opposing traffic was descending through circuit height. To avoid, he turned right and continued climbing. He thought that the other pilot must have spotted them at the same time, because the microlight also started turning right and continued to descend. The two aircraft passed each other by approximately 100m. The other aircraft crossed the airfield overhead at around 1100ft and continued eastbound, it was not on the North Weald frequency at any time. The ADSB receiver recording saved by the Tower showed that the microlight was displaying an 1177 squawk at the time of the incident, suggesting that the pilot was talking to London Information.

The pilot assessed the risk of collision as 'High'.

THE QUIK PILOT reports that after departing from his microlight airfield he changed to London Information to open his flight plan, and then remained with them as he headed South/East past Luton and Stansted and into the Stansted TMZ. He could see the Stansted traffic on his PilotAware and, due to the active runway they were using, there was no point in trying to ask for a transit slightly higher than 1500ft, so he remained at 1300ft to give sufficient clearance from their Class D airspace. North Weald makes this a very restricted piece of airspace, he could not go further south or would encroach on Stapleford's ATZ, and to the east is Stansted's airspace. When he has flown this route before he had found it very tight to fly round the edge of North Weald's circuits and the edge of Stansted ATZ and he has been concerned about causing a conflict with either of them. This time therefore he decided that an approach straight over the top of North Weald would cause the least possible conflict with anyone in the circuit. He approached the circuit perpendicular to the downwind direction, all the time keeping a lookout for any traffic in the circuit. He recalls he may have seen someone on final but saw no-one in

close proximity and therefore crossed through the overhead and continued his journey towards Southend and then the Kent coast. He was not aware of the Airprox.

THE NORTH WEALD A/GO reports that he was keeping an eye on the ADS-B Traffic Display as part of an Airspace4all trial, ensuring that the equipment was working as it should. There were several training aircraft in the circuit, all with ADS-B SkyEcho equipment on board. During the C150's climb-out he happened to look over at the display and noticed that there was ADS-B traffic approaching from the west, indicating 100ft above the circuit height (1200ft QNH). In line with the AIC document that was published as part of the trial, he gave Traffic information to the C150 pilot informing him that there was ADS-B traffic approaching from the west not on frequency. The instructor confirmed that he was looking, but was not visual. The AGO proceeded to give a position report in relation to known local reference points. As the C150 climbed into the crosswind leg of the circuit and reached circuit height (indicated 1300' QNH on ADS-B TD) he became visual with the unknown traffic at a range of estimated 300m. The instructor took avoiding action by commencing a level right turn towards the southern boundary of Stansted CTA which is located approximately 1.5nm north of North Weald Airfield. Once clear of the conflicting traffic, the C150 continued their circuit detail without further issues. The Traffic Display shows the registration, type, speed, altitude and squawk. After finishing his radio operator duties he downloaded the screen recording onto a memory stick and went to see the instructor to see if the recording matched their view. They discussed what options were available and agreed that an Airprox report would be suitable as there is no ATZ at North Weald.

THE LONDON FISO reports that he was informed about the Airprox by the UKAB some days after the event, the Airprox was not reported on the frequency at the time and he had no recollection of the incident.

Factual Background

The weather at Stansted was recorded as follows:

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METAR EGSS 020920Z AUTO 35007KT 300V020 9999 SCT014 OVC018 18/15 Q1019=
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The North Weald AIC on ADS-B Trail Information states:

5 Information from AGCS based on Traffic Display

5.1 Pilots are to be aware that, whilst no ATC service will be provided, North Weald Radio may provide generic information based on known traffic in contact on the operational frequency in accordance with AGCS regulations. This may include generic traffic information, warnings of the proximity of controlled airspace. It is emphasised that such information and warnings are not guaranteed and that the **Pilot in Command remains solely responsible for the safe conduct of flight**.

Analysis and Investigation

NATS ATSI

The Quik microlight pilot called on the London FIS frequency at 0916:24, requesting activation of the aircraft flight plan. A Basic Service was agreed and the pilot was instructed to squawk 1177. The pilot stated his current position as Biggleswade, but there was no further discussion as to the route of the aircraft. There was no further communication between the pilot and the FISO prior to, or immediately following the event. London FIS is a non-radar unit and as such the conflict could not be detected by the FISO. At Figure 1 is the radar picture, taken from the NATS radars, at the time of the Airprox.

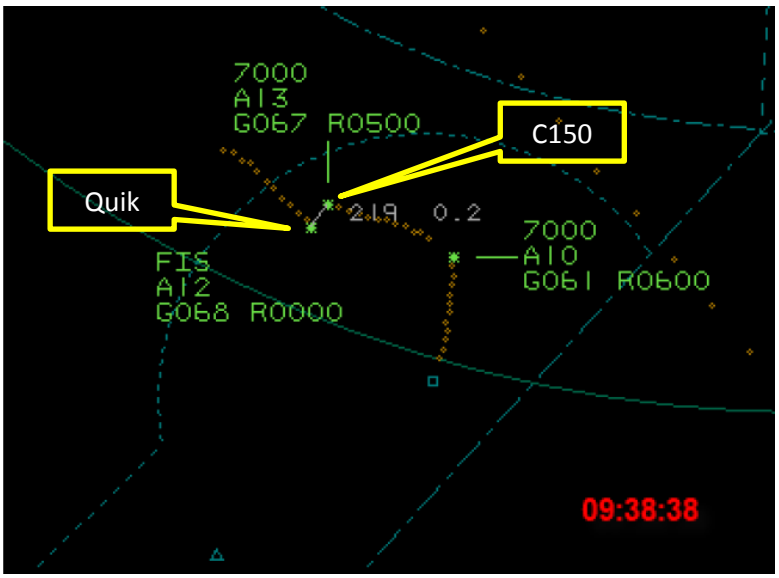

Figure 1

UKAB Secretariat

The C150 and Quik 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].

Summary

An Airprox was reported when a C150 and a Quik flex-wing microlight flew into proximity at 0938hrs in the vicinity of the North Weald circuit on Friday 2nd August 2019. Both pilots were operating under VFR in VMC, the C150 pilot in receipt of a AGCS from North Weald and the Quik pilot in receipt of a Basic Service from London Information.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, radar photographs/video recordings and a report from the AGO involved. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board first looked at the actions of the Quik pilot and noted that he was concerned about the need to remain clear of Stansted's CAS and so had made the decision to route through North Weald's overhead. Members were puzzled as to why, if he thought he couldn't remain clear of North Weald by routing around it, he would route through the overhead without giving them a call (**CF1**, **CF2, CF4**). The height he chose at 1300ft was only 100ft above the visual circuit, putting him in direct conflict with the circuit (**CF3**). Furthermore, he didn't see the C150 climbing onto the downwind leg, meaning that instead of the Quik pilot avoiding the pattern of traffic formed by the circuit, the C150 pilot had to take the avoiding action (**CF6**). The pilot reported having a PilotAware but that it didn't alert [see note below], the Board could not determine why this would be the case given that the C150 was squawking and had ADS-B, and the Quik pilot reported seeing Stansted traffic on his equipment (**CF5**).

[UKAB Secretariat Note: The Quik pilot subsequently confirmed that although he did not remember seeing the traffic on his PilotAware at the time, he has since downloaded the flight log and can see that it did in fact alert, but was a bearingless target and only displayed for about 10 seconds.]

[1] SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.
[2] SERA.3225 Operation on and in the Vicinity of an Aerodrome. MAA RA 2307 paragraph 15.

For his part, the C150 pilot received Traffic Information from the AGO and stopped his climb accordingly. He then saw the Quik and took avoiding action, ensuring adequate separation. Members agreed that the incident reinforced the need for vigilance, even when in the visual circuit, because without the ADS-B trial at North Weald it was unlikely that the AGO would have seen the Quik early enough to provide Traffic Information.

Finally, the Board turned to the actions of the AGO. He was keeping an eye on the ADS-B receiver in the Tower and saw the unknown aircraft (the Quik) approaching at a similar level to the circuit traffic. He gave timely Traffic Information to the C150 and enabled the pilot to see it and the Board thought that he had done well to do so having seen a developing safety situation. However, acknowledging that the trial procedures permitted the AGO 'to provide generic information based on known traffic in contact on the operational frequency' the CAA advisor cautioned that AGOs should be careful not operate outside the remit of CAP 452 and 413, and, in particular, should not pass a message that could be construed to be 'an air traffic control instruction'[3]. The Board did not think that the AGO had passed an instruction in this case, but they accepted the CAA advisor's caution that there might be a temptation to do so if not careful.

In assessing the risk associated with the Airprox, members quickly agreed that the call from the AGO had successfully enabled the C150 pilot to take timely and effective avoiding action, which ensured that there had been no risk of collision; risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2019220		
CF	**Factor**	**Description**	**Amplification**
	Flight Elements		
	• Regulations, Processes, Procedures and Compliance		
1	Human Factors	• Flight Crew ATM Procedure Deviation	Regulations/procedures not complied with
	• Tactical Planning and Execution		
2	Human Factors	• No Decision/Plan	Inadequate planning
3	Human Factors	• Aircraft Navigation	Did not avoid/conform with the pattern of traffic already formed
4	Human Factors	• Communications by Flight Crew with ANS	Pilot did not communicate with appropriate service provider
	• Electronic Warning System Operation and Compliance		
5	Technical	• ACAS/TCAS System Failure	CWS did not alert as expected
	• See and Avoid		
6	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots

Degree of Risk: C.

Safety Barrier Assessment[4]

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

[3] CAP413 4.152 Aerodrome Air/Ground Communication Service Phraseology
[4] The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **ineffective** because the Quik pilot flew through the North Weald overhead at close to the visual circuit height.

Tactical Planning and Execution was assessed as **ineffective** because the Quik pilot flew through the North Weald circuit, even though it was active.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because although the Quik's PilotAware detected the C150, the pilot seemingly did not assimilate the information at the time.