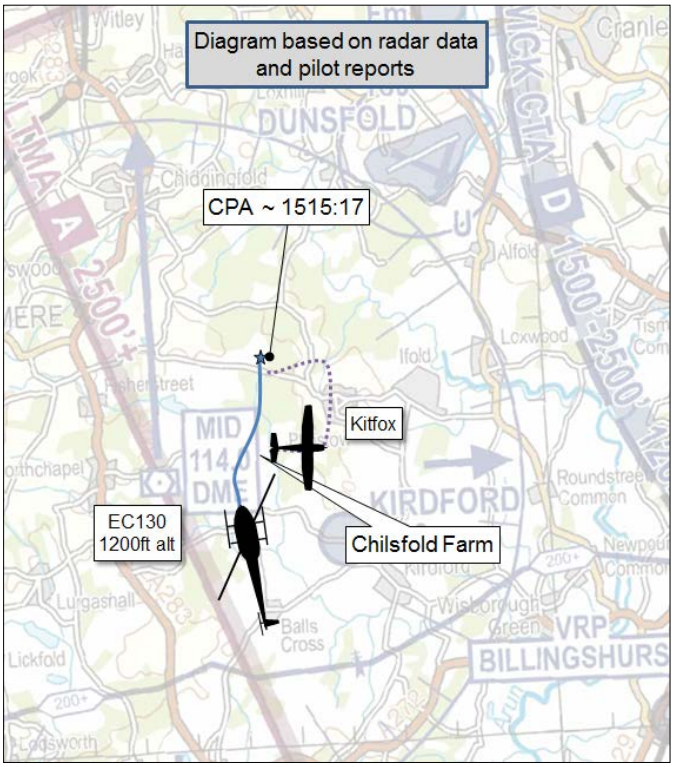
AIRPROX REPORT No 2017188

Date: 10 Aug 2017 Time: 1515Z Position: 5104N 00035W Location: 2nm northeast MID VOR

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	EC130	Kitfox
Operator	Civ Pte	Civ Pte
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	None
Provider	Farnborough	Safety Comm
Altitude/FL	1200ft	NK
Transponder	A, C	Standby
Reported		
Colours	Silver	Silver
Lighting	Anti-col	None
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1200ft	1100ft
Altimeter	QNH (1023hPa)	QNH (1022hPa)
Heading	360°	260°
Speed	120kt	65kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	0ft V/50m H	0ft V/25ft H
Recorded	NK	



THE EC130 PILOT reports that he was heading towards Fairoaks when the passenger on the right of the aircraft observed another aircraft in the 3 o'clock relative position, approximately 50m away at the same altitude, and advised him of this. He entered a left hand turn of about 10° and the aircraft passed behind.

He assessed the risk of collision as 'High'.

THE KITFOX PILOT reports that he took off from RW08 at Chilsfold Farm strip following a call on Safety Comm and initially climbed NE. He cruise-climbed at approximately 200fpm passing a point best described as late downwind RW08 still in the left-turn passing through 260°/1100ft. He commented that he had turned through about 130°, albeit at low angle of bank, without first lifting the wing and clearing the sky ahead. He was completely unaware of the helicopter until it became visible in the left of his screen at a distance of approximately 40ft. It passed through his 12 o'clock with around 20ft separation and he believed his propeller was below the rotor disc with the aircraft at exactly the same level. He passed behind and felt the wake, which wasn't severe, just a momentary down and up acceleration. He was not aware of carrying out any control inputs until after the event when he raised the nose and slowed down. He continued to observe the helicopter which maintained heading and height. The ensuing relative positions made it easy to establish that it was travelling significantly faster than him, the helicopter's heading being approximately north throughout the event. He changed frequency to Farnborough LARS and heard a Squirrel helicopter make a first call but now believed that this was not the subject aircraft. His firm belief at the time was that the helicopter was a silver/black Squirrel with flotation gear on the skids; however, since the event, he realises he cannot say with certainty what type the helicopter was, but it was a dark colour. In hindsight he realises he should have spoken to Farnborough immediately. His Mode A was only on standby and he does not have any avoidance kit fitted, he just seemed to be lucky he said.

He assessed the risk of collision as 'High'.

THE FARNBOROUGH CONTROLLER reports that he was made aware of the Airprox after the event, it was not declared on frequency and he has no recollection of the event or aircraft involved.

Factual Background

The weather at Farnborough was recorded as follows:

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METAR EGLF 101520Z 02008KT 340V070 9999 FEW045 19/09 Q1023
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Analysis and Investigation

CAA ATSI

At 1454:00 the EC130 checked in with the Farnborough LARS controller and advised that he was routing VFR from Redhill to Fairoaks via the Midhurst VOR with 3 POB, QNH 1023. A Basic Service was agreed. At 1458:00 the controller asked the EC130 to report their level and the pilot responded with 1200ft. There was no further communication between the controller and the pilot until after the incident, at 1518:00, when the EC130 changed frequency in the vicinity of Guildford.

At 1512:32, the EC130 was first observed on the radar replay to the south-southwest of Chilsfold Farm (Figure 1).

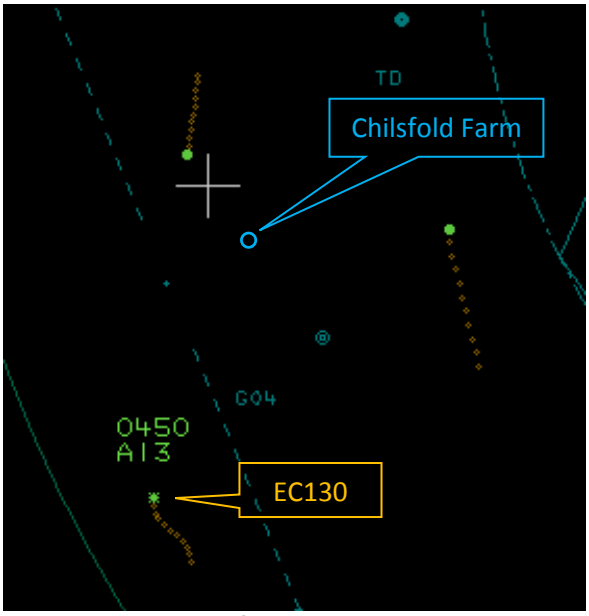


Figure 1 – 1512:32

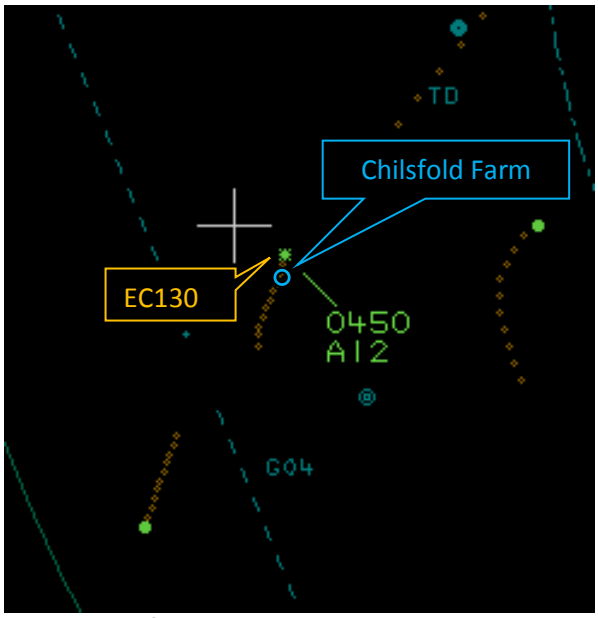


Figure 2 – 1515:00

At 1515.00 the EC130 is approaching the climb out area for Chilsfold Farm RW08 and nothing is seen on the radar replay in the area of the Farm strip (Figure 2).

At 1516:10 a primary radar contact (ringed in red below) appears to the northwest of the Farm strip, whilst the EC130 has passed through the climb out area for RW08 and has made a right turn followed by a left turn (Figure 3).

At 1516:35 the primary only return (ringed in red) has taken up a west-southwesterly track (this is consistent with the Kitfox pilot report) and the EC130 has returned to a northerly track (Figure 4).

At 1517:39 the primary only return (ringed in red) is fully established on the west-southwesterly track and has selected SSR Code 7000 with no Mode C; this is consistent with the pilot report from the Kitfox. The EC130 has continued Northbound (Figure 5).

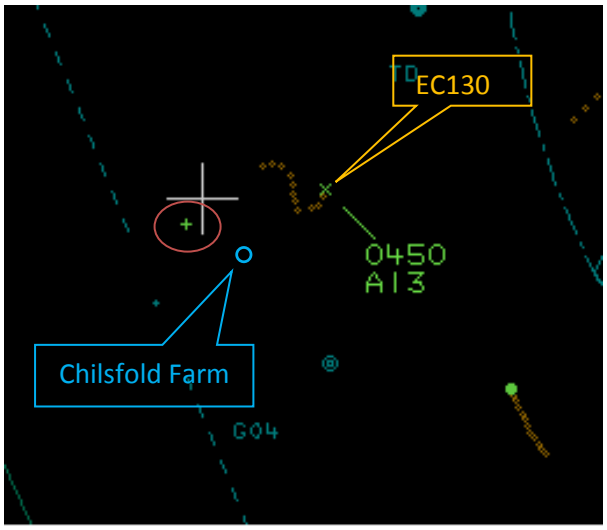


Figure 3 – 1516:10

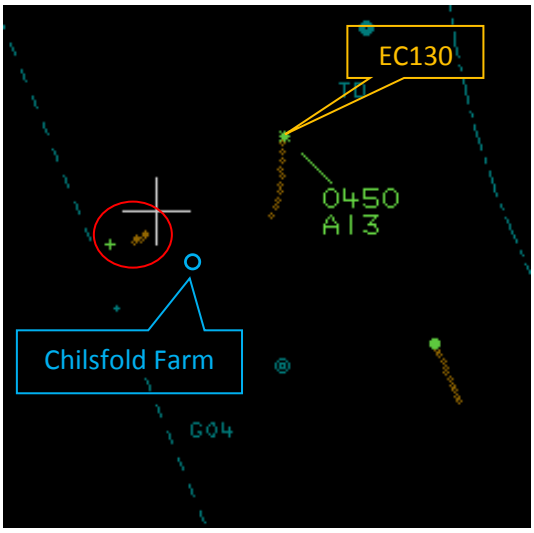


Figure 4 – 1516:35

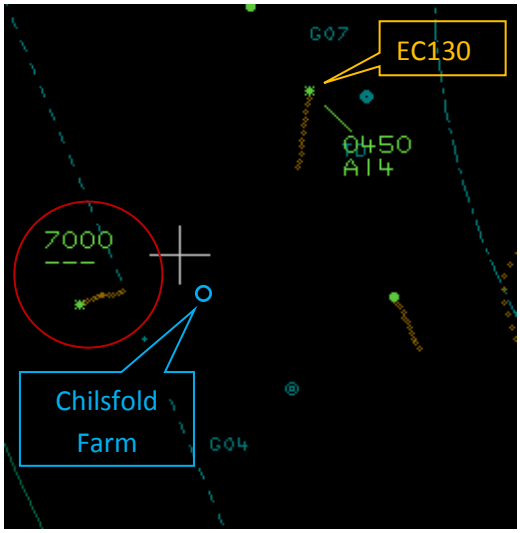


Figure 5 - 1517:39

It should be noted that the Kitfox does not appear on the radar replay until after the reported incident, when it was northwest of the farm strip and heading west-southwest. As a result of the primary only contact not displaying on the radar replay until after the reported time of the event CPA could not be measured on the radar replay. The reported CPA was less than 50m laterally and approximately 20ft vertically. It should also be noted that the identities of both the EC130 and the Kitfox could not be positively established via the radar replay aircraft identity feature. However the tracks reported by both aircraft were consistent with what was observed on the radar replay.

At the time of the Airprox the Kitfox was not in receipt of an ATC service and the EC130 was receiving a Basic Service from the Farnborough West LARS controller. The provider of Basic Service is not required to monitor the flight and pilots should not expect any form of Traffic Information from the controller. However, if a controller notices that a definite risk of collision exists, a warning shall be issued to the pilot. As a result of the primary radar return (assumed to be the Kitfox) not displaying on radar until after the event, the controller would not have been alerted to the risk.

Under the terms of a Basic Service, whether traffic information has been provided or not, the pilot remains responsible for collision avoidance without assistance from the controller.

UKAB Secretariat

The EC130 and Kitfox 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 EC130 pilot was required to give way to the Kitfox[2].

Summary

An Airprox was reported when an EC130 and a Kitfox flew into proximity at about 1515 on Thursday 10th August 2017. Both pilots were operating under VFR in VMC, the EC130 pilot in receipt of a Basic Service from Farnborough and the Kitfox pilot not in receipt of a Service.

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 their discussions by looking at the actions of the EC130 pilot. The helicopter pilot members commented that the area has undulating terrain and can be very busy during the summer months with helicopters arriving and departing from various events with numerous local strips in the area. Because of this, they opined that it may have been more prudent for the EC130 pilot to have transited at a higher altitude. They then went on to explain about the cockpit visibility from the EC130, commenting that it has a number of blind-spots created by cockpit struts which meant that the Kitfox climbing out from the farm strip could easily have been obscured behind one of these. They speculated that this may have accounted for only the passenger seeing the Kitfox and alerting the pilot to its presence. Once alerted to the presence of the Kitfox, members noted that the EC130 pilot had turned only marginally left to avoid, presumably because the pilot recognised that he had already crossed the Kitfox's track as it passed behind the EC130.

The Board then turned to the actions of the Kitfox pilot. The Board were disappointed that the Kitfox pilot had not selected his transponder on prior to departure. Although this would not have alerted the EC130 pilot to the presence of the Kitfox due to the EC130 not being equipped with an electronic warning system, it may have alerted the Farnborough controller to the Kitfox's presence and they may have then passed Traffic Information to the EC130 pilot if they had been aware of the confliction. GA members understood the very valid reasons for the Kitfox pilot selecting Safety Comm during his departure, but they also opined that it might have been more prudent to listen out on the Farnborough frequency to increase his situational awareness of aircraft transiting his busy area. Neither could be said to be right or wrong, the decision was a balance of risk assessment between listening for other aircraft who might use the strip (probably quite infrequently) and those who might be transiting nearby en-route (probably quite frequently). Finally, some members wondered if the Kitfox pilot had become absorbed in post-take-off and en-route checks to the detriment of robust look-out during departure; although the EC130 pilot was notionally required to give way to the Kitfox, he could only do so if he saw the Kitfox and so this was a timely reminder of the need for all pilots to fly defensively, especially if they were climbing out of strips when their presence might be unexpected and their aircraft might be hard for others to see.

The Board then looked at the cause and risk of the Airprox. They quickly agreed that the pilot of the EC130 had only been aware of the Kitfox when his passenger alerted him to the aircraft effectively at CPA. Similarly, the Kitfox pilot did not see the EC130 in time to carry out any effective avoiding action at all. As a result, the cause was determined to be a non-sighting by the EC130 pilot and effectively a non-sighting by the Kitfox pilot. Although the EC130 pilot turned 10° as the Kitfox passed behind him, the Board determined that this had been unlikely to have materially altered the separation between the aircraft. They also noted that both pilots had assessed the risk of collision as

[1] SERA.3205 Proximity.
[2] SERA.3210 Right-of-way (c)(2) Converging.

High. Accordingly, the Board determined that aircraft proximity had been such that a serious risk of collision had existed that had only been avoided by providence; therefore, the degree of risk was assessed as Category A.

The Board wished to highlight that, although not a requirement in this incident in August 2017, pilots should be aware that, as of 12th October 2017, SERA mandates that when an aircraft carries a serviceable transponder the pilot shall operate the transponder at all times and with all available modes selected regardless of whether the aircraft is within or outside airspace where SSR is used for ATS purposes.[3]

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A non-sighting by the EC130 pilot and effectively a non-sighting by the Kitfox pilot.

Degree of Risk: A.

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:

ANSP

Situational Awareness & Action was assessed as **not used** because the Kitfox did not display on the Farnborough controller's radar.

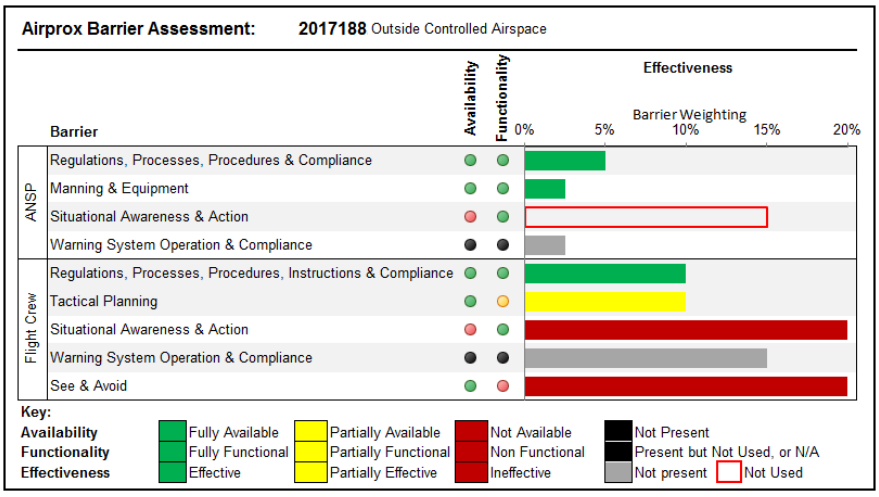
Flight Crew

Tactical Planning was assessed as **partially effective** because the Kitfox pilot did not activate his transponder prior to departure.

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

Warning System Operation and Compliance was assessed as **not present** because neither aircraft was fitted with CWS.

See and Avoid was assessed as **ineffective** because neither pilot saw the other aircraft in time to effectively increase the separation between them.



[3] SERA 13001, 13005, 13010 and 13015 - SSR Transponder
[4] The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.