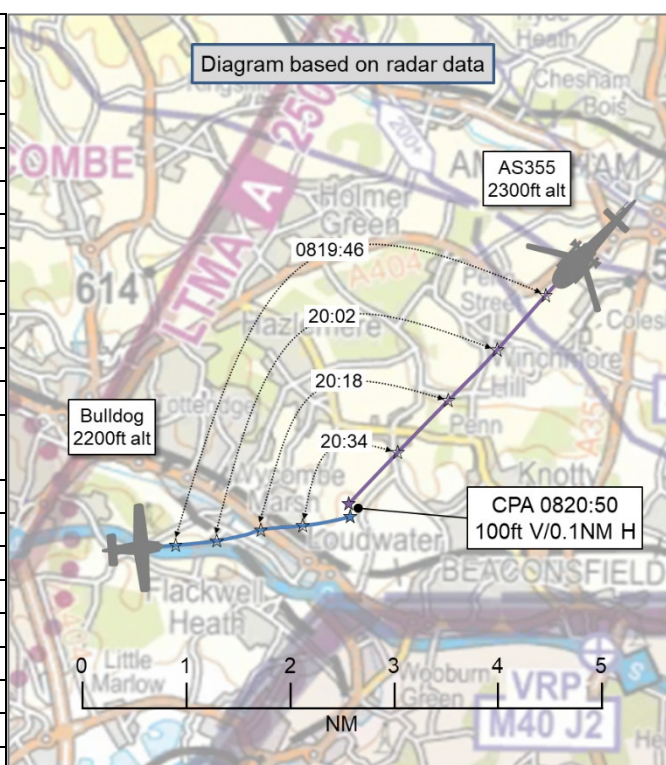


AIRPROX REPORT No 2022028

Date: 07 Mar 2022 Time: 0821Z Position: 5137N 00041W Location: High Wycombe

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Bulldog	AS355
Operator	Civ FW	Civ Helo
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	Traffic
Provider	Farnborough LARS	Luton Radar
Altitude/FL	2200ft	2300ft
Transponder	A, C, S+	A, C, S+
Reported		
Colours	Red, white	Black
Lighting	Strobes, nav lights	Nav, anti-col, strobe
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2200ft	1500-2000ft
Altimeter	QNH (1026hPa)	QNH (NK hPa)
Heading	080°	NK
Speed	110kt	120kt
ACAS/TAS	Not fitted	TAS
Alert	N/A	TA
Separation at CPA		
Reported	0ft V/100m H	NK V/NK H
Recorded	100ft V/0.1NM H	



THE BULLDOG PILOT reports that they were enroute to [destination] with St Giles VRP as their next waypoint. They were visually scanning from right-to-left when a black Bell Jetranger [they thought] (with gold striping) suddenly appeared in their 10 o'clock at the same level. They would estimate a closing speed of >220kt. They sighted the aircraft too late to initiate avoiding action. The Jetranger [sic] did not take avoiding action. The closing speed and proximity prevented recognition of the registration.

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

THE AS355 PILOT reports¹ that they were departing Luton airspace and were positioning back to [destination] airfield. Luton radar warned them of traffic, which they saw on TAS and were visual with transiting from left-to-right at approximately 500ft above. In their opinion there was no conflict and they are therefore somewhat surprised that an Airprox report has been filed. They were unaware who the other aircraft was talking to (if any) but Luton Radar offered them the radar indications which they confirmed with their TAS instrumentation. The TAS angle-of-arrival information is known to be unreliable and so they did not manoeuvre horizontally based on TAS information, but instead both they and their co-pilot searched in the position indicated by the information received from the controller. They briefly considered changing altitude, but there was little room above due to the London TMA at 2500ft (and there was no guarantee that the other aircraft would not have climbed) and they did not wish to descend through the level of the other aircraft. They eventually saw the other aircraft below them as it passed down the left-hand side.

¹ The AS355 pilot's report initially describes their encounter with the first traffic called to them by the Luton controller. Subsequently, the pilot provided information verbally to the UKAB Secretariat which has been reproduced in the narrative above.

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

THE LUTON INT CONTROLLER reports that they have no recollection of the event.

Factual Background

The weather at Heathrow Airport was recorded as follows:

METAR COR EGLL 070820Z AUTO 06007KT 9999 BKN035 05/02 Q1026 NOSIG=

Analysis and Investigation

NATS Safety Investigations

[The Bulldog pilot], displaying a Farnborough listening code, reported an Airprox with [an AS355] when 4.5NM east of Booker Airfield. [The AS355 pilot] was outside controlled airspace in receipt of a Traffic Service with Luton Radar at the time of the incident and was passed Traffic Information on [the Bulldog]. The pilot of [the AS355] did not report the Airprox on the R/T at the time of the incident.

Information available to the investigation included:

- CA4114 from Luton Approach controller
- Radar and R/T recordings
- Pilot report from [the Bulldog pilot]

[The AS355 pilot] conducted a VFR departure from [departure] to [destination], contacted the Luton Radar (Luton) controller at **0812:48** (all times UTC) and reported passing Hyde on route to Junction 9. The Luton Approach controller requested [the AS355 pilot] to squawk ident and issued Luton QNH 1026hPa. Once identified, the Luton controller issued [the AS355 pilot] with a Radar Control Service and clearance to leave controlled airspace, VFR, not above 2000ft. This was read back correctly by the pilot of [the AS355].

The pilot of [the AS355] requested to continue their track in a southwest direction from Luton, which was approved by the Luton controller. At **0813:57** the Luton controller amended the clearance to not above 2400ft. The Luton controller then asked [the AS355 pilot] if they required a crossing clearance for the London CTR, or if they would remain outside controlled airspace. The pilot of [the AS355] advised that they would remain outside controlled airspace. [The AS355] vacated the Luton CTR at **0815:46** tracking southwest. The Luton controller continued to issue instructions for IFR aircraft on approach for Luton.

At **0816:21** the Luton controller advised [the AS355 pilot] that they were now outside controlled airspace, it was now a Traffic Service and proceeded to issue Traffic Information on a VFR contact near [the AS355]. The pilot of [the AS355] read back Traffic Service and acknowledged the Traffic Information, advising the Luton controller that they would continue to climb to 2400ft. The Luton controller issued updated Traffic Information on the same contact at **0816:55**.

CAP774 defines a Traffic service as 'a surveillance based ATS, where in addition to the provisions of a Basic Service, the controller provides specific surveillance derived traffic information to assist the pilot in avoiding other traffic. Controllers may provide headings and/or levels for the purposes of positioning and/or sequencing; however, the controller is not required to achieve deconfliction minima, and the pilot remains responsible for collision avoidance.'

At **0818:33** the Luton controller advised the pilot of [the AS355] "clear of the previously mentioned traffic. New Traffic, twelve o'clock, seven miles, opposite direction, indicating two thousand two hundred feet" (see Figure 1). The pilot of [the AS355] acknowledged the information and stated they were looking for the traffic.

The referenced traffic was [a Bulldog], displaying Mode-A code 4572 (Farnborough LARS West Monitoring Code) heading northeast 2.6NM south-east of Booker Airfield at an indicated 2200ft. [The Bulldog pilot] was listening out on Farnborough LARS frequency with no service agreed.

At **0820:50** [the Bulldog] crossed underneath [the AS355], approximately 4.3NM east of Booker Airfield (see Figure 2).

At **0821:02** the pilot of [the AS355] reported that they had just passed the traffic mentioned by the Luton controller and requested to leave the frequency to contact Farnborough on frequency 125.250MHz. This was approved by the Luton controller, who terminated the Traffic Service. The pilot of [the AS355] did not make any report of an Airprox on the R/T.

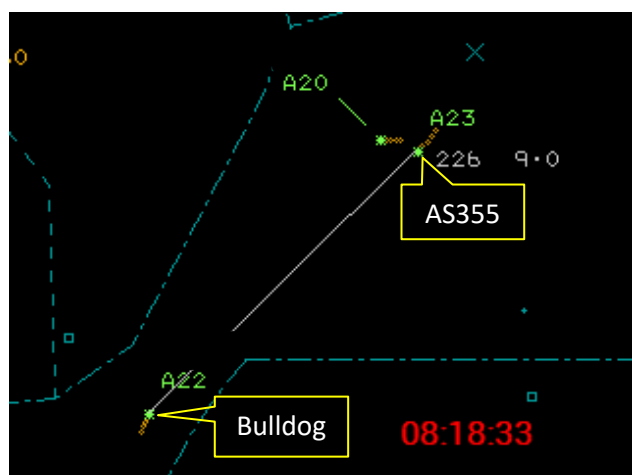


Figure 1 – 0818:33

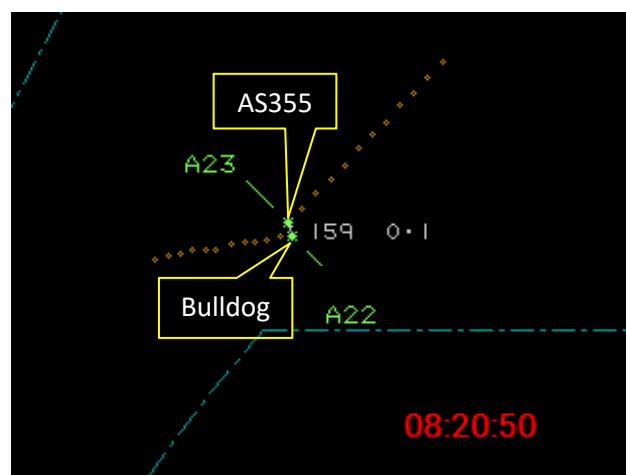


Figure 2 – 0820:50 - CPA

Conclusions

The Airprox occurred outside controlled airspace, when [the AS355] on a Traffic Service from Luton Radar and [the Bulldog] displaying a Farnborough listening code flew into proximity, approximately 4.3NM east of Booker. Closest Point of Approach occurred at **0820:50** and was recorded on Multi-Track Radar as 0.1NM and 100ft.

Traffic Information was passed to the pilot of [the AS355], who subsequently reported having passed [the Bulldog] with no reference to potential unsafe proximity.

UKAB Secretariat

The Bulldog and AS355 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.² If the incident geometry is considered as converging then the AS355 pilot was required to give way to the Bulldog.³

Summary

An Airprox was reported when a Bulldog and an AS355 flew into proximity near High Wycombe at 0821Z on Monday 7th March 2022. Both pilots were operating under VFR in VMC, the Bulldog pilot listening-out on the Farnborough LARS West frequency and the AS355 pilot in receipt of a Traffic Service from Luton Radar.

² (UK) SERA.3205 Proximity.

³ (UK) SERA.3210 Right-of-way (c)(2) Converging.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, a report from the air traffic controller involved and a report from the appropriate operating authority. 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 considered the actions of the Bulldog pilot and heard from a GA pilot member that the Airprox took place in a busy area for GA aircraft. The Board noted that the Bulldog pilot had been displaying the Frequency Monitoring Code/Listening Squawk for Farnborough LARS West and considered that they may have been better served by requesting an ATS from Farnborough because this may have given the Farnborough controller an opportunity to alert them to the presence of the AS355 (**CF2**). The Board also noted that the Bulldog had not been fitted with any additional electronic conspicuity (EC) equipment and wished to highlight to all pilots that additional funding has been made available for electronic conspicuity devices through the CAA's Electronic Conspicuity Rebate Scheme, which has been extended until 31st March 2023.⁴ Without an ATS or on-board EC equipment to alert them to the presence of the AS355, the Board agreed that the Bulldog pilot had not had any situational awareness of the proximity of the helicopter (**CF4**) and had therefore been relying on their lookout for the detection of other aircraft. In this regard, members noted that the pilot had reported sighting the AS355 at a point where it had been too late for them to take any avoiding action, and agreed that this effective non-sighting had been contributory to the Airprox (**CF6**).

The Board then considered the actions of the AS355 pilot and noted that they had been passed Traffic Information on the Bulldog by the Luton Radar controller and had also reported having had a correlating TAS contact (**CF5**). Members noted that the pilot had not wished to descend through the other aircraft's level and that they also had controlled airspace above them. Nonetheless, the Board considered that the AS355 pilot may have been better served by taking early action to break the confliction by either changing height or heading (**CF3**). In the event, the AS355 pilot had used the situational awareness available to them to direct their lookout and the Board agreed that they had not sighted the Bulldog until it had been passing below them and to their left, at a range where it had been too late for the AS355 pilot to take any action to increase separation (**CF6**).

Turning to the actions of the Luton Radar controller, the Board noted that they had been providing a Traffic Service to the AS355 pilot and quickly agreed that there was little else that they could have done to assist the pilot. The Board also noted that there had been no alert from the STCA available to the Luton Radar controller, but understood that this had been because the Farnborough LARS West Frequency Monitoring Code being displayed by the Bulldog is outside the select frame for Luton Radar (**CF1**).

Finally, the Board considered the risk involved in this Airprox. Members noted that the separation recorded by the NATS radars had been 0.1NM horizontally and 100ft vertically. The Board also noted that neither pilot had sighted the other aircraft until a point where it had not been possible for either of them to take action to increase separation. Therefore, members agreed that the separation that existed between the aircraft had been providential and that a risk of collision had existed (**CF7**). Consequently, the Board assigned a Risk Category B to this event.

⁴ <https://www.caa.co.uk/general-aviation/aircraft-ownership-and-maintenance/electronic-conspicuity-devices/>

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**Contributory Factors:**

2022028				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
• Electronic Warning System Operation and Compliance				
1	Technical	• Conflict Alert System Failure	Conflict Alert System did not function as expected	The Conflict Alert system did not function or was not utilised in this situation
Flight Elements				
• Tactical Planning and Execution				
2	Human Factors	• Communications by Flight Crew with ANS	An event related to the communications between the flight crew and the air navigation service.	Pilot did not request appropriate ATS service or communicate with appropriate provider
• Situational Awareness of the Conflicting Aircraft and Action				
3	Human Factors	• Lack of Action	Events involving flight crew not taking any action at all when they should have done so	Pilot flew close enough to cause concern despite Situational Awareness
4	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
• Electronic Warning System Operation and Compliance				
5	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
• See and Avoid				
6	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots
• Outcome Events				
7	Contextual	• Near Airborne Collision with Aircraft	An event involving a near collision by an aircraft with an aircraft, balloon, dirigible or other piloted air vehicles	

Degree of Risk: B

Safety Barrier Assessment⁵

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

Ground Elements:

Electronic Warning System Operation and Compliance were assessed as **not used** because the AS355 and Bulldog tracks were outside the select frame for the Luton INT controller's STCA.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the Bulldog pilot elected to select the Farnborough frequency and their monitoring SSR code without contacting the controller and agreeing an ATS.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the Bulldog pilot did not have any situational awareness of the presence of the AS355.

⁵ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

See and Avoid were assessed as **ineffective** because neither pilot saw the other aircraft in enough time to materially increase the separation.

Airprox Barrier Assessment: 2022028		Outside Controlled Airspace					
Barrier	Provision	Application	Effectiveness				
			Barrier Weighting				
			0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	✔	✔				
	Manning & Equipment	✔	✔				
	Situational Awareness of the Confliction & Action	✔	✔				
	Electronic Warning System Operation and Compliance	✔	○				
Flight Element	Regulations, Processes, Procedures and Compliance	✔	✔				
	Tactical Planning and Execution	✔	!				
	Situational Awareness of the Conflicting Aircraft & Action	✘	✔				
	Electronic Warning System Operation and Compliance	!	✔				
	See & Avoid	!	✘				
Key:			Full	Partial	None	Not Present/Not Assessable	Not Used
Provision	✔	!	✘	●			
Application	✔	!	✘	●		○	
Effectiveness							