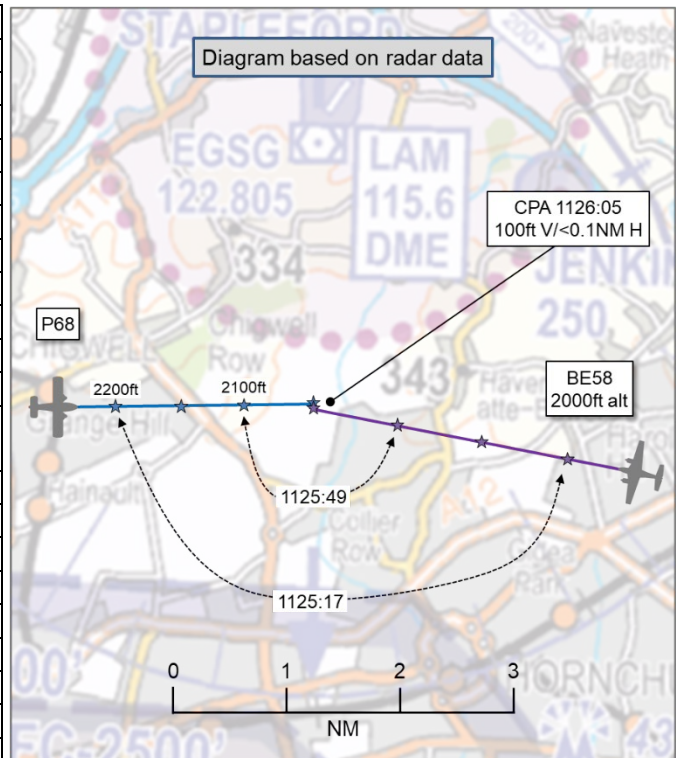


AIRPROX REPORT No 2024068

Date: 26 Apr 2024 Time: 1126Z Position: 5136N 00009E Location: 3NM south of Stapleford

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	P68	BE58
Operator	Civ Comm	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Traffic (Reduced)	Listening Out
Provider	Farnboro' Radar	Farnboro' Radar
Altitude/FL	2100ft	2000ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White and blue	White
Lighting	Strobes	Beacon, strobes, navigation, landing
Conditions	VMC	VMC
Visibility	NR	>10km
Altitude/FL	2400ft	2200ft
Altimeter	NR	QNH
Heading	090°	~300°
Speed	120kt	165kt
ACAS/TAS	SkyEcho	TAS
Alert	None	None
Separation at CPA		
Reported	0ft V/0.1NM H	Not seen
Recorded	100ft V/<0.1NM H	



THE P68 PILOT reports that they had been conducting an aerial survey north of the London City zone, under a Traffic Service from Farnborough Radar at 2400ft. A sharp left turn was required to avoid a collision with an oncoming aircraft that [appeared] not to have been communicating with Farnborough Radar, or Stapleford (nearest airfield). The avoiding action had been successful. The other aircraft had been white with red markings, twin engines but their callsign and registration unknown; they had not been on frequency. The P68 pilot noted that their aircraft had been equipped with [an EC device] and [branded display] for traffic alerts however, Mode C aircraft are not detected. They report that they had received no warning from Farnborough of [a possible] traffic conflict.

THE BE58 PILOT reports that they had been returning from [...] where they had carried out 2 practice approaches but not landed. No other aircraft was seen at the time of the reported Airprox.

THE FARNBOROUGH LARS NORTH/EAST CONTROLLER reports that they had been acting as OJTI in LARS North/East at the time but have no recollection of an Airprox as nothing had been reported on frequency. They recall that their student had been working the P68 on LARS North under a Traffic Service and that they remember them having passed lots of Traffic Information but do not remember a situation that may have led to an Airprox being filed.

Factual Background

The weather at London City was recorded as follows:

METAR EGLC 261120Z AUTO 06005KT 360V110 9999 NCD 11/M00 Q1005=

Analysis and Investigation

NATS FARNBOROUGH SAFETY INVESTIGATION

The UK Airprox Board advised NATS of an Airprox involving a P68, in receipt of a reduced Traffic Service from Farnborough Radar, and an unknown aircraft on an opposite direction track. Subsequent radar review had highlighted a confliction with a BE58. Traffic Information had been passed to the pilot of the P68 who reported visual. The pilot of the BE58 had not been on the Farnborough frequency and had displayed the VFR conspicuity squawk. The potential confliction had not been reported on the Farnborough Radar frequency.

The pilot of the P68 had free-called the Farnborough LARS North controller's (LF-LARSN) frequency at 1013:07 and requested a Traffic Service. The flight's details and intentions had been passed as an aerial survey task from their present position at 2400ft under VFR. The LF-LARSN [controller] had assigned the squawk 5023 and London QNH of 1004hPa. At 1015:11, the pilot had been informed that they had been identified and given a Traffic Service with reduced Traffic Information due to controller workload. This had been acknowledged by the pilot. The NATS4118 (Initial Watch Management Investigation Report) clarified that the eFPS displayed that the LF-LARSN had identified, validated and verified the P68. The P68 pilot had enacted their survey task predominantly in east/west reciprocal tracks to the north of the London City CTA and south of Stapleford. Note that during this flight the Farnborough controller had changed, however, the controller quoted above had been the same as had been in position during the resultant confliction. The pilot of the BE58 had previously free-called the LF-LARSN frequency at 1013:54, requesting a Basic Service and subsequently transferred to Lydd Approach at 1024:49. The pilot of the BE58 had not contacted Farnborough Radar on their return leg to [destination airfield].

At 1125:36, the LF-LARSN controller had provided Traffic Information to the pilot of the P68 of *"traffic twelve o'clock, two miles opposite direction, indicating two hundred feet below."* The pilot had responded *"traffic not in sight traffic in sight"*.

The radar displayed the Mode C of the BE58 which had then climbed to altitude 2100ft at 1125:51 with 0.7NM lateral distance from the P68. The Mode C of the P68 displayed descent to altitude 2100ft with 0.3NM lateral distance at 1125:59. Radar replay had not indicated any lateral or vertical manoeuvre to avoid. The BE58 displayed a slight left turn and subsequent descent to 2000ft. The pilot of the P68 had not reported the conflict on the frequency.

Investigation

The UK Airprox Board notified NATS of a pilot-reported Airprox on 26th April 2024 at 1045, 3NM southeast of Stapleford between a P68 and an unknown aircraft. Radar review displayed no conflictions around this time, in this location. However, a subsequent confliction was observed at 1126 within the correct location, with an aircraft that matched the P68 pilot's description. Therefore, this was assessed to be the event. The NATS4118 stated that Farnborough LARS North and East had been in a band-boxed configuration with traffic levels described as 'medium traffic declining to light.' The Farnborough LARS North and East task had been undertaken by a controller under training with an OJTI in situ. The P68 pilot had been conducting an aerial survey to the north of the London City Zone, and in receipt of a Traffic Service from Farnborough LARS. The Farnborough controllers had been aware of the P68 routeing from the Operator Airspace Coordination Notice (ACN), and confirmation received that the survey would remain outside controlled airspace and the Stapleford ATZ. The area in which this survey had been operated lay within a portion of Class G airspace where the base of the LTMA above had been 2500ft, and traffic funnelled between the London City and Stansted Zones, with the Stapleford ATZ further reducing the available Class G airspace to navigate. This had resulted in the Farnborough controllers repeatedly providing Traffic Information to the pilot of the P68 on numerous occasions (13) throughout its survey task prior to this confliction. The BE58 pilot had maintained VFR conspicuity Mode A (7000) suggesting they had not been in contact with an ATS provider for their return flight. The London City METAR around the time suggested visibility in the area was 10km or greater, with a cloudbase above the two aircraft.

The pilot of the P68 report stated, 'conducting an aerial survey north of the London City zone, under a Traffic Service from Farnborough Radar Squawk 5023 at 2400ft a sharp left turn had been required to avoid collision with an oncoming aircraft that had not been communicating with Farnborough Radar, or Stapleford (nearest airfield).' Other aircraft had been identified as white and red markings, twin engines, callsign or registration unknown, not on frequency. The pilot of P68 aircraft description correlated with the observed radar confliction with the BE58 described in this report. Traffic Information had been passed to the pilot of the P68 with 2.3NM lateral distance with the pilot initially responding that they had not been visual, then immediately responding they were visual with the traffic.

CAP774 para 3.5 stipulates '*Controllers shall aim to pass information on relevant traffic before the conflicting aircraft is within 5NM, in order to give the pilot sufficient time to meet their collision avoidance responsibilities and to allow for an update in Traffic Information if considered necessary.*' However, it had previously been established and acknowledged by the pilot that a Reduced Traffic Service was being applied.

CAP774 para 1.11 Reduced Traffic Information/deconfliction advice states that '*There may be circumstances that prevent controllers/FISOs from passing timely Traffic Information and/or deconfliction advice, e.g. high workload, areas of high traffic density, unknown aircraft conducting high energy manoeuvres, or when traffic is not displayed to the controller or is obscured by surveillance clutter. Controllers/FISOs shall inform the pilot of reductions in Traffic Information along with the reason and the probable duration; however, it may not always be possible to provide these warnings in a timely fashion.*'

The P68 pilot report stated they had performed an avoidance manoeuvre - 'sharp left turn was required to avoid collision'. This manoeuvre was not apparent on the radar replay. The pilot report had also stated that - 'no warning from Farnborough of traffic conflict'. This also did not correlate with the incident described within this report.

Conclusions

The Farnborough North task had been undertaken by a controller under training with an OJTI in situ. The P68 pilot had been receiving a reduced Traffic Service due to controller workload. As the P68 pilot had enacted their survey task, Farnborough LARS North controllers provided multiple examples of Traffic Information to the pilot whilst outside controlled airspace and provided accurate Traffic Information to the pilot on the unknown aircraft (the BE58), on a reciprocal track, with 200ft vertical separation. The pilot initially responded, "traffic not in sight", followed by a quick change to "traffic in sight".

UKAB Secretariat

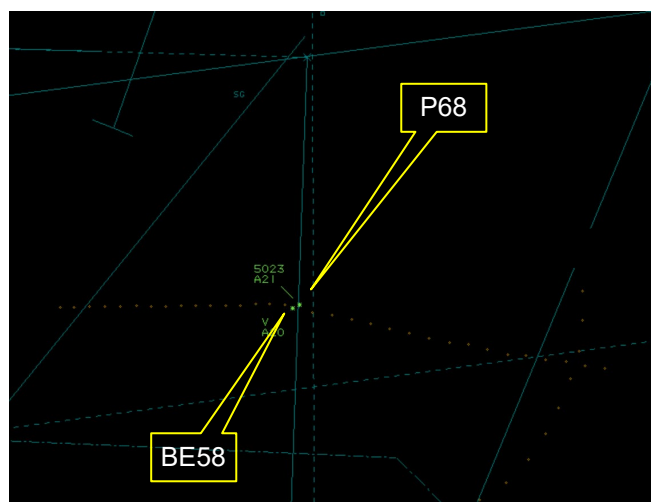


Figure 1: CPA + 1sec – CPA at 1126:05 100ft V/ <0.1 NM

The P68 and BE56 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 head-on or nearly so then both pilots were required to turn to the right.² If the incident geometry is considered as converging then the P68 pilot was required to give way to the BE58.³

Summary

An Airprox was reported when a P68 and a BE58 flew into proximity 3NM south of Stapleford at 1126Z on Friday 26th April 2024. Both pilots were operating under VFR in VMC, the P68 pilot in receipt of a reduced Traffic Service from Farnborough Radar and the BE58 pilot Listening Out on the Farnborough Radar frequency.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the air traffic controllers 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 discussed the actions of the P68 pilot. Members recognised the nature of the task and the need for maintenance of a steady track which would lead to a load share weighted towards a more caveated lookout. They were heartened to note that the pilot had utilised an active Air Traffic Service and electronic conspicuity equipment whilst conducting their flight task and that the Traffic Information provided by the LARS controller had ultimately enabled situational awareness of, and visual contact with, the BE58, albeit later than the ideal (**CF4**, **CF7**). Members highlighted the value of calling an Airprox event on RT at the time it occurred if utilising a service to enable record keeping.

Turning to the actions of the BE58 pilot, members noted that they had chosen not to make use of available Air Traffic Services on the return portion of their trip having done so on the outbound portion. They felt that in this particularly congested and busy airspace area, the use of such support services offered the opportunity for greater situational awareness regardless of weather conditions (**CF3**). The Board agreed that, ultimately, the BE58 pilot had not had any situational awareness of the presence of the P68 (**CF4**) and had not established visual contact (**CF8**) at any stage.

In considering the contribution by the Farnborough LARS controller, members acknowledged the status of a Traffic Service and that its availability is subject to other conditions, noting that in this case the controller had also been acting as an OJTI at the time of the incident and had declared a 'reduced Traffic Service' for the P68 pilot due to workload. The Board acknowledged that the controller had passed Traffic Information on a number of occasions throughout the P68 pilot's task and that they had identified the potential conflict with the BE58, although late (**CF2**), issuing late Traffic Information (**CF1**) which had enabled the pilot to achieve late visual contact (**CF7**) allowing the P68 pilot to take avoiding action.

The Board noted that both aircraft had carried electronic conspicuity equipment and this is a positive action but, whereas that equipment carried by the BE58 could have been expected to detect emissions from the P68, it had not done so (**CF6**) and that carried by the P68 had been incompatible with those electronic emissions from the BE58 (**CF5**).

Finally, the Board discussed the risk. In doing so they considered the reports from the controller and both pilots. They agreed that safety margins had been much reduced below the norm but that the actions of the controller, and of the P68 pilot once they had visually acquired the BE58, had materially increased separation at the last minute and as such, assigned a Risk Category B to this Airprox (**CF9**).

¹ (UK) SERA.3205 Proximity.

² (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.

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

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2024068				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
• Situational Awareness and Action				
1	Human Factors	• ANS Traffic Information Provision	Provision of ANS traffic information	TI not provided, inaccurate, inadequate, or late
2	Human Factors	• Conflict Detection - Detected Late	An event involving the late detection of a conflict between aircraft	
Flight Elements				
• Tactical Planning and Execution				
3	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				
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	Technical	• ACAS/TCAS System Failure	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment
6	Human Factors	• Response to Warning System	An event involving the incorrect response of flight crew following the operation of an aircraft warning system	CWS misinterpreted, not optimally actioned or CWS alert expected but none reported
• See and Avoid				
7	Human Factors	• Identification/ Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
8	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				
9	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 Assessment⁴

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

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **partially effective** because Traffic Information had been passed late to the P68 pilot.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the BE58 pilot could have requested an Air Traffic Service.

⁴ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the BE58 pilot had no situational awareness of the presence of the P68, and the P68 pilot gained only late situational awareness of the presence of the BE58.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the equipment carried by the P68 had not been able to detect the electronic emissions from the BE58, and the equipment carried by the BE58 should have detected the emissions from the P68 but no alert was reported by the BE58 pilot.

See and Avoid were assessed as **partially effective** because the P68 pilot had gained only a late sighting of the BE58 whilst the BE58 pilot had not gained visual contact with the P68.

Airprox Barrier Assessment: 2024068		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 Conflication & 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:		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>		
Provision	✓	!	✗	○				
Application	✓	!	✗	○				
Effectiveness								