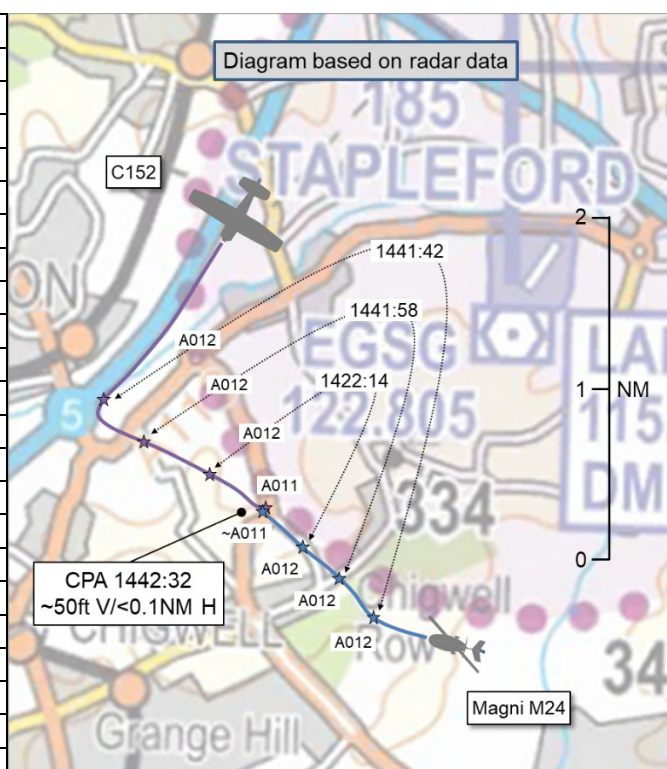


## AIRPROX REPORT No 2023072

Date: 13 May 2023 Time: 1443Z Position: 5138N 00007E Location: 2NM SW Stapleford

### PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Magni M24	C152
Operator	Civ Helo	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	AGCS
Provider	Farnborough LARS	Stapleford Radio
Altitude/FL	~1150ft	1100ft
Transponder	A, C, S	A, C, S
<b>Reported</b>		
Colours	Red	White, magenta
Lighting	Strobe, landing	Beacon, landing
Conditions	VMC	VMC
Visibility	<5km	>10km
Altitude/FL	900ft	1000ft
Altimeter	QNH (1026hPa)	QNH (NK hPa)
Heading	300°	100°
Speed	70kt	65kt
ACAS/TAS	Not fitted	Not fitted
<b>Separation at CPA</b>		
Reported	200ft V/500m H	50ft V/50m H
Recorded	~50ft V/<0.1NM H	



**THE MAGNI M24 PILOT** reports that they had originally intended to transit Heathrow CTA and continue to the south of Luton but, due to low cloud en-route, they chose to route south of London CTA and cross the Thames at the QE2 [bridge] with the intention of transiting Stansted CTA. Due to low cloud, they re-routed to the southeast of Stapleford, remaining outside controlled airspace. Whilst skirting Stapleford CTZ [sic], they were head-on to an aircraft on the opposite track. They initiated a descent and turn to the left due to the proximity of Stapleford CTZ [sic]. The other aircraft took avoiding action shortly afterwards. [The Magni M24 pilot] immediately called Farnborough LARS who made them aware of two further aircraft that, by then, they had sighted.

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

**THE C152 PILOT** reports that they were conducting circuit training with a competent student. The runway was 03L with a left-hand circuit. The aircraft was established on base-leg in a 65kt descent with 2 stages of flap, in trim and on the correct descent profile for the runway. They were passing 1000ft on the QNH when their student then pointed out the other aircraft (it had been blocked from their vision due to the panelling on the right side of the cockpit). They then saw it and immediately took control, applying full throttle and making a steep left-hand turn to avoid. The other aircraft passed just below them to their right-hand side. This was seen by another Stapleford instructor just about to turn onto base-leg, who let the Air/Ground operator know that there was an aircraft flying the opposite way on base-leg and not in radio contact. [The C152 pilot] noted the aircraft's colour and registration. They landed on this circuit without any issues and, once on the ground, they went on to ADS-B exchange and confirmed the aircraft's details ready to file the Airprox.

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

**THE FARNBOROUGH CONTROLLER** reports that they had been working Farnborough LARS North and East banded. Traffic levels were medium and, at times, complex due the deteriorating weather in both sectors, resulting in requests for Traffic Services. They recall working [the pilot of the Magni

M24] as the aircraft was slow-moving and on frequency for some time. The aircraft was identified, validated and verified, and [the pilot was in receipt of] a Basic Service. The pilot called on frequency to advise they had taken an avoidance manoeuvre against unknown traffic. [The pilot of the Magni M24] was flying in close proximity to the Stapleford ATZ and, on receiving this information, [the Farnborough LARS controller] called Traffic Information on what they could see within the Stapleford ATZ. [The pilot of the Magni M24] continued to their destination and held for a period of time due to the deteriorating weather before leaving the frequency.

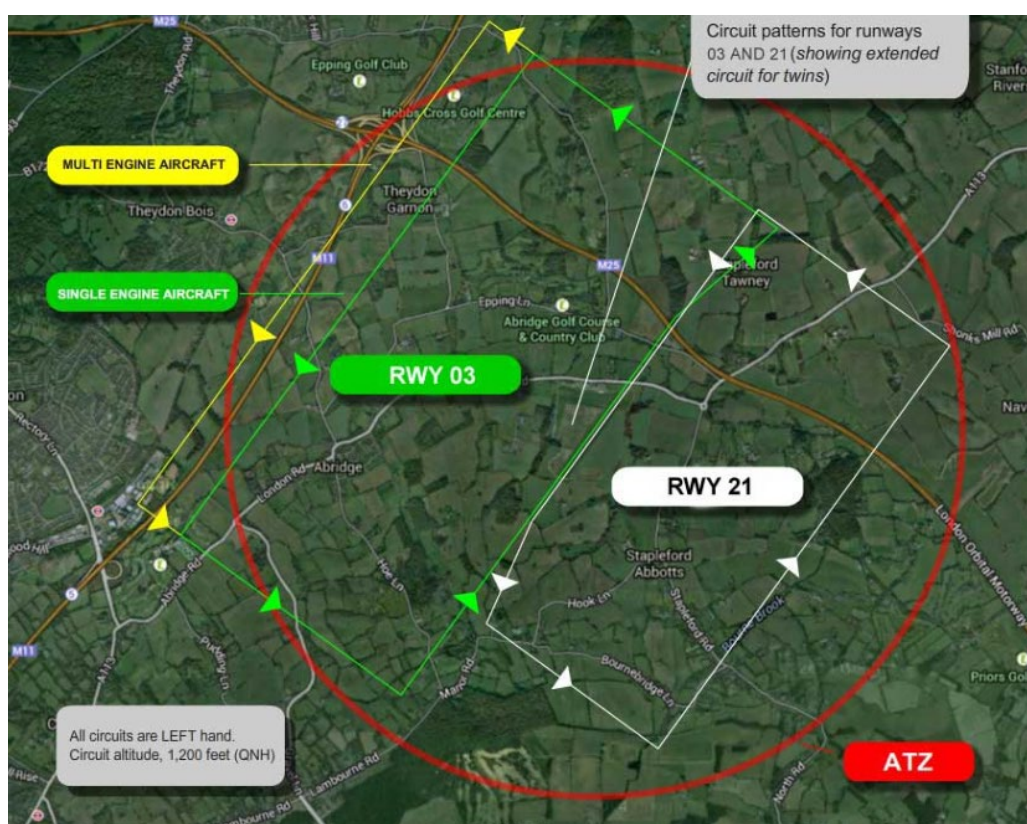
The events described have not been checked for accuracy against the appropriate RTF recording.

## Factual Background

The weather at London City was recorded as follows:

METAR EGLC 131450Z AUTO 36005KT 290V090 9999 OVC015 13/09 Q1026

The website for Stapleford Airfield provides the following circuit diagram:



## Analysis and Investigation

### CAA ATSI

The aircraft operating in the circuit at Stapleford were frequently extending outside the ATZ and, therefore, losing some of its 'protection'. According to the position plotted from the area radar replay, and as illustrated in the Farnborough Unit investigation report, the pilot of the Magni M24 chose to fly very close to the southern edge of the ATZ.

Whilst there is no requirement for the Farnborough controller to continuously monitor an aircraft receiving a Basic Service, ATSI considered it unusual that the Farnborough controller would not have been aware of the busy circuit at Stapleford, that they did not consider passing generic Traffic Information on that activity to the pilot of the Magni M24 which would have been within the bounds of the Basic Service being provided. However, the controller's report was not filed until nearly two

weeks after the occurrence, and neither it, nor the Farnborough investigation report, mentioned if the controller was aware of the circuit activity at Stapleford. The Unit investigation report also does not reference this lack of generic Traffic Information.

Timely reporting and investigation by Farnborough would have been hindered by a lack of formal reporting by the pilot of the Magni M24 on the frequency at the time, referring only to having to take avoiding action. They did not mention an Airprox. The Unit was made aware of the occurrence two days later, at which point the controller involved had gone on leave.

### UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft could be positively identified from Mode S data. It was determined that CPA had occurred between the radar sweeps at 1442:30 and 1442:34 (see Figures 1 and 2). The Magni M24 was observed to have been at 1200ft before CPA and at 1100ft afterwards. Therefore, the altitude separation at CPA has been recorded as an approximation.

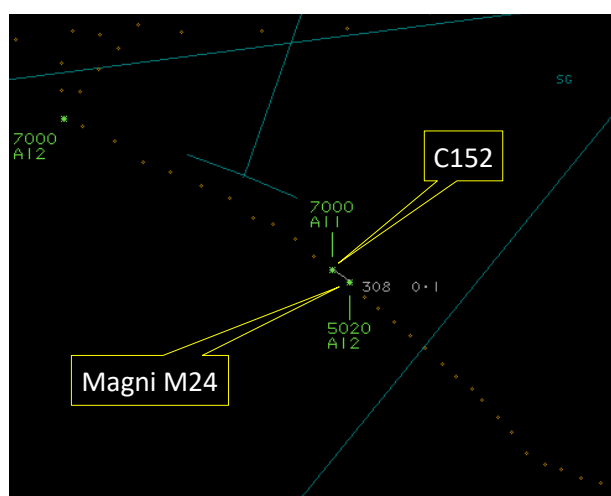


Figure 1 – 1442:30

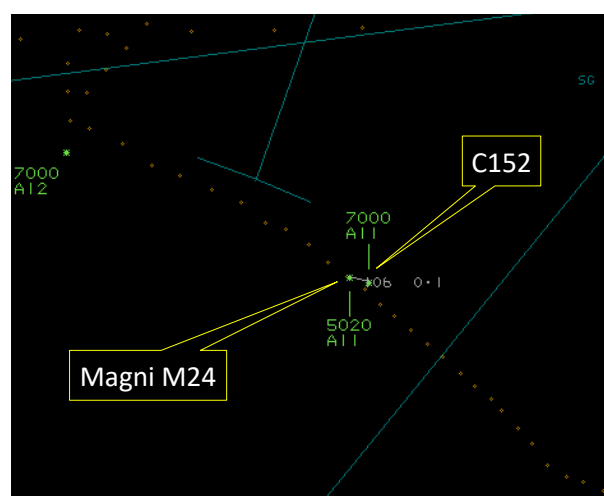


Figure 2 – 1442:34

The Magni M24 and C152 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.<sup>1</sup> If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.<sup>2</sup> 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.<sup>3</sup>

### Summary

An Airprox was reported when a Magni M24 and a C152 flew into proximity 2NM southwest of Stapleford at 1443Z on Saturday 13th May 2023. Both pilots were operating under VFR in VMC, the Magni M24 pilot in receipt of a Basic Service from Farnborough LARS and the C152 pilot in receipt of an AGCS from Stapleford Radio.

### **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 reports from the appropriate operating authorities. 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.

<sup>1</sup> (UK) SERA.3205 Proximity.

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

<sup>3</sup> (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.

The Board first considered the actions of the pilot of the Magni M24, and noted that there had been an alteration to their intended route due to weather constraints. Members acknowledged that negotiation of the Class G airspace to the north of London had required very careful consideration. It was noted that the pilot of the Magni M24 had flown very close to the edge of the Stapleford ATZ, and members pondered their choice of routing and selection of Air Traffic Service. Members were in agreement that to have elected for a Basic Service from the Farnborough LARS controller had not provided the most suitable level of service (**CF2**), and a call to the Stapleford Air/Ground Radio operator may have elicited more pertinent information on traffic that might have affected their flight. A member with experience of having operated in that area, commented that the Farnborough LARS controller may have passed useful Traffic Information if their capacity and traffic-levels had allowed, but that this should not have been expected under the terms of a Basic Service.

Turning their attention to the diagram provided on the Stapleford website, members noted that the circuit pattern is depicted as extending beyond the ATZ boundary. It was suggested that the pilot of the Magni M24 had not been aware that this had been the accepted positioning of traffic operating in the circuit at Stapleford, and surmised that they had not expected to have encountered circuit traffic at that location. Notwithstanding, members were keen to emphasise that a thorough scan and effective lookout had been of paramount importance in such a busy area. Members agreed that the pilot of the Magni M24 had not had situational awareness of the presence of the C152 until it had been visually acquired (**CF4**). It was further agreed that the pilot of the Magni M24 had, essentially, not avoided the pattern of traffic in the circuit (**CF3**), although members appreciated that that had been somewhat inadvertent. It was noted that, once the C152 had been visually acquired, albeit late (**CF5**), avoiding action had been taken which had increased the separation between the aircraft.

Members next considered the actions of the pilot of the C152. It was agreed that the circuit pattern flown had been the accepted (and expected) pattern, and had been in accordance with the circuit diagram to which members had previously referred. Nevertheless, it was noted that, whilst within the ATZ there had been a degree of protection, it should have been assumed that, upon leaving the ATZ, they may have encountered unknown traffic. This, members agreed, had been precisely the case in this instance and, as such, had most assuredly illustrated the importance of maintaining a very effective lookout. Members noted that the instructor in the C152 had initially had an obscured view of the Magni M24 (**CF6**) and that their student had visually acquired it first. Members commended the 'good spot' by the student, particularly as they had not had prior situational awareness of the presence of the traffic (**CF4**). Nevertheless, noting that immediate and decisive avoiding action had been required, members were in agreement that the Magni M24 had been visually acquired late (**CF5**).

Members noted that neither aircraft had been fitted with any additional electronic conspicuity equipment, which on this occasion may have provided some additional information to aid visual acquisition. It was for pilots to decide on their own requirements for additional equipment according to their needs and the Board wished to highlight to 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 2024.<sup>4</sup>

Members next considered the actions of the Farnborough LARS controller. It was agreed that there had not been a requirement for them to have monitored the flight of the Magni M24 under the terms of the Basic Service that had been agreed (**CF1**).

In summary of their discussions, members were in agreement that neither the Magni M24 nor C152 pilots had had situational awareness of the presence of each other, and that both pilots had sighted the other aircraft late. Although the last-minute avoiding action had improved matters, the separation between the aircraft had been such that the risk of collision had not been completely averted (**CF7**). Consequently, the Board assigned Risk Category B to this event.

---

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

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

2023072				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
<b>Ground Elements</b>				
<b>• Situational Awareness and Action</b>				
1	Contextual	• ANS Flight Information Provision	Provision of ANS flight information	The ATCO/FISO was not required to monitor the flight under a Basic Service
<b>Flight Elements</b>				
<b>• Tactical Planning and Execution</b>				
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
3	Human Factors	• Monitoring of Environment	Events involving flight crew not to appropriately monitoring the environment	Did not avoid/conform with the pattern of traffic already formed
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>				
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
<b>• See and Avoid</b>				
5	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
6	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other
<b>• Outcome Events</b>				
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 Assessment<sup>5</sup>**

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 **not used** because the Farnborough LARS controller had not been required to have monitored the flight under the terms of a Basic Service.

**Flight Elements:**

**Tactical Planning and Execution** was assessed as **partially effective** because the pilot of the Magni M24 had not avoided the pattern of traffic formed in the circuit at Stapleford.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **ineffective** because neither pilot had situational awareness of the other before they had been visually acquired.

**See and Avoid** were assessed as **partially effective** because both pilots had visually acquired the other aircraft late.

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

**Airprox Barrier Assessment: 2023072** 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 Conflicition & 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	!	!					
<b>Key:</b>		Full	Partial	None	Not Present/Not Assessable	Not Used		
Provision	✓	!	✗	●				
Application	✓	!	✗	●	○			
Effectiveness								