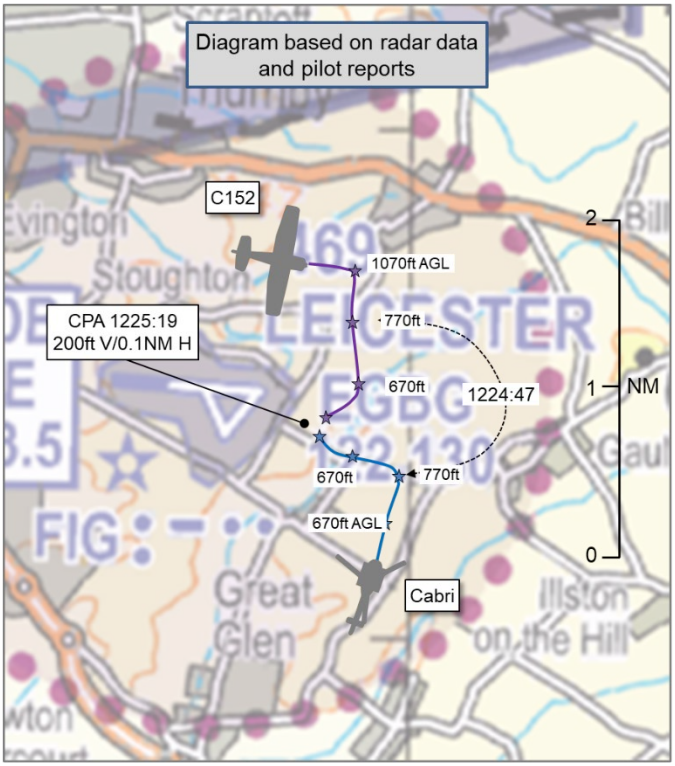
AIRPROX REPORT No 2024002

Date: 06 Jan 2024 Time: 1225Z Position: 5236N 00100W Location: Leicester ATZ

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Cabri	C152
Operator	Civ Helo	Civ FW
Airspace	Leicester ATZ	Leicester ATZ
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Leicester Radio	Leicester Radio
Altitude/FL	570ft AGL	370ft AGL
Transponder	A, C, S	A, C, S
Reported		
Colours	Silver	White and blue
Lighting	Landing	Beacon, strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	700ft	NK
Altimeter	QFE	QFE
Heading	100°	NK
Speed	80kt	NK
ACAS/TAS	PilotAware	Not fitted
Alert	None	N/A
Separation at CPA		
Reported	0ft V/50m -100m H	NR V/NR H
Recorded	200ft V/0.1NM H	



THE CABRI PILOT reports that they had been performing circuits and hovering practice on RW28LH at Leicester airfield. They had turned onto the downwind at 700ft QFE. The cloudbase had been at approximately 850ft. After performing downwind checks, the pilot looked up and had been visual with a C152 at the same level, bearing 360°, flying an initial on an approximate heading of 280°. The Cabri pilot made an avoiding turn to the right and made a successful landing without incident. A radio call was made asking the radio station to suggest fixed-wing approaches are not made via the rotary circuit with a low cloudbase.

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

THE C152 PILOT reports that they had been conducting an IR(R) revalidation flight between 1130 and 1230 on the 6th of January. During the flight they have no recollection of an Airprox or of any mention of an Airprox via the RT. The C152 pilot had spoken to the candidate who also has no recollection. They add that they are sorry they cannot give any more information.

THE LEICESTER AGO reports that they do not recall anything happening between [the Cabri] and the [C152] on Saturday 6th January.

Factual Background

The weather at East Midlands was recorded as follows:

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METAR EGNX 061220Z 33004KT 300V010 9999 FEW025 06/03 Q1018=
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Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both the Cabri and C152 were tracked using secondary radar. Figure 1 shows the respective tracks to, and position at, CPA. Altitudes shown in the diagram at Page 1 are adjusted for QNH and airfield elevation to produce aircraft heights AGL.

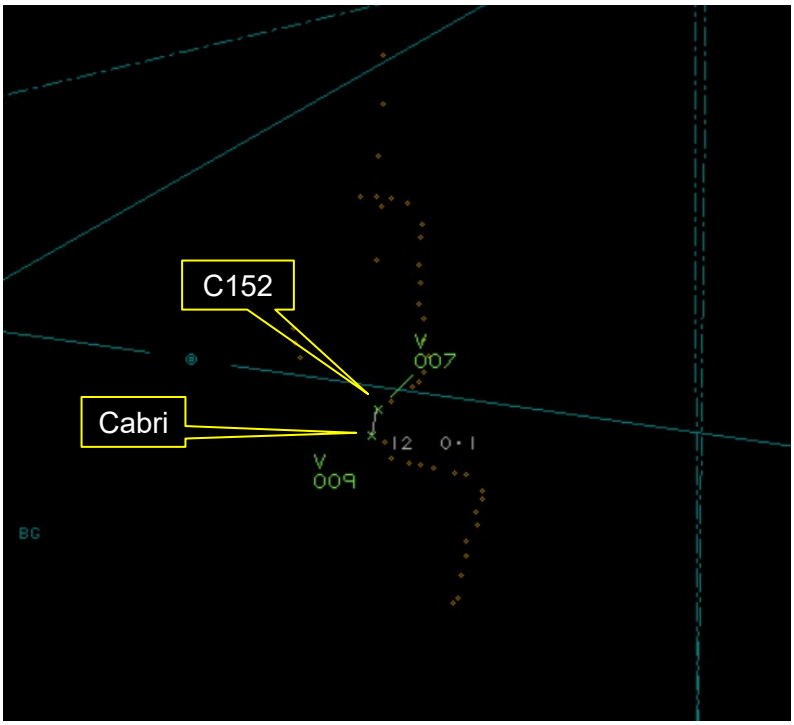

Figure 1: CPA 1225:19 200ft V/0.1NM H

Figure 2 shows the respective tracks of the Cabri and C152 to CPA +32sec. The Cabri pilot maintained a steady track and ROD to the southern side of the runway centreline whilst the C152 was seen to pass momentarily through the centreline to the deadside at and below 370ft before correcting to the centreline and the live side.

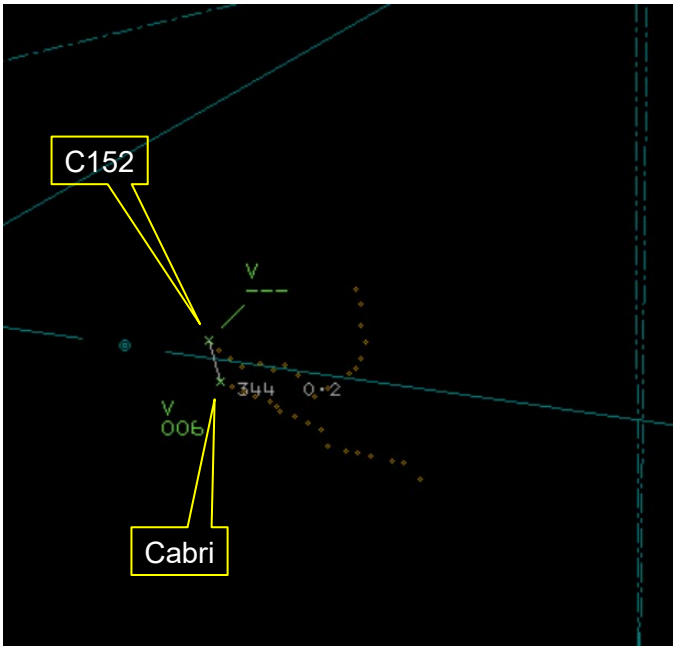

Figure 2: CPA +32sec - 1225:51

Below is the relevant extract from the UK AIP entry for Leicester:

CIRCUITS

a. Fixed wing circuits left hand on Runways 10, 33, 22, 34 and 24. Fixed wing circuits right hand on Runways 28, 15, 04, 16 and 06.
b. The standard overhead join is preferred for fixed wing.
c. Fixed wing circuits will be at 1000 FT QFE.
d. Helicopter circuits are to the left on runways 28, 15, 04, 16 and 06. Helicopter Circuits are to the right on runways 10, 33, 22, 34 and 24.
e. Helicopter circuits will be at 700 ft QFE.
f. The standard fix wing join is overhead. Aircraft should not descend below 1200 FT QFE on the deadside due to the helicopter circuit below at 700 FT QFE. Helicopters will join their circuit downwind.

Figure 3 (below) is the UK AIP entry Aerodrome chart with the Helicopter landing area highlighted.

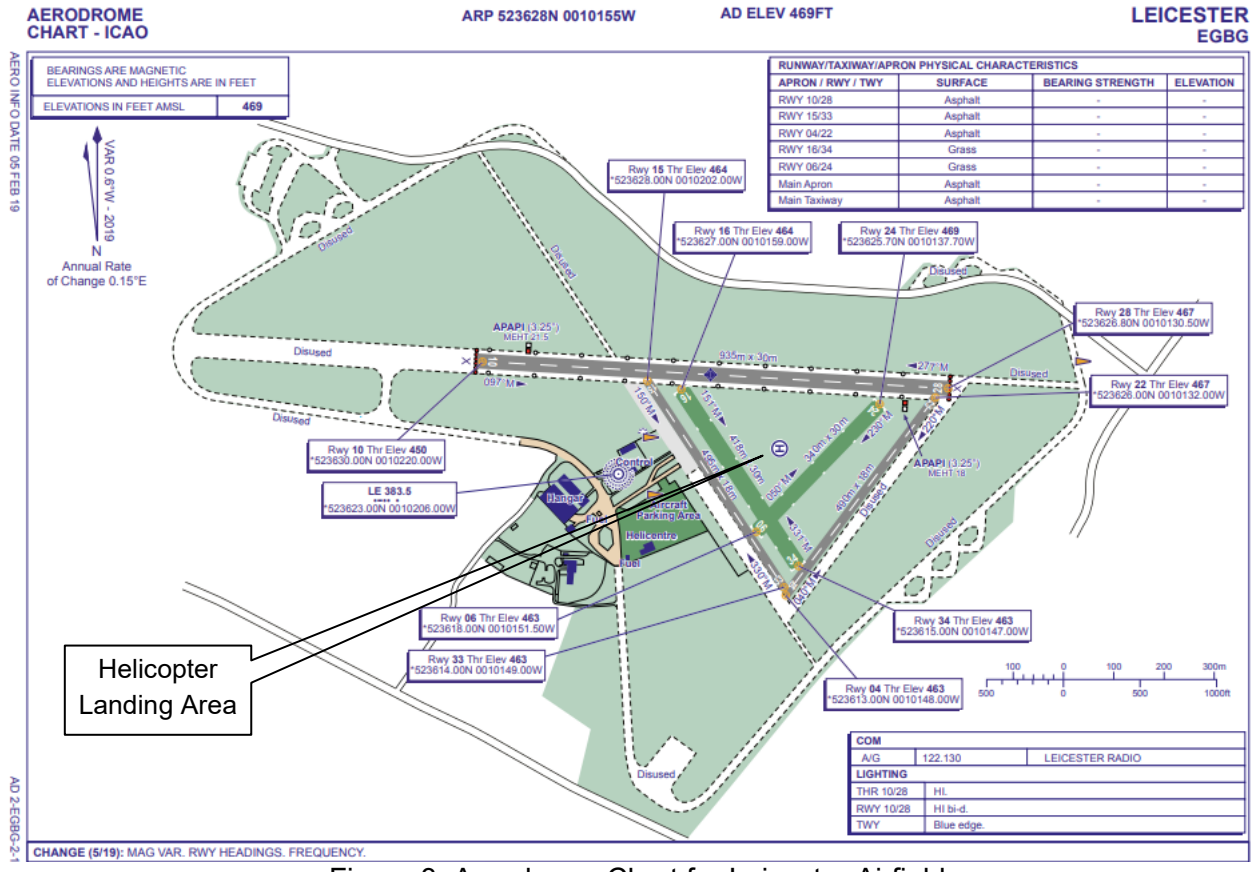

Figure 3: Aerodrome Chart for Leicester Airfield

The Cabri 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.[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]

[1] (UK) SERA.3205 Proximity.
[2] (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome..

Summary

An Airprox was reported when a Cabri and a C152 flew into proximity at Leicester Airfield at 1225Z on Saturday 6th January 2024. Both pilots were operating under VFR in VMC, and both pilots were in receipt of an AGCS from Leicester Radio.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, 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.

Members firstly considered the actions of the Cabri pilot. They acknowledged the pilot's observations regarding weather at the airfield and their concern on seeing the C152 in close proximity to their right-hand side (**CF7**) as they had made their approach to land. Fortunately, the Cabri pilot had performed a late avoidance manoeuvre to increase separation before then landing at their chosen site. Members noted that that the Cabri had carried electronic conspicuity equipment but had unfortunately received no signals from the C152 (**CF5**) which had diminished their situational awareness on this occasion (**CF4**). The Board agreed that there had been little more that the Cabri pilot could have done in this instance.

In discussing the actions of the C152 pilot, the Board noted the nature of the flight and the weather conditions at the time. Members discussed the logic behind the pilot's efforts to continue with an Instrument rating within a visual circuit where the conditions could have been deemed marginal, but accepted that they had been operating under VFR and had not been specifically aware of any other traffic to affect. Members noted the C152 pilot's final approach turn and that they appeared to have drifted through the centreline (**CF2**) before correcting, but opined that this had been unintentional (**CF3**).They accepted that the C152 pilot had later confirmed that they had recalled having heard no RT regarding the Cabri and that, as they had not had any electronic conspicuity equipment fitted (**CF5**), they had only had generic situational awareness at the time (**CF4**) and had effectively had no sight of the Cabri during the event (**CF6**).

In response to the Cabri pilot's observation regarding fixed-wing approaches in poor weather, members reviewed the UK AIP entry for circuit flying at Leicester and noted dissimilar language regarding fixed-wing joins, which may have led to unexpected decision-making by the C152 pilot. Members noted that the C152 pilot had flown through the centreline of the fixed-wing approach and had encroached on the rotary-wing visual circuit pattern. They opined that the current rules allowed for simultaneous left- and right-hand patterns of rotary- and fixed-wing traffic that brought those two circuits into proximity at the point of final approach, and that it is perhaps timely to perform a review of the final approach track for rotary-wing aircraft to perhaps generate greater spacing at that point (**CF1**).

In considering the role of the Leicester AGO, members recognised the limitations of an AGCS, but felt that more could have been done to alert the C152 pilot to the presence of the Cabri in the left-hand circuit pattern. As a non-surveillance-based service, situational awareness development for both the AGO and the pilots had been limited to the frequency and accuracy of radio calls. Unfortunately, the lack of post-event reporting from the AGO and the C152 pilot had made a thorough understanding of the event more difficult to establish. The Board wished to highlight to all pilots that, at aerodromes providing an AGCS only, the generation of situational awareness for all concerned is heavily reliant on accurate and regular position calls from the pilots and that an Airprox should be called on the frequency in use at the time to facilitate high quality reporting and aid the identification of lessons for all.

When determining the risk, members considered the reports from both pilots together with the report from the AGO involved and radar photographs/video recordings. They acknowledged that the Cabri pilot had attained visual contact as the C152 had been turning onto the final leg of the pattern, but had become concerned by its proximity as it had drifted through the approach centreline into the circuit pattern for rotary traffic. They agreed that safety margins had been much reduced below the norm

through the effective non-sighting by the C152 pilot and that the Cabri pilot had performed late avoiding action which had materially increased separation at the last moment. As such, the Board assigned a Risk Category B to this Airprox (**CF8**).

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2024002			
Factor	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
Ground Elements			
• Regulations, Processes, Procedures and Compliance			
Organisational	• Aeronautical Information Services	An event involving the provision of Aeronautical Information	The Ground entity's regulations or procedures were inadequate
Flight Elements			
• Tactical Planning and Execution			
Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
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
• Situational Awareness of the Conflicting Aircraft and Action			
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			
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
• See and Avoid			
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
Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft
• Outcome Events			
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.

Recommendation: Leicester Aerodrome Operator reviews circuit procedures with a view to introducing greater lateral separation between fixed-wing and rotary-wing traffic on final approach.

Safety Barrier Assessment[3]

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

Ground Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the published Leicester circuit procedures allowed the C152 and the Cabri to come into close proximity in the final stages of the approach.

[3] 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 Confliction and Action were assessed as **not used** because the Leicester AGO is not required to sequence traffic in the circuit.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the C152 pilot, by flying through the runway centreline, did not conform with the pattern of traffic already formed in the circuit.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because both the Cabri and the C152 pilots had only generic situational awareness of the other aircraft.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the equipment carried by the Cabri was incompatible with that used by the C152.