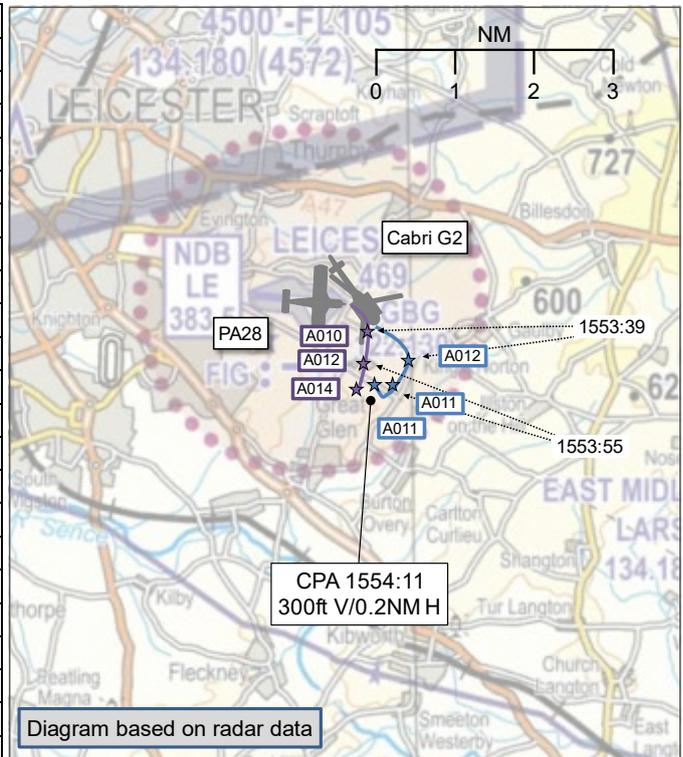


AIRPROX REPORT No 2022277

Date: 18 Oct 2022 Time: 1554Z Position: 5235N 00100W Location: Leicester

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Cabri G2	PA28
Operator	Civ Helo	Civ FW
Airspace	Leicester ATZ	Leicester ATZ
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Leicester	Leicester
Altitude/FL	1100ft	1400ft
Transponder	A, C, S+	A, C, S
Reported		
Colours	NR	White, Blue, Red
Lighting	NR	Nav, Beacon
Conditions	VMC	VMC
Visibility	NR	>10km
Altitude/FL	NR	'in the climb'
Altimeter	NK	QNH
Heading	NR	010° 'then south'
Speed	NR	80kt
ACAS/TAS	Unknown	Not fitted
Alert	Unknown	N/A
Separation at CPA		
Reported	NR	NK
Recorded	300ft V/0.2NM H	



THE CABRI G2 PILOT reports that they were turning downwind after taking off from RW10R when they observed a fixed-wing aircraft crossing the downwind leg in the climb. The pilot took avoiding action and made a radio call to notify [the AGO] but was given the QFE in response.

THE PA28 PILOT reports that they were flying with two other pilots and were on a 3-way trip to Leicester. They started up at Leicester at 1545, did the power checks on RW15/33 before entering RW10, backtracking and taking off at 1553. They climbed straight ahead, turning right to take up track back to [destination]. They could not recall (nor could their fellow pilots) whether there were any other aircraft in the circuit and they certainly did not recall coming close to another aircraft on climb-out/circuit. They were in contact with Leicester Radio and had noted QNH, taxi instructions and any local traffic and taken these into account. The weather was good VFR and they were in no hurry to get back to [destination].

The pilot assessed the risk of collision as 'None'.

THE LEICESTER AGO declined the opportunity to submit a report.

Factual Background

The weather at East Midlands was recorded as follows:

METAR EGNX 181550Z 08007KT CAVOK 14/07 Q1028=

The UK AIP entry for Leicester states:

EGBG AD 2.22 FLIGHT PROCEDURES

1 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.

Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken, both aircraft displayed on the radar replay in SSR only, probably due to being below the primary radar coverage, and both could be identified using Mode S information. The PA28 first appeared on the radar at 1553:28, indicating 800ft (radar QNH 1027hPa).

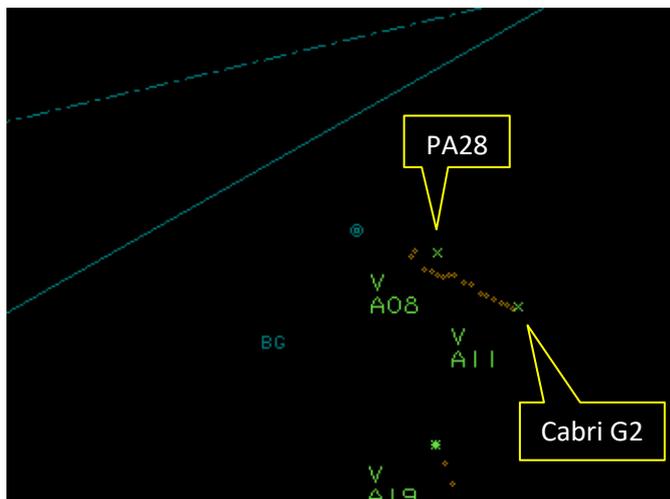


Figure 1 - 1553:28

The PA28 turned onto a southerly heading and at 1554:03 both aircraft were indicating the same altitude at 0.4NM apart, Figure 2.

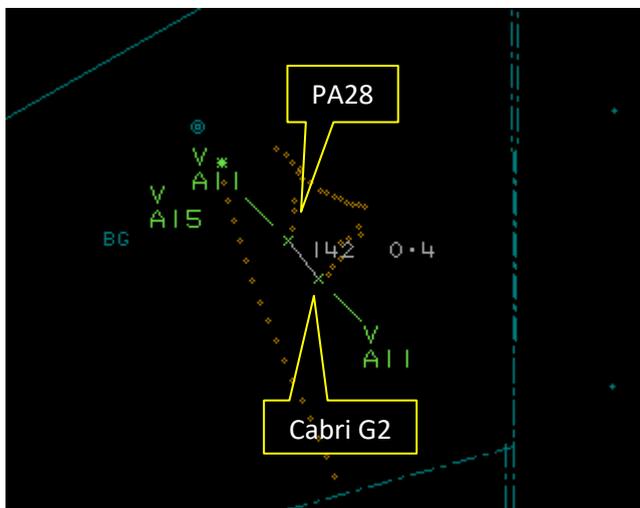


Figure 2 - 1554:03

The radar return for the Cabri was subject to some radar jitter, but the radar appeared to show the Cabri pilot taking avoiding action and CPA was assessed to have occurred at 1554:11, Figure 3.

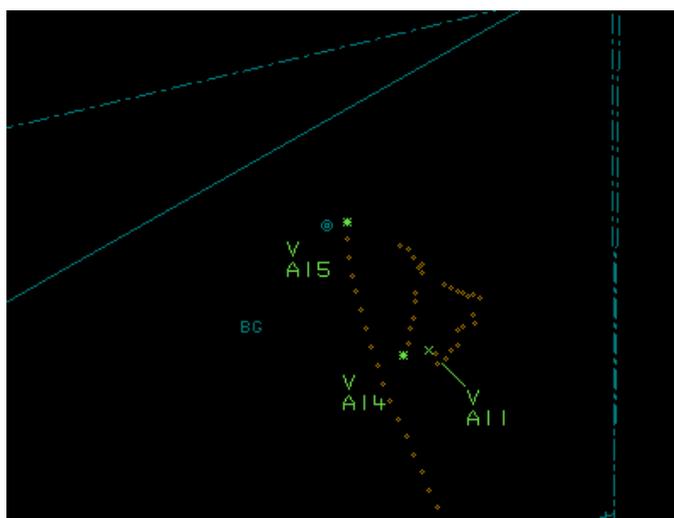


Figure 3 - CPA 1554:11

The Cabri G2 and PA28 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

Summary

An Airprox was reported when a Cabri G2 and a PA28 flew into proximity at Leicester at 1554Z on Tuesday 18th October 2022. Both pilots were operating under VFR in VMC, both pilots reported that they were in receipt of an AGCS from Leicester.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots and radar photographs/video recordings. 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 looked at the actions of the Cabri G2 pilot. They were a little disappointed that the pilot had not submitted a UKAB report form, because without it there was a level of detail missing, such as whether the aircraft had been fitted with a CWS and the pilot's assessment of the separation. Moving on to the incident, members noted that the Cabri pilot had been operating in the Leicester circuit and as such would have had generic information that the PA28 had been departing the fixed-wing circuit via RT calls, but would not have expected it to climb through the rotary circuit (**CF4**). The Board also noted that, once visual with the PA28, the Cabri pilot reported that they had taken avoiding action to remain clear (**CF7**).

Turning to the actions of the PA28 pilot, members noted that they had been visiting Leicester and therefore had probably not been familiar with Leicester's procedures. Nevertheless, both the UK AIP entry for Leicester and the Leicester flight guide on their website clearly state that all runways have fixed-wing and rotary circuits in opposite directions, and that fixed-wing aircraft are not to fly through the deadside below 1200ft in order to remain clear of the rotary circuit. Members thought that on departure the PA28 pilot should have maintained runway heading until above 1200ft, or outside the ATZ, before turning on track. In turning early, the PA28 pilot had not conformed to the pattern of traffic formed by the Cabri and had flown through the downwind track of the rotary circuit, and into the path of

¹ (UK) SERA.3205 Proximity.

² (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.

the Cabri (**CF1, CF2, CF3**). Noting that the PA28 pilot should also have had generic information that the Cabri had been operating in the rotary circuit from the RT (**CF4**), they had presumably not assimilated that this traffic would affect them on departure (**CF5**). The PA28 pilot reported that they had not seen the rotary traffic at all and had therefore not taken any avoiding action (**CF6**).

The Board then briefly turned to the role of the Leicester AGO, noting that the AGO had not been required, nor did they have the authority, to sequence the aircraft in the visual circuit, members thought that there had been little the AGO could have done to prevent the Airprox, other than to have possibly provided Traffic Information to the PA28 pilot. Without a report from the AGO it was not known whether this had been provided or not and the Board was disappointed that Leicester had not taken part in the Airprox process.

When assessing the risk of the Airprox, members considered the pilots' reports together with the radar screenshots, they lamented the lack of detail available to them due to the poor response to requests for reports, together with the poor radar performance, which made assessing the risk of the incident problematic. The radar jitter meant that it was difficult to assess the lateral separation between the two aircraft, however the radar indicated a 300ft height separation, which together with the Cabri pilot's report that they had taken avoiding action, led the Board to assess that there had been no risk of collision. That being said, because the PA28 pilot had turned across the downwind leg of the rotary circuit below 1200ft and had not seen the Cabri, members assessed that safety had been degraded; Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2022277			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Flight Elements				
• Regulations, Processes, Procedures and Compliance				
1	Human Factors	• Use of policy/Procedures	Events involving the use of the relevant policy or procedures by flight crew	Regulations and/or procedures not complied with
• Tactical Planning and Execution				
2	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
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
• 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
5	Human Factors	• Understanding/Comprehension	Events involving flight crew that did not understand or comprehend a situation or instruction	Pilot did not assimilate conflict information
• 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
7	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

Degree of Risk:

C.

Safety Barrier Assessment³

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

Ground Elements:

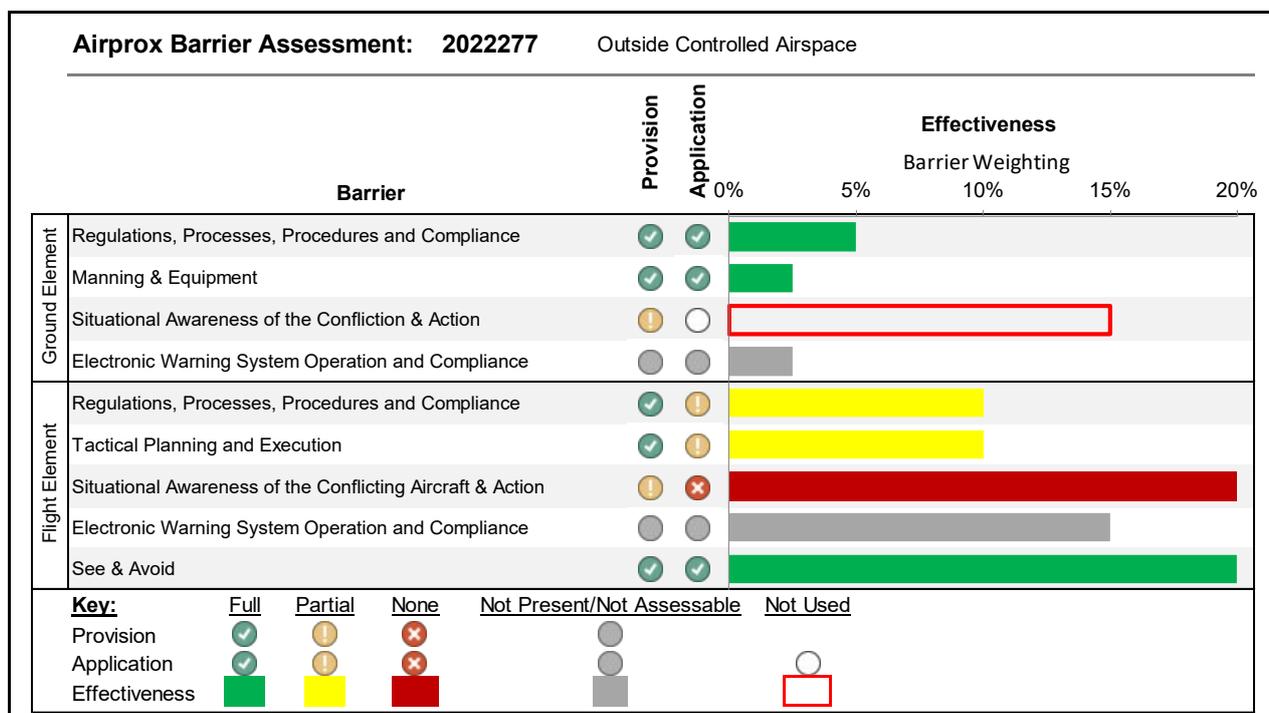
Situational Awareness of the Confliction and Action were assessed as **not used** because the AGO at Leicester had not been required to sequence the aircraft.

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the PA28 pilot had flown in front of the Cabri G2 on the downwind leg of the rotary-wing circuit.

Tactical Planning and Execution was assessed as **ineffective** because the PA28 pilot had not conformed to the pattern of traffic formed by the Cabri G2.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the PA28 pilot had not assimilated the position of the Cabri G2.



³ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).