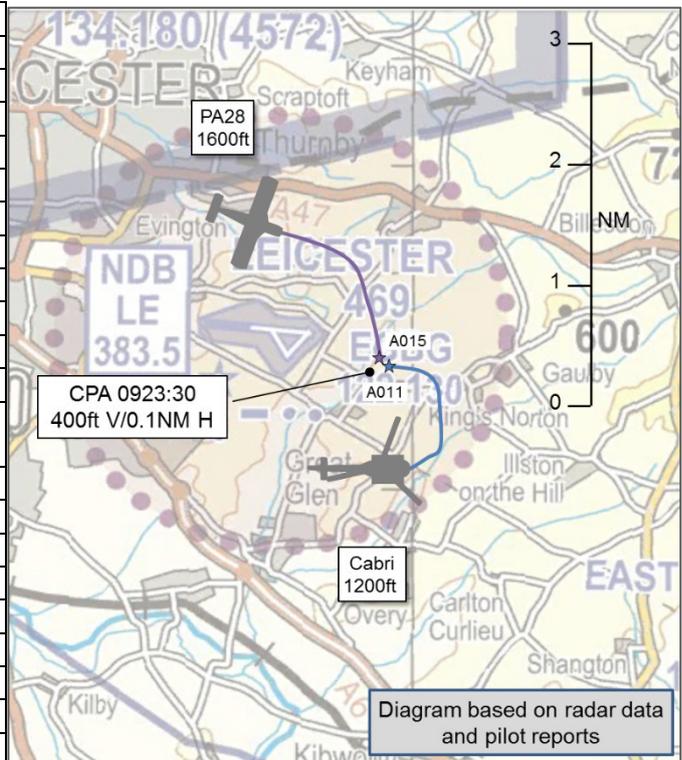


**AIRPROX REPORT No 2020077**

Date: 24 Jul 2020 Time: 0923Z Position: 5236N 00100W Location: Leicester

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	Cabri	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	1500ft
Transponder	A, C, S	A, C, S
<b>Reported</b>		
Colours	Grey, Yellow	White
Lighting	Landing, Strobe	Landing, Nav, Strobe
Conditions	VMC	VMC
Visibility	>10km	3NM
Altitude/FL	700ft	1500ft
Altimeter	QFE (994hPa)	QNH (1011hPa)
Heading	280°	160°
Speed	70kt	100kt
ACAS/TAS	Not fitted	Not fitted
<b>Separation</b>		
Reported	100ft V/200m H	Not Seen
Recorded	400ft V/0.1NM H	



**THE CABRI PILOT** reports that Leicester airport has a pair parallel runways; RW28 Grass and RW28 Hard. The fixed wing circuit is 28RH at 1000ft and the rotary circuit is 28LH at 700ft. Leicester has a procedure that fixed wing traffic should not cross the deadside (helicopter live side) at less than 1200ft on the QFE to avoid conflict with rotary traffic. While on final approach to RW28 Grass at 700ft straight and level and preparing for an autorotation, a PA28 appeared in their 1 o'clock at 300m range approximately 100ft above them. The PA28 crossed in front, passing from right to left. It was believed that the PA28 was departing the circuit to the south via the base leg of the 28RH circuit, which would oppose any rotary traffic flying on the base leg of 28LH. Furthermore, the PA28 pilot failed to notify the Air Ground Operator (AGO) of their intentions to perform the non-standard departure and the weather conditions (FEW at 800ft) created an environment where a correct mental or visual aerial picture could not be established or maintained. The Cabri pilot thought that the PA28 pilot did not have visual contact with the helicopter during the encounter. It was later established through a phone call to the PA28 operating company that the PA28 was piloted by a solo student pilot who had encountered worse conditions than forecast en-route to Leicester and reported having to manoeuvre through the helicopter circuit to stay VMC.

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

**THE PA28 PILOT** reports that they were departing RW28 on a cross country qualifying flight, they made sure they were past Stoughton to follow noise abatement procedures, and turned downwind. Once past the threshold of RW28 they turned towards Market Harborough and continued a gentle climb ensuring they were avoiding cloud which was actually lower and denser than forecast. Figure 1 is a screenshot from the pilot's SkyDemon.

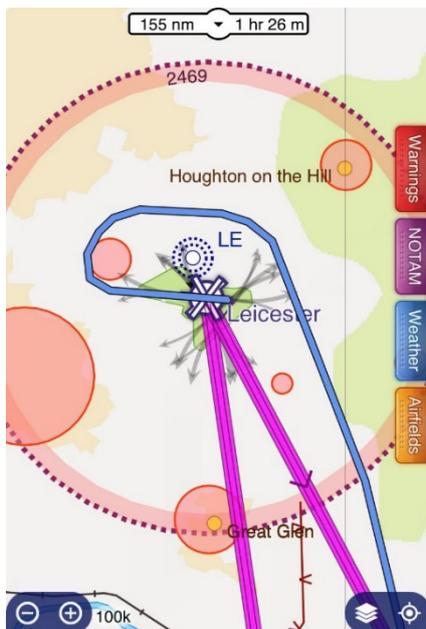


Figure 1

The pilot did not assess the risk of collision.

**THE LEICESTER AGO** reports that they recalled the helicopter taking off and gave the wind speed and direction. They were not aware of the incident until they received a phone call from the pilot of the Cabri reporting that the PA28 had flown dangerously close to the helicopter.

**Factual Background**

The weather at East Midlands was recorded as follows:

METAR EGNX 240920Z 19004KT 170V230 9000 VCSH SCT010 BKN025 16/14 Q1012=

**Analysis and Investigation**

**UKAB Secretariat**

Both pilots were in receipt of an AGCS from Leicester, who did not have the benefit of a radar. However, the incident could be seen on the NATS radars and screenshots taken from the radar are provided below. At 0922:01 (Figure 2) the PA28 pilot could be seen getting airborne from Leicester, as the Cabri was downwind for RW28LH. By Figure 3, the PA28 pilot had departed from the downwind position for RW28RH, indicating 1500ft, the Cabri was on base-leg for RW28LH at 1200ft (Leicester airfield elevation is 469ft).

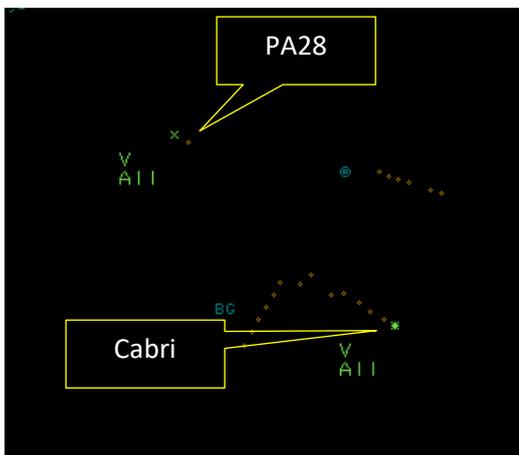


Figure 2:0922:01

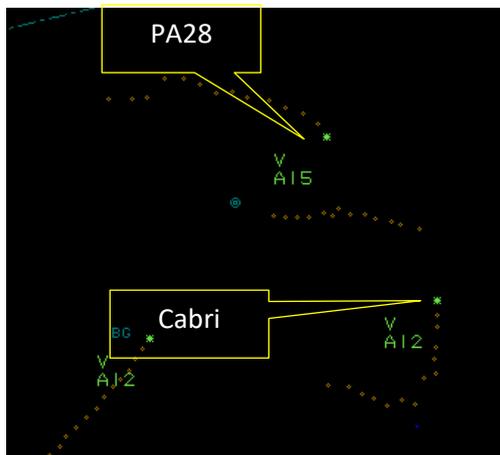


Figure 3:0923:09

At Figure 4, the Cabri and the PA28 were 0.4NM apart with 400ft separation, closing to 0.2NM at Figure 5. CPA took place between radar sweeps, by Figure 6 the Cabri pilot had turned behind the PA28 and the two aircraft were 0.1NM apart with 400ft vertical separation.

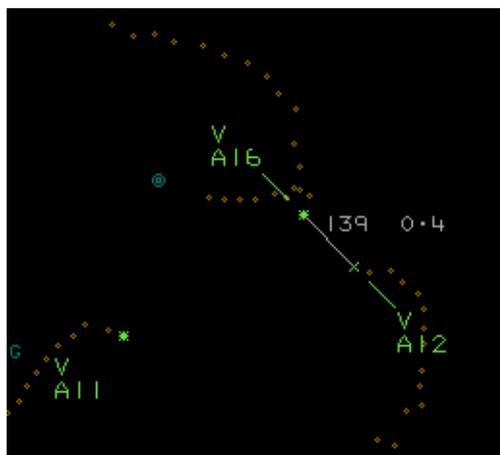


Figure 4: 0923:26

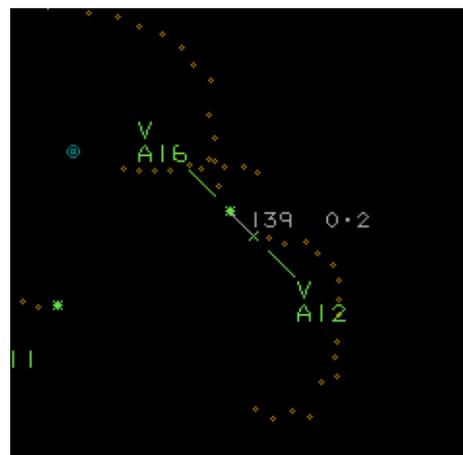


Figure 5: 0923:30

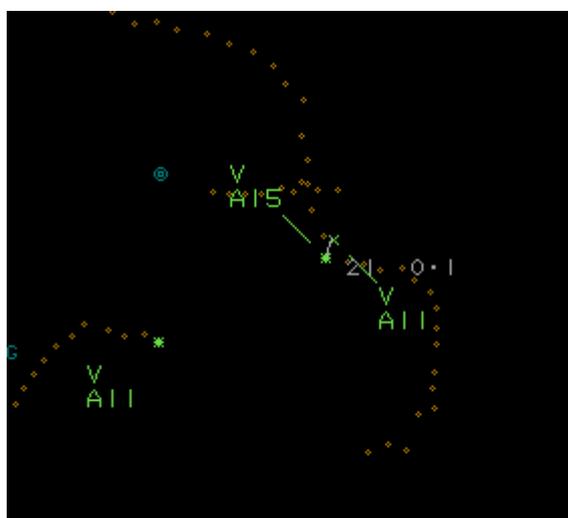


Figure 6: 0923:34

The Cabri 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.<sup>1</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>2</sup>

## Summary

An Airprox was reported when a Cabri and a PA28 flew into proximity in the Leicester visual circuit at 0923Z on Friday 24<sup>th</sup> July 2020. Both pilots were operating under VFR in VMC, and both were in receipt of an AGCS from Leicester.

## **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.

<sup>1</sup> SERA.3205 Proximity.

<sup>2</sup> SERA.3225 Operation on and in the Vicinity of an Aerodrome.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided a combination of written contributions and dial-in/VTC comments.

The Board first discussed the actions of the Cabri pilot. They were operating in the helicopter circuit, were on base-leg and were conducting an autorotation. Helicopter members noted that conducting an autorotation required a high cockpit workload especially when instructing a student and they noted that this would probably have meant that the pilot was concentrating more on their own task than that of others in the circuit (**CF2**). It was not known whether the PA28 pilot had announced their intention to depart from downwind over the RT, but certainly the Cabri pilot had no prior situational awareness that it was going to do so, until they became visual (**CF1**). Members thought that the Cabri pilot was probably startled by, what was perceived to be, the sudden appearance of the PA28, causing them to assess the separation as closer than it actually was (**CF4**).

Turning to the PA28 pilot, members noted that students are usually taught to inform the AGO about a downwind departure on initial taxi and there was nothing to suggest that had not happened on this occasion, given that the AGO could not remember anything unusual at the time. Members noted that it was good practice to either climb above circuit altitude before turning across the base leg, or better still extend further downwind before turning. However, the PA28 pilot had reported that the cloud was lower than expected, which may have accounted for his altitude and routing. Furthermore, this would have provided an additional cockpit workload, so the pilot was unaware of the Cabri prior to the turn (**CF1**) and did not see it as the two aircraft crossed (**CF3**). Members noted that according to Leicester's airfield procedures, as detailed on their website and in Pooleys, the only restriction on departure was for noise abatement; there were no standard procedures for departure and nothing to preclude the PA28 pilot departing from downwind.

Finally, when determining the risk, members noted that even though neither pilot had taken avoiding action, with 400ft vertical separation there had been no risk of collision. However, they agreed that because neither pilot had any situational awareness about the other prior to the Airprox, safety had been degraded; Risk Category C.

## **PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**

### Contributory Factors:

2020077			
CF	Factor	Description	Amplification
<b>Flight Elements</b>			
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>			
1	Contextual	• Situational Awareness and Sensory Events	Pilot had no, late or only generic, Situational Awareness
2	Human Factors	• Distraction - Job Related	Pilot engaged in other tasks
<b>• See and Avoid</b>			
3	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots
4	Human Factors	• Perception of Visual Information	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: C.

Safety Barrier Assessment<sup>3</sup>

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

**Flight Elements:**

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

Airprox Barrier Assessment: 2020077		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 Conflicting & 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>							
	<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>		
Provision	✓	⚠	✗	●	○		
Application	✓	⚠	✗	●	○		
Effectiveness	■	■	■	■	□		

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