AIRPROX REPORT No 2024059

Date: 21 Apr 2024 Time: 1129Z Position: 5217N 00052W Location: 2.5NM W of Sywell

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C172(A)	C172(B)
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	AGCS	Unknown
Provider	Sywell Radio	Unknown
Altitude/FL	2275ft	2175ft
Transponder	A, C, S	A, C, S
Reported		
Colours	Orange and white	White and blue
Lighting	Beacon, navigation, landing	Beacon, strobes, landing
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2000ft	2000ft
Altimeter	QFE (1016hPa)	QNH
Heading	070°	170°
Speed	90kt	90kt
ACAS/TAS	SkyEcho	Not fitted
Alert	None	N/A
Separation at CPA		
Reported	100-200ft V/100-200ft H	500ft V/0.5NM H
Recorded	100ft V/<0.1NM H	

THE C172(A) PILOT reports that they had arranged to fly with another group member. The last time they had flown together had been in January 2023 and both were looking forward to it. They agreed that Sywell had been a suitable destination and that the reporting pilot would do the return flight from Sywell. Consequently, they had been sitting in the passenger seat on the outbound flight. The crew were using [electronic conspicuity equipment] during the flight, linked to SkyDemon. They had flown at about 3000ft on QNH 1031hPa. They routed via Daventry so as to give a bit of horizontal separation from Edge Hill gliding airfield, taking them around the north side of Northampton and setting them up for a standard overhead join. It hadn't been a particularly busy day, and they had used a listening squawk from Brize Radar until overhead Daventry at which point they had switched to Sywell Radio. After Daventry they had changed to Sywell Radio, descended to 2000ft on QFE 1016hPa to do a standard overhead join at Sywell for RW03 Hard. There were several aircraft inbound to Sywell. They could 'see' one ahead on SkyDemon, but there had been a bit of uncertainty as there had been a C152 on frequency. The reporting pilot had a feeling it was the same aircraft, but remained open minded. The crew were trying to see this aircraft visually so that they could sort out their spacing (being mindful that this aircraft would probably backtrack the runway at Sywell, so they had wanted to ensure there was time for this to happen). Consequently, the reporting pilot's scan was prioritised on about 45° either side of their heading [when they had] suddenly seen a white Cessna 172 [C172(B)] appear below them on their left-hand side, under the engine cowling going left-to-right. They had then seen the aircraft pass under them and continue on its track away from them. The other aircraft had been close enough to read the registration, but the reporting pilot did not have the head space to register it. Later, using [an open-source system], the reporting pilot had identified it as [C172(B)]. They do not recall if this aircraft had been on the Sywell Radio frequency. The other aircraft did not appear to have been using any electronic conspicuity equipment compatible with [theirs]. Their electronic conspicuity equipment is positioned on the starboard side of the aircraft just in front of the A-frame, so the other aircraft could have been blocked by the engine etc. However, the reporting pilot had not noticed the conflicting aircraft appearing

on SkyDemon as it had passed away from them. Looking back at it, the reporting pilot believes that they were too focussed on joining the overhead at Sywell and positioning behind the aircraft ahead. Looking at [open-source system] they noted that they were on a constant bearing to each other and hence difficult to spot. The reporting pilot suspects that their scan would not have spotted it earlier – perhaps a few seconds at most. This seems to be a textbook example of two aircraft on a constant bearing, plus insufficient scan (albeit partly due to phase of flight). The reporting pilot adds that they suspect that they have been a bit complacent with their visual scan and that this event has given them a reality check. They also wonder if by trying to be helpful they had distracted the PF.

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

THE C172(B) PILOT reports that on Sunday 21st April 24 they had been flying with some friends in a Cessna 172, from [departure airfield] to [destination airfield]. Their route had taken them to the west of Sywell airfield. To mitigate risk and to maintain good situational awareness they had made a radio call to Sywell Radio informing them of their position, altitude and intentions. The pilot did not have specific times of making this radio call, but believes it would have been around 1120. Whilst approaching the north of Northampton, they had visual contact with 3 different aircraft ahead of them. All were flying in different directions and altitudes. The aircraft which they had been monitoring the most was to the right of their position and above. They had visual contact with this aircraft throughout and made the assessment that no collision risk was posed as long as both aircraft-maintained heading and altitude. As they had converged, they noted it was a high winged aircraft with possibly yellow markings. The aircraft passed well above and continued to track to the east. The pilot's focus then returned to the other two aircraft which were still ahead, flying in different directions away from their track. The C172(B) pilot notes that they stand by the decisions they had made during this stage of the flight as it mitigated risk from all aircraft flying in the area. They are aware of the rules of the air in which aircraft on the right have the right of way. However, as the aircraft was not at the same level, with the added complexity of other aircraft, they confirm that their decision of maintaining heading and altitude, which facilitated their passing above and below with no risk of collision, had been correct. Both had been flying in Class G airspace and if the other pilot felt there was a risk of collision they should have taken avoiding action, which they did not. The C172(B) pilot believes this reinforces their decision-making proving the very low risk of collision between the two aircraft.

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

THE SYWELL AGO reports that C172(A) landed at Sywell at 1141 on the 21st of April 24, there had been no communication with the tower of an Airprox by RT from the pilot or with the RFFS when paying the landing fee. The pilot of C172(B) had not contacted the Sywell frequency that day and had not PPR'd into Sywell. At no point on the 21st of April 24 had any member of staff of Sywell Aerodrome been alerted to an Airprox.

Factual Background

The weather at Birmingham was recorded as follows:

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METAR EGBB 211220Z 06008KT 020V110 9999 SCT044 10/M01 Q1031=
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Analysis and Investigation

UKAB Secretariat

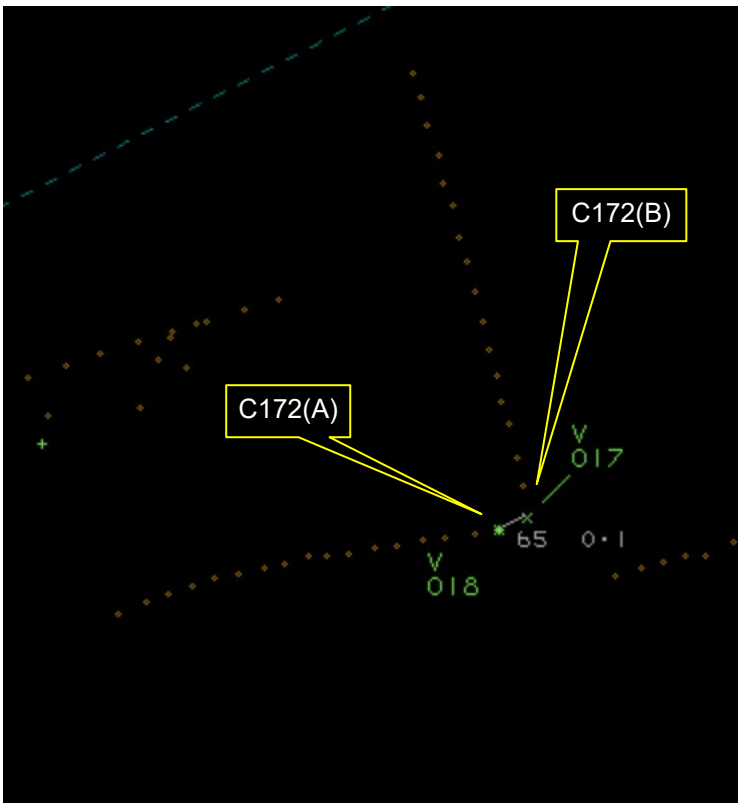

Figure 1: CPA 1129:02 100ft V/<0.1NM H

The C172(A) and C172(B) 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 converging then the C172(B) pilot was required to give way to the C172(A).[2] [3]

Summary

An Airprox was reported when two C172s flew into proximity 2.5NM west of Sywell at 1129Z on Sunday 21st April 2024. Both pilots were operating under VFR in VMC. The C172(A) pilot was in receipt of an AGCS from Sywell; it could not be positively determined if the C172(B) pilot had been in communication with Sywell.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings and reports from the Air-To-Ground Operator 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.

The Board first discussed the actions of the C172(A) pilot, thanking them for a full and open report, noting the nature of the sortie and focus of the pilots at the time of the event. They discussed the potential distraction of the third (uninvolved) aircraft displayed to the crew on their moving-map display coincidental with their preparations for arrival at Sywell, opining that their attention was likely, and rightly, on identifying the airfield and any traffic in the area with their lookout focussed toward their 12 o'clock. Members were heartened to note the carriage and use of electronic conspicuity equipment to aid situational awareness and recognised that, in this case, it had been unfortunate that they had been unable to detect any emissions from the C172(B) (**CF2**). The Board agreed with the C172(A) pilot's

[1] (UK) SERA.3205 Proximity.
[2] (UK) SERA.3210 Right-of-way (c)(2) Converging.
[3] (UK) SERA.3210 Right-of-way 'An aircraft that is obliged by [these] rules to keep out of the way of another shall avoid passing over, under or in front of the other, unless it passes well clear […]'.

report that they had acquired the C172(B) at a very late stage as it had flown from their left-hand side and quite closely underneath them, effectively constituting a non-sighting (**CF4**).

Turning to the actions of the C172(B) pilot, members noted that they had been established on a track chosen to take them clear of Sywell, knowing it would have been active and had reported having made radio contact approximately 9 min ahead of CPA, although the Sywell AGO had no recollection of that call. The Board felt it unfortunate that the C172(B) had not carried electronic conspicuity equipment as this would likely have helped to build situational awareness as they had approached, meaning that in this case the lack of such equipment and unheard radio calls meant that neither pilot had had situational awareness of the presence of the other aircraft (**CF1**). The C172(B) pilot had then achieved visual contact with the C172(A) but members felt that they had ultimately flown close enough to cause the pilot of that aircraft some concern (**CF3**). The Board wished to remind all pilots that, under SERA rules, the avoiding aircraft should avoid passing over, under or in front of the other aircraft unless it passes well clear.

In reviewing the role of the Sywell AGO in this event, members noted that they had no recollection of the reported earlier call from the C172(B) pilot and that there is no obligation on the unit to record RT but noted that in this case it would likely have helped in fully understanding the full circumstances of the event had recordings been available.

Concluding their discussion, members were in agreement that although the pilot of the C172(B) had acquired the C172(A) visually, the separation between the aircraft had been such that it had caused the pilot of the C172(A) concern and that, whilst safety margins had been reduced, they were satisfied that there had not been a risk of collision. As such, the Board assigned Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024059			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			
1	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			
2	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			
3	Human Factors	• Lack of Individual Risk Perception	Events involving flight crew not fully appreciating the risk of a particular course of action	Pilot flew close enough to cause concern
4	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

Degree of Risk: C.

Safety Barrier Assessment[4]

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

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

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **not used** because Sywell operates with an AGO and this event occurred outside the ATZ.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had any situational awareness of the presence of the other aircraft.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the equipment carried by the pilot of the C172(A) had not been able to detect the electronic emissions from the C172(B).