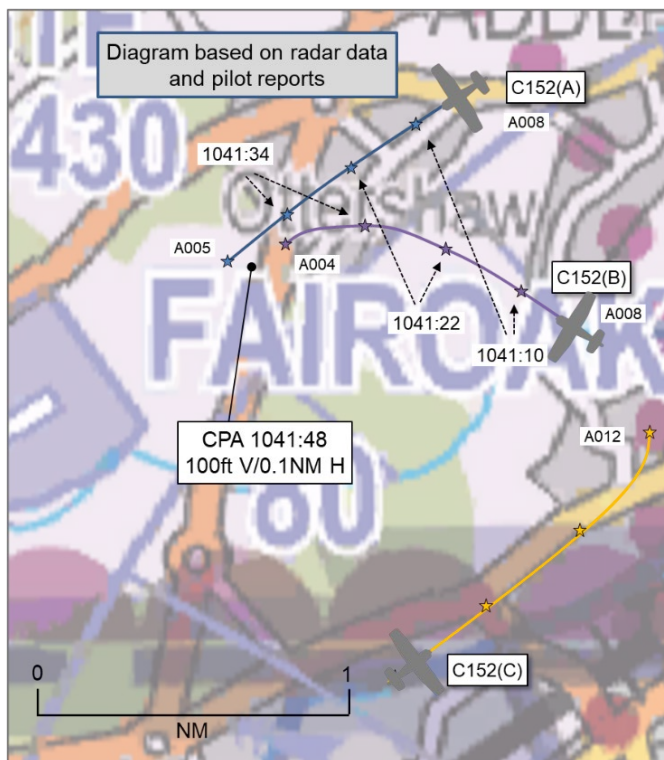


AIRPROX REPORT No 2023123

Date: 21 Jun 2023 Time: 1042Z Position: 5121N 00032W Location: Fairoaks ATZ

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C152(A)	C152(B)
Operator	Civ FW	Civ FW
Airspace	Fairoaks ATZ	Fairoaks ATZ
Class	D	D
Rules	VFR	VFR
Service	AFIS	AFIS
Provider	Fairoaks Info.	Fairoaks Info.
Altitude/FL	A005	A004
Transponder	A, C	A, C
Reported		
Colours	White/Blue	White/Blue
Lighting	Beacon, landing	Beacon, landing, nav
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	500ft	600ft
Altimeter	QNH	QNH
Heading	240°	240°
Speed	65kt	70kt
ACAS/TAS	SkyEcho	Not fitted
Alert	None	N/A
Separation at CPA		
Reported	0ft V/100m H	100ft V/200m H
Recorded	100ft V/0.1NM H	



THE C152(A) PILOT reports that they had been instructing a student in the circuit at their home airfield. C152(B) – the other aircraft involved – had been re-joining the circuit following their first solo cross-country flight. [...] On the day of the Airprox the instructor reports having just started their circuit detail and heard [C152(B)] make a call to join. Once the instructor was mid-point downwind, they saw the C152(B) aircraft heading from the overhead towards downwind behind them, at this point spacing had not been an issue at all. Once the instructor had reached final at around 500ft they received a call from a colleague on downwind [C152(C)] asking if they had been aware of how close they had been together. The instructor looked back to see the C152(B) behind, below and to their 7 o'clock position. The AFISO asked their intentions and they went around, all within the space of around 5-10sec. The C152(B) pilot said that they had been on final to land. Once landed, after having spoken to the C152(B) pilot, who said they had been visual with [C152(A)] at all times and had not known why [C152(A)] was 'so far to the right of centreline' [they recall], the instructor showed the C152(B) pilot their [moving map system] trace which showed a perfect final approach, [deducing that] it must have been the C152(B) that had been left of the centreline [...]. On discussion with the student it transpired that they felt they had not known how to ask about C152(A)'s intentions on final so they hadn't said anything at all. The instructor [recalled that] the C152(B) pilot had also been passed Traffic Information by Farnborough LARS twice during their flight to which they had not responded, claiming that 'they had not known how to respond'. The instructor and C152(B) pilot spoke at length about responses to traffic calls, and will undertake further training to help increase the student's situational awareness/capacity.

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

THE C152(B) PILOT reports that unfortunately, the radio reception on this aircraft had been very bad and that they had been concentrating on flying their 1st navigation solo and for some reason had not

seen the other aircraft [being] in the circuit, nor had they heard the information about it. [They recall that] it had also been a very busy flying day.

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

THE FAIROAKS AFISO reports that [C152(A)] had been in the circuit after joining from the south west on a local detail and [C152(B)] had been on a circuit detail after being up with an instructor [they recall]. The AFISO gave Traffic Information to all traffic on frequency as there had been another C152 under the callsign [C152(C)]. [C152(A)] had been late downwind and turning base, [C152(B)] had been midpoint downwind abeam the tower and [C152(C)] had just started downwind. [C152(A)] had then been on final and [C152(C)] reported to the tower that [C152(B)] had turned earlier than usual. [C152(B)] then turned final and came into close proximity with [C152(A)] who then went around. [C152(B)] landed and taxied to parking.

The AFISO perceived the severity of the incident as 'Medium'.

Factual Background

The weather at Farnborough was recorded as follows:

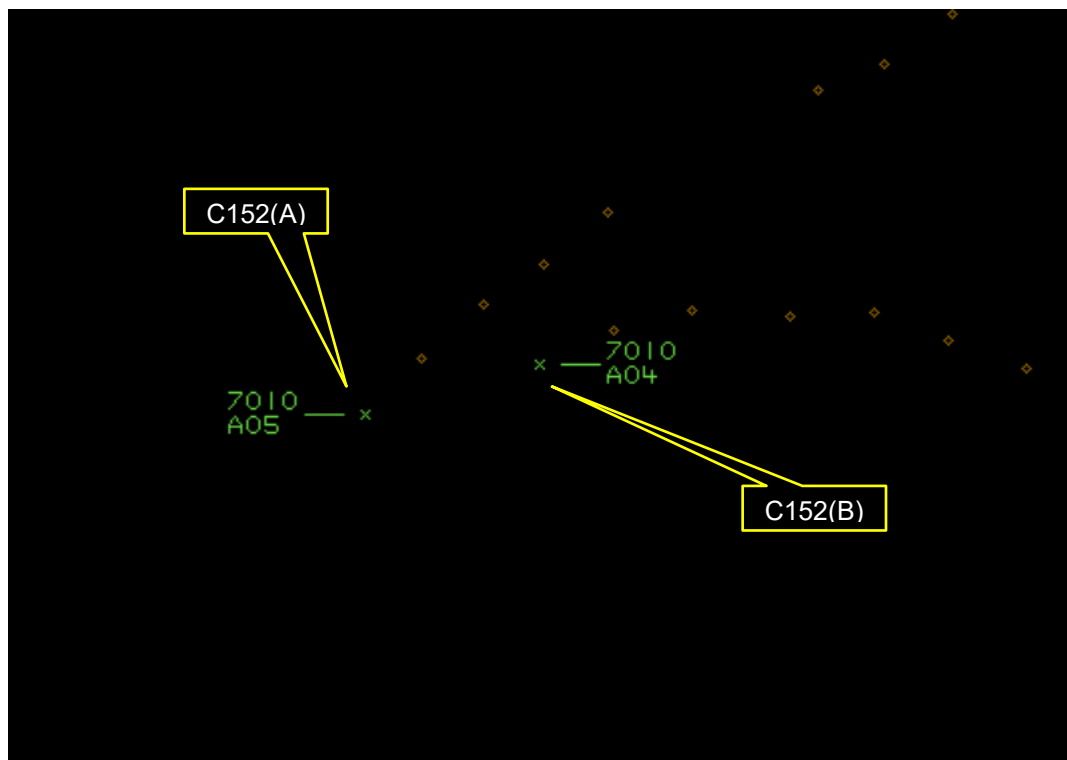
METAR EGLF 211020Z 23010KT 9999 SCT031 21/13 Q1017=

Analysis and Investigation

CAA ATSI

ATSI has reviewed the reports for this and unfortunately without RTF (Fairoaks does not record RTF), ATSI is unable to corroborate the ATC report.

UKAB Secretariat



CPA at 1041:48 100ft V/0.1NM H

The C152(A) and C152(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 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 C152(A) and C152(B) flew into proximity at Fair Oaks at 1042Z on Wednesday 21st June 2023. Both pilots were operating under VFR in VMC and in receipt of an Aerodrome Flight Information Service from Fair Oaks.

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 AFISO 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.

Board members first discussed the actions of the C152(A) pilot, noting their previous role in the instruction of the student pilot in the C152(B) aircraft. Members opined that the C152(A) pilot had made the correct decision to go-around once they had been alerted to the position of the C152(B) and having achieved a late sighting (**CF9**) of them in their 7 o'clock due to the other aircraft being obscured from view because of its position relative to their own aircraft (**CF11**).

In considering the role of the C152(B) pilot in this event, members noted their lack of experience and the nature of the exercise they had just completed – a first solo cross-country – recognising that they had been set on completing the flight despite poor radio reception within their aircraft (**CF5**) which had severely decreased their situational awareness of the others around them (**CF6**). Members recalled the complexity of the circuit and its environs at Fair Oaks, postulating that the pilot of the C152(B) had been concerned about the classification of the airspace immediately surrounding the ATZ and had therefore been focussed on ensuring they remained within the circuit as they understood it, turning early and too tightly (**CF2, CF4**) onto the base leg thereby not following the circuit pattern as described by the aircraft ahead of them (**CF3**) and unsighted to the C152(A) (**CF10**), leading to their lack of assimilation of a potential conflict (**CF7**).

Board members discussed the role played by the AFISO, accepting that there had been no obligation on them to sequence traffic in the circuit (**CF1**), but wondered whether they could have called the position of the aircraft ahead of them to the pilot of the C152(B) to help raise their situational awareness.

Members also noted the lack of operational electronic conspicuity (EC) equipment in C152(B) (a flying school aircraft), recalling that such equipment continues to be of great use even within the circuit environment. In this case, C152(A) had been fitted with an EC device which had not provided an alert to the pilot of C152(A) because it could not have detected the presence of C152(B) (**CF8**).

When assessing the risk, members considered the report from both pilots, the radar replay and the AFISO's report. They noted that the separation between C152(A) and C152(B) had led to safety margins being much reduced below the norm with the pilot of C152(A) having been alerted to the proximity of the C152(B) by a third party (C152(C)) in the circuit and had difficulty then visually acquiring the C152(B) in their 7 o'clock. Although the C152(A) pilot elected to go-around, members thought that this avoidance action was only taken at the last minute to increase separation and that this had not entirely removed the risk of collision (**CF12**). Accordingly, the Board awarded a Risk Category B to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

¹ (UK) SERA.3205 Proximity.

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

Contributory Factors:

	2023123			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
• Situational Awareness and Action				
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
Flight Elements				
• 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	Human Factors	• Incomplete Action	Events involving flight crew performing a task but then not fully completing that task or action that they were intending to carry out	Pilot did not sufficiently integrate with the other aircraft despite Situational Awareness
5	Human Factors	• Monitoring of Communications	Events involving flight crew that did not appropriately monitor communications	
6	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
7	Human Factors	• Understanding/Comprehension	Events involving flight crew that did not understand or comprehend a situation or instruction	Pilot did not assimilate conflict information
• Electronic Warning System Operation and Compliance				
8	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				
9	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
10	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
11	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other
• Outcome Events				
12	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 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 AFISO is not required to sequence the aircraft in the visual circuit.

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

Flight Elements:

Tactical Planning and Execution was assessed as **ineffective** because the C152(B) pilot turned early onto the base leg and did not conform with the pattern of traffic already formed in the circuit.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because a lack of communication of their intentions and assimilation of conflict information by the C152(B) pilot led to only generic situational awareness of the position of C152(B) for the C152(A) pilot.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the equipment carried by C152(A) could not detect the presence of C152(B).

See and Avoid were assessed as **partially effective** because the C152(A) pilot had a partly obscured late sighting of the C152(B) with the pilot of C152(B) having effectively a non-sighting of C152(A).

		Provision		Application		Effectiveness				
						Barrier Weighting				
Barrier						0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✓	✓	✓	100%				
	Manning & Equipment	✓	✓	✓	✓	75%				
	Situational Awareness of the Conflication & Action	✓	○	○	○	50%				
	Electronic Warning System Operation and Compliance	○	○	○	○	25%				
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✓	✓	✓	25%				
	Tactical Planning and Execution	✓	✗	✗	✗	12.5%				
	Situational Awareness of the Conflicting Aircraft & Action	!	✗	✗	✗	25%				
	Electronic Warning System Operation and Compliance	✗	✓	✓	✓	75%				
	See & Avoid	!	!	!	!	12.5%				
Key:		Full	Partial	None	Not Present/Not Assessable	Not Used				
Provision	✓	!	✗	○						
Application	✓	!	✗	○	○					
Effectiveness	■	■	■	■	□					