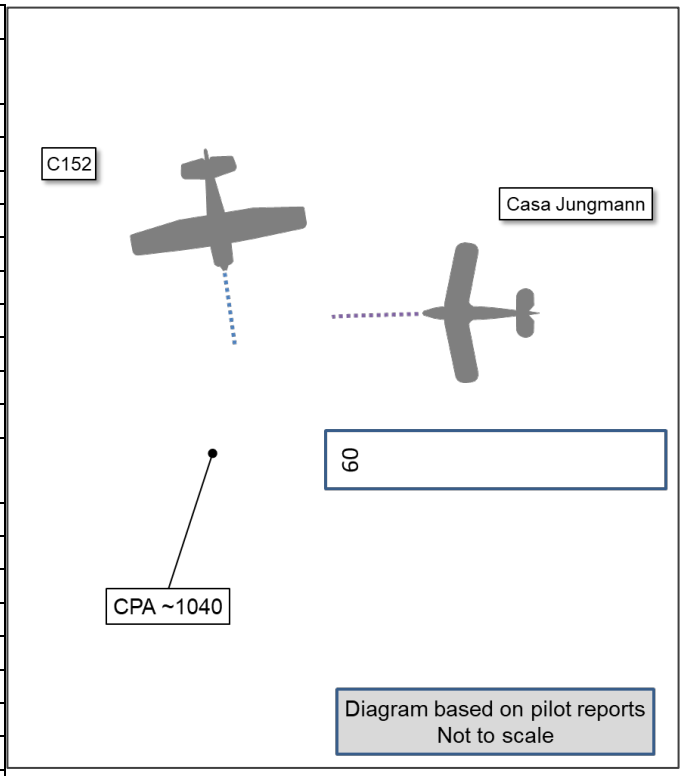
AIRPROX REPORT No 2021107

Date: 13 Jul 2021 Time: 1040Z Position: 5626N 00322W Location: Perth

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C152	Casa Jungmann bi-plane
Operator	Civ FW	Civ FW
Airspace	Perth ATZ	Perth ATZ
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Perth	Perth
Altitude/FL	NK	NK
Transponder	A, C	Not fitted
Reported		
Colours	White	Grey
Lighting	Landing, Nav, Beacon	NK
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	900ft	
Altimeter	QNH	QFE (1016hPa)
Heading	170°	270°
Speed	65kt	65kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	100ft V/0.2NM H	0ft V/200m H
Recorded	NK	



THE C152 PILOT reports they were conducting circuits and were on base leg. The biplane had joined a very tight downwind without communicating it was so close in, as they approached their turn onto finals they noticed the biplane in front of them to the left, about 100ft below. At this point both pilots made a hard right turn to avoid each other, the C152 pilot then proceeded to make a full stop landing.

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

THE CASA JUNGMANN BI-PLANE PILOT reports that they were in the visual circuit, there were 3 aircraft in the circuit at the time. They fly a tighter circuit than other aircraft so that in the event of an engine failure they can still make a landing on the runway. There was the possibility that the other aircraft was obscured behind their upper wing. They first saw the other aircraft at a range of 300m, also on a base leg, they turned to starboard to pass behind and continued in the circuit.

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

THE PERTH AGO reports that the Cessna 152 (dual instruction) was in the circuit. The Casa Jungmann joined the circuit in the overhead, positioning crosswind and then downwind. The pilot of the Casa Jungmann started to turn base leg with the C152 on base leg. The Casa Jungmann then descended went to the dead side and re-joined the circuit and landed.

Factual Background

The weather at Dundee was recorded as follows:

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METAR EGPN 131020Z 15003KT 9999 FEW015 SCT028 20/15 Q1016=
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Analysis and Investigation

UKAB Secretariat

The C152 and Casa Jungmann 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 C152 and a Casa Jungmann flew into proximity in the Perth circuit at about 1040Z on Tuesday 13th July 2021. Both pilots were operating under VFR in VMC and both were receiving an AGCS from Perth.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots and a report from the AGO. 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 considered the actions of the C152 pilot. They were conducting visual circuits and reported that they were not aware that the Jungmann had joined to fly a tight circuit (**CF3**). Members commented that it was unfortunate that the Perth RT was not recorded, because without knowing what radio calls were made, they could not know for sure whether the C152 pilot should have known the positioning of the Jungmann or not. However, it seemed likely that the Jungmann pilot had made the appropriate joining calls, given that the AGO did not report otherwise, and so members thought that the C152 pilot should have had some situational awareness that the Jungmann was behind them in the circuit (**CF4**). Once they turned onto a base-leg, the C152 became aware of the Jungmann also turning onto a base-leg (**CF5**); although this was later than desirable, both pilots had enough time to take the appropriate avoiding action to ensure separation.

When looking at the actions of the Jungmann pilot, members noted that they were also not aware that the C152 was ahead of them downwind and again did not appear to have heard any radio calls (**CF3**, **CF4**). Whilst the Jungmann pilot was at liberty to fly a tight visual circuit, potentially inside other traffic, to cater for their aircraft's performance characteristics, it was still their responsibility to fit in with other aircraft in the circuit. Members therefore thought, that by turning onto base-leg in confliction with the C152, the Jungmann pilot had not conformed to the circuit pattern (**CF1**, **CF2**). There followed a brief discussion about circuit patterns and how at training units there was a tendency for visual circuits to extend to accommodate the student ability. Members agreed that, although the pilots might not want to extend downwind behind established traffic, they were still required to conform to the circuit traffic and should not turn onto base-leg early in order to get ahead; instead they should consider a go around if there are no other options to safely increase separation. In this case, the Jungmann pilot did not have the situational awareness that the C152 was ahead, and so did not know it was there, they reported that it had been obscured by the wing (**CF6**) and so they also saw the other aircraft late (**CF5**). Despite these considerations, members did still think that they had enough time to take avoiding action to ensure adequate separation.

In assessing the risk of collision members took into consideration the reports from both pilots and noted that, although there was a differing assessment of the risk from both pilots, with the C152 pilot assessing a medium risk and the Jungmann pilot a low risk, in fact the assessment of the separation was broadly similar. Members thought that despite the relative late sighting, the slow speeds of both aircraft meant that both pilots took avoiding action to ensure adequate separation. Therefore, members agreed that, although safety had been degraded, there had been no risk of collision; Risk Category C.

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

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2021107			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Tactical Planning and Execution			
1	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
2	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			
3	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late or only generic, Situational Awareness
4	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			
5	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
6	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other

Degree of Risk: C.

Safety Barrier Assessment[3]

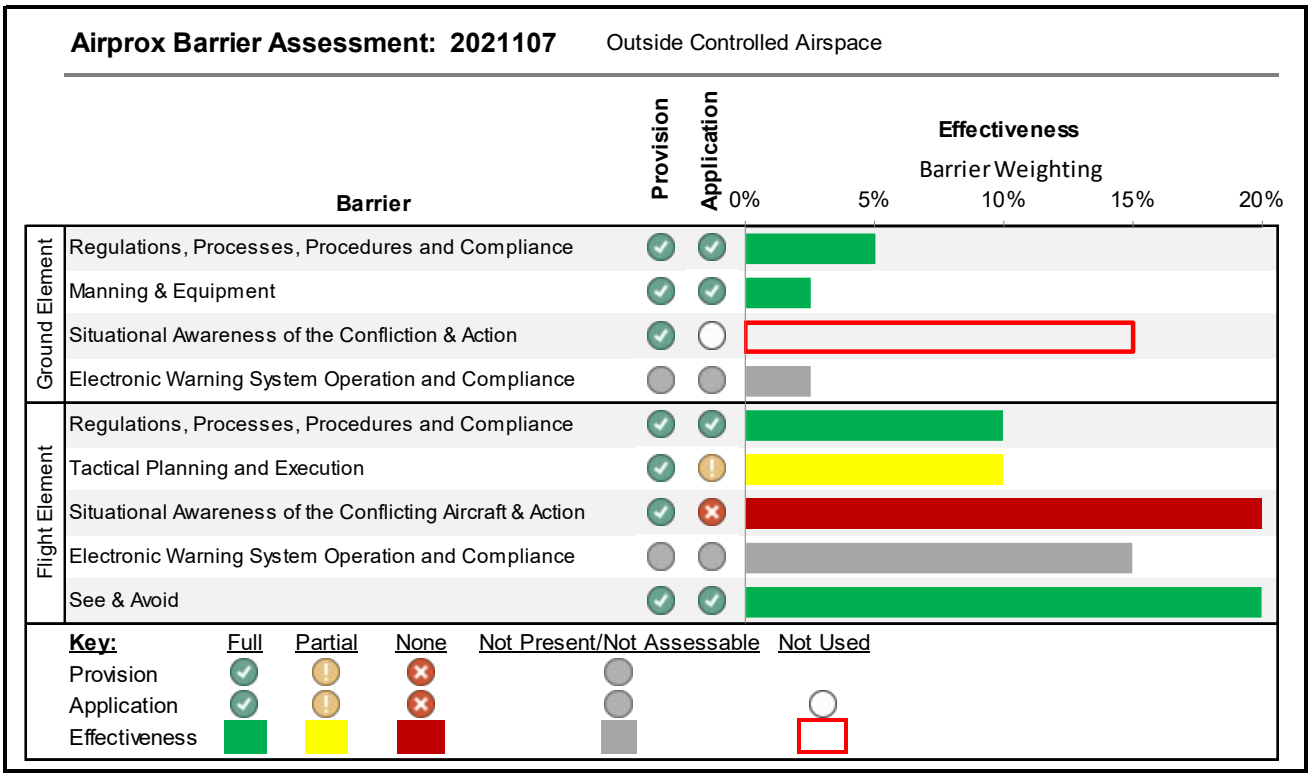
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the Jungmann pilot did not fit in with the visual circuit formed by the C152.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot assimilated that the other was in a similar position 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.


Airprox Barrier Assessment: 2021107
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 Confliction & 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
Key:
Full
Partial
None
Not Present/Not Assessable
Not Used
Provision
Application
Effectiveness