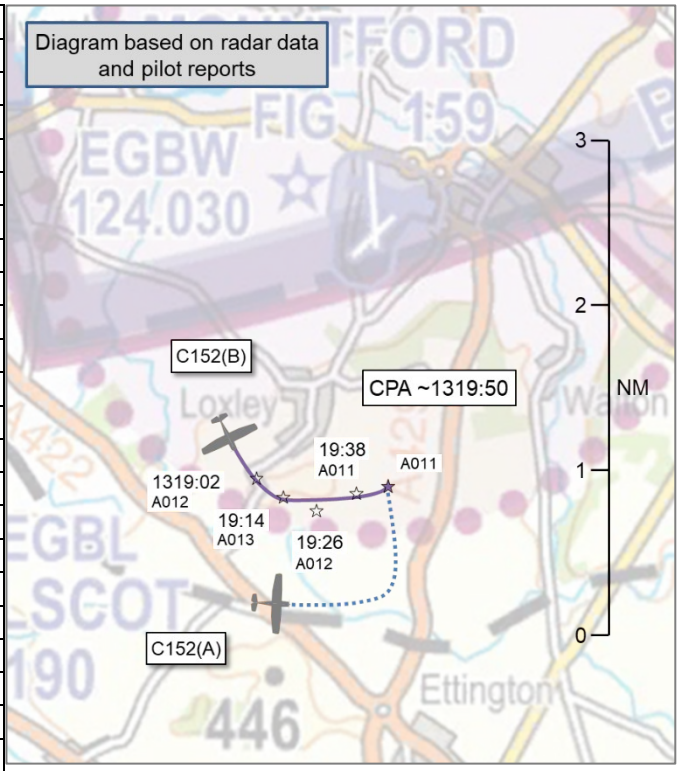
AIRPROX REPORT No 2023104

Date: 03 Jun 2023 Time: 1320Z Position: 5210N 00137W Location: Wellesbourne Mountford (159ft)

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C152(A)	C152(B)
Operator	Civ FW	Civ FW
Airspace	Wellesbourne ATZ	Wellesbourne ATZ
Class	G	G
Rules	VFR	VFR
Service	AFIS	AFIS
Provider	Wellesbourne	Wellesbourne
Altitude/FL	NK	1100ft
Transponder	NK[1]	A, C, S
Reported		
Colours	White/red	White/Burgundy
Lighting	Nav, landing, taxi	Beacon
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	800ft	700ft
Altimeter	QNH (1024hPa)	QFE (1019hPa)
Heading	010°	360°
Speed	70kt	65kt
ACAS/TAS	Not fitted	PilotAware
Alert	N/A	None
Separation at CPA		
Reported	50ft V/50ft H	Not seen
Recorded	NK	



THE C152(A) INSTRUCTOR reports flying a training flight, conducting circuit consolidation. They were operating from the right-hand seat with a student who had completed their first solo but had not flown for 4 weeks. There was one other aircraft in the circuit, however, the radio was busy with transmissions from several pilots operating on the frequency. The weather was CAVOK. They had been established on final approach for approximately 30sec and the APAPI indicated they were on the correct glide-path at 1.5NM. The conflicting aircraft turned immediately in front and above from base-leg. The radio officer stated there were two aircraft on final, and requested which aircraft was lower on final approach. The pilot operating the other aircraft made an RT call stating they could not see any traffic. The Instructor took control and advised that they were in sight of the aircraft ahead and above their position and would go around. The go-around was completed passing to the right of the other aircraft. They spoke with the other pilot who stated that they reported downwind number 2 and at that time could see C152(A) ahead. Sometime after, they lost visual contact with C152(A).

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

THE C152(B) STUDENT PILOT reports that following a dual instruction session consisting of 2 circuits, they went on to a solo session consisting of 4 circuits. The incident occurred on the final circuit. The circuit was busy and there was a very light haze. On the base turn they observed an aircraft about to touchdown on RW36. They observed no other traffic and had no other reason to believe anyone was ahead so they proceeded to make the base-leg turn and turn onto final with no observed traffic. They were made aware of the other aircraft when Wellesbourne AFIS broadcast that there were two aircraft on final. The pilot of the other aircraft transmitted that they were going around.

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

[1] Reported as A, C, S but no secondary or primary returns from C152(A) were observed on radar replay.

THE WELLESBOURNE MOUNTFORD AFISO reports operating with 3 aircraft in the circuit, with several joining and departing aircraft. They estimated their workload as heavy. [C152(A) C/S] reported downwind and was advised to report final RW36 with one aircraft ahead on final. About 1min later [C152(B) C/S] reported downwind with 2 ahead in sight, and was asked to report final. After the 1st aircraft did a touch-and-go, the AFISO watched 2 departures and then turned their attention to monitor the progress of the 2 circuit aircraft mentioned previously. They observed a C152 on base leg in a position they would normally expect, which they presumed to be [C152(A) C/S], and then looked for the 2nd aircraft in the late downwind position but could not see it. They dealt with another aircraft call then looked up to see 2 C152s on final with one aircraft higher than the other. From their position they could not determine the spacing of the aircraft but, due to their relative sizes, they recognised they were reasonably close. They made a broadcast of essential Traffic Information that there were 2 aircraft on final. Further observation with binoculars revealed a horizontal distance which they estimated to be about ½ mile, with the higher aircraft in front. [C152(A) C/S] reported visual and going around, and the AFISO advised [C152(B) C/S] they could land. About 2 hours later the pilot of [C152(A) C/S] visited the Tower and advised they were filing an Airprox.

The AFISO estimated the risk of collision to be minimal due to the Traffic Information given and the relative speeds of the 2 aircraft. As an observation, [C152(A) C/S] had been doing much larger circuits all day and the AFISO had previously received a comment from another pilot about the size of their circuits. The AFISO judged that the circuits had been taking the aircraft well outside the Aerodrome Traffic Zone, often making it difficult to see it at the end of the downwind leg. The normal time taken for an aircraft to complete a circuit on RW36 is about 7min; [C152(A) C/S] was taking about 10min for each circuit. The AFISO noted that no R/T recording facility is available at Wellesbourne.

Factual Background

The weather at Birmingham Airport was recorded as follows:

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METAR EGBB 031320Z 05008KT 360V100 9999 FEW044 19/08 Q1025=
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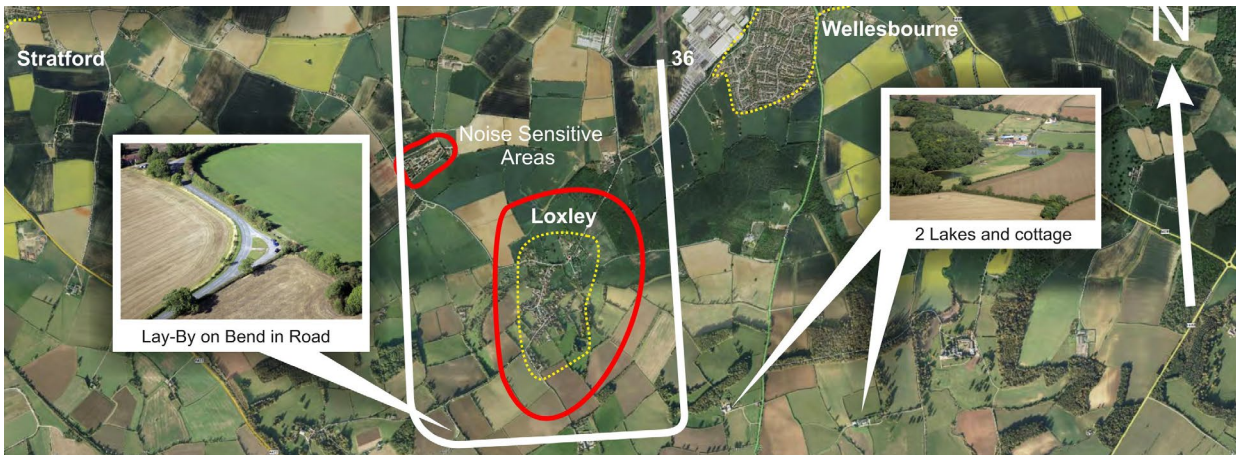
Analysis and Investigation

UKAB Secretariat

Both pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard[2]. 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[3].

The southern end of the Wellesbourne Mountford visual circuit pattern is promulgated[4] as follows:



[2] (UK) SERA.3205 Proximity.
[3] (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.
[4] https://www.wellesbourneairfield.com/1836circuitdiagram.pdf

Summary

An Airprox was reported when 2 C152s flew into proximity at Wellesbourne Mountford at about 1320Z on Saturday 3rd June 2023. Both pilots were operating under VFR in VMC, both in receipt of an AFIS from the Wellesbourne AFISO.

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.

Members first considered the circumstances under which circuit traffic must 'conform with or avoid the pattern of traffic formed by other aircraft in operation'. On the one hand, it could reasonably be expected that circuit traffic conform by following traffic ahead but, in the Board's opinion, there was also a requirement for traffic either to conform to a promulgated traffic pattern whenever able to do so or, if not, to maintain sufficient situational awareness amongst other circuit traffic by notifying their intended circuit pattern. Radar replay showed that the C152(B) student pilot had flown a visual circuit that was close to that promulgated. C152(A) did not appear on radar replay but the instructor narrative stated that 'They had been established on final approach for approximately 30sec and the APAPI indicated they were on the correct glide-path at 1.5NM', which indicated that the turn to final had occurred at a point outside the promulgated circuit pattern. Whilst the student pilot in C152(B) had not conformed with the traffic pattern formed by the instructor and student in C152(A) (**CF1**, **CF3**), the instructor also had not notified the AFISO or other circuit traffic that they had intended to fly a larger than normal, or promulgated, circuit (**CF2**). The Board recognised that there was no requirement to do so in regulation, but also expressed their view that a Threat and Error Management analysis of circuit activity would highlight the need for mitigation (such as an R/T call) if flying a larger than normal circuit with other traffic in the pattern, especially a solo student pilot. It was also noted that, strictly speaking, when operating at an airfield with an ATZ the requirements of Rule 11 of The Rules of the Air Regulations 2015 applied to traffic leaving and entering the ATZ. The C152(B) student pilot had seen an aircraft 'about to touchdown on RW36' and had 'had no other reason to believe anyone was ahead'. Members thought it likely the C152(B) student pilot had not assimilated all the circuit traffic radio calls and hence had been operating with incorrect situational awareness (**CF5**). The instructor in C152(A) perhaps had not been fully aware of the effect of their larger circuit on the ability of other traffic to conform and had not been aware of the relative position of C152(B) until sighted (other than the general awareness that another aircraft had been operating in the circuit pattern); a lack of situational awareness (**CF5**). In the event, the C152(A) instructor had seen C152(B) as the student pilot had crossed from left-to-right and turned onto final and the C152(B) student pilot had not seen C152(A) (**CF7**). Members noted that although C152(B) was equipped with a TAS, the EC barrier had not been able to function as a result of a lack of transponder signal from C152(A) (**CF6**). Members wondered whether this had been due to malfunction or if the transponder had perhaps not been selected on (**CF4**). The AFISO had become aware of the proximity of the 2 aircraft as they were on final and the Board commended them for their subsequent action in helping to resolve the conflict. Turning to risk, some members felt that the C152(A) instructor had reacted to the conflict such that risk of collision was averted (Risk C). However, by a small majority, the Board felt that estimated separation at CPA indicated that safety had been much reduced, Risk B (**CF9**).

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023104			
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	• Accuracy of Communication	Events involving flight crew using inaccurate communication - wrong or incomplete information provided	Ineffective communication of intentions
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
4	Human Factors	• Transponder Selection and Usage	An event involving the selection and usage of transponders	
	• Situational Awareness of the Conflicting Aircraft and Action			
5	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			
6	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			
7	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
8	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
	• Outcome Events			
9	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 Assessment[5]

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

Flight Elements:

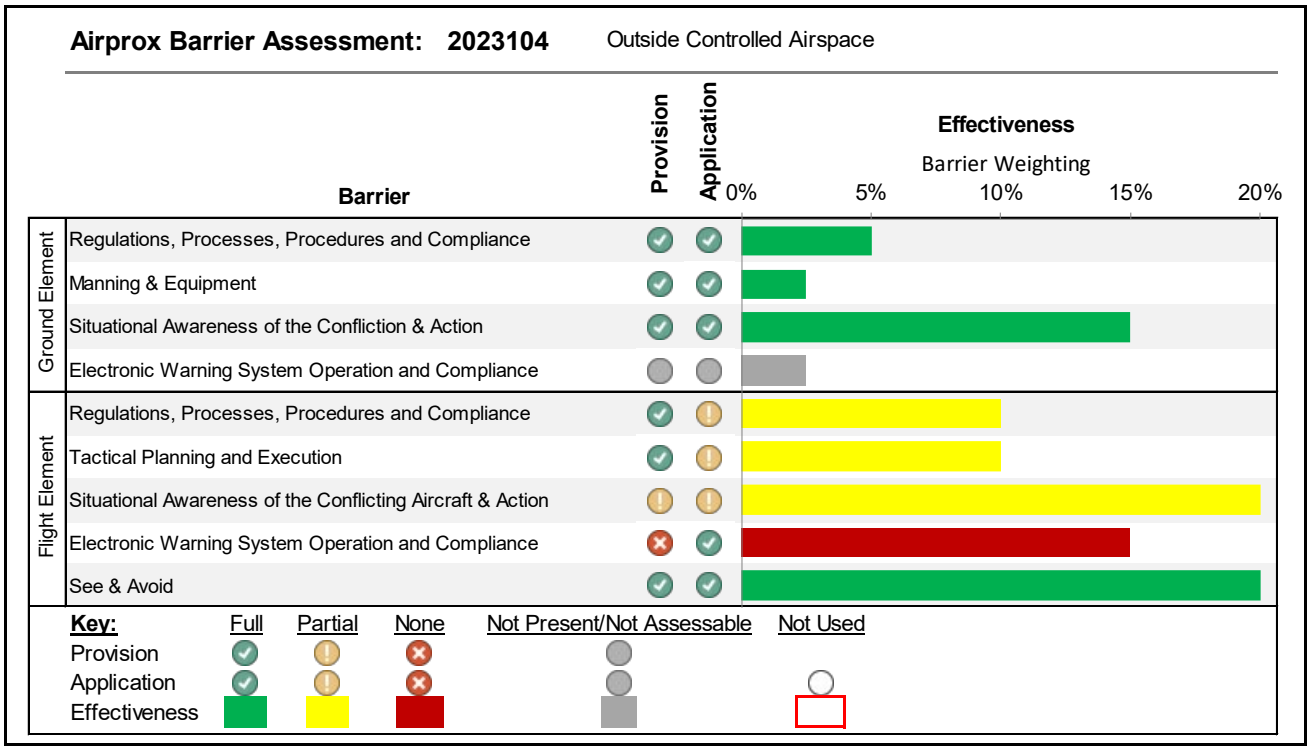
Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the C152(B) student pilot did not integrate with the C152(A) ahead.

Tactical Planning and Execution was assessed as **partially effective** because the C152(A) instructor did not communicate their intention to fly a larger than promulgated circuit to the AFISO and other circuit traffic.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the C152(A) instructor had only generic situational awareness on the C152(B) and the C152(B) student pilot had incorrect situational awareness on the C152(A).

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the C152(B) TAS was not able to detect the C152(A) because the C152(A) transponder was not selected on or was not functioning.

[5] 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: 2023104
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