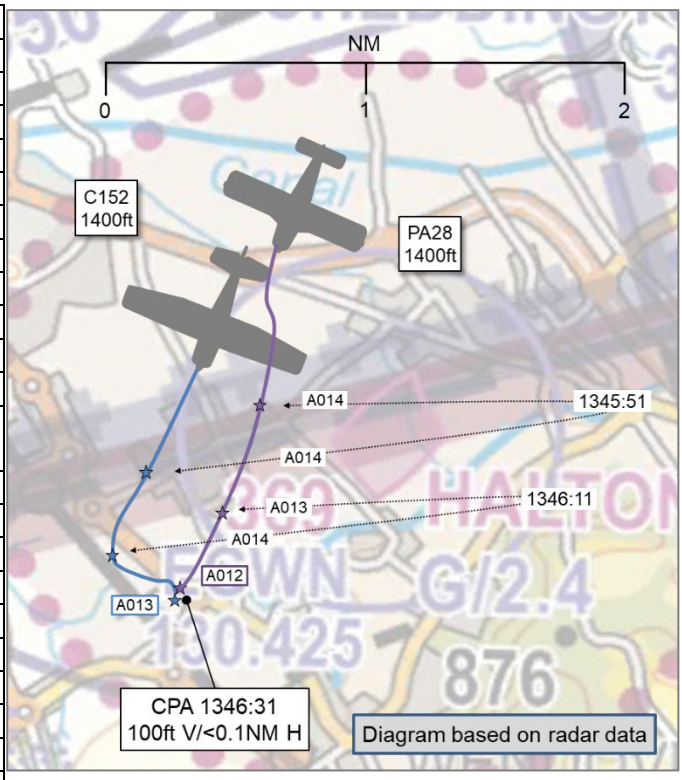
AIRPROX REPORT No 2021166

Date: 01 Sep 2021 Time: 1346Z Position: 5146N 00044W Location: Halton

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C152	PA28
Operator	Civ FW	Civ FW
Airspace	Halton ATZ	Halton ATZ
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Halton	Halton
Altitude/FL	1300ft	1200ft
Transponder	A, C, S	A, C, S
Reported		
Colours	Yellow	White, Maroon
Lighting	Nav, Strobes, Landing	Nav, Strobe, Landing
Conditions	VMC	VMC
Visibility	>10km	5-10km
Altitude/FL	1000ft	1000ft
Altimeter	QFE (1019hPa)	QFE (1019hPa)
Heading	110°	200°
Speed	70kt	95kt
ACAS/TAS	SkyEcho	SkyEcho
Alert	None	None
Separation at CPA		
Reported	30ft V/75m H	50ft V/0.1NM H
Recorded	100ft V/<0.1NM H	



THE HALTON AIRFIELD MANAGER (AFM) reports that RW02 was in use with powered ops and gliding ops in progress. The solo student, in the C152, took avoiding action on a second club member, in a PA28, just after they had turned base-leg. The student flew the correct visual circuit pattern. The PA28 pilot had briefed to leave Halton for the local area for GH. On climb-out they decided to do a visual circuit. The ground track was inside the usual pattern and they extended the downwind leg considerably. The PA28 gradually caught the Cessna up. The AFM was expecting the PA28 to leave the ATZ for the local area due to info passed prior to take-off. They saw the PA28 take an unusual route to leave the ATZ, noticed that it appeared closer in than a usual visual circuit and faster than expected (although there was a stiff tail wind). They called '[PA28 C/S] are you visual with [C152 C/S]?'. There was no response. The AFM called again, in an urgent voice, when the PA28 was close to the Cessna as they knew the Cessna would soon turn in. Their tone alerted the Cessna pilot to something unusual happening, and also caught the attention of a Microlight crew on the ground, who also watched. As the Cessna turned base-leg, the two aircraft crossed paths at similar heights. The Cessna pilot saw the PA28 thanks to the AFM's radio calls. The C152 pilot took avoiding action, climbing and turning right, before calling going around and landed safely after the next circuit. The PA28 pilot did not acknowledge any radio calls from the AFM. After the extended downwind leg they made a continuous turn on to the centre-line, called 'long final' and landed.

THE C152 PILOT reports that when turning downwind, they noticed [PA28 C/S] taking off, so assumed separation would be adequate. When turning base leg, two calls were made on the radio asking if [PA28 C/S] was visual with their aircraft. The PA28 pilot did not respond to the calls, so they turned their head to see the PA28 approximately 75m behind them. They then applied full throttle and made a climbing right turn. They conducted a go-around while the PA28 landed, completing the circuit as normal to land.

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

THE PA28 PILOT reports that they had not flown solo since Feb 2019 (a shared ride with another pilot for a land away) and before that as solo pilot in Jan 2019. Therefore, it was an important day, following lost medical, business issues and Covid, they were finally back in P1. Avoiding alcohol the night before, they found it difficult to be ready to retire and then more difficult to finally sleep. An early start to the day meant less sleep than normal. It might have been prudent to call it off – but it was a Big Day! In the cockpit, their checks were meticulous, the C152 was taking-off when they started and had completed sufficient touch-and-gos for the instructor to radio that they were leaving the aeroplane to allow the student pilot their first solo, when the PA28 pilot was ready to taxi. Their plan had been to depart to the north for a pleasant "bimble" and to return for some practice circuits. The weather was "iffy" and the Red Arrows transit route partly matched in reverse their own planned route and their departure was now later than planned. They were considering just conducting circuits but knowing a student pilot was to enjoy their first solo session, they didn't want them to be tripping over each other so decided to leave the circuit. They watched the C152 line up and take-off, in one process, before announcing "lining up" and sitting on the runway for a short time to allow separation. They were a little surprised by how responsive and more powerful the PA28 was with only 1 POB and found themself at altitude quite quickly and decided a quick circuit would be useful to get their first (in a long while) solo landing out of the way. Having not planned a circuit, they were hurried to decide when to turn downwind and thought they were approaching the position where they would be flying over houses on the edge of Aylesbury – it now seems they were looking at Weston Turville - and they made a turn to try and stay on the eastern side of the conurbation. They heard a call from the C152 that they were downwind and, after some seconds made the same call. They then realised that they had not visually located the C152 but looking ahead they were unable to locate it, and at that moment should have pulled the power and looked to turn out of the circuit. They realised they were approaching the lake which meant that they were far too close to the airfield with an impossible job of completing a normal circuit. Almost simultaneously they heard Halton ask if they were visual with the C152 in a voice which expressed considerable concern, they looked about for perhaps three seconds before seeing the C152 above and in front on base-leg. They called "visual with [C152 C/S]" they then extended the incorrect downwind, widening the angle for return on final and called final to land, having heard the C152 pilot call "going around". Considerably shaken by their own failures, their approach was too high, but with the long runway they knew that full flaps would allow them to make a safe landing, which was preferable to going around to add pressure to the C152 pilot.
Lessons learned: 1. If at all impaired – make it another day. That way there will be one! 2. Make a plan and stick to it. 3. Never follow a slower aircraft in a circuit unless you are visual at all times. 4. Always revise the full circuit in use before take-off – not just the noise abatement on climb-out, especially when returning to flying and under extra pressure.
They had apologised to the student pilot for their stupidity and for spoiling a special moment for them. They noted that they had become a better pilot through this experience and thought that the C152 pilot deserves great credit for their prompt avoiding action – aided by the Halton Radio call made by an observant professional. Since the incident, they were debriefed by a full-time instructor and, as the truncating of the circuit put their aircraft out of position and accelerated the closing speed upon the C152 and contributed to the difficulty in seeing the C152 ahead, they were grounded pending further circuit training.

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

Factual Background

The weather at Luton was recorded as follows:

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METAR EGGW 011320Z AUTO 03009KT 010V070 9999 OVC024 16/12 Q1031=
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Analysis and Investigation

UKAB Secretariat

Although Halton operates without radar, the Airprox could be seen on the NATS area radar. The PA28 first appeared on radar at 1345, the C152 could be seen already established downwind in the

visual circuit (Figure 1). By 1345:51, the PA28 had flown a tighter circuit inside the C152 (Figure 2). The PA28 continued with the tighter visual circuit and when the C152 turned onto a standard base-leg the two aircraft converged at the same altitude (Figures 3 and 4). CPA occurred at 1346:31 at <0.1NM and 100ft (Figure 5).

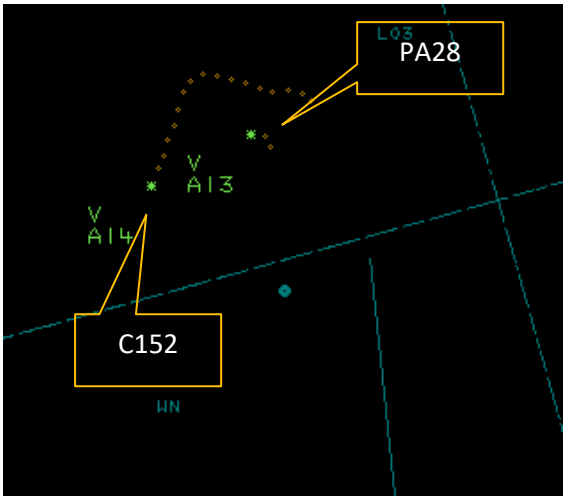


Figure 1:1345:11

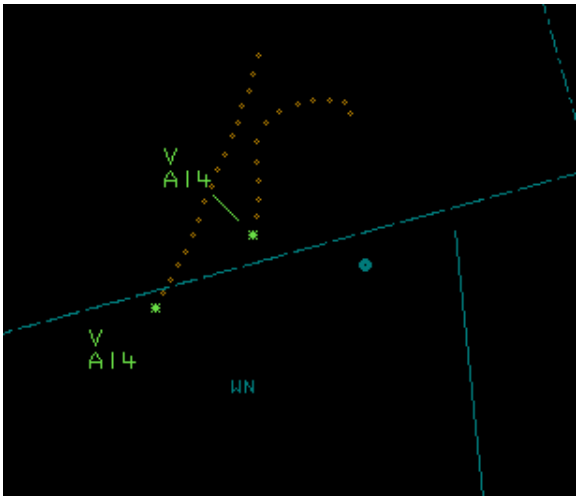


Figure 2:1345:51

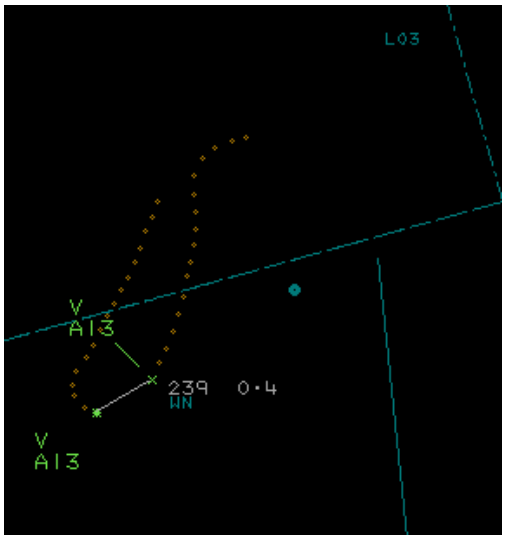


Figure 3: 1346:19

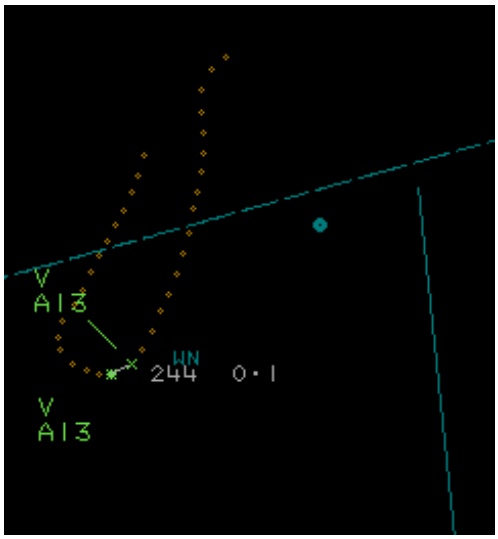


Figure 4: 1346:27

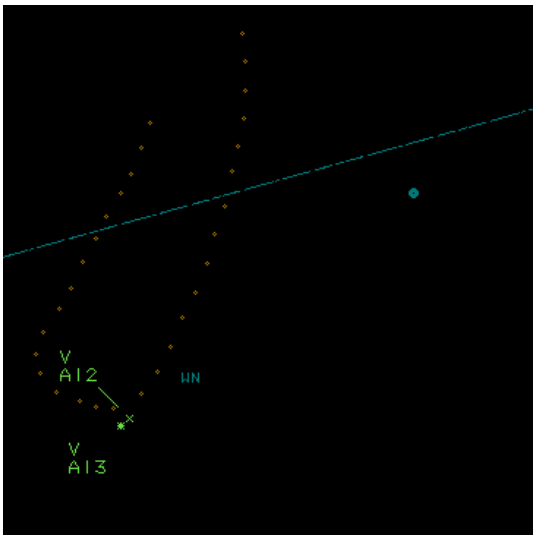


Figure 5: 1346:31 - CPA

The C152 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.[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 PA28 flew into proximity in the Halton visual circuit at 1346Z on Wednesday 1st September 2021. Both pilots were operating under VFR in VMC and both were in receipt of an AGCS from Halton.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings and a reports from the AFM. 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.

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 looked at the actions of the PA28 pilot. They welcomed the frank and honest report from the pilot and noted that the pilot had already recognised many of the observations that they would make. They thought this was a prime example of how a change of intentions which had not been sufficiently pre-planned could lead to unforeseen circumstances and difficulties. They echoed the pilot's own sentiment that it is wise to make a plan and stick to it. Prior to getting airborne the pilot was not intending to conduct a visual circuit (**CF4**) and consequently, when they changed their mind and decided to remain in the circuit, they quickly lost their bearings and mis-identified key visual references, and consequently flew a non-standard circuit. The PA28 pilot had generic situational awareness that the C152 was ahead in the circuit (**CF6**) but their own non-standard circuit ultimately resulted in not being able to see the C152 ahead. Once they realised that they were not visual with the C152 ahead, the pilot should have taken action to resolve the situation by either clearing the circuit or going around at that point (**CF2**). In continuing, despite not being visual, the PA28 pilot did not integrate with the circuit traffic (**CF1**, **CF3**) and continued into conflict with the C152 as they both approached base-leg (**CF5**). Once the AFM had called on the RT and alerted the pilot to the situation, the PA28 pilot saw the C152 and took action, albeit late (**CF8**). Members wished to remind pilots about the mnemonic IM SAFE, which should be used for pilots to self-assess fitness to fly, full details are available in the Skyway Code[3].

Members noted that both aircraft were fitted with the same make of TAS and neither pilot reported receiving an alert and members were not sure whether it had not alerted, or whether the pilots could simply not remember hearing it, that being said, they would have expected it to alert on this occasion (**CF7**).

Turning to the C152 pilot, members noted that it was the pilot's first solo circuit and thought they responded well to the unusual circumstances. The pilot would have had generic situational awareness that the PA28 was in the visual circuit from hearing the calls on the RT (**CF6**). However, they would not have expected it to appear in the position it did, and anyway it would probably have been obscured from view due to the high-wing of the C152 as they turned onto a base-leg (**CF9**). In the end the call by the AFM on the RT alerted the pilot to the presence of the PA28 and, looking behind, they became visual with it and took avoiding action (**CF8**).

[1] (UK) SERA.3205 Proximity.
[2] (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.
[3] CAP1535, Skyway Code, GA Risks, page 120 available here

Noting that the call from the AFM was what first alerted both pilots to each other, members praised them for their quick reactions and for making the timely call. They thought that the call probably prevented the incident developing into an even worse situation.

When assessing the risk, the Board took into consideration the reports from both pilots and the radar replay. They noted that although the pilots had managed to take some avoiding action, it had been a late sighting by both and came following a call from the AFM on the ground. They therefore agreed that safety had not been assured and there had been a risk of collision (**CF10**); Risk Category B.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2021166			
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	• Insufficient Decision/Plan	Events involving flight crew not making a sufficiently detailed decision or plan to meet the needs of the situation	Inadequate plan adaption
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	• Pre-flight briefing and flight preparation	An event involving incorrect, poor or insufficient pre-flight briefing	
	• Situational Awareness of the Conflicting Aircraft and Action			
5	Human Factors	• Lack of Action	Events involving flight crew not taking any action at all when they should have done so	Pilot flew close enough to cause concern despite Situational Awareness
6	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
	• Electronic Warning System Operation and Compliance			
7	Human Factors	• Response to Warning System	An event involving the incorrect response of flight crew following the operation of an aircraft warning system	CWS misinterpreted, not optimally actioned or CWS alert expected but none reported
	• See and Avoid			
8	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
9	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other
	• Outcome Events			
10	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[4]

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

Flight Elements:

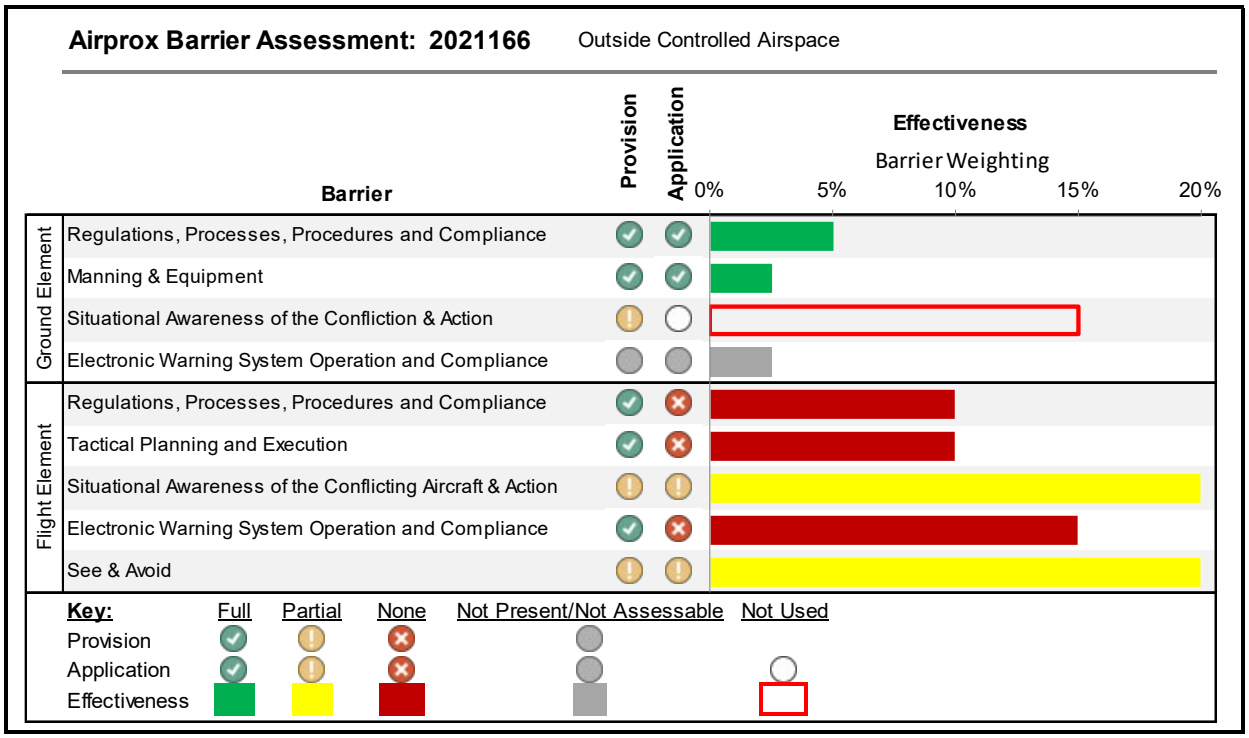
Regulations, Processes, Procedures and Compliance were assessed as **ineffective** because the PA28 pilot did not integrate with the C152.

Tactical Planning and Execution was assessed as **ineffective** because the PA28 pilot did not sufficiently pre-flight plan for their visual circuit and once in the circuit did not adapt the plan when it became obvious that they were not flying the correct circuit profile.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the C152 pilot did not have any situational awareness that the PA28 was flying an unusual circuit and the PA28 pilot continued with the circuit despite not being visual with the one ahead.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the two aircraft were fitted the same make of TAS and an alert would have been expected.

See and Avoid were assessed as **partially effective** because it was a late sighting by both pilots.



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