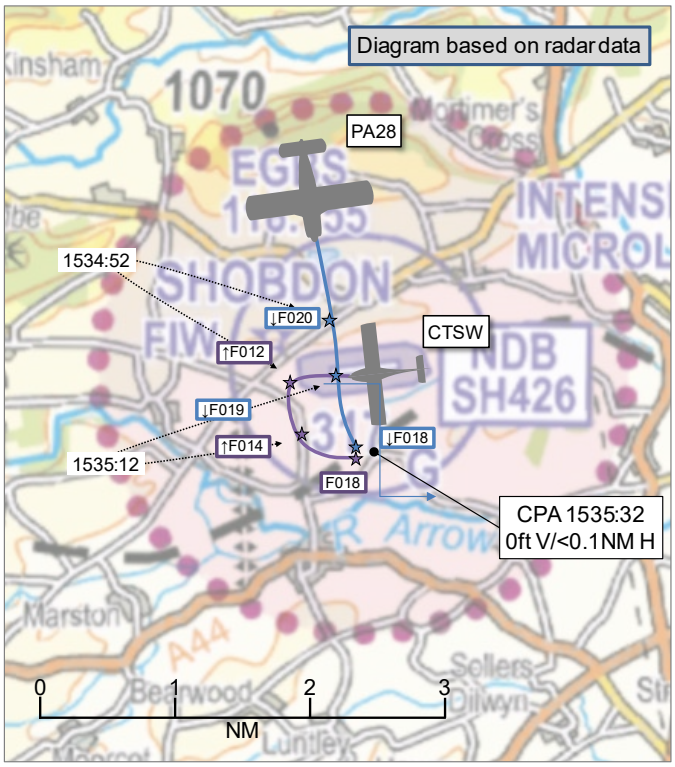
AIRPROX REPORT No 2025005

Date: 25 Jan 2025 Time: 1535Z Position: 5214N 00253W Location: Shobdon

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	CTSW
Operator	Civ FW	Civ FW
Airspace	Shobdon ATZ	Shobdon ATZ
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Shobdon	Shobdon
Altitude/FL	FL018	FL018
Transponder	A, C, S	A, C, S
Reported		
Colours	White, Blue	White
Lighting	Beacon, Nav, Landing	Nav, Strobe
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1200ft	1400ft
Altimeter	QFE (994hPa)	QNH (1005hPa)
Heading	180°	NK
Speed	90kt	65kt
ACAS/TAS	Not fitted	PilotAware
Alert	N/A	None
Separation at CPA		
Reported	<20ft V/0ft H	200ft V/200ft H
Recorded	0ft V/<0.1NM H	



THE PA28 PILOT reports that they conducted a join from the north with RW26LH being in use. They entered the ATZ from the north at 2000ft QFE, and proceeded to descend deadside and then overflew the numbers (slightly right of) to RW08. It is not below 1500ft deadside at Shobdon due to gliding so, once passing over the active, they continued a shallow descent of <400ft/min to get to 1000ft QFE circuit height. The near miss occurred when they were just before mid-point, between overflying the runway and turning downwind. The circuit at Shobdon is wide due to noise abatement and they were visual with an aircraft turning early downwind in the distance. The separation would have put them nicely behind the other aircraft. The aircraft that was involved in the near miss was [CTSW C/S], and was converging from the right. They believed that the pilot was flying a VERY tight downwind departure, even inside the microlight circuit and very close in to the airfield. They spotted the aircraft on their right, around 1sec (or less) before they passed beneath. There was definitely no time to take any action. At that second they thought it was going to collide. It very NARROWLY missed them, they thought, no more than 20ft separation vertically as it passed beneath. As they were flying a PA28, the wings are on the bottom, so they could not see this aircraft approaching. It passed them 80° off their heading. So directly from the right. They could VERY clearly read the callsign on the aircraft when it passed to their left. They questioned the type of departure this aircraft was doing towards the east.

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

THE CTSW PILOT reports that they departed Shobdon at the intersection on RW26, they elected to depart using the tighter microlight circuit. They started a steady climb on the downwind leg to about 1000ft AAL at mid-point of the runway up to about 1400ft AAL at the end of the runway. QNH was set at 1005hPa. They looked to their left to make sure they had passed the end of the runway before continuing to climb, when they saw another aircraft coming towards them, higher than them but descending. They levelled off and made a short descent and from what they could see, the aircraft

passed above and behind about 200ft. There was no discussion about a near miss incident over the radio so they took it that there had been sufficient separation and didn't consider it needed reporting. They thought they were okay routeing on the microlight circuit because they were routeing close to a SFC-1600ft AAL restricted area. The other aircraft was not visible on [their CWS], the alert was visual only.

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

THE SHOBDON AGO reports that the [PA28 pilot] reported downwind for RW26, they were then stepped on by another aircraft and they [the AGO] asked the PA28 pilot to say again in which they said "*not too sure what the departing aircraft was doing but we had a very near miss*". The AGO acknowledged the transmission and their intention was to ask the pilot to come to the tower upon landing. [The CTSW pilot] then reported changing the frequency without a position report, quite soon after departure (they believe it was a flight of 2 visiting aircraft). They then had no further conversation with the PA28 pilot regarding the incident, further transmissions were approach and landing information related.

The PA28 pilot came up to the tower later and explained what happened, reporting that they had a near-miss when downwind 'approximately 200ft' and then showed the AGO the SkyDemon track (they were not a SkyDemon user, therefore, couldn't make much sense of it). The PA28 pilot said it was the closest they had had and they would be filing the Airprox.

Factual Background

The weather at Gloucestershire was recorded as follows:

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METAR EGBJ 251450Z 20004KT 9999 FEW040 07/01 Q1005=
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The Shobdon website provided the following diagram for circuit information and noise abatement areas:

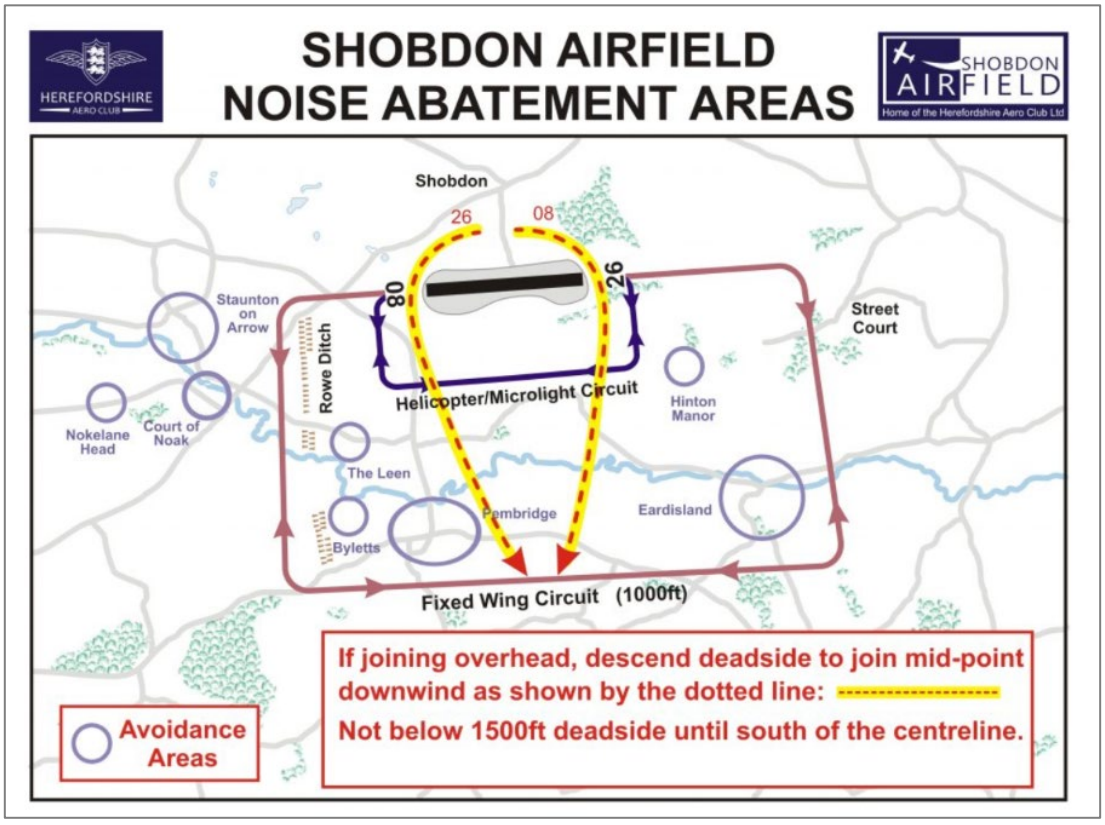

Figure 1 – Noise abatement areas at Shobdon

Powered aircraft wide circuits:

08 Right Hand 1000ft QFE
26 Left Hand 1000ft QFE
Helicopters 700ft QFE
Micro lights 500ft QFE

Glider circuit to the north of the airfield.

Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken. Both aircraft could be seen and identified using Mode S data. The PA28 could be seen joining the circuit from the north in an overhead join. At 1534:36 the CTSW first appeared on the radar replay, in SSR only, indicating FL006 (altitudes on the radar replay shown in flight levels), see Figure 1. The radar indicated that there were at least 4 other aircraft in the visual circuit.

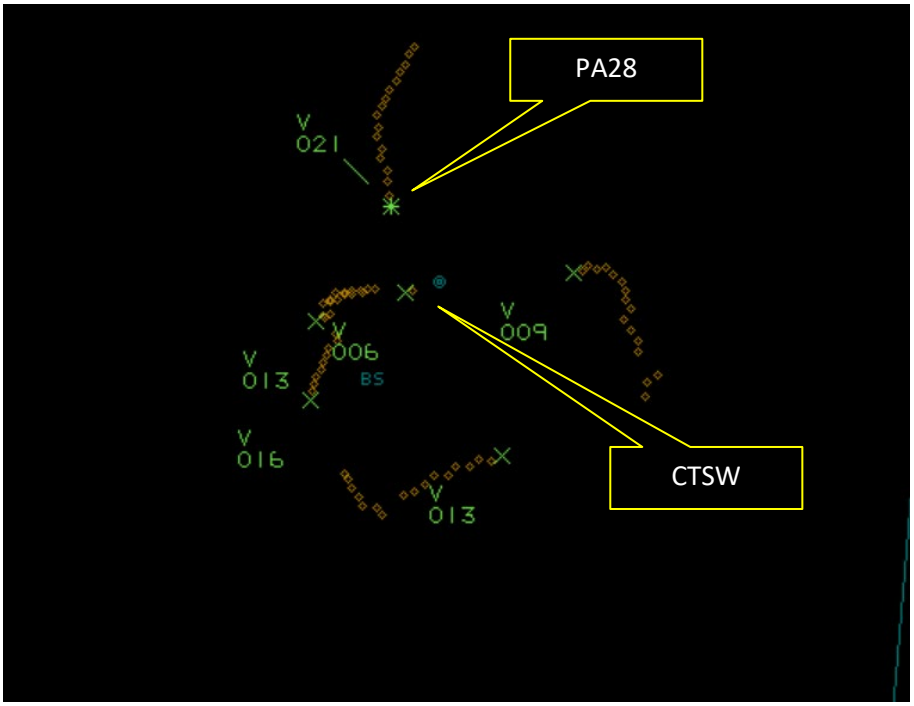

Figure 1 – 1534:36

The CTSW could be seen to turn onto a westerly heading, climbing to FL018 as the PA28 descended to FL018, until CPA at 1535:32 when radar separation indicated <0.1NM with both aircraft indicating FL018.

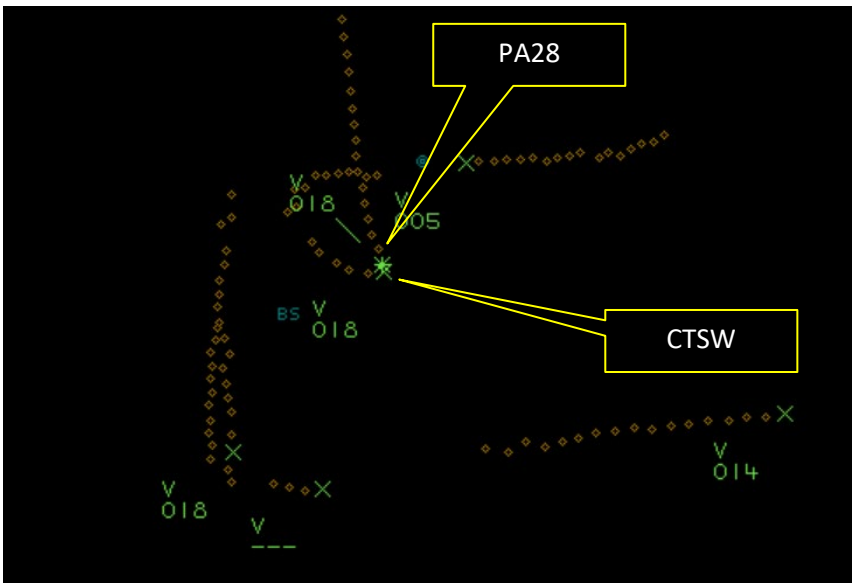

Figure 2 – 1535:32, Radar CPA

The PA28 and CTSW 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 PA28 and a CTSW flew into proximity at Shobdon at 1535Z on Saturday 25th January 2025. Both pilots were operating under VFR in VMC and in receipt of an AGCS from Shobdon.

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 AGO 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 PA28 pilot; they had been joining the Shobdon circuit through the overhead. Shobdon procedures dictated that the pilot had been required to maintain 1500ft until into the airfield overhead in order to keep clear of gliders on the north side. Members agreed that, although the PA28 pilot had been required to integrate with other traffic in the visual circuit, they would not have been expecting to see another aircraft at the same height when close into the overhead, as it would have been reasonable to assume that anyone in the microlight circuit would have been at 500ft. It appeared that there had not been any communications of intentions from the CTSW pilot over the RT about their intention to climb in the microlight circuit, therefore the Board agreed that the PA28 pilot's situational awareness had been inaccurate (**CF4**). The PA28 pilot described that the CTSW had been obscured by the low wing of their aircraft until the last moment, too late to take any avoiding action, and members agreed that this had been effectively a non-sighting by the PA28 pilot (**CF7**).

Turning to the actions of the CTSW pilot, members discussed that the pilot had elected to depart downwind, which in itself had not been an issue, but they highlighted that the microlight circuit was at 500ft specifically to keep it out of the way of traffic joining through the overhead which would have been descending to standard circuit height of 1000ft. Members noted that the circuits at Shobdon were complicated, with gliding to the north of the airfield and multiple noise avoidance areas, therefore it was imperative to keep to standard circuits and remain predictable for other pilots to be able to integrate

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

safely. By electing to climb whilst following the downwind track, the CTSW pilot had not remained in the microlight circuit (**CF1**) and by not articulating their intentions to climb (rather than simply departing on a downwind track), the pilot had denied the PA28 pilot situational awareness on their position (**CF2**). Members discussed the CTSW pilot's decision to conduct a climbing departure, noting that any downwind departure should not include a climb until clear of the circuit, unless there is no other traffic around (**CF3**). Members further noted that even if the CTSW pilot had remained at 500ft to depart the circuit, they could still have conflicted with traffic turning base-leg and so warned that pilots should exercise caution when conducting such a departure, with some members opining that, although classed as a microlight and therefore entitled to use the microlight circuit, given that the CTSW is a small manoeuvrable aeroplane, the pilot could have considered following the standard circuit at 1000ft in order to depart safely. Members agreed that the CTSW pilot should have received generic situational awareness on the position of the PA28 (**CF4**), because they should have heard the PA28 pilot's RT calls that they had been conducting an overhead join, but some members wondered whether the CTSW pilot had assimilated that the overhead join traffic would have directly conflicted with their own climb (**CF5**). The Board further agreed that the CWS in the CTSW had not detected the PA28 and so had not provided the pilot with any additional information (**CF6**). The CTSW pilot had described seeing the PA28 and levelling off but, as the radar indicated that the two aircraft had been at the same level, members were in agreement that this sighting had not been in time to have materially affected the separation, making this effectively a non-sighting (**CF7**).

Members agreed that although the AGO would have been able to repeat information passed to them by other pilots, the CTSW pilot had not reported on the RT that they intended to climb above the microlight circuit height, therefore the AGO could not provide any additional information to the PA28 pilot, and anyway had not been required to sequence the aircraft in the circuit.

When determining the risk, members considered the reports from both pilots together with the radar screenshots. The PA28 pilot's estimate of the separation had been less than 20ft and the pilot had reported that they had not seen the CTSW in time to take any action. The CTSW pilot reported more separation, but still, members thought that the pilot had probably seen the PA28 at the last possible moment as the radar also indicated very little vertical or lateral separation, albeit that it may have had a degree of time lag. The Board therefore agreed that the separation between the two aircraft had been at the bare minimum with a serious risk of collision (**CF8**); Risk Category A.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2025005			
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	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
	• Situational Awareness of the Conflicting Aircraft and Action			
4	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
5	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			
6	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			
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
	• Outcome Events			
8	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: A.

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:

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **not used** because the Shobdon AGO had not been required to sequence the aircraft in the circuit.

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the CTSW pilot had not maintained the microlight circuit height when departing downwind.

Tactical Planning and Execution was assessed as **ineffective** because the CTSW pilot climbed above the microlight circuit height when departing, without communicating their intentions, and into proximity with the PA28.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the PA28 pilot had inaccurate situational awareness that the CTSW would be at microlight circuit height. Furthermore, the CTSW pilot should have heard the PA28 pilot's calls to join through the overhead, but had not assimilated them.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because it would have been expected that the CWS on the CTSW would have alerted, but no such alert was reported.

See and Avoid were assessed as **ineffective** because neither pilot had seen the other aircraft in time to take action to materially increase the separation, it had therefore been an effective non-sighting by both pilots.

[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: 2025005 Outside Controlled Airspace