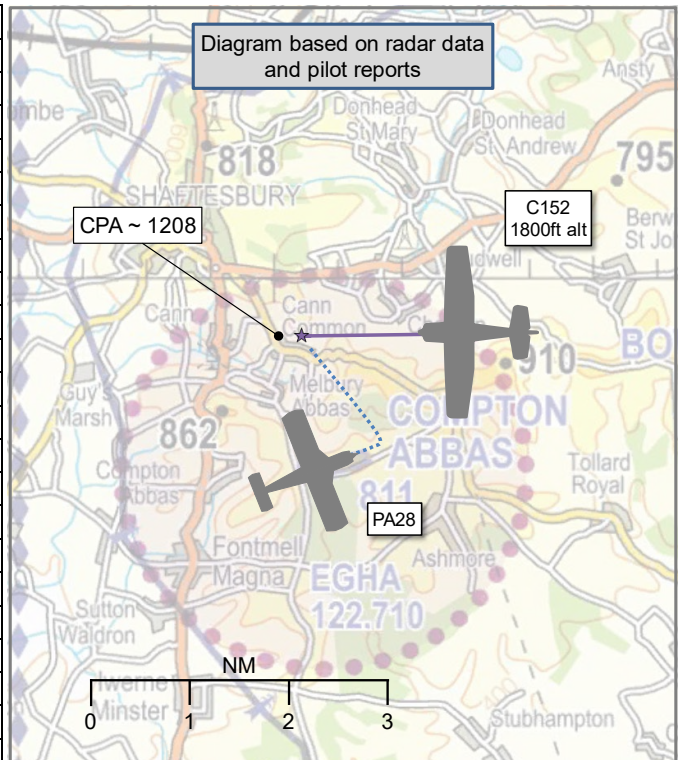


## **AIRPROX REPORT No 2022273**

Date: 08 Dec 2022 Time: ~1208Z Position: 5059N 00207W Location: Compton Abbas

### **PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	C152
Operator	Civ FW	Civ FW
Airspace	Compton Abbas ATZ	Compton Abbas ATZ
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Compton Radio	Compton Radio
Altitude/FL	NK	FL018
Transponder	A, C, S	A, C, S
<b>Reported</b>		
Colours	Yellow, White	White
Lighting	Strobe	Landing, Beacon
Conditions	VMC	VMC
Visibility	>10km	NR
Altitude/FL	1600ft (800ft agl)	1200ft
Altimeter	QNH (1012hPa)	QFE
Heading	320°	260°
Speed	80kt	90kt
ACAS/TAS	Not fitted	Not fitted
<b>Separation at CPA</b>		
Reported	200ft V/200m H	200ft V/0m H
Recorded	NK	



**THE PA28 PILOT** reports that they were in the Compton Abbas visual circuit when, during the climb-out after take-off, traffic was heard advising that they were joining the circuit downwind and would give way to crosswind traffic. The joining aircraft did not give way and was flying the extended downwind leg as they [the PA28] turned from crosswind to downwind. When sighted, the C152 was in their two o'clock approximately 200ft above and 200m laterally displaced. The instructor took control from the student and took avoiding action by descending and turning behind the other aircraft. Having assured adequate displacement, they then continued their climb to depart the circuit to the west. They believed that a conversation took place with Compton Ops staff when the visitor had landed. They understood that the other pilot said that they saw the PA28, but expected it to turn inside.

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

**THE C152 PILOT** reports that they were about 2 miles from downwind for RW08 when they heard the other pilot call downwind touch-and-go. They then saw the other aircraft turning crosswind. They therefore made the following call to Compton Radio, (this is word for word). '[C/S] has the aircraft in sight that is turning crosswind, I will join wide downwind, and will slot in No2 behind the other aircraft'. No reply was heard, and nothing from the other aircraft. As the other aircraft approached from the left it did not appear to be turning downwind, so they maintained height and the other aircraft passed underneath them. The other pilot subsequently called to say they were vacating the circuit to the north. They had the other aircraft in sight from them turning crosswind and would have taken evading action if there had been danger of collision. They did not believe there was a danger of collision at any time. They noted that they were fully aware that joining traffic should give way to established circuit traffic, which is what they intended to do by turning right and going wide.

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

**THE COMPTON AGO** reports the [C152 C/S pilot] inbound had called for airfield information, which was relayed. They did not request that the C152 perform a standard overhead join. [PA28 C/S] was crosswind traffic, when the next transmission from [C152 C/S pilot] was that they were joining the circuit at the downwind leg, and would 'give way to the crosswind traffic'. The C152 did not appear to change its course. The two aircraft seemed to converge to within such a distance that they [the AGO] thought concerning, at the turn between crosswind and downwind. When both aircraft were on the downwind leg, [C152 C/S pilot] appeared unsure as they declared they were 'second on downwind', but then followed this with 'becoming first' once realising that the PA28 was behind them. The PA28 then departed the circuit, and the C152 completed the circuit, landed, and parked-up. They discussed the event with the pilot at the desk, and the pilot informed them that they were visual with [PA28 C/S] the entire time, and were expecting the PA28 to turn on the inside of the C152.

## Factual Background

The UK AIP entry for Compton Abbas states:

### 7 TRAINING

Not applicable

### EGHA AD 2.21 NOISE ABATEMENT PROCEDURES

#### a. Departure.

- i. Runway 08 - left turn as soon as practical in order to avoid Hatts Barn Farm.
- ii. Runway 26 - right turn as soon as practical after passing 200 FT AAL in order to avoid Compton Village, tracking over the crest of Melbury Hill.

### EGHA AD 2.22 FLIGHT PROCEDURES

- a. Circuit directions: Runway 26 - RH; Runway 08 - LH.
- b. All traffic to join overhead or dead-side descending to 800 FT QFE to cross the upwind runway numbers.

### EGHA AD 2.23 ADDITIONAL INFORMATION

Not applicable

The weather at Boscombe Down was recorded as follows:

METAR EGDM 081150Z 31004KT 9999 SKC 01/M01 Q1011 RMK BLU=

## Analysis and Investigation

### UKAB Secretariat

An analysis on the NATS radar replay was undertaken. The C152 could be seen on the radar and identified using Mode S data. At 1205 the C152 could be seen approaching Compton Abbas from the east, indicating FL018. The PA28 could not be seen on the radar replay.

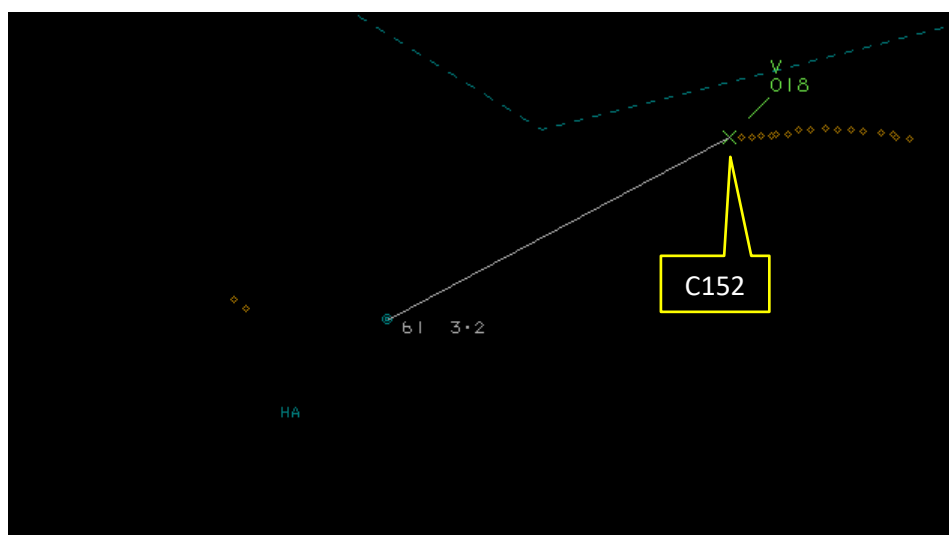


Figure 1 - 1205:59

At 1208:23, the PA28 (identifiable via Mode S) appeared on the radar replay for the first time, to the northeast of the C152. CPA was therefore not visible on the radar.

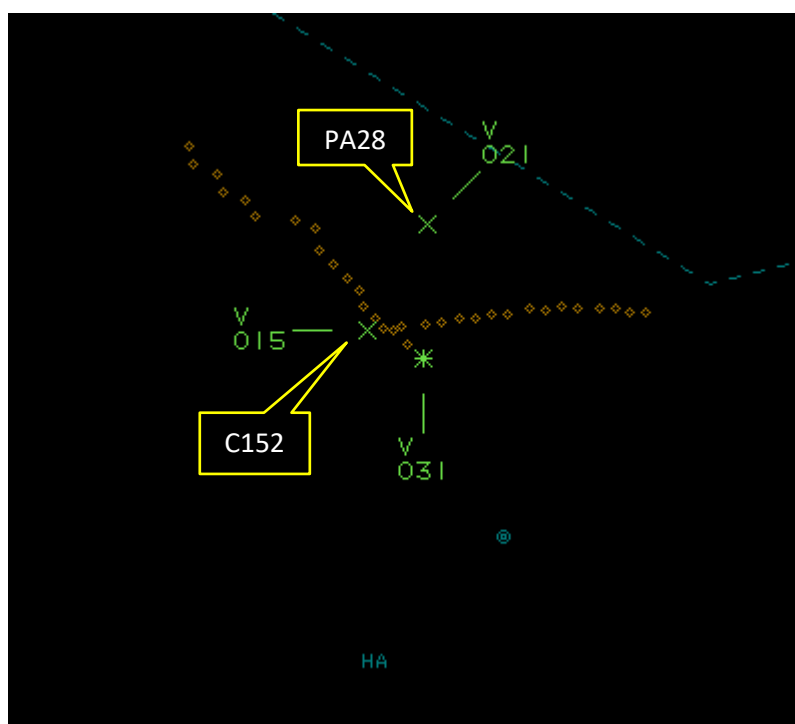


Figure 2 - 1208:23

The PA28 and C152 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.<sup>1</sup> 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.<sup>2</sup>

## Summary

An Airprox was reported when a PA28 and a C152 flew into proximity in the Compton Abbas visual circuit at around 1208Z on Thursday 8<sup>th</sup> December 2022. Both pilots were operating under VFR in VMC, both were in receipt of an AGCS from Compton Radio.

## 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 looked at the actions of the PA28 pilot. They noted that the pilot had heard the C152 pilot call to join downwind and had therefore been expecting it and had been cued to look for it. As the event unfolded, the PA28 pilot had expected the other pilot to give way, as they had stated on the radio, however, the other pilot had had an incorrect mental model in that they had been expecting the PA28 to turn downwind in the circuit. Whilst noting that the PA28 pilot had been the aircraft that had been established in the circuit, still members wondered whether, once they had become visual with the C152, the pilot could have adapted their flight profile slightly to ensure adequate separation, rather than continuing to a point at which they had needed to take avoiding action, noting that a slight adjustment early is better than urgent avoiding action at a late stage (**CF2**). Members agreed, however, that the

<sup>1</sup> (UK) SERA.3205 Proximity.

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

PA28 pilot had not been expecting the need to alter their course, and reported being concerned by the proximity of the C152 (**CF4**).

Turning to the actions of the C152 pilot, they had not followed the joining procedure as published in the UK AIP regarding overhead joins at Compton Abbas (**CF1**), and the Board noted that the overhead join was the method of join recommended by the CAA because it allowed a pilot time to fully assess the position of aircraft within the circuit prior to joining. It had been for the C152 pilot, as the joining aircraft, to integrate with the circuit traffic (**CF2, CF3**), which the pilot had said they would do on the RT. However, the C152 pilot had thought that the PA28 would be turning downwind and they would be able to fly a wider circuit to fit in behind, when in fact the PA28 had been departing the circuit to the north. Members thought that the C152 pilot should have requested more information on the position and intentions of the PA28 if they were unsure of the other pilot's intentions.

Members noted that neither aircraft was fitted with any additional electronic conspicuity equipment, which on this occasion may have provided some additional information to aid visual acquisition. It was for pilots to decide on their own requirements for additional equipment according to their needs and the Board wished to highlight to pilots that additional funding has been made available for electronic conspicuity devices through the CAA's Electronic Conspicuity Rebate Scheme, which has been extended until 31st March 2024<sup>3</sup>.

The Board then briefly looked at the role of the AGO. Noting that the AGO did not have the authority to tell the C152 pilot to conduct an overhead join, but could only pass Traffic Information based upon pilot reports, and that the C152 pilot had stated that they would fit in behind the PA28, members thought that there had been little more that the AGO could have done in these circumstances.

When assessing the risk, members took into consideration the reports from both pilots together with the AGO's report and the radar replay screenshots. They noted that both pilots had been visual and, although the radar had not shown the CPA, both pilots had made a similar assessment of the separation. The PA28 pilot had reported taking avoiding action and the C152 had assessed that no further action had been necessary. The Board therefore agreed that there had been no risk of collision, but thought that safety had been degraded; Risk Category C.

## **PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**

### Contributory Factors:

2022273				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
<b>Flight Elements</b>				
<b>• Regulations, Processes, Procedures and Compliance</b>				
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
<b>• Tactical Planning and Execution</b>				
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
<b>• See and Avoid</b>				
4	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

Degree of Risk: C.

<sup>3</sup> <https://www.caa.co.uk/general-aviation/aircraft-ownership-and-maintenance/electronic-conspicuity-devices/>

### Safety Barrier Assessment<sup>4</sup>

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 C152 pilot should have integrated with, or avoided the circuit pattern formed by, the PA28 and had not flown an overhead join in accordance with the Compton Abbas AIP entry.

**Tactical Planning and Execution** was assessed as **ineffective** because the C152 pilot had not integrated with the PA28 in the circuit and also that the PA28 pilot, having seen the C152 joining, could have adapted their track on climb-out.

Airprox Barrier Assessment: 2022273		Outside Controlled Airspace		Effectiveness					
Barrier		Provision	Application	0%	5%	10%	15%	20%	
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✓	[Green bar to 5%]					
	Manning & Equipment	✓	✓	[Green bar to 5%]					
	Situational Awareness of the Confliction & Action	✓	○	[Red box from 5% to 15%]					
	Electronic Warning System Operation and Compliance	●	●	[Grey bar to 5%]					
Flight Element	Regulations, Processes, Procedures and Compliance	✓	⚠	[Yellow bar to 10%]					
	Tactical Planning and Execution	✓	⚠	[Yellow bar to 10%]					
	Situational Awareness of the Conflicting Aircraft & Action	✓	✓	[Green bar to 20%]					
	Electronic Warning System Operation and Compliance	●	●	[Grey bar to 15%]					
	See & Avoid	✓	✓	[Green bar to 20%]					
<b>Key:</b>		Full	Partial	None	Not Present/Not Assessable	Not Used			
Provision	✓	⚠	✗	●					
Application	✓	⚠	✗	●		○			
Effectiveness	■	■	■	■		□			

<sup>4</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).