

AIRPROX REPORT No 2022125

Date: 05 Jul 2022 Time: 1528Z Position: 5043N 00056W Location: 6NM S Thorney Island

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	C172
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	None
Provider	Bembridge Radio	N/A
Altitude/FL	2600ft	2400ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White	White, Blue
Lighting	Anti-col, Strobe, Beacon	Beacon
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2900ft	2500ft
Altimeter	QFE (1023hPa)	QNH (1025hPa)
Heading	085°	230°
Speed	NK	95kt
ACAS/TAS	Not fitted	Not fitted
Separation at CPA		
Reported	50ft V/100ft H	100ft V/200m H
Recorded	<200ft V/<0.1NM H	



THE PA28 PILOT reports that they were heading in an easterly direction towards Selsey Bill, en-route to [their destination airfield]. They were at the top of the climb and levelling out at 2900ft. They were just thinking about; a) making a call to [their previous ATS provider saying] that they were leaving the area, and b) changing from QFE to QNH, when their passenger alerted them to an oncoming aircraft in their 10 o'clock, level. They did not have visual on it immediately so it wasn't until their passenger urgently said that they were going to collide that they [the pilot] took immediate action to do a 60° descending turn to the left. [They believe that the pilot] of the other aircraft saw them at the last minute and turned away to their left ([the PA28 pilot's right]). They then saw the aircraft for the first time and it passed down their right-hand side approximately 100ft horizontal distance, 50ft vertical distance, moving slightly away from them.

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

THE C172 PILOT reports that they had turned out to sea at Selsey Bill to cross to the Isle of Wight and had left [their previous] frequency to call Sandown Traffic. They then saw another aircraft approaching in the opposite direction about 100ft below and about 700ft to their right. They immediately began a turn to the left, as did the other aircraft, to increase horizontal separation. After the aircraft had passed they continued [to their destination].

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

Factual Background

The weather at Southampton was recorded as follows:

EGHI 051520Z 31006KT 280V360 9999 BKN043 20/11 Q1026
 EGHI 051550Z 32006KT 290V010 9999 BKN047 21/12 Q1026

Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft were detected and identified using Mode S data. In the lead-up to the Airprox, both aircraft were observed to have been in the cruise and maintaining a relatively constant heading and altitude, the PA28 at 2700ft and the C172 at 2400ft. However, immediately prior to the Airprox, the PA28 was observed to commence a descent and was recorded by the radar as having been at 2600ft at radar CPA (Figure 1). On the radar sweep after CPA, the aircraft had started to diverge horizontally and the altitude of the PA28 had reduced to 2400ft, matching that of the C172 (Figure 2). It is therefore likely that the actual vertical separation at CPA was less than the radar recorded 200ft vertically and 0.1NM horizontally.

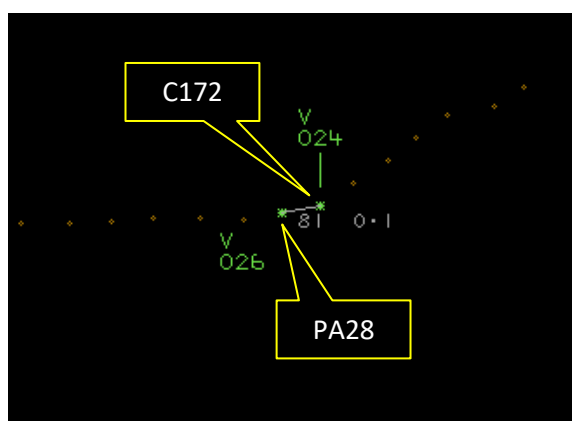


Figure 1 – Radar CPA.

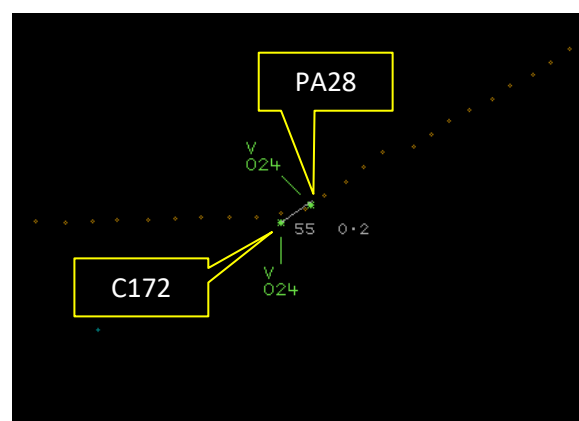


Figure 2 – One radar sweep after CPA.

The PA28 and C172 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 If the incident geometry is considered as converging then the C172 pilot was required to give way to the PA28.²

Summary

An Airprox was reported when a PA28 and a C172 flew into proximity 6NM south of Thorney Island at 1528Z on Tuesday 5th July 2022. Both pilots were operating under VFR in VMC, neither pilot in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots and radar photographs/video recordings. 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 PA28 pilot and members were encouraged that their passenger had become visual with the approaching aircraft and had communicated that to the pilot which, members agreed, would have been facilitated by a good briefing by the pilot. Although the PA28 pilot had not had any EC equipment, and had not been in receipt of an ATS, the Board determined that they had had some awareness of the approaching aircraft as their passenger had informed them of it (**CF1**). Members discussed how the PA28 pilot had used the initial information from their passenger and agreed that they had not fully assimilated the information (**CF2**) and had only taken action when the passenger had become rather more directive. Members agreed that the PA28 pilot had visually acquired the C172 at a late stage (**CF3**), as they had turned.

¹ (UK) SERA.3205 Proximity.

² (UK) SERA.3210 Right-of-way (c)(2) Converging.

Next, members considered the actions of the C172 pilot and noted that they too had not been in receipt of an ATS, neither had they had any EC equipment, and so the Board determined that they had not had any awareness of the PA28 prior to sighting it (**CF1**). An extended discussion followed relating to the point at which the C172 pilot had become visual with the PA28. Members debated whether there had been time for the avoiding action taken by the C172 pilot to materially increase separation and concluded that, whilst it had been a late sighting (**CF3**) their actions had been effective.

Members noted that neither aircraft had been fitted with any additional electronic conspicuity equipment, which on this occasion may have provided some additional information to aid visual acquisition. Whilst it is for pilots to decide on their own requirements for additional equipment according to their needs, 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 2023.³

Finally, in assessing the risk of collision, the Board agreed that as neither pilot had had any EC equipment nor been in receipt of an ATS, lookout had been the remaining barrier against collision. Although the PA28 pilot had had some prior awareness of the presence of the C172, the pilots of both aircraft had become visual with the other at a later than optimum stage. Whilst both pilots had been able to take avoiding action, which had reduced the risk of collision, it had not removed it entirely. Members agreed that, in this case, safety had not been assured and that there had been a risk of collision (**CF4**). Accordingly, the Board assigned a Risk Category B to this Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2022125			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Flight Elements				
• Situational Awareness of the Conflicting Aircraft and Action				
1	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
2	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				
3	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
• Outcome Events				
4	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

³ [Electronic conspicuity devices | Civil Aviation Authority \(caa.co.uk\)](https://www.caa.co.uk)

Safety Barrier Assessment⁴

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

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had had any awareness of the presence of the other aircraft prior to sighting it.

See and Avoid were assessed as **partially effective** because both pilots had become visual with the other aircraft at a later than optimum stage.

Airprox Barrier Assessment: 2022125		Outside Controlled Airspace		Effectiveness					
Barrier		Provision	Application	0%	5%	10%	15%	20%	
Ground Element	Regulations, Processes, Procedures and Compliance	●	●	[Bar chart: 5% effectiveness]					
	Manning & Equipment	●	●	[Bar chart: 5% effectiveness]					
	Situational Awareness of the Conflicting Aircraft & Action	●	●	[Bar chart: 15% effectiveness]					
	Electronic Warning System Operation and Compliance	●	●	[Bar chart: 5% effectiveness]					
Flight Element	Regulations, Processes, Procedures and Compliance	●	●	[Bar chart: 10% effectiveness]					
	Tactical Planning and Execution	●	●	[Bar chart: 10% effectiveness]					
	Situational Awareness of the Conflicting Aircraft & Action	⊗	●	[Bar chart: 20% effectiveness]					
	Electronic Warning System Operation and Compliance	●	●	[Bar chart: 15% effectiveness]					
	See & Avoid	●	●	[Bar chart: 20% effectiveness]					
Key:		Full	Partial	None	Not Present/Not Assessable	Not Used			
Provision	●	●	⊗	●	○				
Application	●	●	⊗	●	○				
Effectiveness	■	■	■	■	■				

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