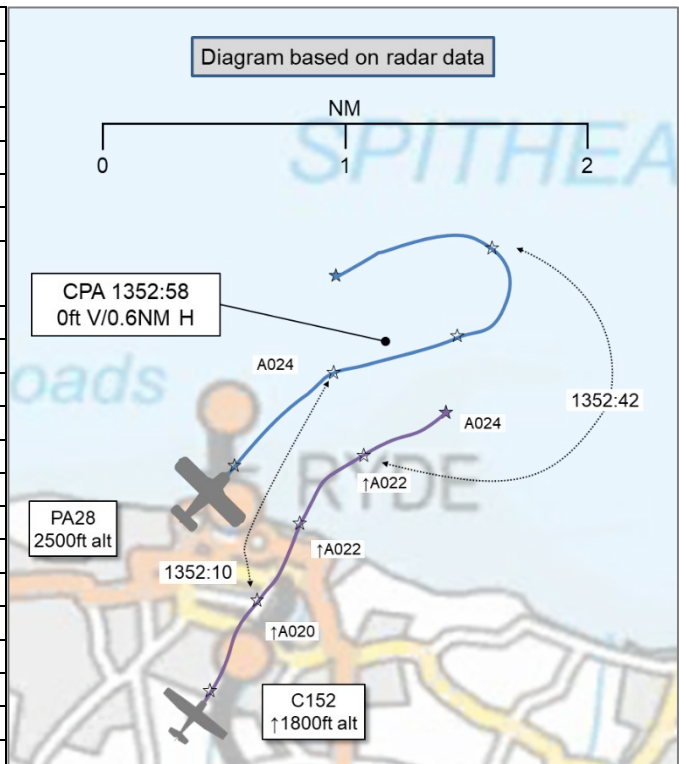


AIRPROX REPORT No 2021164

Date: 27 Aug 2021 Time: 1353Z Position: 5044N 00108W Location: 1NM N-NE Ryde

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	C152
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	None
Provider	Farnborough LARS	N/A
Altitude/FL	2400ft	2400ft
Transponder	A, C, S	A, C
Reported		
Colours	White, blue, gold	White, blue
Lighting	Strobes, beacon	Anti-collision
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2400ft	2000ft
Altimeter	QNH (1022hPa)	QNH (NK hPa)
Heading	030°	045°
Speed	100kt	90kt
ACAS/TAS	PilotAware	SkyEcho
Alert	Information	Unknown
Separation at CPA		
Reported	50ft V/0.25NM H	300-400ft V 0.33NM H
Recorded	0ft V/0.6NM H	



THE PA28 PILOT reports that they were flying over the Isle of Wight at 2400ft after coasting in at St Catherine's point after crossing the English Channel. They had commenced a descent over the Channel to remain VMC below the cloud base, which was approximately 3000ft, and then commenced further descent over the Isle of Wight to provide sufficient PA28 space below the cloud base, and were now at approximately 2400ft. They had been speaking to London Information whilst over the Channel and had switched frequency to Farnborough West after coasting-in and were maintaining a listening watch ahead of requesting a Basic Service when their coverage started overhead Portsmouth. Whilst making their way across the Isle of Wight they began to receive alerts from their [TAS] regarding an aircraft directly below them and closing in on their height. They looked to both their left and right, and asked their partner in the right seat to look out as well, however, they were not able to visually acquire any aircraft. [According to their TAS], the [other] aircraft continued to get closer so they began a slight turn to the left and then a slight turn to the right in order to try and gain visual contact with the aircraft, indicating below them. This was unsuccessful and the [TAS indicated that the other] aircraft continued to get closer, so they entered a slow left hand orbit to try and get visual contact with the aircraft. On nearing completion of the orbit they sighted the aircraft, slightly above their level and less than 0.5NM away, in the exact position they would [have expected to have] been had they maintained their original track. The aircraft pilot didn't show any sign of taking avoiding action and continued on their track to [the PA28 pilot's] left hand side. They felt that had they not taken up the left hand orbit then the aircraft would have hit them. The [other] aircraft was high wing so they suspect that they had not been seen as it had been climbing. They state that their [TAS] device was invaluable as they would not have seen the aircraft in its position below them.

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

THE C152 PILOT reports they were flying from [departure airfield] to [destination airfield] with another pilot as a passenger. As they started to fly over the Solent they saw what they thought was a PA28 heading NE about 2-3NM ahead of, but just below, them in their 10 o'clock. The pilot of the PA28 then started to make various turns and changes of level. To keep it in sight they climbed a few hundred feet and turned about 30° right. Exact levels or headings were not noted. The PA28 pilot then headed south below them and to their left, approximately 1/3NM away. No avoiding action was taken as, [they felt that] none was required.

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

Factual Background

The weather at Southampton was recorded as follows:

METAR EGHI 271350Z 02007KT 350V050 9999 BKN043 18/10 Q1023

Analysis and Investigation

UKAB Secretariat

An analysis of the radar replay was undertaken and, at 1350:10, the pilot of the PA28 was established in the cruise at 2500ft with a groundspeed of approximately 97kts. At the same time the pilot of the C152 was climbing, passing through 1600ft, with a rate of climb of approximately 700fpm, groundspeed 58kts and was 1.6NM from the PA28 (Figure 1).

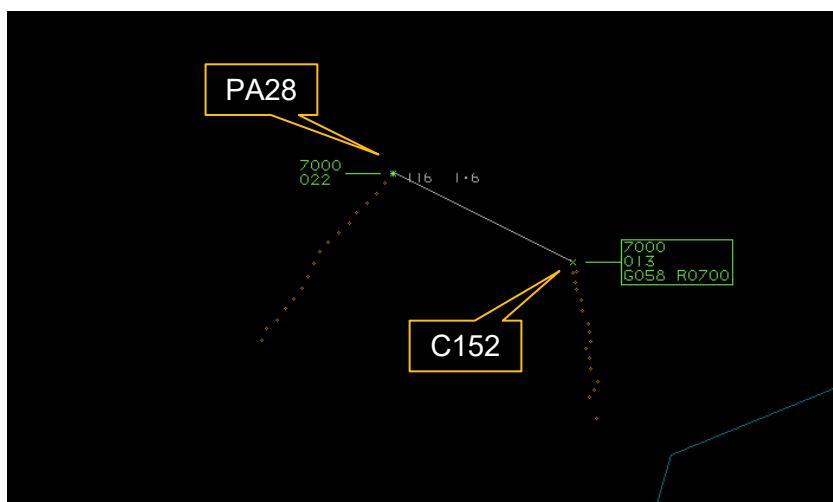


Figure 1.

In the vicinity of Ryde, the PA28 pilot received information from their [TAS] that there was an aircraft climbing towards them. Due to the tracks converging, the distance between the aircraft reduced despite the higher groundspeed of the PA28. The right turn of the PA28 pilot can be seen on the NATS radar at 1352:18, (Figure 2). The separation between the aircraft was then 200ft vertically and 0.8NM horizontally.

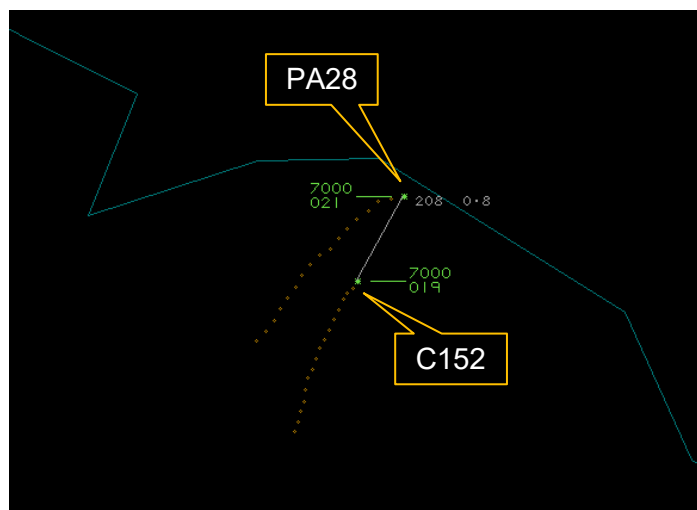


Figure 2.

The PA28 pilot was unable to visually acquire the C152 and so executed an orbit to the left, with the intention of becoming visual with the other aircraft. It was during this orbit that the Airprox occurred with the recorded CPA at 1352:58 and separation of 0ft vertically and 0.6NM horizontally (Figure 3).

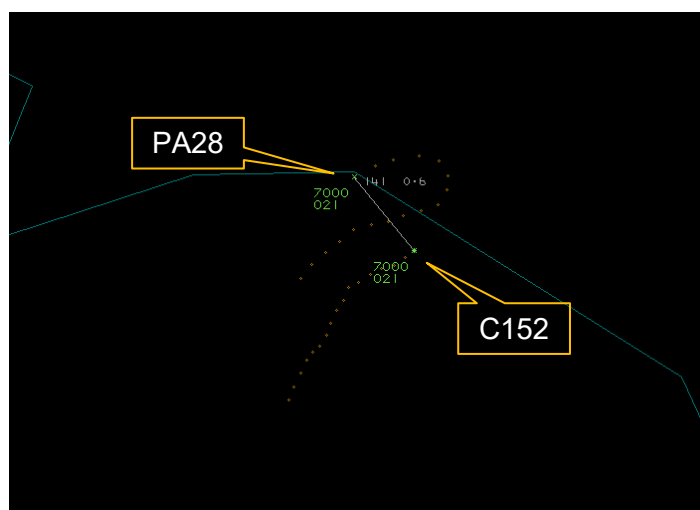


Figure 3 – CPA.

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.¹ If the incident geometry is considered as overtaking then the PA28 pilot had right of way and the C152 pilot was required to keep out of the way of the other aircraft by altering course to the right.²

Summary

An Airprox was reported when a PA28 and a C152 flew into proximity at 1NM NNE of Ryde at 1353Z on Friday 27th August 2021. Both pilots were operating under VFR in VMC, the PA28 pilot was listening out on the Farnborough LARS frequency, the C152 pilot was not in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DELIBERATIONS

Information available consisted of reports from both pilots and radar photographs/video recordings. The Board concluded that this Airprox had the Contributory Factors detailed below.

¹ (UK) SERA.3205 Proximity.

² (UK) SERA.3210 Right-of-way (c)(3) Overtaking.

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 discussed this event and assigned risk E where normal safety standards and parameters pertained and there was no risk of collision. They agreed on the following contributory factors.

- CF1. The mental model that the PA28 pilot had was inaccurate leading them to believe that the climbing C152, which was slower, posed a collision risk.
- CF2. The PA28 pilot was concerned by the proximity of the C152 which they believed to be converging on them leading them to manoeuvre their aircraft in an attempt to become visual.
- CF3. The vertical separation between the aircraft was reducing and the TAS carried on the PA28 generated an alert to which the PA28 pilot responded.
- CF4. The design of the PA28 was such that the aircraft structure obscured the C152 from the pilot's view.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2021164				
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	• Unnecessary Action	Events involving flight crew performing an action that was not required	Pilot was concerned by the proximity of the other aircraft
• Electronic Warning System Operation and Compliance				
3	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
• See and Avoid				
4	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other

Degree of Risk: E

Safety Barrier Assessment³

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 **partially effective** because the PA28 pilot's mental model of the situation was inaccurate.

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: 2021164		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:		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>		
Provision	●	●	●	●				
Application	●	●	●	●				
Effectiveness	■	■	■	■	□			