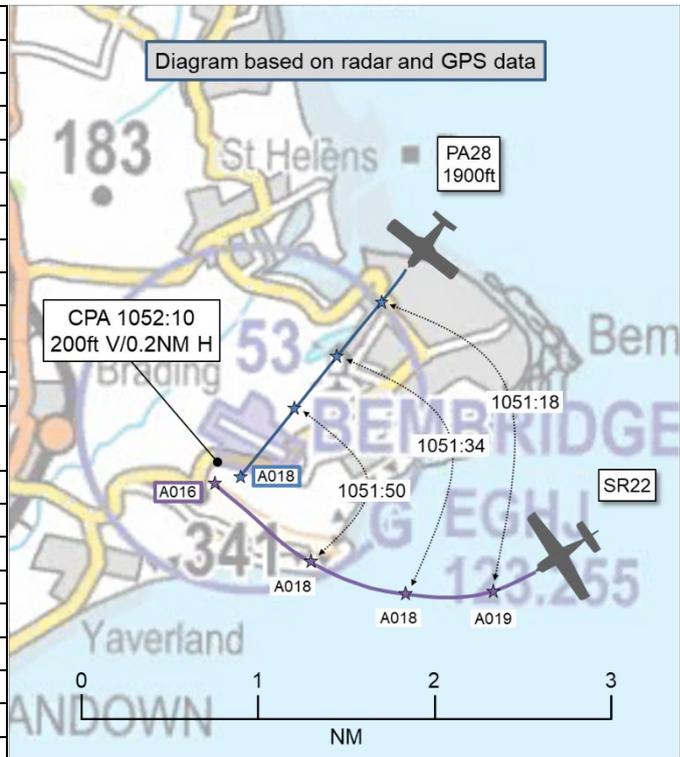


AIRPROX REPORT No 2023197

Date: 27 Aug 2023 Time: 1052Z Position: 5041N 00107W Location: Bembridge

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	SR22
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Bembridge Radio	Bembridge Radio
Altitude/FL	1800ft	1600ft
Transponder	A, C, S	A, C, S+
Reported		
Colours	White, blue, red	White, blue
Lighting	Landing, strobe, dome	Wingtip strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1650ft	"1600 to 1800ft"
Altimeter	QNH (1011hPa)	QNH
Heading	320°	300°
Speed	90kt	125kt
ACAS/TAS	PilotAware	TAS
Alert	None	TA
Separation at CPA		
Reported	100ft V/0m H	NK V/NK H
Recorded	200ft V/0.2NM H	



THE PA28 PILOT reports that, once past Portsmouth, southbound, they called up Bembridge Radio 10NM north of the airfield, reported inbound, identified their position and asked for aerodrome information. The Bembridge Radio [operator] replied that RW30 was in use, QFE 1009hPa, and one aircraft was in the circuit (no position or type information). They continued to use Farnborough QNH 1011hPa on their altimeter. They reported again, 4NM northeast of the aerodrome with their position and intention to join overhead. The Bembridge Radio [operator] acknowledged and mentioned that there was one aircraft preparing to taxi to the holding point of RW30. Just before arriving overhead Bembridge, [the PA28 pilot] saw the aircraft intending to take-off, lining up on RW30, and they heard the pilot announcing their intention to line-up and depart. They did not see (either outside or on their SkyDemon/[EC device] set up) or hear on the radio any other traffic, so they reported "overhead at 2000ft, descending dead-side".

When they were in a descending right-turn on the dead-side, turning towards early crosswind and about when they were heading 320°, they spotted a Cirrus SR22 overtaking them about 100-150ft below, on the same heading, and about 150m in front. [The pilot of the PA28 suggested that] the SkyDemon track showed that their altitude was approximately 1650ft at that time so the SR22 must have been flying at approximately 1500ft. In their surprise, they did not call up the SR22 pilot on the radio, but just continued their right turn to create more distance between themselves and the SR22, descending into early crosswind.

[The pilot of the PA28 opined that] the SR22 pilot did nothing but just continued straight ahead, roughly heading north, so they have to assume that they did not see them. After landing on RW30, they went to speak to ATC staff. The [Air/Ground Radio operator reportedly] said that there had been a Cirrus SR22 enroute from the south towards the north, and the pilot had announced their intention to do a low-pass over Bembridge before continuing their flight towards the north. [The pilot of the PA28] had not

heard any of this on frequency, nor any position reports from the SR22 pilot. They also did not see the aircraft when arriving overhead, nor on their SkyDemon/[EC device] set up.

[The pilot of the PA28] commented that the [SR22] did not show on FlightRadar24 'playback', so [believed that] it must have had its transponder turned off. They are certain that it also did not have any other form of electronic conspicuity as [they believe] this would have almost certainly been picked up by their [EC device].

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

THE SR22 PILOT reports that they had collected a passenger for a local flight. They routed to the east of Solent zone and towards Bembridge. The plan was to overfly the airfield and route back to [their destination]. On approaching Bembridge, they spoke to the Bembridge Radio [operator] and told them of their intentions. As far as they can recall, no relevant traffic was reported and there were no indications of conflicting traffic on their [EC Traffic Alert] device which is displayed both on the MFD and [navigation] display.

They approached Bembridge at around 1800ft on the QNH and cannot recall seeing any other aircraft at the reported time of the incident, or hearing another aircraft on the frequency. At about that time, their passenger said that they felt unwell. They briefly checked they were ok, and turned the aircraft towards [their destination].

[The pilot of the SR22 commented that], on reflection, it had been possible that their aircraft TAS gave a brief aural alert 'Traffic' as they overflew Bembridge airfield. Generally, they would be 'eyes out' in the vicinity of an airfield and, as they were well above circuit height, would have assumed it was an aircraft well below or on the ground.

[The pilot of the SR22] has subsequently located a track on PlaneFinder which, they believe, shows the other aircraft at the relevant time, and which appeared to have been above and in their 3 o'clock position, hence would not have been in their natural scan looking forward. [The pilot of the SR22 opines that] the learning points for them are:

- Not to be complacent in a low traffic situation above a familiar airfield.
- Review the use of TA display in conjunction with lookout over uncontrolled airfields.
- Remember that aircraft can approach from all directions not just from straight ahead.
- Not to assume other overflying aircraft will be in contact with the same ground station.
- Not to underestimate the extra workload in looking after inexperienced or unwell passengers.

THE BEMBRIDGE AIR/GROUND RADIO OPERATOR reports that they recall [the pilot of the PA28] having called to say they were inbound, and had intended doing an overhead join. A short time later, [the pilot of the SR22] called to say they were going to overfly Bembridge [enroute to their destination]. At no time did [the Bembridge AGO] receive a call from [the pilot of the PA28] to say they had seen another aircraft in the Bembridge area, it was only when the pilot of the PA28 came into the radio room that they were made aware that they had seen a Cirrus close to them. There was no mention of filing an Airprox report at the time.

Factual Background

The weather at Southampton was recorded as follows:

METAR EGHI 271050Z 26005KT 190V320 9999 SCT024 18/11 Q1011

Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft were positively identified from Mode S data. The aircraft were observed to have been operating at Flight Levels and an

appropriate conversion factor was used to determine their altitudes. The PA28 pilot kindly supplied GPS track data for their flight. It was by combining the separate data sources that the diagram was constructed and the separation at CPA determined.

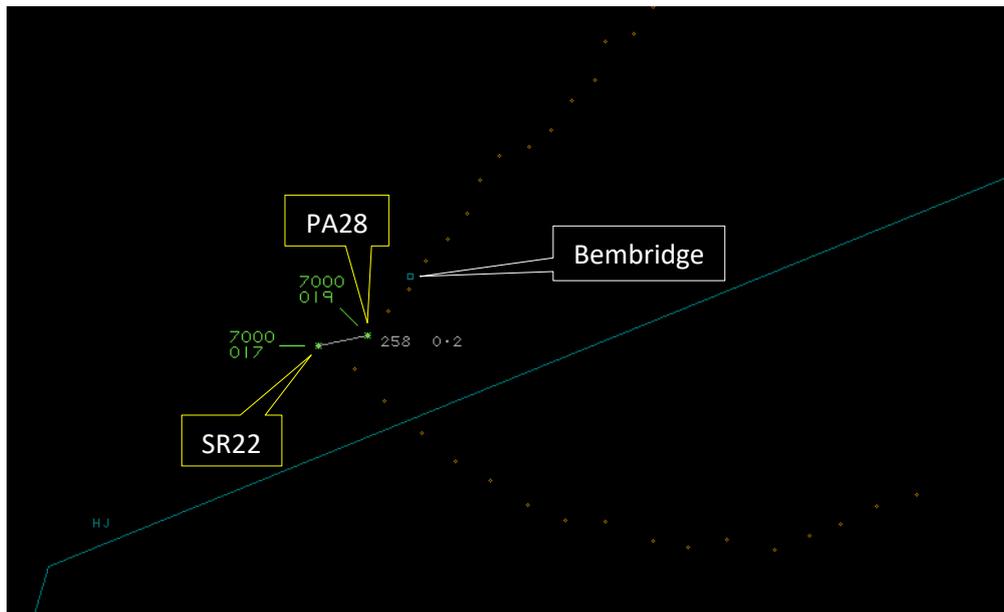


Figure 1 – CPA at 1052:10

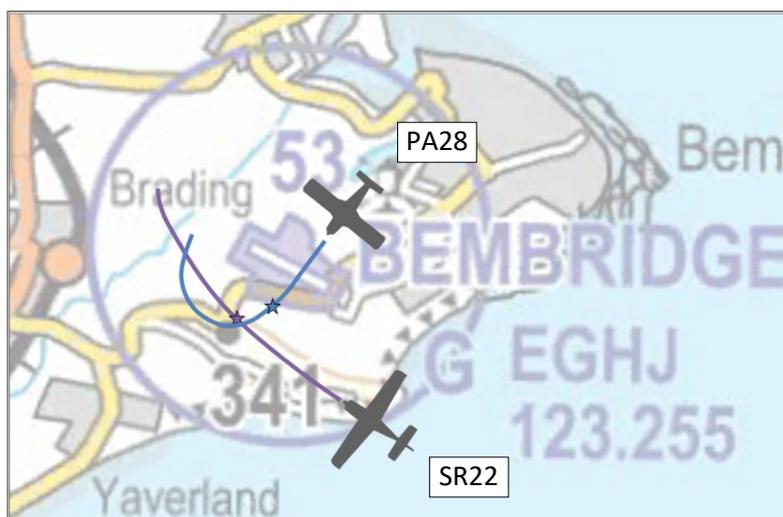


Figure 2 – The tracks of the PA28 and SR22. The stars denote the relative positions at CPA.

The PA28 and SR22 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 an SR22 flew into proximity at Bembridge at 1052Z on Sunday 27th August 2023. Both pilots were operating under VFR in VMC, in receipt of a AGCS from Bembridge Radio.

¹ (UK) SERA.3205 Proximity.

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

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS track data for the PA28 and a report from the Air/Ground Radio Operator 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 considered the actions of the pilot of the PA28. Members noted that, although their radio had been tuned to the Bembridge Radio frequency, and that they had heard transmissions from the Bembridge AGO, the pilot of the PA28 did not recall having heard any transmissions from the pilot of the SR22. There was no readily available explanation as to why these transmissions had not been heard, and members noted that the AGO had recalled such transmissions. Members concluded that the pilot of the PA28 had not appropriately monitored the Bembridge Air/Ground frequency for communications from other pilots (**CF4**).

In consideration of the EC equipment fitted to the PA28, members agreed that it would have been expected to have detected the presence of the SR22 but no alert was reported by the pilot (**CF7**). Members wished to highlight that, whilst the use of additional EC equipment is strongly encouraged, there are several factors that influence how effectively a device might perform in a dynamic environment. Members were keen to emphasise the importance of increased vigilance when joining a circuit and the imperative of a very thorough and effective lookout. Members cautioned against the over-reliance on EC equipment to provide an accurate reflection of the traffic situation.

Returning to the circumstances of this particular encounter, members noted that the pilot of the PA28 had been aware of an aircraft on the ground, taxiing, but agreed they had not had situational awareness of the SR22 in the vicinity (**CF5**).

Reviewing the aircraft tracks, and the timing of the encounter, members noted that the pilot of the PA28 had arrived overhead the airfield, and had transmitted their position as such, whilst the SR22 had been converging from their left. Members concluded that the pilot of the PA28 had not sighted the SR22 until after CPA, when the aircraft tracks had already crossed, and that that effectively constituted a non-sighting (**CF8**).

The Board next considered the actions of the pilot of the SR22, and commended the pilot for having drawn some learning points from their review of the encounter. Members had sympathy with the difficulties with which the pilot of the SR22 had contended, and noted that the care of their passenger had distracted them during the execution of their plan to overfly the airfield (**CF3**).

Although the pilot of the SR22 had considered that they had been "*well above circuit height*", and had not intended to join the circuit, members noted that they had been at an altitude commensurate with an overhead join, where it would have been reasonable to have expected that they might have encountered other traffic, and had subsequently descended towards circuit height. It was therefore agreed that the pilot of the SR22 had not flown in accordance with the normal circuit procedure (**CF1**) and had not conformed with, nor had they effectively avoided, the pattern of traffic (**CF2**).

Members noted that the pilot of the SR22 had not heard the transmissions made by the PA28 pilot, and surmised that the distraction that had been caused by their unwell passenger had diverted their attention from monitoring communications appropriately (**CF4**). Some members suggested that it had been imprudent not to have adapted the plan to overfly the airfield, and that the SR22 pilot could have either climbed away from joining traffic, or have avoided the airfield altogether, given that the distraction to their full attention had been significant.

Members noted that the TAS fitted to the SR22 had provided an alert to the presence of the PA28 (**CF6**), although some members wondered whether the pilot of the SR22 had fully assimilated the alert, again, due to the distraction. Members concluded that the pilot of the SR22 had not had situational awareness of the presence of the PA28 (**CF5**), and had not sighted the PA28 during the encounter (**CF8**).

Turning their attention to the actions of the Bembridge AGO, members were in agreement that, although the AGO had been aware of the intentions of both the PA28 and SR22 pilots, it had not been incumbent upon them to have re-transmitted those intentions to all pilots. Members wished to emphasise that the responsibility to have acquired, and to have maintained, accurate situational awareness had lain with each pilot.

Summarising their discussion, members were in agreement that the pilots of the PA28 and SR22 had approached Bembridge airfield at approximately the same time, and whilst both pilots had communicated their intentions to the Bembridge AGO, neither pilot had heard the other's transmissions. Neither pilot had been aware that the other aircraft had been approaching, and neither pilot had sighted the other before CPA. Members agreed that safety had been degraded, but the separation between the aircraft had been sufficient that there had not been a risk of collision. As such, the Board assigned Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2023197				
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	• Monitoring of Environment	Events involving flight crew not to appropriately monitoring the environment	Did not avoid/conform with the pattern of traffic already formed
• Situational Awareness of the Conflicting Aircraft and Action				
3	Human Factors	• Interpretation of Automation or Flight Deck Information	Interpretation of Automation or Flight Deck Information by the flight crew.	Pilot engaged in other tasks
4	Human Factors	• Monitoring of Communications	Events involving flight crew that did not appropriately monitor communications	
5	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
• Electronic Warning System Operation and Compliance				
6	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
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	• 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

Degree of Risk: C.

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:

Ground Elements:

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

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the pilot of the SR22 had not complied with the requirement to avoid the pattern of traffic that had been formed.

Tactical Planning and Execution was assessed as **partially effective** because the pilot of the SR22 had not conformed with, nor avoided, the pattern of traffic that had been formed.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had situational awareness of the presence of the other aircraft until visually acquired.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the EC device fitted to the PA28 would have been expected to have detected the presence of the SR22 but no alert was reported.

See and Avoid were assessed as **ineffective** because neither pilot had sighted the other aircraft before the moment of CPA.

Airprox Barrier Assessment: 2023197		Outside Controlled Airspace						
Barrier	Provision	Application	Effectiveness					
			Barrier Weighting					
			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 bar to 15%]				
	Electronic Warning System Operation and Compliance	⊘	⊘	[Grey bar to 0%]				
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	✗	✓	[Red bar to 20%]				
	Electronic Warning System Operation and Compliance	✓	✗	[Red bar to 15%]				
	See & Avoid	✗	✗	[Red bar to 20%]				
Key:			Full	Partial	None	Not Present/Not Assessable	Not Used	
Provision	✓	⚠	✗	⊘				
Application	✓	⚠	✗	⊘			○	
Effectiveness	Green	Yellow	Red	Grey			Red box	

³ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).