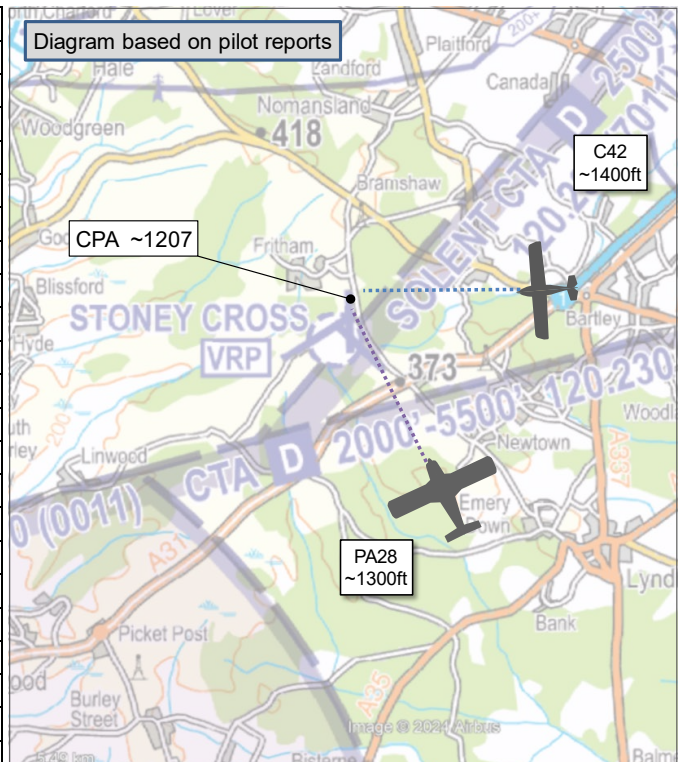


AIRPROX REPORT No 2023194

Date: 25 Aug 2023 Time: ~1207Z Position: 5055N 00139W Location: Stoney Cross

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C42	PA28
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Listening Out
Provider		Solent
Altitude/FL	NK	NK
Transponder	A, C, S	A, C, S
Reported		
Colours	White	White, Red
Lighting	Strobe	Beacon, Nav
Conditions	VMC	VMC
Visibility	5-10km	>10km
Altitude/FL	1300ft	1400ft
Altimeter	QNH (1011hPa)	QNH (1011hPa)
Heading	280°	340°
Speed	70kt	65kt
ACAS/TAS	SkyEcho	Not fitted
Alert	None	N/A
Separation at CPA		
Reported	10ft V/15m H	0ft V/50ft H
Recorded	NK	



THE C42 PILOT reports that they were approaching Stoney Cross when they saw an aircraft in the distance to the northwest, heading southeast, at the same altitude. In order to make their aircraft more visible to the oncoming traffic they changed heading, 30° to the north, so not to centre over Stoney Cross. The traffic ahead was now easily seen, was distant and had changed its course, so was no longer a problem. Now passing Stoney Cross on their left, they turned further west to get back on heading, with a gentle level turn, they scanned and saw an aircraft at the 11 o'clock, extremely close. They quickly avoided by lowering the nose, then, as the other aircraft passed, it entered a banked left turn and crossed their path again so they lowered the nose again, although the second time the distance was greater, it left them feeling that they had not been seen.

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

THE PA28 PILOT reports that they were on a pre-planned route from Stoney Cross to Cowes and return. Solent Radar was contacted at Stoney Cross and Basic Service requested with regional QNH and squawk 7011. The flight proceeded round the island then back to Beaulieu, where they turned on a heading to Stoney Cross at approximately 1500ft. They noticed a high-wing, white microlight (C42 type) drift across on to the same heading, about 600yds ahead from the right. They were cruising at 65kts and were quickly catching up with the microlight, which was at the same height and slightly left of track. They decided that, in case the microlight was also heading to Stoney Cross and on to the Alderbury VRP, they would not overtake, but fly a 190° back to Beaulieu airfield (disused) and fly a 360° to allow the microlight to clear the area, which they did. They then flew at 1400ft back to Stoney Cross with no sighting of the microlight. They flew across the Stoney Cross runways at 1400ft on a direct heading for the Alderbury VRP, as the last runway end was cleared, they noticed an aircraft (a white, high-wing, C42-type microlight), rapidly approaching, at the same height, from the east heading southwest on a 60° collision course. As the microlight filled the windscreen they immediately dropped the left wing in a severe emergency collision avoidance left turn (pilot assessment was that a right turn

would not have succeeded) with impact assessed at 3sec. This near-miss was timed at 1207. They continued a reduced angle turn for a full 360° and observed the microlight to be still on its original course over half a mile away on a south-westerly heading. There was no indication that the microlight pilot had seen, or indeed attempted to avoid a collision with, the PA28.

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

Factual Background

The weather at Southampton was recorded as follows:

METAR EGGH 251150Z 26004KT 220V300 9999 SCT042 18/08 Q1011=

Analysis and Investigation

Southampton Occurrence Investigation

Timeline of calls below regarding the Airprox report:

1104:49 [PA28 C/S] requested a Basic Service, was advised that no LARS services were available on this frequency and if they wished they could squawk 7011 and monitor the frequency. They were also passed the Southampton QNH for reference.

1110:29 [PA28 C/S] sought confirmation they were cleared to transit, they were advised by the ATCO that they weren't aware they requested transit. After obtaining details, routing and maximum altitude (1700ft), [PA28 C/S] was advised that their routing would keep them outside CAS and therefore no service was available so they could monitor the frequency and squawk 7011.

1130:37 Solent made a blind call for traffic northeast of Freshwater indicating 2100ft that was infringing CAS, [PA28 C/S] responded to this call reporting at 1700ft, the ATCO requested they squawk ident and pilot responded that they were squawking 7011, they were advised by the ATCO that the traffic they were calling was squawking 7000. [PA28 C/S] was north of Bembridge at this point, some 11NM east of Freshwater so not the infringer and still not under a service from Solent.

1203:47 [PA28 C/S] called Solent, the ATCO was on a phone call at this point.

1203:54 the ATCO requested 'station calling Solent say again', [PA28 C/S] responded with '[PA28 C/S] message'. Solent ATCO requested they pass their message and pilot reported that they were leaving the zone and changing frequency, ATCO responded with 'Roger'.

At no point was [PA28 C/S] provided with a service from Solent. Both aircraft were on the Solent frequency monitoring code whilst routing beneath Solent CTA2.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and, whilst both aircraft were visible approximately 5min before the Airprox, both had faded from radar contact well before the area of Stoney Cross. Southampton ATC also confirmed that the aircraft had descended to below their radar coverage and the Airprox could not be seen on their radar replay either.

The C42 and PA28 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 PA28 pilot was required to give way to the C42.²

¹ (UK) SERA.3205 Proximity.

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

Summary

An Airprox was reported when a C42 and a PA28 flew into proximity at Stoney Cross at around 1207Z on Friday 25th August 2023. 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, radar photographs and a report from air traffic control. 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 C42 pilot. They had been heading for Stoney Cross VRP when they had seen another aircraft in the vicinity, which they had taken action to avoid. They had not been receiving an ATS at the time (**CF1**) and their CWS could not have detected the transponder on the PA28 (**CF3**) and so the pilot had had no prior warning that the PA28 had also been at Stoney Cross (**CF2**). Consequently, possibly because it had been on a constant relative bearing, or possibly because the pilot had been focused on the other microlight in the area, they had not seen the PA28 until it had been in very close proximity (**CF4**) and reported taking emergency avoiding action.

The PA28 pilot had also seen the non-Airprox microlight and taken action to remain clear of it. They too had not been receiving an ATS (**CF1**), had not been fitted with any form of CWS and so they too had not received any prior situational awareness about the C42 (**CF2**). Members opined that after two years of CAA funding available to pilots to help with the cost of a CWS (which was now sadly no longer available), it was disappointing that some pilots still had not fitted any form of CWS to their aircraft. They noted that, although each system had its limitations, still they thought it worthwhile in order to assist with visual acquisition. Again, possibly due to the constant relative bearing, or possibly due to distraction when overflying Stoney Cross, the PA28 pilot had not seen the C42 until the last possible moment, making this effectively a non-sighting (**CF4**).

Members discussed at length the provision of an ATS in the area. They noted that both pilots had been displaying the Southampton frequency monitoring code (FMC) meaning that both pilots had been listening out on the same frequency, but that this had not provided, nor was it intended to provide, either with any situational awareness about the other aircraft. Whilst neither pilot had suggested that they had expected that Solent Radar had been providing any type of ATS, members stated that anecdotal evidence suggested that some pilots thought that when displaying such a code, ATC would be 'watching over' them. Members wished to highlight to all pilots that the FMC provided no such cover and was purely in place so that controlling units could call a pilot if they inadvertently penetrated, or came close to penetrating, controlled airspace. In this case, Bournemouth ATC was the LARS provider and members noted that Solent Radar would not provide any type of service to pilots transiting the area; therefore they suggested that, when routing via Stoney Cross, pilots should request a LARS from Bournemouth, noting that the selection of a Bournemouth squawk would provide Solent with the same information as that of the Solent FMC, whilst also providing something useful to the pilot in terms of an Air Traffic Service.

It was noted that both pilots had been heading directly overhead the Stoney Cross VRP and members pointed out that CAA guidance is that, where possible, routing directly overhead a VRP should be avoided. Additionally, flying straight and level for long periods should also be avoided where possible, introducing some weaving turns or slight height deviation could have the effect of breaking a constant relative bearing, allowing pilots to see other aircraft and, conversely, making their own aircraft more visible to others.

When determining the risk of the Airprox, members had only the report from the pilots to consider. They noted that both pilots had reported the Airprox independently, emphasising that both had been concerned by the incident. Although the Airprox had not been visible on the NATS radars, both pilots had described a similar situation whereby the two aircraft had been in close proximity, and each pilot had taken emergency avoiding action. Members quickly agreed that there had been a risk of collision

(CF5), but subsequently discussed whether this emergency action had materially increased the separation, with some advocating that it had (Risk Category B) and others that it had been so late that an element of providence had been present. In the end, the Chair put it to a vote and by a narrow margin it was agreed that separation had been reduced to the bare minimum and providence had played a major part in events; Risk Category A.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2023194				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Flight Elements				
• Tactical Planning and Execution				
1	Human Factors	• Communications by Flight Crew with ANS	An event related to the communications between the flight crew and the air navigation service.	Pilot did not request appropriate ATS service or communicate with appropriate provider
• Situational Awareness of the Conflicting Aircraft and Action				
2	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				
3	Technical	• ACAS/TCAS System Failure	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment
• See and Avoid				
4	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				
5	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 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 **ineffective** because neither pilot had received any situational awareness that the other aircraft was in the vicinity.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the EC equipment on the C42 could not detect the PA28.

See and Avoid were assessed as **ineffective** because both pilots had seen the other aircraft late and had taken emergency avoiding action.

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: 2023194		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 Conflicition & 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:		Full	Partial	None	Not Present/Not Assessable	Not Used		
Provision	●	●	⊗	○				
Application	●	●	⊗	○				
Effectiveness								