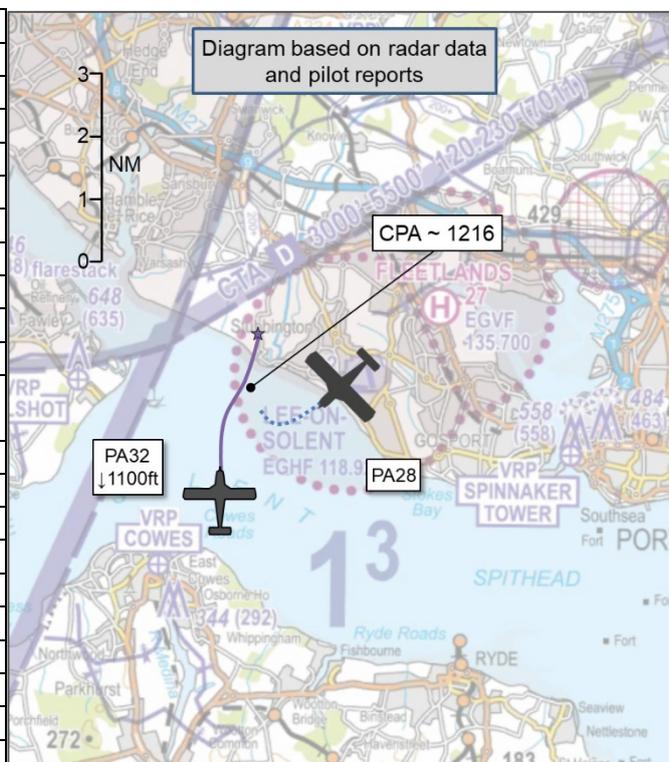


AIRPROX REPORT No 2020134

Date: 28 Sep 2020 Time: 1216Z Position: 5048N 00112W Location: Lee-on-Solent

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	PA32
Operator	Civ FW	Civ FW
Airspace	Lee-on-Solent ATZ	Lee-on-Solent ATZ
Class	G	G
Rules	VFR	VFR
Service	AFIS	AFIS
Provider	Lee on Solent	Lee on Solent
Altitude/FL	NK	1100ft
Transponder	Standby	A, C, S
Reported		
Colours	White, Yellow, Blue	Red, White
Lighting	Strobes, Landing	Strobe
Conditions	VMC	VMC
Visibility	20NM	10NM
Altitude/FL	950ft	1200ft
Altimeter	QFE (1013hPa)	QFE (1013hPa)
Heading	320°	NK
Speed	100kt	110kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	0ft V/250m H	20ft V/100m H
Recorded	NK	



THE PA28 PILOT reports they had just completed their first circuit of the flight and were in the climb-out phase having turned crosswind climbing through 950ft, preparing to level off and turn downwind for the 23RH circuit. They were aware of another aircraft joining downwind and on looking out saw it straight ahead at same level. The other pilot either did not see the PA28, or made no attempt to avoid it. The PA28 pilot opined that they would definitely have collided had they not taken avoiding action and the other pilot showed very poor airmanship in their opinion. Although they were aware of another aircraft joining downwind they did not expect them to barge into the circuit. In their opinion, the other pilot violated air law both in terms of giving way to other aircraft in the circuit and also giving way to aircraft on their right. They conducted a collision avoidance turn to the left so the conflicting aircraft passed in front and to the right of them, and so avoided a mid-air collision.

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

THE PA32 PILOT reports they were on a currency flight and to gain familiarity with a new autopilot. They conducted various manoeuvres to the east of the area and were returning to Lee-on-Solent to conduct several touch-and-go circuits. For the return they tracked westerly along the north coast of the Isle of Wight. North abeam Cowes at an altitude of 1500ft they called Solent Information giving position and altitude, and requested joining information. They were advised to join downwind RW23RH, QFE 1013hPa and to report downwind. They turned northward toward the costal entry point, which they could see from Cowes. Approaching the downwind leg to join right hand for RW23RH, at a position approximately 2NM from the coastal entry point, at an altitude of approximately 1200ft descending, they heard a radio transmission to Solent Information from an aircraft reporting an Airprox. Approximately 10sec after the end of that transmission they saw an aircraft, wings level just forward of their starboard beam at a range of approximately 100m and slightly below their altitude on a reciprocal heading. Having subsequently reviewed their GPS track the pilot thought that that their approach to the downwind join was incorrect and that they cut across the climb out path of aircraft departing from RW23. The reasons

for the incorrect flight path were: turning right too early when north abeam Cowes, they should have been further west; not confirming the heading, relying just on the position of the turning point and visual reference of the coastal entry point to the downwind.

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

THE LEE-ON-SOLENT FISO reports that at the time of the occurrence they were mentoring a trainee FISO. The PA28 was conducting circuit work, had just completed a touch-and-go and was in the climb-out RW23RH. The PA32 pilot had called to re-join as the PA28 was on final, routing from the south to join downwind. The trainee FISO gave the Airport Information and Traffic Information, informing the PA32 pilot that a PA28 was conducting a touch-and-go and remaining in the circuit and requesting that they report downwind RW23. The PA32 pilot reported being at 1400ft. Circuit height is 1000ft. When operating RW23 the visual perspective from the tower is poor on the crosswind leg and for traffic joining from the south as there is not a clear view of this area, they do not have a 360° view from the tower, more like 270° at best, due to the nature of the building. The first knowledge they had of an occurrence was a call from the PA28 pilot claiming that it was a little close to another aircraft. When they looked at the early downwind leg they appeared perhaps a little closer than usual circuit traffic spacing but not inadequate. However, their slant angle may not have given an accurate indication of proximity. Both aircraft continued in the circuit for a period, both conducting touch-and-go circuits safely. Both conducted 3 circuits. A telephone call was made to the FISO from the PA28 pilot after landing, for advice on how to submit an Airprox which was duly provided.

Factual Background

The weather at Southampton was recorded as follows:

METAR ECHI 281250Z 26006KT 220V290 9999 BKN018 16/11 Q1014=

The Solent Airport website details joining information for pilots and states that standard joins from the south, west and east are downwind for RW23. See Figure 1.

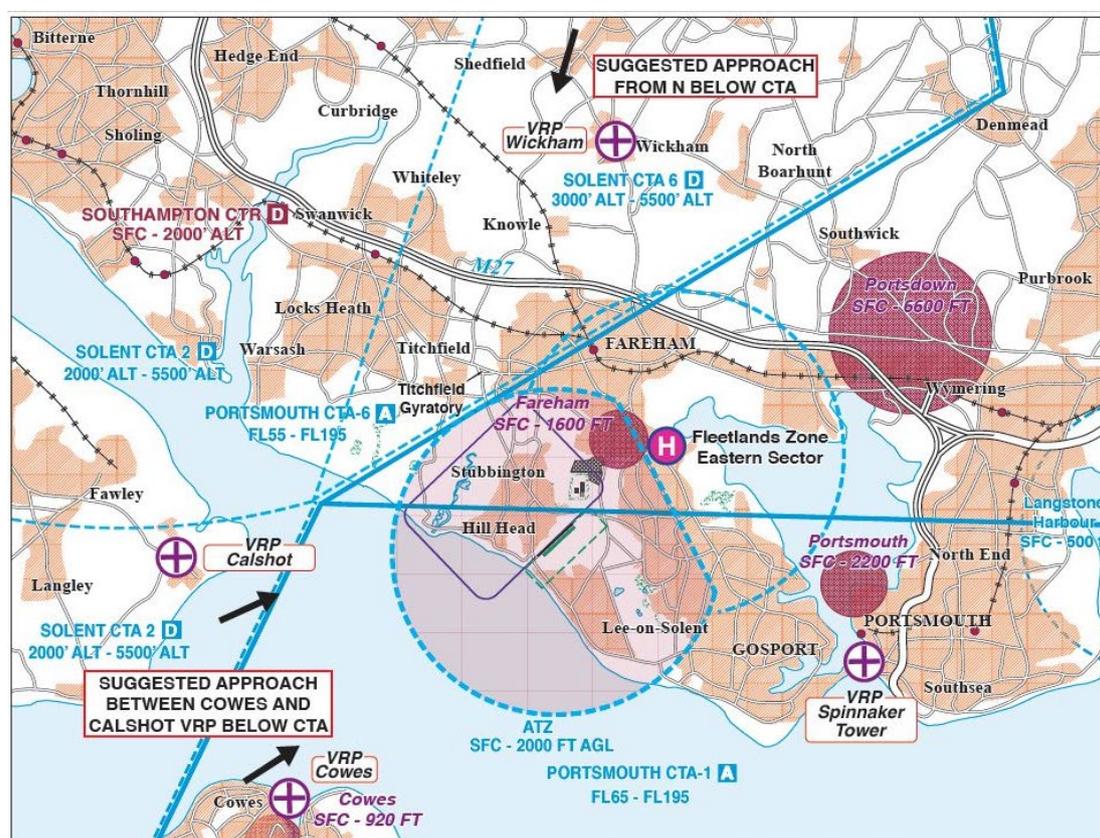


Figure 1.

Analysis and Investigation

UKAB Secretariat

Due to a recording fault at Lee-on-Solent the RT recordings were not available. Lee-on-Solent is not radar equipped. The NATS area radar recordings could only detect the PA32 in SSR, probably due to the aircraft being below radar coverage, furthermore the PA28 was not visible at all due to having the transponder switched to standby mode.

At 1215:49 the PA32 had turned in the vicinity of Cowes at FL016, Figure 1. By 1216:16 they were 2.5NM SW of Lee-on-Solent, had crossed through the climb-out lane of RW23 and had descended to FL013 (Figure 2).

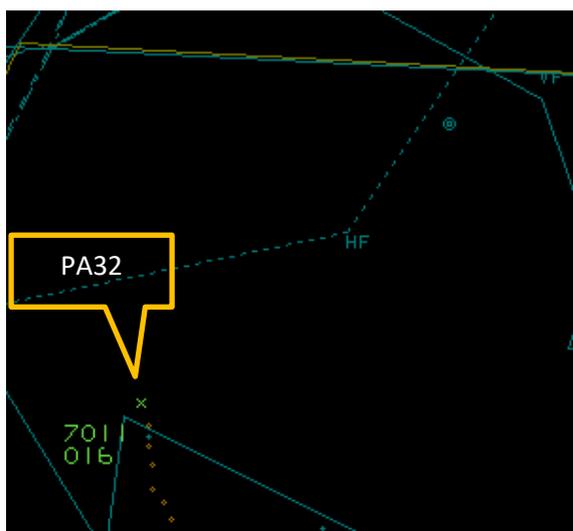


Figure 1

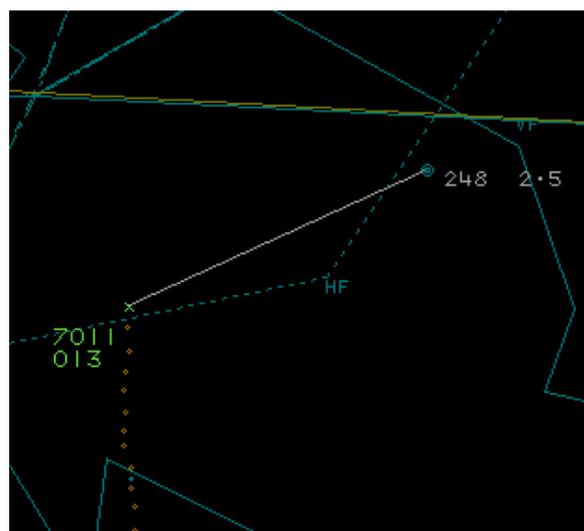


Figure 2

The PA32 entered the ATZ at 1216:42, at FL011, and had started the turn to position downwind (Figure 3). From there the PA32 continued downwind (Figure 4). Without the PA28 being visible on the radar it is not possible to say exactly where the Airprox took place.

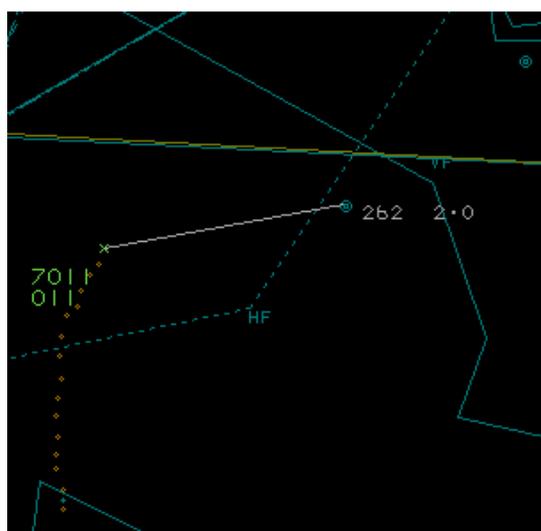


Figure 3

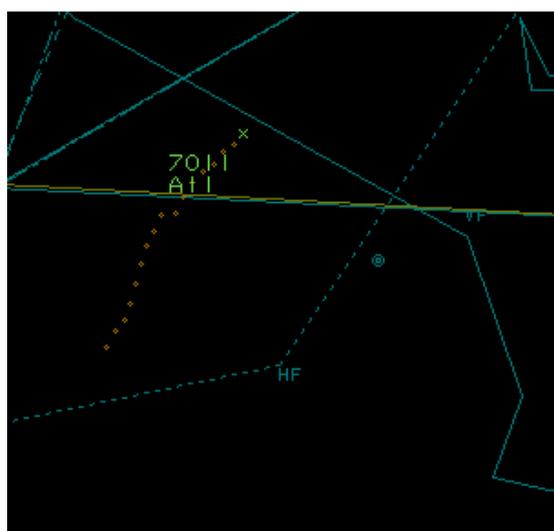


Figure 4

The PA28 and PA32 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

¹ SERA.3205 Proximity.

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 a PA32 flew into proximity in the Lee-on-Solent visual circuit at 1216Z on Monday 28th September 2020. Both pilots were operating under VFR in VMC, both were in receipt of a AFIS from Lee-on-Solent.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate operating authorities. 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.

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 first looked at the actions of the PA28 pilot. They were conducting touch-and-go circuits and saw the PA32 approaching as they were turning downwind. Although they had heard the RT calls and were expecting the PA32 to join the circuit, they were not expecting to see it in close proximity. Fortunately, although a late-sighting, they were able to take action to increase the separation (**CF11**).

Turning to the PA32 pilot, they were joining from the south-west and were concentrating on following the joining procedures accurately. However, members noted that although following the joining procedures was important, integrating into the circuit was also the responsibility of the joining pilot (**CF3**). Those members with flying instructor experience opined that they frequently saw pilots become so intent on flying the accurate joining procedures that they had limited capacity to keep a look-out for traffic already in the circuit. This was often compounded by complex joining procedures with noise abatement areas and the fact that no two airfields were the same, however this could be ameliorated by comprehensive pre-flight planning (**CF4**). The PA32 pilot was joining downwind, therefore it was for them to integrate with the PA28 already in the circuit (**CF5**, **CF6**). Members thought that although the FISO told the PA32 pilot about the circuit traffic, because they did not give a precise position report the PA32 pilot did not know where to expect the traffic to be (**CF7**). However, as it was incumbent on the joining pilot to integrate into the circuit, members thought that the PA32 pilot should have asked for an updated circuit position report (**CF8**). In the end, by continuing into the downwind position of the circuit without knowing where the traffic was, the PA32 pilot did not see the PA28 (**CF10**). Some members wondered whether the new autopilot was a distraction to the PA32 pilot, but decided that there was not enough evidence to assign this as a contributory factor.

In examining the role that the FISO had to play, the Board thought that it was disappointing that the RT recording was not available because it meant that it was not known exactly what information the joining pilot was given. Noting that there was a FISO under training, members wondered whether there had been sufficient mentoring, given that the PA32 pilot was obviously not aware of the position of the PA28 (**CF1**). Although the FISO was not responsible for positioning or sequencing aircraft in the circuit, CAP 797 clearly states that they were required to give specific Traffic Information to enable pilots to join the circuit safely³. On this occasion members thought that the generic information about the circuit state was not enough to enable the PA32 pilot to integrate effectively (**CF2**).

Finally when determining the risk, members agreed that the late sighting by the PA28 pilot, together with the non-sighting by the PA32 pilot, meant that there had been a risk of collision (**CF9**). However, they thought that although safety had been much reduced, the avoiding action taken by the PA28 pilot had materially increased the separation and therefore assigned a Risk Category B.

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

³ CAP797 Flight Information Service Officer Manual, 8.15 Traffic Information

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2020134			
CF	Factor	Description	Amplification
Ground Elements			
• Manning and Equipment			
1	Human Factors	• Mentoring	
• Situational Awareness and Action			
2	Human Factors	• ANS Traffic Information Provision	TI not provided, inaccurate, inadequate, or late
Flight Elements			
• Regulations, Processes, Procedures and Compliance			
3	Human Factors	• Flight Operations Documentation and Publications	Regulations and/or procedures not complied with
• Tactical Planning and Execution			
4	Human Factors	• Pre-flight briefing and flight preparation	
5	Human Factors	• Action Performed Incorrectly	Incorrect or ineffective execution
6	Human Factors	• Monitoring of Other Aircraft	Did not avoid/conform with the pattern of traffic already formed
• Situational Awareness of the Conflicting Aircraft and Action			
7	Contextual	• Situational Awareness and Sensory Events	Pilot had no, late or only generic, Situational Awareness
8	Human Factors	• Lack of Communication	Pilot did not request additional information
• See and Avoid			
9	Contextual	• Near Airborne Collision with Aircraft, Balloon, Dirigible or Other Piloted Air Vehicle	Piloted air vehicle
10	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots
11	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

Degree of Risk: B.

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:

Ground Elements:

Manning and Equipment were assessed as **partially effective** because mentoring of the trainee FISO was sub-optimal.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because an exact position of the PA28 was not given to the PA32 when they joined the circuit.

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the PA32 pilot should have integrated with the circuit traffic.

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

Tactical Planning and Execution was assessed as **partially effective** because the PA32 pilot did not conform with the pattern of traffic when they joined the circuit.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the PA32 pilot did not have specific information on the position of the PA28, and did not ask for further information.

See and Avoid were assessed as **partially effective** because the PA28 managed to take late avoiding action.

Airprox Barrier Assessment: 2020134		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	✓	!	[Yellow bar to 5%]			
	Situational Awareness of the Conflication & Action	✓	!	[Yellow bar 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	!	✓	[Yellow bar to 20%]			
	Electronic Warning System Operation and Compliance	○	○	[Grey bar to 15%]			
	See & Avoid	✓	!	[Yellow bar to 20%]			
Key:							
	Full	Partial	None	Not Present/Not Assessable	Not Used		
Provision	✓	!	✗	○			
Application	✓	!	✗	○	○		
Effectiveness	■	■	■	■	□		