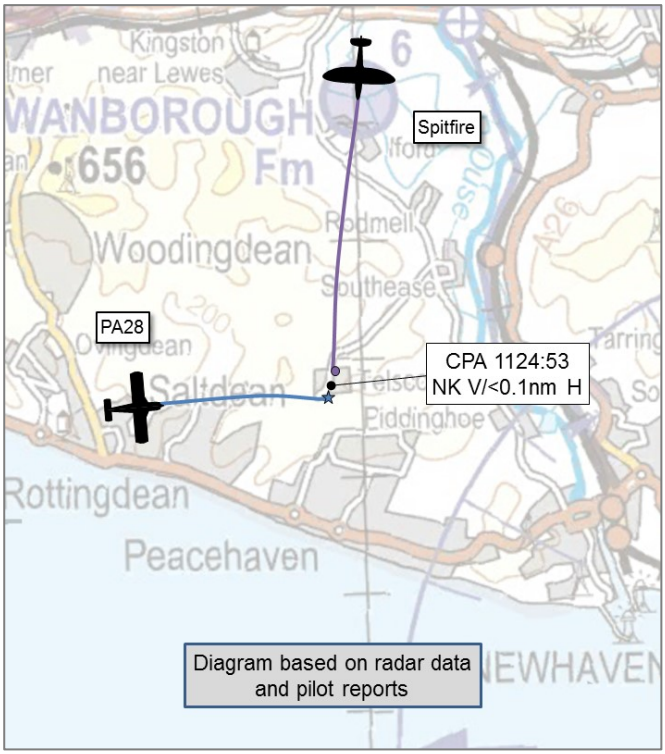
AIRPROX REPORT No 2019183

Date: 08 Jul 2019 Time: 1124Z Position: 5048N 00000E Location: 1nm north Peacehaven

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	Spitfire
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	None
Provider	Shoreham Tower	N/A
Altitude/FL	NK	NK
Transponder	A, C[1]	None[2]
Reported		
Colours	White, Blue	Green, Grey
Lighting	Strobe	Not reported
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2000ft	~1500ft
Altimeter	QNH (1022hPa)	QNH
Heading	080°	180°
Speed	105kt	180kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	20ft V/60m H	100ft V/200m H
Recorded	NK V/<0.1nm H	



THE PA28 PILOT reports that he was flying straight-and-level at approximately 2000ft whilst instructing his student, a qualified glider pilot, when he became aware of an aircraft closing rapidly in their left 10 o'clock at about 500m. He took control and immediately commenced a sharp right tum. He rolled out on a southerly heading. A few secs later a 2-seat Spitfire passed rapidly down their left-hand side. The aircraft was about 10-20ft above their level. They both estimated the distance between their aircraft to be about 5 Spitfire wingspans. The Spitfire did not appear to have taken any avoiding action and descended away from them towards the port of Newhaven where they saw it tum east and head towards Seaford at a lower level.

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

THE SPITFIRE PILOT reports that he was cruising southbound and saw a PA28 on an easterly heading, about 400m away, below him in his 1.30 to 2 o'clock. It's distance away from him was such that no collision or close proximity was possible. He therefore maintained his heading and speed. The PA28 passed under his right wing. When it appeared behind the wing it turned, although no turn was necessary as no collision was possible.

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

Factual Background

The weather at Shoreham was recorded as follows:

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METAR EGKA 081120Z 16008KT 9999 FEW028 18/12 Q1022
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[1] PA28 pilot reports Mode A and C, the radar contact did not display Mode C data.
[2] Spitfire pilot reports Mode A, C and S, the radar contact did not display any Transponder data.

Analysis and Investigation

UKAB Secretariat

The PA28 and Spitfire pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard[3]. If the incident geometry is considered as converging then the Spitfire pilot was required to give way to the PA28[4].

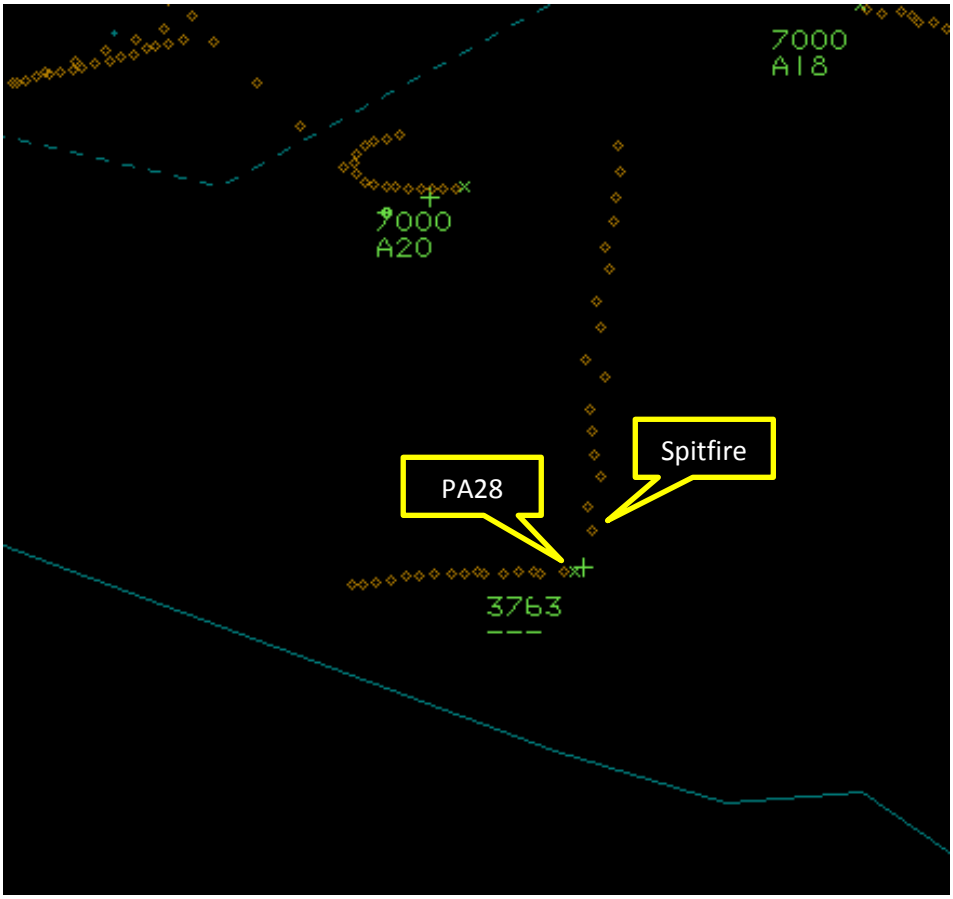

Figure 1: CPA 1124:53
Spitfire southbound no transponder data
PA28 eastbound no Mode C data

Summary

An Airprox was reported when a PA28 and a Spitfire flew into proximity near Peacehaven at 1124hrs on Monday 8th July 2019. Both pilots were operating under VFR in VMC, the PA28 pilot in receipt of a Basic Service from Shoreham and the Spitfire pilot not in receipt of a service.

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 began by looking at the actions of the Spitfire pilot. Noting first that the aircraft's transponder was displaying after take-off and during recovery but not during the remainder of the flight, the Board felt that the Spitfire operating company might usefully test the aircraft's transponder equipment once airborne in future flights to determine whether there was an intermittent fault. Without transponder

[3] SERA.3205 Proximity.
[4] SERA.3210 Right-of-way (c)(2) Converging.

outputs, other aircraft that might otherwise be able to detect their aircraft using their collision warning systems would be denied the opportunity to do so. Given the likely third-party risk associated with their operations, there was a strong case for their operating procedures to include a check to ensure that their aircrafts' transponders were producing an output in accordance with SERA.13001 during every flight **(CF2)**. The Board also noted that the Spitfire pilot was not receiving a service from a relevant ATS provider and so had no situational awareness of the PA28,or vice versa **(CF3)**. Again, given the third-party commercial aspects of their flights, members encouraged the Spitfire operating company to highlight to their pilots that a surveillance-based ATS should be sought during every flight. Without recorded altitude information for the Spitfire it was not possible for the Board to definitively assess the geometry of the situation in terms of vertical separation but members noted that the Spitfire pilot had seemingly been unconcerned by the encounter, did not perceive that there was a conflict, and had made no manoeuvre to increase separation despite the fact that it was for him to give way to the PA28 **(CF5)**; the Spitfire pilot could not have known the intentions of the PA28 pilot, who could easily have unintentionally and unexpectedly manoeuvred towards the Spitfire if he had not been aware of its presence. The Board were unanimous in its assessment that, on sighting the PA28, the Spitfire pilot should have manoeuvred to increase separation in accordance with the Rules of the Air **(CF1)**.

Turning to the actions of the PA28 pilot, members agreed that he had seen the Spitfire late and had made an emergency avoiding action turn away **(CF4)**.

The Board members then considered the risk. They agreed that the geometry of the encounter, allied to the speed of the Spitfire, meant that safety had been much reduced below the norm and that there had been a risk of collision, Risk Category B.

PART C: ASSESSMENT OF CONTRIBUTORY FACTOR(S) AND RISK

Contributory Factor(s):

	2019183		
CF	**Factor**	**Description**	**Amplification**
	Flight Elements		
	• Regulations, Processes, Procedures and Compliance		
1	Human Factors	• Flight Crew ATM Procedure Deviation	Regulations/procedures not complied with
	• Tactical Planning and Execution		
2	Human Factors	• Transponder Selection and Usage	
	• Situational Awareness of the Conflicting Aircraft and Action		
3	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
	• See and Avoid		
4	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots
5	Human Factors	• Perception of Visual Information	Pilot perceived there was no conflict
6	Human Factors	• Lack of Action	Pilot flew into conflict

Degree of Risk: B.

Safety Barrier Assessment[5]

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

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

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **ineffective** because the Spitfire pilot did not give way to the PA28.

Tactical Planning was assessed as **partially effective** because the Spitfire pilot did not ensure his transponder was functioning and did not seek an ATS for his flight.

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

See and Avoid were assessed as **partially effective** because both pilots saw the other aircraft late and the PA28 pilot took emergency avoiding action to increase separation.