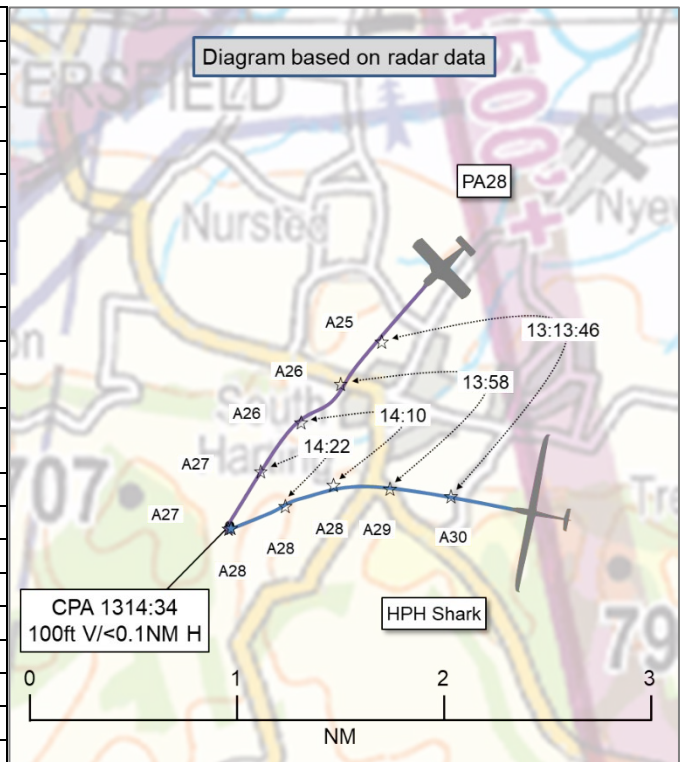


AIRPROX REPORT No 2023143

Date: 26 Jun 2023 Time: 1315Z Position: 5058N 00054W Location: South Harting

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	HPH 304 Shark	PA28
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Basic
Provider	N/A	Farnborough
Altitude/FL	2800ft	2700ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White/red	Grey/blue
Lighting	Not fitted	Landing/taxi, nav, strobes, beacon
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2650ft	2800ft
Altimeter	QNH (NK hPa)	NK
Heading	~240°	210°
Speed	60kt	97kt
ACAS/TAS	FLARM	Not fitted
Alert	None	N/A
Separation at CPA		
Reported	50-100ft V/100m H	Not seen
Recorded	100ft V/<0.1NM H	



THE SHARK PILOT reports conducting a cross-country glider flight in uncontrolled airspace. They did not see the other aircraft until it suddenly appeared just below, heading south in their front left-quarter view. They did not see it coming because it came from over their right shoulder, from right-to-left. The registration was big and clearly visible because it was so close. It was flying straight and level and did not appear to see them.

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

THE PA28 PILOT reports in transit, in straight and level cruise with a normal FIS for the area of operation. They did not see another aircraft at the notified Airprox location and time.

THE FARNBOROUGH CONTROLLER reports that they had been informed that that they were working LARS West with [PA28 C/S] on frequency who had an Airprox. They had no recollection of the event and all the details in their report had been passed to them to be able to file a report.

Factual Background

The weather at Southampton was recorded as follows:

METAR EGGH 261320Z 28009KT 220V320 9999 SCT048 22/09 Q1021=

Analysis and Investigation

Farnborough Occurrence Investigation

Description of the event: The radar and R/T recording[s] [were] reviewed and [PA28 C/S] was in receipt of a Basic Service from Farnborough LARS West. At 1256, [PA28 C/S pilot] checked in on frequency 125.250MHz requesting a Basic Service. [PA28 C/S] was given a squawk of 0431, QNH 1021hPa, and a Basic Service. As [PA28 C/S] [was] 3NM east of HAZEL there [were] several unknown contacts showing on the radar at various altitudes and there [was] some garbling of the return labels. At 1315, the time of the reported Airprox, there [was] a contact to the right of [PA28 C/S] flying a similar track and at an altitude of 2700ft unverified. Traffic information [was] not passed.



Figure 1

At 1323 [PA28 C/S] [had] left the Farnborough LARS West service area and [was] instructed to squawk conspicuity and to free call Bembridge, no response [was] received.

Investigation: [PA28 C/S] was under a Basic Service on their own navigation. There was no requirement to pass Traffic Information as per CAP774. There was no pilot report on the R/T reference the Airprox.

Conclusions: Conflict outside CAS.

[CAA ATSI observation: At the time of CPA, the controller was dealing with the initial call from Fair Oaks traffic outbound to Wycombe, looking for transit of controlled airspace. They were likely focussed on that area of their display as there was traffic with Farnborough Approach inbound opposite direction to affect that transit.]

UKAB Secretariat

The HPH Shark 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

¹ (UK) SERA.3205 Proximity.

is considered as overtaking then the HPH Shark pilot had right of way and the PA28 pilot was required to keep out of the way of the other aircraft by altering course to the right.²

Comments

AOPA

This Airprox demonstrates lookout has to be continuous and effective; it is disappointing that the EC fitted could not show a transponder which the majority of aircraft today have fitted. It should also be remembered that the DfT rebate for EC³ is still available to improve flight safety.

BGA

This incident highlights once again the limitations of both visual lookout and Basic Service (even from a Radar unit) as collision avoidance mechanisms in uncontrolled airspace. For these reasons the BGA encourages the widespread use of automated traffic and collision warning systems.

Summary

An Airprox was reported when an HPH Shark and a PA28 flew into proximity at South Harting at 1315Z on Monday 26th June 2023. Both pilots were operating under VFR in VMC, the HPH Shark pilot not in receipt of a FIS and the PA28 pilot in receipt of a Basic Service from Farnborough.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS data, a report from the air traffic controller involved and a report from the appropriate operating authority. 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.

Members first considered the role of EC and expressed their disappointment that 2 aircraft with serviceable and functioning SSR transponders could fly into such proximity with neither pilot having had any situational awareness as to the other converging aircraft (**CF3**). The HPH Shark pilot had elected to equip their aircraft with a TAS that was optimised to detect other gliders, an entirely reasonable proposition in the context of their gliding activity, but less so in the context of other light aircraft in Class G airspace (**CF4**). The PA28 pilot had no TAS fitted, which the Board felt should reasonably be resolved given that they had not been in receipt of a surveillance based FIS (and at reasonable cost with the inclusion of the continuing DfT rebate for EC equipment⁵). Additionally, neither aircrafts' SSR transponder code had been within the range required to activate ground based EC because neither pilot had requested a FIS that could have provided such a capability (**CF2**). In the absence of a ground-based surveillance service that might have mitigated risk of close proximity (**CF1**), i.e. a Traffic Service, both pilots were left with see-and-avoid as the sole barrier to collision or risk of collision. In the event neither pilot saw the other aircraft before CPA (**CF5**) and separation at CPA was such that Board members felt that a serious risk of collision had existed, Risk A (**CF6**).

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023143			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
	Ground Elements			
	• Situational Awareness and Action			

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

³ <https://www.caa.co.uk/general-aviation/aircraft-ownership-and-maintenance/electronic-conspicuity-devices/>

1	Contextual	• ANS Flight Information Provision	Provision of ANS flight information	The ATCO/FISO was not required to monitor the flight under a Basic Service
• Electronic Warning System Operation and Compliance				
2	Technical	• Conflict Alert System Failure	Conflict Alert System did not function as expected	The Conflict Alert system did not function or was not utilised in this situation
Flight Elements				
• Situational Awareness of the Conflicting Aircraft and Action				
3	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				
4	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				
5	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				
6	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 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:

Situational Awareness of the Confliction and Action were assessed as **not used** because the Farnborough controller was not required to monitor the PA28, under a Basic Service.

Electronic Warning System Operation and Compliance were assessed as **not used** because the aircrafts' SSR codes were outside the Farnborough select frame and could not activate STCA.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot was aware of the other aircraft prior to CPA.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the PA28 was not equipped with EC and neither aircraft could detect or alert the other.

See and Avoid were assessed as **ineffective** because the PA28 pilot did not see the HPH Shark and the HPH Shark pilot saw the PA28 shortly after CPA, effectively a non-sighting.

⁴ 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: 2023143		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	■	■	■	■	□			