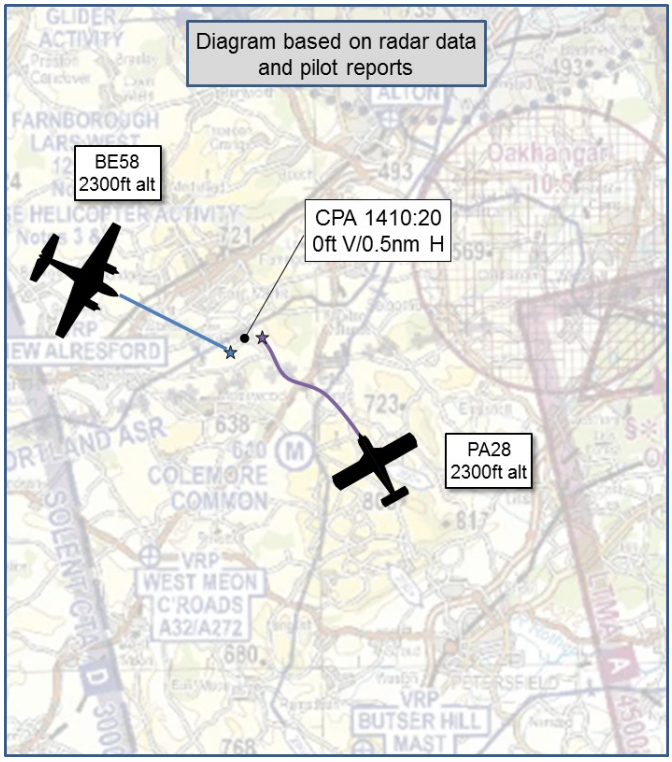
AIRPROX REPORT No 2018292

Date: 10 Oct 2018 Time: 1410Z Position: 5104N 00057W Location: 2nm NW Colemore Common

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	BE58
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	Traffic
Provider	Solent	Farnborough
Altitude/FL	2300ft	2300ft
Transponder	A, C	A, C, S
Reported		
Colours	White, Red	White, Burgundy
Lighting	Beacon	Strobe, Beacon, Nav, Landing
Conditions	VMC	VMC
Visibility	>10km	7km
Altitude/FL	2300ft	2400ft
Altimeter	QNH	QNH (1009hPa)
Heading	300°	110°
Speed	115kt	168kt
ACAS/TAS	PilotAware	PilotAware
Alert	TA	None
Separation		
Reported	70ft V/0.4nm H	0ft V/0.7nm H
Recorded	0ft V/0.5nm H	



THE PA28 PILOT reports that he was flying in CAVOK conditions, across the sun, and using a listening squawk with Solent Radar. He was looking out and, when he glanced at his iPad (no audio warnings available) he saw traffic indicated from his PilotAware unit at about 2nm range. He looked up again and saw the other aircraft at the same altitude heading straight towards him. He manoeuvred to avoid, turning right and descending slightly.

He assessed the risk of collision as 'High'.

THE BE58 PILOT reports that he was aware that the conditions were such that the visibility and contrast would make it difficult to spot other traffic and so he maintained a sharp lookout, requested a Traffic Service from Farnborough, and turned all external lighting on for conspicuity. Farnborough advised that the Traffic Service was restricted due to controller workload and volume of traffic, with late or no warnings given; he acknowledged this. He spotted the other aircraft between 1.5nm and 2nm in his 11 o'clock. It appeared to be tracking NE and he estimated he would pass comfortably behind. Their closure rate was relatively high, and he thinks the other aircraft's pilot may have adjusted his heading slightly, so they passed more on a parallel track, still with adequate separation. The Farnborough controller passed Traffic Information at about 0.5nm, which he thinks was given as being in his 11 o'clock, although it was more like 10 o'clock, possibly due to his heading to offset drift. He had already been visual with the traffic some seconds before the Traffic Information was passed and it was clear there was no conflict, so he acknowledged that he was visual with the reported traffic.

The Be58 pilot included a few observations with his Airprox report:

Regarding the PilotAware function he says that he uses a PilotAware Rosetta unit as a portable installation. The unit was attached to the windshield with a suction mount, resting on the coaming,

approximately in the centre with antennas near vertical. There is no obvious facility to connect the PilotAware to the intercom in this aircraft. The associated traffic display was via SkyDemon on a yoke-mounted iPad Mini. His overall experience with PilotAware has been that it was limited in giving useful traffic information. Either, the other traffic was not emitting a compatible signal or the reception was not adequate to give a timely warning. The presentation on SkyDemon is such that 'own ship' is clearly marked relative to the magenta route line. This makes it easy to quickly glance at the screen and see position relative to planned track, airspace etc. By contrast, the traffic presentation is less easy to interpret. He remembers looking at Sky Demon a few minutes before the incident and seeing multiple returns (presumably commercial traffic) at Southampton, and clusters of gliders at Parham, possibly also at Lasham. The display alerted him to the fact that there was a lot of traffic around, but it would take time to interpret what might be a threat. Thus, he was concentrating on looking outside with the expectation of seeing other traffic. His conclusion was that PilotAware was 'better than nothing' but he needed to arrange for a simplified display at coaming level and find some method for integrating audio.

He concluded his report by saying that this was another reminder of the limitations of 'see and avoid' for aircraft that are head-on or at a shallow angle. He was ‘eyes-peeled’ at the time and still didn't visually acquire the aircraft until relatively late. Recently, he observed two light-coloured aircraft on final against a grey sky, one had their landing light on and the other didn't. It was possible to spot the aircraft with the landing light at least 10 seconds before the one without. He really thinks that pilots should be encouraged to use the landing light at all times when airborne, especially in hazy or light-grey cloud conditions.

He assessed the risk of collision as ‘None’.

THE FARNBOROUGH CONTROLLER reports that he was advised after the incident that the PA28 reported an Airprox. He has no recollection of the event.

Factual Background

The weather at Southampton was recorded as follows:

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METAR EGHI 101350Z 14006KT 070V190 CAVOK 21/12 Q1009
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Analysis and Investigation

UKAB Secretariat

The PA28 and BE58 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 head-on or nearly so then both pilots were required to turn to the right[2].

Occurrence Investigation

The Farnborough ATC investigation concluded that:

It was a busy session on LARS West, with APP split off, and busy with inbound traffic both to Farnborough and clutch airfields. [BE58 C/S], working Farnborough LARS West, flew in close proximity to an aircraft believed to be [PA28 C/S] north of Coleman's Common.

The LARS West controller gave a Traffic Service to [BE58 C/S], with Traffic information reduced due to traffic density and workload. [PA28 C/S] was not working Farnborough and was believed to have been listening out on the Solent frequency shortly before the incident.

[1] SERA.3205 Proximity.
[2] SERA.3210 Right-of-way (c)(1) Approaching head-on.

Although a late call of traffic was given by the controller to [BE58 C/S], its pilot was visual with the aircraft in question and made no mention of the proximity of [PA28 C/S]. [PA28 C/S] did not report an airprox on Farnborough frequency at the time. An earlier call of traffic may have allowed [BE58 C/S] to take a turn to give more room between them, but this is far from certain and indeed, [BE58 C/S] was visual with [PA28 C/S] and may have judged the distances and tracks between the aircraft suitable - the minimum distance between the two tracks was 0.56nm and a similar altitude.

[BE58 C/S] and [PA28 C/S] were both operating outside Controlled airspace in Class G and as such were responsible for their own collision avoidance as per CAP774.

Summary

An Airprox was reported when a PA28 and a BE58 flew into proximity at 1410hrs on Wednesday 10th October 2018. Both pilots were operating under VFR in VMC, the PA28 pilot listening out on the Solent frequency and the BE58 pilot in receipt of a reduced Traffic Service from Farnborough.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

The Board began by looking at the actions of the BE58 pilot. Members noted that he recognised the limitations with his PilotAware but uses it to augment his lookout and other methods of gaining increased SA. Overall, members agreed that he was doing everything he could to ensure he had as much warning of conflicting traffic as was possible, and commended him for his attention to the deconfliction task. Although the Traffic Information he received from Farnborough was later than desirable, the BE58 pilot had already seen the PA28 and, keeping it in sight, had ensured he maintained separation. With regard to the BE58 pilot's comments regarding aircraft lighting, the Board agreed in general about the value of selecting lights on but cautioned that much depended on the circumstances pertaining at the time. The key issue was to increase the contrast between the aircraft and the background scene, and some studies[3] had shown that, counter-intuitively, the use of lights against a bright background can reduce the contrast difference thereby compromising the detection of other aircraft. There was no simple answer but, if a pilot suspects that his aircraft may be viewed against a bright background then the use of lights might not always be appropriate.

The Board then turned to the actions of the PA28 pilot. Members noted that his PilotAware also did not have any audio warnings and wholeheartedly encouraged him also to investigate such an integration. Nevertheless, members noted that the system had alerted him to the presence of the BE58 in sufficient time for him also to conduct a timely and effective manoeuvre to increase the separation.

Turning to the cause the Board agreed that both pilots had seen each other's aircraft at about 2nm and had both been able to ensure that they would maintain an adequate separation by turning to the right as required by the rules of the air. The cause was therefore agreed as being a straight-forward conflict in Class G resolved by both pilots. Turning to the risk, the Board agreed that although safety had been degraded there had been no risk of collision. Accordingly, the Board assessed the risk as Category C.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A conflict in Class G resolved by both pilots.

Degree of Risk: C.

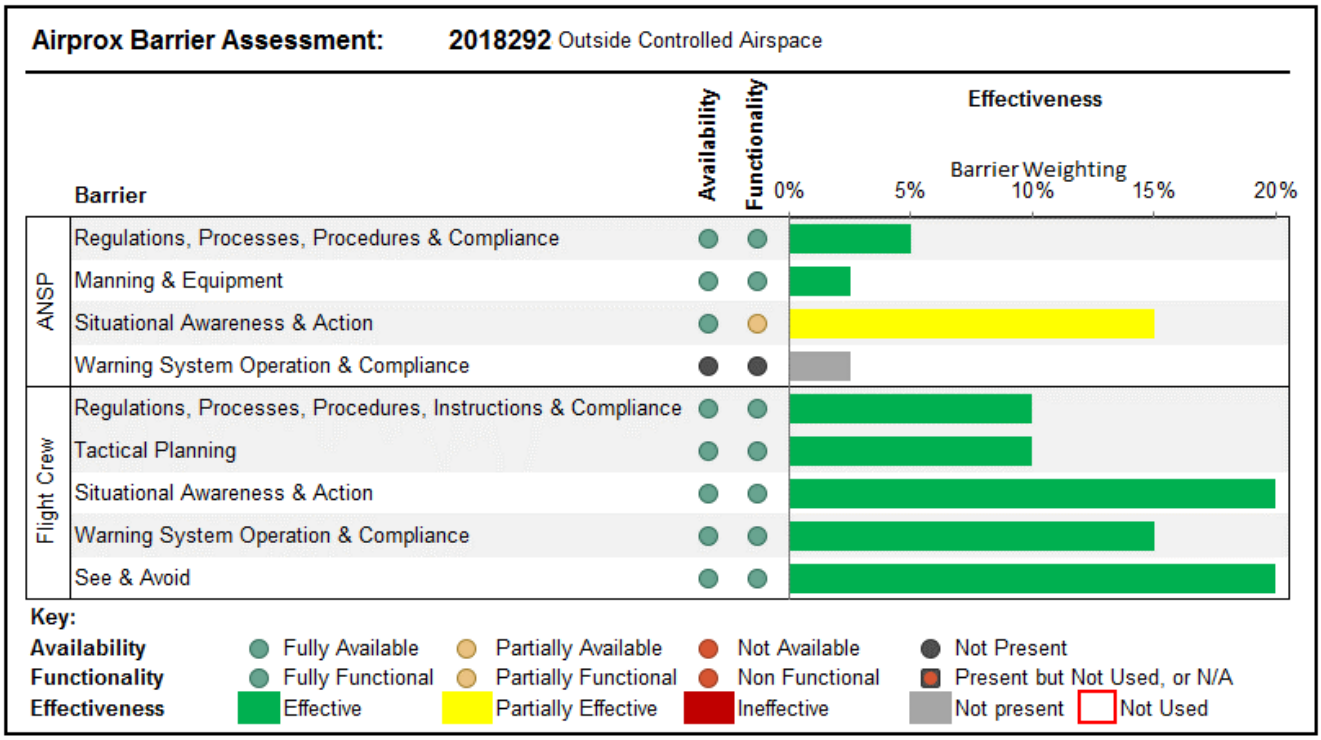
[3] e.g. Page 18 of Australian Transport Safety Bureau 1991 report by Alan Hobbs "Limitations of See and Avoid" available at: https://www.airproxboard.org.uk/uploadedFiles/Content/Standard_content/Topical_Issues_and_Themes/Aus%20Safety%20Board%20-%20Limitations%20of%20See-and-Avoid.pdf.

Safety Barrier Assessment[4]

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

ANSP:

Situational Awareness and Action were assessed as **partially effective** because the BE58 pilot was receiving a Traffic Service from Farnborough, reduced due to workload and traffic density, which meant that the controller passed Traffic Information to the BE58 pilot late.



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