AIRPROX REPORT No 2022196

Date: 26 Aug 2022 Time: 1317Z Position: 5042N 00125W Location: 7NM SW Cowes VRP

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Luscombe 8	SF25
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Establishing	None
Provider	Bournemouth	
Altitude/FL	~1600ft	~1700ft
Transponder	Not fitted	Not fitted
Reported		
Colours	Red	Yellow
Lighting	Strobes	Anti-col
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1700ft	1700ft
Altimeter	QNH (1019hPa)	QNH (1019hPa)
Heading	300°	ENE
Speed	78kt	75kt
ACAS/TAS	SkyEcho	FLARM
Alert	Unknown	None
Separation at CPA		
Reported	50ft V/50m H	0ft V/2-300m H
Recorded	~100ft V/~0.1NM H[1]	

THE LUSCOMBE PILOT reports that they were flying straight and level in very good VMC. They had just initiated a radio call to Bournemouth to arrange a Basic Service, as their intended route was close to the Bournemouth CTR. In mid-transmission they observed the other aircraft and had to take avoiding action immediately. They paused the radio transmission while manoeuvring. As soon as they were clear of conflict they continued with their original planned radio transmission, and completed it by advising that they had had an Airprox. At the time of first observation, the other aircraft was about 50ft higher than their aircraft, in the 1 o'clock position, approximately 200m away, travelling in the opposite direction, straight and level. The other pilot did not appear to see them, or take any avoiding action. After their avoidance they continued their radio transmission, advised of the Airprox and were asked to call ATC on landing. The pilot noted that area near where the Airprox occurred is very congested with a high density of traffic and restrictive airspace. Solent airspace above starts at 2000ft and negotiating a transit of that airspace, particularly without a transponder, is next to impossible. The Solent, being wet, is best avoided and the New Forest beyond offers few safe forced landing areas. As such, their decision and, they opined, many others' decision, is to get as high as possible without entering the airspace at 2000ft. This effectively means many aircraft will squeeze themselves into a narrow band of airspace perhaps only 200ft deep and then have to watch their instruments carefully to avoid infringing airspace, all the while maintaining the best margin for a forced landing or avoidance of a ditching in that vicinity in the event of a critical power unit failure.

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

THE SF25 PILOT reports that they were flying from the Needles lighthouse towards Cowes. They saw another aircraft appear, coming towards them in their 2 o'clock direction and it passed to their right.

[1] Separation assessed using GPS data.

They did not take any avoiding action as it passed to their right and was not on a path that would have crossed their path.

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

THE BOURNEMOUTH CONTROLLER reports that at 1316, when working as the APS controller, the pilot of [Luscombe C/S] called on frequency requesting a Basic Service. They asked the pilot to pass their details. Whilst passing the information the pilot stopped and reported "*I've just had an Airprox*". Then after a delay the pilot continued to pass their details and routing. At 1318 the pilot stated that they would like to report an Airprox. The controller could see a primary-only contact that they believed to be the Luscombe and another primary contact tracking away from the aircraft.

Factual Background

The weather at Bournemouth was recorded as follows:

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METAR EGHH 261250Z 17008KT 150V210 CAVOK 23/11 Q1019=
METAR EGHH 261320Z 17010KT CAVOK 22/12 Q1019=
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Analysis and Investigation

Bournemouth Occurrence Investigation

At 1317 on the 26th August an Airprox occurred to the south-east of Bournemouth outside controlled airspace. The reporting pilot was in the process of making contact with Bournemouth Radar in order to obtain a Basic Service when they encountered an unknown aircraft. The second aircraft was not in receipt of a service.

The controller had had no reason to monitor either aircraft up until this point and therefore had no opportunity to assist in preventing the Airprox from occurring. Neither aircraft displayed any Mode S, A or C data therefore it is impossible to assess from the radar replay exactly how close the aircraft came to each other. The radar contacts did merge and the pilot of [Luscombe C/S] estimated that the aircraft passed within 50ft and 200m of one another.

The recordings from this incident have been reviewed by the investigator who found that the reporting controller's MOR portrayed an accurate account of the incident. The pilot of [Luscombe C/S] had just made contact with Bournemouth Radar and was in the process of passing transit details when they encountered another aircraft in close proximity. The pilot classed the incident as an Airprox and stated on the RT that they wished to file a report. At the time [the Luscombe C/S] freecalled Bournemouth Radar, two PSR-only returns could be seen on the radar recordings, both well outside the Bournemouth CTR, in the vicinity of Newtown on the Isle of Wight. Neither aircraft displayed a callsign, squawk or any altitude information. At this time, the contact now known to be [Luscombe C/S] was seen heading in a north-westerly direction, with the other aircraft in their 11 o'clock range of 1.5NM, tracking in an east-north-easterly direction. A radar screenshot captured at this time is reproduced below with [Luscombe C/S] being the contact to the right (Figure 1).

Figure 1

At 1317:19 the pilot had just begun to pass their details and it was during this initial transmission that the Airprox occurred. At 1317:19 the pilot made the following transmission: "*Afternoon* [Luscombe C/S] *Luscombe Silvaire, two on board, erm from [departure airfield] to a private site just south of Compton Abbas present position 4 miles east of the Needles 1700 feet 1021 intended routeing is er across the water to Lymington then err clear of your zone to the east...[long pause]...sorry standby ahh just had an Airprox* [Luscombe C/S]." At the time they paused, the two aircraft were in the positions depicted below (Figure 2). It is therefore assumed it was at this point that [the Luscombe pilot] identified the other aircraft.

Figure 2

The radar contacts merged at 1317:44, see Figure 3.

Figure 3 - CPA

The radar returns then separated again with both aircraft continuing on their previous tracks. The pilot of [Luscombe C/S] reported at the time that they were flying at an altitude of 1700ft. The altitude of the other aircraft was not available due to the lack of secondary radar information.

The controller had no means of assisting in preventing the Airprox as it occurred on first contact with [Luscombe C/S] before there was time to establish where the aircraft was. The unknown second aircraft did not make contact with Bournemouth Radar.

The controller was found to have played no part in the occurrence and therefore no personnel action was deemed to be necessary. The controller informed the investigator post-incident that a telephone conversation had taken place with the pilot of [Luscombe C/S] later that day. The pilot had reported to the controller that they believed the conflicting aircraft to be [SF25 C/S], with which they were familiar due to its identifiable yellow paint scheme. The pilot advised the controller that they estimated the two aircraft to have passed within 50ft and 200m of one another.

UKAB Secretariat

The NATS radar replay was assessed but neither aircraft could be seen. However, both pilots kindly supplied GPS data and so the separation could be assessed and the diagram at the top of the report was prepared using the GPS data.

The Luscombe and SF25 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[2] If the incident geometry is considered as converging then the SF25 pilot was required to give way to the Luscombe.[3]

Summary

An Airprox was reported when a Luscombe and an SF25 flew into proximity 7NM southwest of the Cowes VRP at 1317Z on Friday 26th August 2022. Both pilots were operating under VFR in VMC, neither was in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS track data and a report from the air traffic controller involved. 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 discussed the actions of the Luscombe pilot. They had called Bournemouth because they had been intending to route close to Bournemouth's airspace and had been in the process of establishing a service when the Airprox occurred. Members noted that it would have been difficult for the controller to identify the aircraft without a transponder and, because the SF25 had not been transponder equipped either, the controller would not have had any height information on either aircraft and would have found it difficult to give any Traffic Information. Additional information given to the Secretariat from the pilot informed the Board that the EC carried by the Luscombe pilot did not have any additional licences that would have enabled it to detect the EC on the SF25 (**CF3**). As a consequence, the pilot had not received any situational awareness about the SF25 from either ATC or from any EC (**CF2**). Without these two barriers, the final mitigation against MAC had been see-and-avoid. The SF25 and the Luscombe had been on a constant relative bearing, which would have made it difficult for either pilot to see the other aircraft. For that reason, the Board recommended that, when flying straight and level, pilots incorporate a 'weave' to change the aspect of the aircraft to improve visual conspicuity and to mitigate any restriction of view from the aircraft's airframe. Although the Luscombe pilot described taking avoiding action, members thought that because the pilot had seen the SF25 in their 1 o'clock, they had seen it after it had crossed ahead of them and therefore the avoiding action had been taken after CPA, making this effectively a non-sighting (**CF4**). Members wished to commend the pilot for having the foresight to report the Airprox on frequency as it greatly enhanced the investigation process.

Turning to the actions of the SF25 pilot, members noted that they had not been receiving an ATS at all. Although they acknowledged that it could be difficult to receive an ATS when not transponder equipped, and getting an airspace crossing was highly unlikely, still they thought that had the pilot called Bournemouth as they had transited past, even if they had not received any Traffic Information from the controller, they may have heard the Luscombe pilot call on the frequency (**CF1**). The EC equipment on the SF25 had not been compatible with that on the Luscombe (**CF3**); so once again, the pilot had not received any prior situational awareness that the Luscombe had been in the vicinity (**CF2**). Again, see-and-avoid had been the final barrier to avoid a collision, and again, the Board thought that the pilot had not seen the other aircraft until after CPA and probably after the other pilot had turned away (**CF4**). The Board re-iterated its recommendation to weave to overcome any visual restrictions and aid visual conspicuity.

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

The Board briefly looked at the actions of the Bournemouth controller and, given that neither aircraft had been fitted with a transponder and the controller had not actually been providing a service to the Luscombe at the time, the Board thought that there had been little more the controller could have done in the circumstances.

When assessing the risk of the Airprox, the Board took into consideration the reports from both pilots, the radar replay and the GPS tracks. They noted that the avoiding action taken by the Luscombe pilot probably took place after CPA and so they assessed that, because neither pilot had seen the other aircraft in time to take any action, there had been a risk of collision (**CF5**). Members noted that there had been an element of chance in the amount of separation, and therefore agreed that safety had been much reduced; Risk Category B.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2022196			
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: B.

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:

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because, had the SF25 pilot called Bournemouth for a LARS, they may have heard the Luscombe pilot on the frequency.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had any situational awareness that the other aircraft had been in the vicinity.

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

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the aircraft were carrying incompatible CWS.

See and Avoid were assessed as **ineffective** because it had been effectively a non-sighting by both pilots.