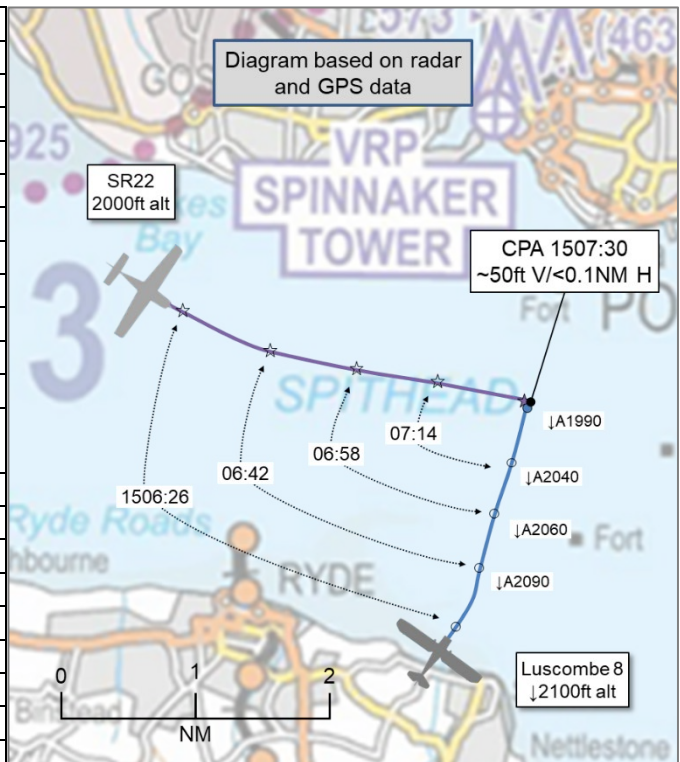


**AIRPROX REPORT No 2022053**

Date: 15 Apr 2022 Time: 1508Z Position: 5045N 00101W Location: 1.5NM S Southsea

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	Luscombe 8	SR22
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Basic
Provider	N/A	London Info
Altitude/FL	1990ft	2000ft
Transponder	None <sup>1</sup>	A, C, S+
Reported		
Colours	Red, White	Grey, Blue
Lighting	Wing strobes	Strobes, Nav, Landing/Taxi
Conditions	VMC	VMC
Visibility	>10km	NR
Altitude/FL	1900ft	2000ft
Altimeter	QNH (NK hPa)	NK (NK hPa)
Heading	018°	NR
Speed	90kt	NR
ACAS/TAS	Not fitted	TCAS I
Alert	N/A	None
Separation at CPA		
Reported	50ft V/30m H	50ft V/100m H
Recorded	~50ft V/<0.1NM H	



**THE LUSCOMBE 8 PILOT** reports that they had departed [departure airfield] and levelled off at 1900ft, slightly southeast of Spinnaker Tower. They were changing frequency to Farnborough Radar when the blue and white Cirrus filled their windscreen. [The Cirrus] appeared from the left and seemed to be descending onto their level. Both their passenger and themselves saw the aircraft at the same time and they pushed the stick fully forward. Their passenger thinks the conflicting traffic appeared to bank right at the last second as they dropped below it. This was a very close encounter and one they have not experienced before in 30 years of flying.

The pilot assessed the risk of collision as ‘High’.

**THE SR22 PILOT** reports that they had followed along the coastline and were especially looking out for traffic that approached them from the front. They noticed the other aircraft when it was almost abeam them. [The other aircraft] came from the south and [they opine that] it may be that they didn’t notice it before because it was behind the roof pillar of the plane. Their front seat passenger was inexperienced in looking out for other traffic.

The pilot assessed the risk of collision as ‘Medium’.

**THE LONDON INFORMATION FISO** reports that they were working [the SR22] but [the pilot] did not mention anything about [an Airprox] on the frequency at the time. Unfortunately they have no recollection of any pertinent information.

<sup>1</sup> Transponder reported as Mode A & C selected however the aircraft appeared as primary only at the time of the Airprox. Subsequently NATS detected the aircraft Mode A, C.

## Factual Background

The weather at Southampton was recorded as follows:

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METAR EGHI 151450Z 15006KT 110V210 9999 FEW048 20/09 Q1026
METAR EGHI 151520Z 17006KT 120V210 9999 FEW048 19/09 Q1027
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## Analysis and Investigation

### NATS Safety Investigations

A Luscombe 8 pilot, routing [departure] to [destination airfield], reported an Airprox with an SR22 routing [departure] to [destination airfield] at 1900ft, 1NM south of the Spinnaker Tower. [The SR22] was displaying Mode-A [London Information/FIS conspicuity squawk] and in receipt of a Basic Service from London Information.

Information available to the investigation included:

- CA4114 from London Information FISO.
- Redacted Pilot report from Pilot of [the Luscombe 8].
- Redacted Pilot report from Pilot of [the SR22].
- Radar and R/T recordings.

An SR22, departed [departure airfield] and commenced displaying on radar at **1501:38**. [The SR22] tracked southeast along the coast. At **1504:37** [the SR22 pilot] called onto London Flight Information Service (FIS) frequency to advise that they were now VFR from [departure airfield] routing along the coast. The FIS Officer (FISO) responded they had the aircraft details and asked them to confirm their altitude. The pilot of [the SR22] replied they were at 2000ft.

The FISO issued [the SR22 pilot] with Mode-A code 1177 (displayed as FIS on radar) and offered a Basic Service. Mode-C data indicated [that the SR22] was at FL016 with Mode-S indicating a selected altitude of 2000ft feet with QNH 1026. The redacted [SR22] pilot report from reported their level at 2000ft.

From the redacted pilot report, [the Luscombe 8 pilot] had departed [departure airfield] and was tracking 018° at 1900ft as they operated south of the Spinnaker Tower.

A primary only contact believed to be [the Luscombe 8] appeared on radar at **1505:54**, 4.3NM northeast of Sandown. The primary contact tracked north-north-east, before turning left, potentially to pass behind [the SR22].

The closest point of approach occurred at **1507:26** and was measured as 0.1NM with no height information, see Figure 1.



Figure 1

The primary return proceeded to track behind [the SR22].

[The Luscombe 8 pilot] did not contact London FIS for a service. At **1509:20** transponder data was received with a Mode-A code of (Farnborough LARS) at an indicated FL015. There was no Mode-S data available on the contact to confirm that the contact was [the Luscombe 8].

The pilot of [the SR22], who was in contact with London FIS, made no report to the FISO on the R/T of the event or potential confliction.

The Airprox occurred when [a Luscombe 8] and [an SR22] crossed tracks outside controlled airspace just south of Spinnaker Tower.

The closest point of approach occurred at **1507:26** and was measured as 0.1NM with no height information. Pilot reports detailed they assessed the relative distances as approximately 50ft vertically and 90m laterally.

The incident was resolved by both pilots taking avoiding action with the pilot of [the SR22] reporting that they turned left and climbed, whilst the pilot of [the Luscombe8] reported that they descended with maximum available input to the control column.

## UKAB Secretariat

An analysis of the NATS radar replay was undertaken and, although both aircraft were displayed, the Luscombe 8 was a primary only return however, the pilot kindly supplied the UKAB Secretariat with a GPS data log file of their flight. The radar data appeared to show the Luscombe 8 pilot taking horizontal avoiding action to their left however, the Luscombe 8 pilot did not report taking any horizontal avoiding action, which is supported by the GPS data which shows no horizontal track deviation. The radar and GPS data have been combined to produce the diagram at the top of this report and to measure the CPA but, due to differing tolerances within the altitude reporting elements of the two systems, is it not possible to determine an exact vertical separation and as such, it has been recorded as an approximation.

The Luscombe 8 and SR22 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.<sup>2</sup> If the incident geometry is considered as converging then the SR22 pilot was required to give way to the Luscombe 8.<sup>3</sup>

## Summary

An Airprox was reported when a Luscombe 8 and an SR22 flew into proximity 1.5NM southwest of Southsea at 1508Z on Friday 15<sup>th</sup> April 2022. Both pilots were operating under VFR in VMC, the SR22 pilot in receipt of a Basic Service from London Information and the Luscombe 8 pilot not 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 data, 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.

The Board first considered the actions of the Luscombe 8 pilot and, in the location of the Airprox, members noted that there are limited options for the provision of an air-traffic service. A GA member pilot stated that, when crossing an area with no obvious option for the provision of a service, it can be advantageous to attempt to establish early contact with the next agency, even if outside of their designated coverage area. Members agreed that the Luscombe 8 pilot had had no prior awareness of the SR22 (**CF4**) however, it was noted that in this particular locality, traffic levels can be high and it is not uncommon for pilots to parallel the coast. Members also noted that although the pilot had reported having their transponder selected to Mode-C, it had not been detected by the NATS radars until sometime after the event (**CF2, CF3**). The Board agreed that the Luscombe 8 pilot had become visual with the SR22 at a very late stage (**CF6**), it was stated that, as the aircraft had been on a constant relative bearing, visual acquisition would have been particularly difficult, and that occasional rolling of the aircraft may help to mitigate this.

<sup>2</sup> (UK) SERA.3205 Proximity.

<sup>3</sup> (UK) SERA.3210 Right-of-way (c)(2) Converging.

Next, the Board considered the actions of the SR22 pilot and noted that, although they had had a functional TCAS, it had been unable to detect the presence of the other aircraft as the transponder on the Luscombe 8 had not been operating at the time (CF5). Members agreed that, as the SR22 pilot had not been in receipt of a surveillance based air-traffic service and their TCAS had been unable to detect the Luscombe 8, they had had no awareness of its presence prior to sighting it (CF4). The Board also agreed that, regardless of the level of service a pilot is receiving, an Airprox should always be reported over the radio as soon as possible. Members noted that the SR22 pilot had become visual with the Luscombe 8 when it had been in the abeam position, at which point it would have been too late for them to take effective avoiding action (CF7), and it was agreed that the SR22 window arch may have obscured the Luscombe 8 from the SR22 pilot's view (CF8).

The Board then examined the involvement of the London Information FISO in this event and agreed that they had not been required to monitor the SR22 flight when providing a Basic Service (CF1).

Finally, in assessing the risk of collision, the Board discussed that, although the SR22 pilot had had a TCAS on board, it had been unable to detect the Luscombe 8, and so neither pilot had had any awareness of the presence of the other. Lookout had been the remaining barrier against collision and, although the Luscombe 8 pilot had become visual with the SR22 in time to be able to take avoiding action, which had reduced the risk of collision, it had not removed it entirely. Members agreed that, in this case, safety had not been assured and that there had been a risk of collision (CF9). Accordingly, the Board assigned a Risk Category B to this Airprox.

## **PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**

### Contributory Factors:

	2022053			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
<b>Ground Elements</b>				
<b>• Situational Awareness and Action</b>				
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
<b>Flight Elements</b>				
<b>• Regulations, Processes, Procedures and Compliance</b>				
2	Human Factors	• Use of policy/Procedures	Events involving the use of the relevant policy or procedures by flight crew	Regulations and/or procedures not complied with
<b>• Tactical Planning and Execution</b>				
3	Human Factors	• Transponder Selection and Usage	An event involving the selection and usage of transponders	
<b>• Situational Awareness of the Conflicting Aircraft and Action</b>				
4	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
<b>• Electronic Warning System Operation and Compliance</b>				
5	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
<b>• See and Avoid</b>				
6	Human Factors	• Identification/Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
7	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
8	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other
<b>• Outcome Events</b>				

9	Contextual	<ul style="list-style-type: none"> <li>Near Airborne Collision with Aircraft</li> </ul>	An event involving a near collision by an aircraft with an aircraft, balloon, dirigible or other piloted air vehicles	
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Degree of Risk: B

#### Safety Barrier Assessment<sup>4</sup>

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, when providing a basic service, the FISO is not required to monitor the flight.

#### **Flight Elements:**

**Regulations, Processes, Procedures and Compliance** were assessed as **ineffective** because the Luscombe 8 pilot did not ensure that their transponder was functioning for the entire flight, as required by (UK) SERA.13001(a).

**Tactical Planning and Execution** was assessed as **partially effective** because the Luscombe 8 pilot did not ensure that their transponder was functioning for the entire flight, as required by (UK) SERA.13001(a).

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

**Electronic Warning System Operation and Compliance** were assessed as **ineffective** because the TCAS system carried on the SR22 had been unable to detect the Luscombe 8.

**See and Avoid** were assessed as **ineffective** because the Luscombe 8 pilot had become visual with the SR22 at a late stage and, the SR22 pilot had become visual with the Luscombe 8 only at a point at which it had been too late to initiate effective avoiding action.

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

<b>Airprox Barrier Assessment: 2022053</b>		Outside Controlled Airspace						
<b>Barrier</b>		<b>Provision</b>	<b>Application</b>	<b>Effectiveness</b>				
				Barrier Weighting				
				0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✓					
	Manning & Equipment	✓	✓					
	Situational Awareness of the Confliction & 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	✗	✗					
<b>Key:</b>		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>		
Provision	✓	⚠	✗	⊘				
Application	✓	⚠	✗	⊘				
Effectiveness								