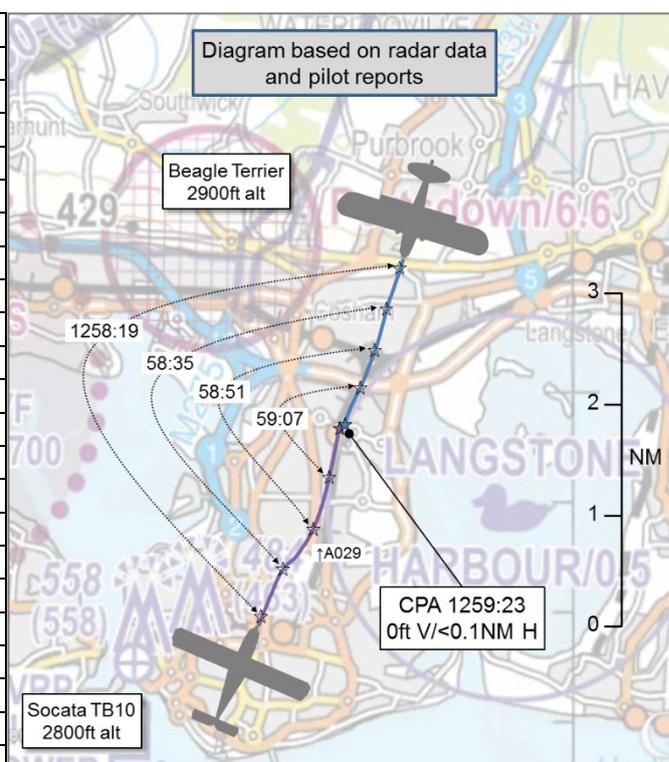


AIRPROX REPORT No 2020064

Date: 12 Jul 2020 Time: 1259Z Position: 5050N 00104W Location: Portsmouth

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Beagle A61 Terrier	Socata TB10
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	None
Provider	Solent Radar	N/A
Altitude/FL	2900ft	2900ft
Transponder	A, C, S	A, C, S
Reported		
Colours	Silver/Burg/White	White/Blue/Red
Lighting	NR	Strobes, Nav lights
Conditions	VMC	VMC
Visibility	100NM	>10km
Altitude/FL	2500ft	3000ft
Altimeter	NK	QNH (1030hPa)
Heading	200°	010°
Speed	85kt	113kt
ACAS/TAS	Not fitted	PilotAware
Alert	N/A	None
Separation		
Reported	0ft V/25m H	<50ft V/1000m H
Recorded	0ft V/<0.1NM H	



THE BEAGLE TERRIER PILOT reports that they were conducting a normal pleasure flight. They had maintained 2500ft and kept a good external scan throughout the flight. As they were not entering the Solent zone, they believed that using the listening squawk from just past Popham to Ryde on the Isle of Wight was the right option and good airmanship. On seeing the other aircraft closing fast, directly ahead, they believe that they took the best and immediate reaction by banking hard to starboard. At the same time, they noticed that the other aircraft also banked hard to starboard as it passed down their port side. The Airprox did not affect their flying after the incident and they were not disturbed or shaken by it. They were just glad that they took the correct avoiding action.

They believe that the TB10 may have been climbing up directly in front of them and, because of the poor forward and downward visibility in their aircraft due to the long nose, they do not think that they would have been able to see the other aircraft until it reached the same level. Also, as the other aircraft was directly ahead, they believe that its visual profile would have been small. They were not aware that they could report via radio but, in hindsight, they should have called Solent Radar and informed them.

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

THE SOCATA TB10 PILOT reports that they were flying approximately due north in good visibility, with little to no cloud. They checked their map to verify their position (for no more than approximately 5sec) and, on looking up, they saw an aircraft on a reciprocal heading, at a similar altitude and closing fast. They turned hard right, as did the other aircraft. They were using PilotAware but there was no indication of the presence of the other aircraft. They do not recall if they had switched to Farnborough LARS at the time of the incident.

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

NATS FARNBOROUGH reports that they reviewed the radar replay for the time stated and could see what looked like a potential Airprox between two aircraft (one squawking 7011 and the other 7000), neither of which were working Farnborough Radar. The 7000 squawk later continued north and then the pilot called Farnborough, this was the Socata TB10. The pilot of the Beagle Terrier did not speak to Farnborough.

Factual Background

The weather at Southampton Airport was recorded as follows:

METAR EGHI 121250Z VRB03KT CAVOK 22/07 Q1028=
 METAR EGHI 121320Z VRB03KT CAVOK 23/08 Q1028=

Analysis and Investigation

UKAB Secretariat

A review of the NATS radar was conducted. Both aircraft were consistently tracked on both primary and secondary radar; thus an accurate plot of the aircraft's relative positions and a measurement of CPA were possible.

At 1257:00, the Beagle Terrier pilot had turned right onto a heading of approximately 210° while the TB10 pilot was established on a reciprocal heading at a range of 7.8NM; the aircraft were separated by 300ft at this point (Figure 1). Both aircraft continued on their respective tracks, the TB10 pilot climbing to FL025 (2900ft altitude) at 1258:55 (Figure 2); the TB10 pilot then maintained this altitude until CPA.

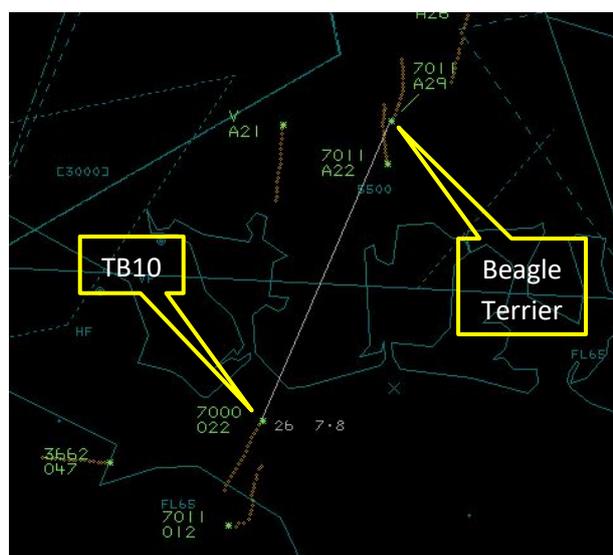


Figure 1 – 1257:00

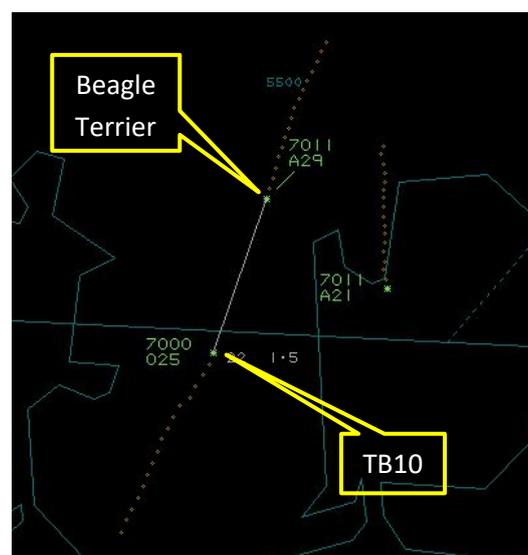


Figure 2 – 1258:55

No track or altitude deviations from either aircraft were discernible on the radar replay until CPA was reached (at which point both pilots could be seen turning right in accordance with their respective reports) at 1259:23. The separation at this time, as measured on the radar, was <0.1NM with no vertical separation (Figure 3).

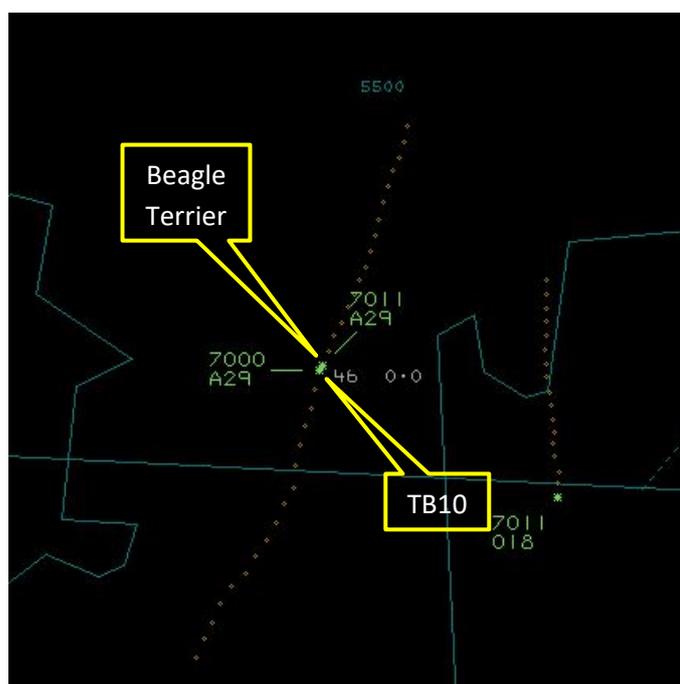


Figure 3 - CPA

The Beagle Terrier and Socata TB10 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

Summary

An Airprox was reported when a Beagle Terrier and a Socata TB10 flew into proximity over Portsmouth at 1259Z on Sunday 12th July 2020. Both pilots were operating under VFR in VMC; the Beagle Terrier pilot was listening out on the Solent Radar frequency and the Socata TB10 pilot was not in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft 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.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided dial-in/VTC comments.

The Board first discussed the actions of the Beagle Terrier pilot and, noting that they had taken the trouble to select the frequency and squawk to indicate that they had been listening out on the Solent Radar frequency, wondered why they had not then sought to agree an Air Traffic Service (ATS) with the Solent Radar controller, albeit the Board acknowledged that Solent Radar is not a designated LARS provider. Nonetheless, the Board's view was that the Beagle Terrier pilot may have been better served with a surveillance-based ATS – perhaps from Farnborough or Bournemouth if the Solent Radar controller had been unable to provide one – when flying in this busy airspace. However, the Board also heard from an ATC advisor, who cautioned against any assumption that a surveillance-based ATS would have been available, even from a designated LARS provider, as ATC manning levels had been vastly reduced due to COVID-19 restrictions. As it was, the Beagle Terrier pilot had received no prior warning of the presence of the Socata TB10 (**CF1**) and had not seen it until it appeared from beneath

¹ SERA.3205 Proximity.

² SERA.3210 Right-of-way (c)(1) Approaching head-on.

the nose of their aircraft (**CF3**) at a range that required the Terrier pilot to take immediate avoiding action (**CF6**).

Turning to the actions of the Socata TB10 pilot, the Board again considered that the pilot could have requested a surveillance-based ATS from an appropriate provider while flying in a known area of high traffic density. Members felt that this had potentially denied the pilot the opportunity to gain awareness of the presence of the Beagle Terrier, particularly in light of the fact that they had not received any indication of the aircraft's presence from their PilotAware equipment (**CF1**, **CF2**). Members agreed that it had been unfortunate that the TB10 pilot had been referring to his chart immediately before the Airprox (**CF4**), and that this is what had probably led to a late sighting of the Beagle Terrier (**CF6**).

The Board then discussed the risk involved in this event. Members noted that the radar replay had shown that the aircraft had passed with no vertical separation and with only minimal horizontal separation, which had probably been generated by the coincident actions of the pilots when each of them had seen the other aircraft in close proximity. All agreed that there had been a definite risk of collision (**CF5**); some members argued that it had been entirely fortuitous that the 2 aircraft had not collided, whilst others felt that the actions of both pilots on sighting the other aircraft had materially increased separation such that a likely collision had been averted. Ultimately the Board agreed that, although safety had been much reduced, the actions of the two pilots had probably had a material effect on the separation and therefore assigned a Risk Category B to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2020064		
CF	Factor	Description	Amplification
	Flight Elements		
	• Situational Awareness of the Conflicting Aircraft and Action		
1	Contextual	• Situational Awareness and Sensory Events	Pilot had no, late or only generic, Situational Awareness
	• Electronic Warning System Operation and Compliance		
2	Technical	• ACAS/TCAS System Failure	CWS did not alert as expected
	• See and Avoid		
3	Contextual	• Poor Visibility Encounter	One or both aircraft were obscured from the other
4	Human Factors	• Distraction - Job Related	Pilot looking elsewhere
5	Contextual	• Near Airborne Collision with Aircraft, Balloon, Dirigible or Other Piloted Air Vehicle	Piloted air vehicle
6	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

Degree of Risk: B

Safety Barrier Assessment³

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

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had any knowledge (prior to becoming visual) of the presence of the other aircraft.

³ 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 PilotAware equipment carried on the Socata TB10 was expected to alert the pilot to the presence of the Beagle Terrier but did not do so.

See and Avoid were assessed as **partially effective** because both pilots saw the other aircraft at close range and both pilots had to take immediate action to increase separation.

Airprox Barrier Assessment: 2020064		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 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	!	!					
Key:								
	<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present/Not Assessable</u>	<u>Not Used</u>			
Provision	✓	!	✗	○	○			
Application	✓	!	✗	○	○			
Effectiveness								