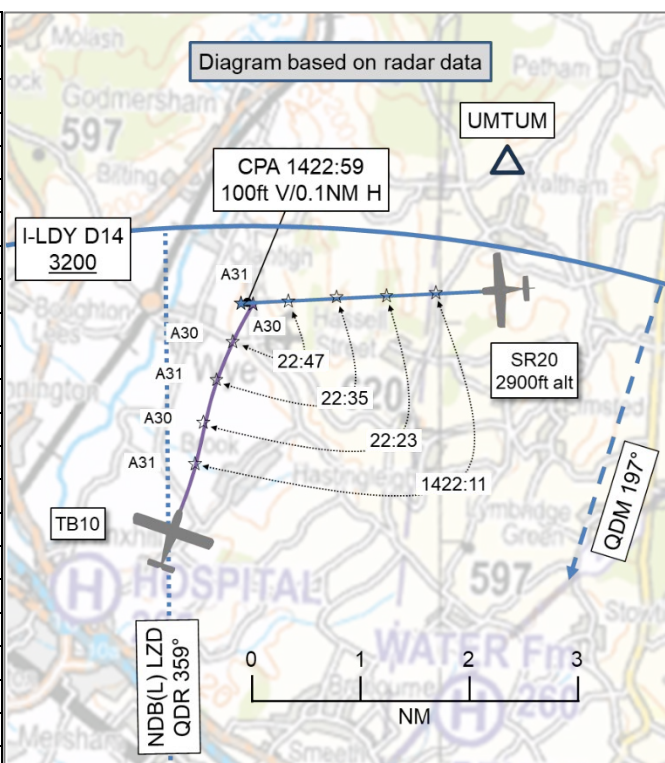


AIRPROX REPORT No 2025004

Date: 16 Jan 2025 Time: 1423Z Position: 5111N 00057E Location: Wye

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	SR20	TB10
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	IFR	IFR
Service	Reduced Traffic	Procedural
Provider	Southend	Lydd
Altitude/FL	3100ft	3000ft
Transponder	A, C, S+	A, C
Reported		
Colours	Orange/silver	White/blue/yellow
Lighting	Strobe, landing	Nav, taxi, land
Conditions	VMC	VMC
Visibility	>10km	5-10km
Altitude/FL	3000ft	3100ft
Altimeter	QNH (1034hPa)	QNH (NK)
Heading	262°	360°
Speed	120kt	110kt
ACAS/TAS	TAS	Not fitted
Alert	Information	N/A
Separation at CPA		
Reported	100ft V/0m H	200ft V/100m H
Recorded	100ft V/<0.1NM H	



THE SR20 INSTRUCTOR reports teaching holds around IFR Waypoint UTMUM (southwest of Canterbury). They were outbound on the 090° radial and were advised of a primary contact to the southwest. Traffic was seen in the 10/11 o'clock position, converging at the same level. Upon realising that the other traffic had not seen them, the instructor took control, climbed about 200ft and commenced the inbound turn back to UTMUM, whilst keeping the conflicting traffic in sight, passing below them on the left side. The instructor noted that they believed this aircraft had been conducting GH in the area for the preceding 20min as they had been made aware of a similar non-transponding aircraft in the vicinity and had advised Southend that they had been visual with it.

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

THE TB10 PILOT reports booked with Lydd to undertake two instrument approaches. The first was an RNP and, after the overshoot, they were cleared to climb to 3200ft to position on the 14 DME arc for the final ILS approach. There was no R/T warning of traffic in the vicinity of the published instrument approach, and they observed the SR20 pass in front of them. Whilst the distance was closer than comfortable it was not necessary to take any evasive action and they did not consider it required an Airprox report.

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

THE SOUTHEND AIR TRAFFIC SAFETY MANAGER reports that at the reported time of the Airprox [SR20 C/S] was general handling in the vicinity of Canterbury and had previously stated that they were intending to conduct holds using the non-source waypoint UTMUM. The [pilot] was in receipt of a Traffic Service from Southend Radar. At time 1422:20 the controller transmitted the following to [SR20 C/S]: "[SR20 C/S] traffic ten o'clock three miles, primary contact only, no level or type information, crossing ahead left-to-right".

The [SR20] pilot then reported that they had the traffic in sight. After replaying the recorded data, [it was observed that] the conflicting traffic had previously been wearing a Lydd conspicuity code.

THE LYDD CONTROLLER reports that nothing was reported at the time on Lydd Approach frequency. Reviewing the flight strips indicated the low-winged SEP involved was probably [TB10 C/S], a TOBA from [departure aerodrome] conducting instrument approach training at Lydd on RW21. At 1422 [TB10 C/S] would have been at 3200ft establishing, or recently established, on the 14DME arc north of Lydd, in the vicinity of Wye, for the ILS approach after flying the alternative procedure. [TB10 C/S] was on a Procedural Service. The SR20 involved was not on Lydd Approach frequency and unknown. Therefore separation or passing of Traffic Information was not possible.

Factual Background

The weather at Lydd was recorded as follows:

METAR EGMD 1611420Z 19007KT 9999 FEW011 09/06 Q1034=

Analysis and Investigation

UKAB Secretariat

The SR20 and 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 converging then the TB10 pilot was required to give way to the SR20.²

The NATS Ltd radar replay supplied to UKAB displayed both the SR20 (5067 SSR code) and TB10 (7067 SSR code) as primary and secondary returns:

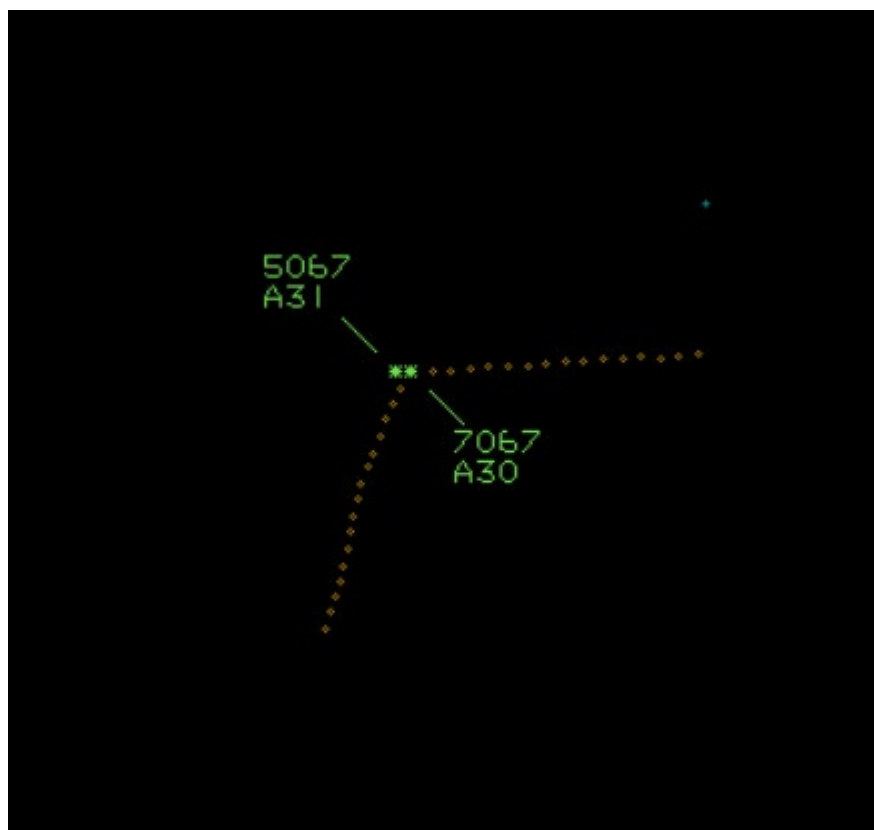


Figure 1 – NATS Ltd radar replay display at CPA, 1422:59

¹ (UK) SERA.3205 Proximity.

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



Figure 2 – Extract from Lydd Offset ILS/DME RWY 21

Southend Occurrence Investigation

Synopsis

An Airprox was notified to London Southend Airport ATC by the United Kingdom Airprox Board (UKAB) involving a Cirrus SR20 ([SR20 C/S]) and unknown traffic.

The Cirrus SR20 was on an IFR flight from [departure aerodrome] to [arrival aerodrome], and was in receipt of a reduced Traffic Service from Southend Radar. The second aircraft involved was not in communication with Southend Radar but, according to the recorded surveillance data, may have been in communication with Lydd Approach.

At the time the Airprox occurred, the SR20 [pilot] was conducting general handling in the vicinity of Challock, Kent, which included them carrying out holds at the non-source (RNAV) waypoint named UMTUM. The SR20 pilot did not report the Airprox to Southend ATC.

All times referred to in this report are Coordinated Universal Time (UTC).

Factual History

Whilst investigating this occurrence, the investigator had access to the recorded R/T and surveillance data consisting of the 'at the glass' recordings of the Southend Radar Controller Working Position (CWP) (Radar 1).

At the time of the Airprox, the Southend Radar controller was providing an Approach Control Service in combined ('band-boxed') configuration. Traffic and R/T loading were light; however, Southend's SELEX Primary and Secondary Surveillance Radar were out of service due to a monitoring fault.

Therefore, the controller was utilising the secondary, Onward Routed Radar Data (ORRD) feed, which is sourced from the NATS radar head at Stansted.

At time 1351:46, [the SR20 pilot] called Southend Radar and requested a Traffic Service. The Southend Radar controller instructed them to squawk 5067 and to report their level. The [SR20 pilot] then reported at altitude 2300ft. The controller then passed the Southend QNH (1034hPa), and advised that ATIS information Whiskey was current, they then enquired whether they were IFR which the pilot confirmed.

At 1352:25 (Figure 1), the Southend Radar controller identified [SR20 C/S], and a reduced Traffic Service was agreed due to their proximity to Rochester Airport; the controller also advised the pilot to expect the possibility of late warning of traffic.



Figure 3 – Southend Radar (ORRD) at 1352:25

At 1352:46, the [SR20 pilot] advised that their intentions were to conduct general handling in the vicinity of Canterbury, and to carry out some holds overhead the waypoint 'UMTUM', before an instrument approach at London Southend Airport.

At 1358:50 (Figure 4), the Southend Radar controller passed Traffic Information to [the SR20 pilot] on a "...primary only contact four miles to the south of you tracking eastbound no height or type information." The information was acknowledged by the pilot.

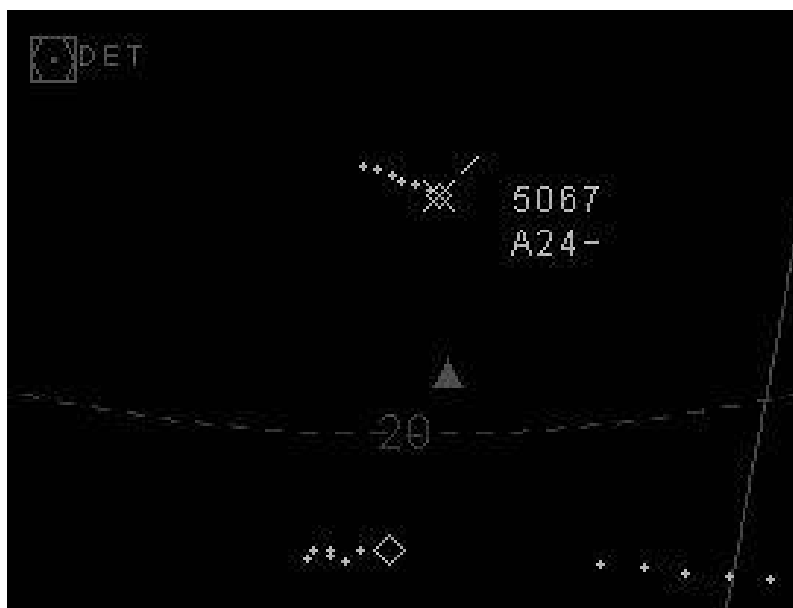


Figure 4 – Southend Radar (ORRD) at 1358:50

At 1359:47 (Figure 5), [the SR20 pilot] reported climbing to altitude 3000ft on the QNH (1034hPa). The Southend Radar controller acknowledged that, and then updated them on the previously mentioned traffic "... I have got secondary contact on that er previously mentioned traffic it's four miles now to the south south west of you indicating altitude three thousand two hundred feet on an easterly track." The reply to that transmission was clipped, however, the pilot may have replied with the word 'looking.' The traffic was squawking the Mode A code 7067* which is allocated to Lydd approach as a conspicuity code for their IFR traffic.

*On the RDS1600 display 7067 codes are presented to the controller as 'LYD.'



Figure 5 – Southend Radar (ORRD) at 1359:47

Change of controller between these times.

At 1402:26 (Figure 6), [the SR20 pilot] reported the previously called traffic in sight. The Southend Radar controller may have mis-heard the transmission because they then called the traffic to [the SR20 pilot] again, to which the pilot acknowledged.

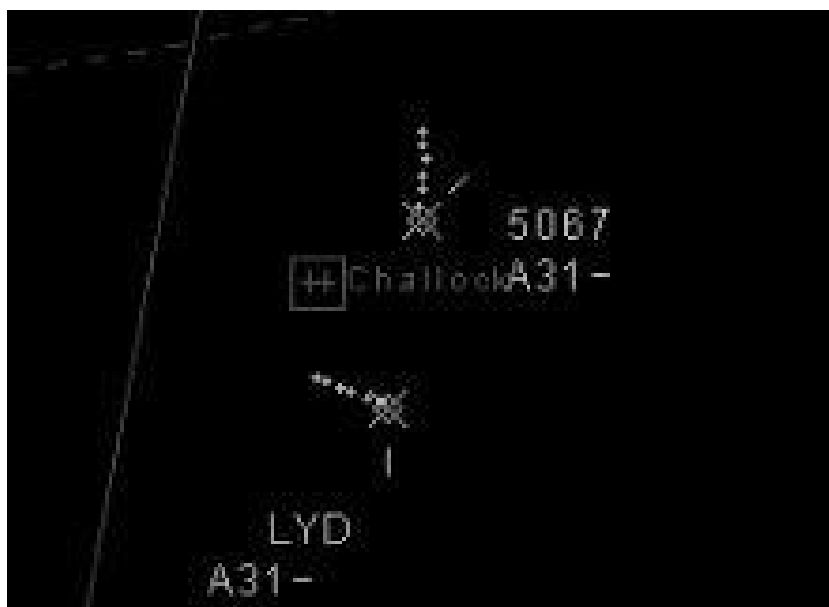


Figure 6 – Southend Radar (ORRD) at 1402:26

At 1420:38 (Figure 7), according to the recorded surveillance data, unknown traffic transponding 7067 was observed 6NM to the south-southwest of [SR20 C/S], tracking north, indicating level at

altitude 3100ft (unverified). At this time, [SR20 C/S] was tracking away from it to the east, indicating altitude 3000ft and descending.



Figure 7 – Southend Radar at (ORRD) 1420:38

At 1421:02 (Figure 8), according to the recorded surveillance data, the unknown traffic's Secondary Surveillance Radar information was lost; an intermittent primary contact remained which then continued to track northbound.



Figure 8 – Southend Radar (ORRD) at 1421:02

At 1422:21 (Figure 9), the Southend Radar controller transmitted the following to [the SR20 pilot]: “[SR20 C/S] *traffic ten o'clock three miles primary contact only no level or type information crossing ahead left-to-right.*” The pilot of [SR20 C/S] then reported the traffic in sight.



Figure 9 – Southend Radar (ORRD) at 1422:21

At 1422:40 (Figure 10), according to the recorded surveillance data, closest point of approach occurred. The primary only contact then faded from coverage on the next sweep.



Figure 10 – Southend Radar (ORRD) at 1422:40

At 1423:02 (Figure 11), according to the recorded surveillance data, an SSR only contact appeared directly astern of [SR20 C/S] transponding the Lydd Approach IFR code.

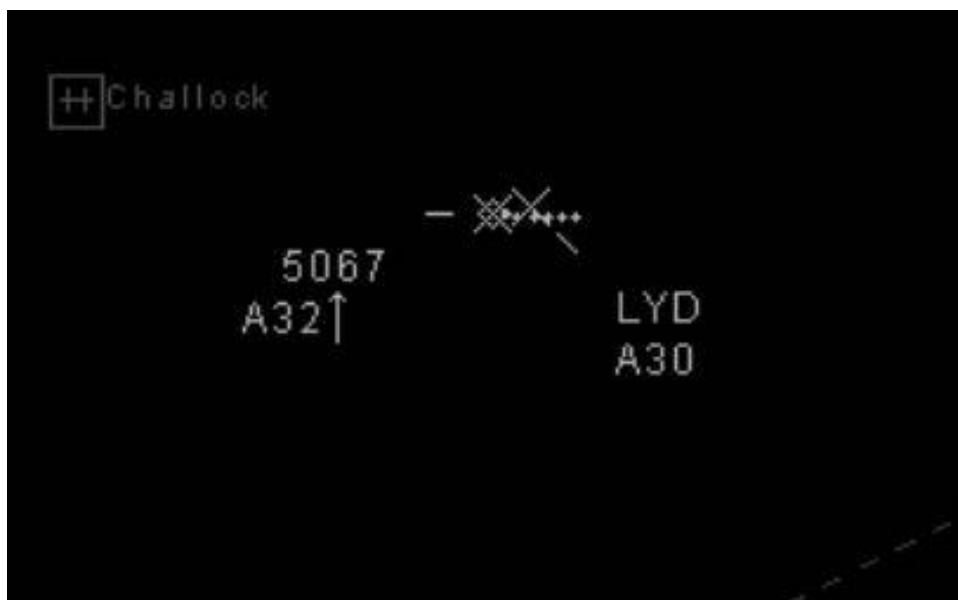


Figure 11 – Southend Radar (ORRD) at 1423:02

Analysis

At the time of the Airprox, the SR20 [pilot] had been general handling in the vicinity of Challock in Kent, in Class G (uncontrolled) airspace, and had been practising holds based on the UMTUM waypoint. UMTUM is an en-route RNAV reporting point on ATS routes L9, M87 and UL9. It is also a waypoint on the Standard Arrival Routes (STARs) for London City and London Biggin Hill.

The SR20 [pilot] was in receipt of a reduced Traffic Service, initially due to their proximity to Rochester Airport, and had previously been warned of possible late warning of traffic. When questioned, the Southend Radar controller stated that they were unable to upgrade the service due to the additional limitations of them using the secondary (ORRD) radar feed. It was noteworthy however, that after the SR20 [pilot] tracked away from the Rochester area, the controller did not inform the pilot that the Traffic Service was still reduced, but that the limiting factor had changed to radar performance. The CAP 774 – UK Flight Information Services Chapter 1, para 1.1 states that:

'Controllers/FISOs shall inform the pilot of reductions in traffic information along with the reason and the probable duration; however, it may not always be possible to provide these warnings in a timely fashion.'

According to the recorded surveillance data, prior to the Airprox, the unknown contact had been intermittent on both Primary and Secondary Surveillance Radar, and was at the edge of the controller's radar display. The unknown contact had been squawking a code allocated to Lydd Approach for IFR flights, however, the SSR dropped out prior to it becoming relevant traffic to the SR20 [pilot]. It was noted that the primary contact then continued to be intermittent, and somewhat erratic (indicative of it being at the edge of solid cover). However, Traffic Information on the conflicting traffic was passed to the SR20 [pilot] when it was 3NM to the south, and the pilot reported it in sight.

At the time CPA occurred, the unknown primary contact was approximately 26NM to the south of London Southend Airport, and approximately 50NM away from the radar head, therefore, it was most likely at the limit of solid radar coverage. Because of this, it was not possible to calculate an accurate CPA distance.

The CAP 774 – UK Flight Information Services Chapter 1, para 1.1 states that:

'Where aircraft are operating close to the lateral and/or vertical limits of solid ATS surveillance system cover, or close to a radar overhead, there is the potential for conflicting traffic to be detected late. Similarly, there is potential for aircraft to be undetected or detected late in known areas of poor surveillance'

performance, permanent echoes, weather clutter or when the controller suspects the performance of the ATS surveillance system is degraded.'

There are additional limitations when the ORRD feed is in use, most notably increased separation standards in respect of aircraft operating within controlled airspace, and that Mode S data is not available to controllers. These limitations, and the associated operational restrictions of operating in this mode, are detailed in the unit's Manual of Air Traffic Services (MATS) Pt. 2.

It is worthy of note that the SR20 pilot did not report the Airprox to Southend ATC on the R/T, or after landing at Southend. Due to the occurrence being retrospectively reported to the unit via UKAB, there was some delay in the recollections of the controller involved being captured.

Conclusion

An Airprox occurred in Class G (uncontrolled) airspace between a Cirrus SR20 and unknown traffic that was operating at the limit of Southend ATC's radar coverage.

Unit Action Already Taken

There is a review of the MATS Pt. 2 currently underway regarding local procedures when operating with the ORRD feed intended to enhance the guidance for controllers when operating in this mode.

Lydd Occurrence Investigation

The Lydd occurrence investigation found that no action could have reasonably been taken by the ATCO on duty. The SR20 [pilot] was not on frequency with Lydd at the time, nor was anything reported by [TB10 C/S]. With no form of surveillance, the ATCO was not able to provide situational awareness against aircraft unknown to them. With no radar or FID, the ATCO would have been unaware of the aircraft operating off frequency but within the DOC.

Summary

An Airprox was reported when an SR20 and a TB10 flew into proximity near Wye at 1423Z on Thursday 16th January 2025. Both pilots were operating under IFR in VMC, the SR20 pilot in receipt of a reduced Traffic Service from Southend and the TB10 pilot in receipt of a Procedural Service from Lydd.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, a report from the air traffic controller 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.

Members first discussed ATC aspects and agreed that, without surveillance or a FID, the Lydd controller had had no situational awareness of the SR20 (**CF1**) and, although the Southend controller had been providing a Traffic Service to the SR20 pilot, the lack of SSR information on the TB10 had resulted in them only having had generic situational awareness on the TB10 (**CF1**), which they had used to good effect by passing Traffic Information to the SR20 pilot.

Turning to the pilots, the TB10 pilot had been engaged in an instrument approach, operating under a Procedural Service which had afforded them no situational awareness (**CF4**) on the SR20 because its pilot had not been in contact with Lydd, leaving, in the absence of a TAS, see-and-avoid as their sole remaining barrier to mid-air collision. The SR20 pilot had received generic Traffic Information on the TB10 (**CF4**) from the Southend controller, i.e. with no altitude information, and information from their TAS (**CF5**) and had then seen the other aircraft, although the TB10 pilot had not seen the SR20 until it had passed in front of them, effectively a non-sighting (**CF7**). With the aircraft converging at or about the same level, the SR20 pilot on the right had been required to maintain course and speed, which they had done, and the TB10 pilot had been required to give way. However, this regulation had only applied

until the point at which both pilots had had an equal responsibility not to fly into such proximity as to introduce a collision hazard. The TB10 pilot had not been able to do so because they had not been aware of the proximity of the SR20 so, after further discussion, members agreed that the separation at CPA, both reported and recorded, had been such that although the SR20 pilot had been concerned by the proximity of the TB10 (CF8), their delayed change of level had contributed to the proximity (CF6). The Board also discussed the SR20 instructor's choice of waypoint around which to base their instrument hold practice and thought that it would have been appropriate to have contacted Lydd ATC (CF2) and/or to have chosen a waypoint, level and orientation such that their planned hold had not intersected the Lydd approach procedure (CF3).

With regard to risk, the Board members agreed that although separation had been less than desired, the SR20 pilot had manoeuvred in time to avert any risk of collision, Risk C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2025004			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
	Ground Elements			
	• Situational Awareness and Action			
1	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
	Flight Elements			
	• Tactical Planning and Execution			
2	Human Factors	• Accuracy of Communication	Events involving flight crew using inaccurate communication - wrong or incomplete information provided	Ineffective communication of intentions
3	Human Factors	• Pre-flight briefing and flight preparation	An event involving incorrect, poor or insufficient pre-flight briefing	
	• Situational Awareness of the Conflicting Aircraft and Action			
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
	• Electronic Warning System Operation and Compliance			
5	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
	• See and Avoid			
6	Human Factors	• Incorrect Action Selection	Events involving flight crew performing or choosing the wrong course of action	Pilot flew close enough to cause concern
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	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: C.

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:

³ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

Tactical Planning and Execution was assessed as **partially effective** because the SR20 pilot had not communicated with Lydd Approach and made their climb at a point where separation had reduced to 100ft vertically and less than 0.1NM horizontally.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the TB10 pilot had had no situational awareness on the SR20.

See and Avoid were assessed as **partially effective** because the TB10 pilot saw the SR20 as it crossed their nose, effectively a non-sighting, and the SR20 pilot had climbed at a late stage.

