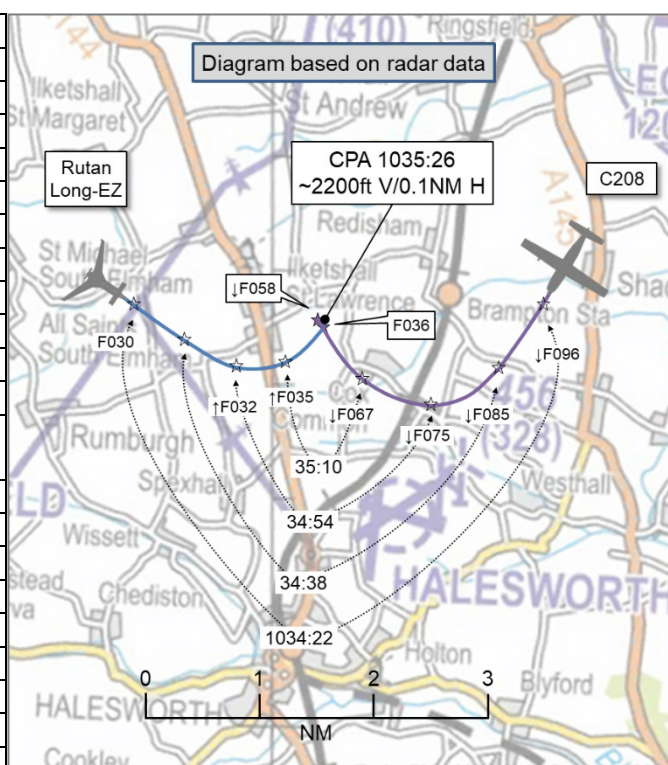


AIRPROX REPORT No 2022080

Date: 14 May 2022 Time: 1035Z Position: 5224N 00131E Location: 4.5NM SW Beccles Airfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Rutan Long-EZ	C208
Operator	Civ FW	Civ Comm
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Traffic
Provider	Norwich Radar	Norwich Radar
Altitude/FL	FL036	FL058
Transponder	A, C, S	A, C, S
Reported		
Colours	White, Blue	White
Lighting	Nav, Strobe	Nav, Beacon, Landing, Taxi
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	3200ft	4300ft
Altimeter	QNH (NR hPa)	QFE (NR hPa)
Heading	360°	323°
Speed	127kt	139kt
ACAS/TAS	PilotAware	Not fitted
Alert	TA	N/A
Separation at CPA		
Reported	100ft V/150m H	Not seen
Recorded	~2200ft V/0.1NM H	



THE RUTAN LONG-EZ PILOT reports that they were cruising at 3200ft on the Norwich QNH, to the west of Beccles airfield and talking to Norwich Radar. They were given a call from ATC alerting them to traffic less than half a mile away. They looked at their EC equipment and saw the alert aircraft above descending to cross their path at a very high rate of descent. They immediately turned left and keyed the mic [to transmit that] that they were turning north. The controller then advised that the other aircraft had also turned north. Shortly afterwards, they saw [the C208] out to their left quarter descending fast, nose down, crossing their path left-to-right in front of them, descending. They then keyed the mic to notify ATC but the call was stepped on. Shortly after, they notified ATC that they were visual with [the C208] and continued northbound.

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

THE C208 PILOT reports that they had been jump flying all day and had flown the same pattern for other jump runs. [They had been] aware of other traffic especially around Beccles.

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

THE NORWICH RADAR CONTROLLER reports that they called traffic to [the C208 pilot] (under a Traffic Service) who was descending rapidly to land at [destination airfield]. The conflicting traffic (Rutan Long-EZ) was also on their frequency under a Basic Service but they advised [the Rutan Long-EZ pilot] of the rapidly descending [C208]. Traffic was called to both aircraft again and [the C208 pilot] requested to change frequency but they [the controller] elected to continue to call the traffic to both aircraft as [the C208] was almost directly above (less than 1 mile laterally) [the Rutan Long-EZ]. [The Rutan Long-EZ pilot] then reported visual with [the C208] and turned away. [The C208 pilot] was informed, their service terminated and the pilot changed frequency. They later discovered that [the Rutan Long-EZ pilot] had filed an Airprox yet had said nothing about it on the frequency.

Factual Background

The weather at Norwich was recorded as follows:

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EGSH 141020Z 25006KT 180V290 9999 FEW034 19/10 Q1022 NOSIG
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Analysis and Investigation

Norwich Unit Investigation

[The Rutan Long-EZ pilot was] on a local sortie in and out of [departure airfield], in receipt of a Basic Service from the Norwich Radar controller and was flying in the vicinity of Beccles at approximately 3400ft. [The C208 pilot was] in receipt of a Traffic Service and was descending inbound to [destination airfield]. At 1034:47 the controller passed Traffic Information to [the C208 pilot] on [the Rutan Long-EZ], informing the pilot that the aircraft was indicating 3400ft in the slow climb. At this point the [C208] aircraft was descending through 7900ft.

At 1035:05 the controller passed Traffic Information to [the Rutan Long-EZ pilot] on [the C208], the aircraft was less than 1NM east of them, 3500ft above and descending rapidly. The pilot of [the Rutan Long-EZ] subsequently reported turning to the north. At 1035:26 the STCA enabled on the radar display and the controller informed [the Rutan Long-EZ pilot] that the [C208] aircraft was also turning to the north and updated the Traffic Information.

At 1035:38 the pilot of [the C208] requested a frequency change, the controller again passed Traffic Information to [the C208 pilot] on [the Rutan Long-EZ] and conversely updated [the Rutan Long-EZ pilot] on the location and level of [the C208].

At 1036:06 the pilot of [the Rutan Long-EZ] reported visual with [the C208]. Information from the radar replay illustrated the separation between the two aircraft was approximately 0.5NM laterally and 300ft vertically.

At no point did the pilot of [the Rutan Long-EZ] report that an Airprox had taken place.

CAA ATSI

The Rutan Long-EZ pilot was on a local flight. The pilot was in receipt of a Basic Service from Norwich Radar at the time of the Airprox. The C208 pilot was on a parachuting detail, they had dropped their parachutists and were descending at the time of the Airprox. The pilot was in receipt of a Traffic Service from Norwich Radar. The Norwich Radar controller was reported as operating in medium traffic levels and medium complexity, with no distractions.

ATSI had access to reports from the pilots of both aircraft, an initial report from the Norwich controller and a unit investigation report from Norwich unit management. The Norwich RTF recordings were reviewed for the relevant period. In the interests of brevity, only the RTF from the two aircraft involved in the Airprox has been included in this report. The area radar recordings were reviewed for the relevant period. The screenshots within this report have been taken from the area radar and are not necessarily indicative of exactly what the controller was viewing at the time. The levels displayed within the screenshots are Flight Levels and the QNH entered into the radar display processor was 1022hPa, a difference of 243ft when calculating altitudes.

At 0959:40 the Rutan Long-EZ pilot called the Norwich Radar controller and requested a Basic Service. The controller queried the callsign and the pilot confirmed their full callsign. The controller acknowledged and asked the pilot to pass their message. The pilot responded that they were, *“a Long Easy out of [departure airfield], departed to the east, approaching 1800 feet, on 1022, general handling up the coast, request Basic Service.”* A Basic Service was agreed, confirmation of the QNH of 1022hPa was provided and a squawk of 3707 was allocated. The pilot provided a full and accurate readback.

The controller turned their attention to other traffic.

At 1020:00 the C208 pilot called Norwich Radar and requested a Traffic Service. The controller responded, “[callsign] *good morning to you, er you’re identified Traffic Service, report your level passing, level climbing to?*” The pilot responded, “*we’re going through niner hundred, back up to wun tree zero and we’ll report two minutes to the drop.*” The controller responded “*roger.*”

The controller turned their attention to other traffic.

At 1029:00 the C208 pilot reported, “*two minutes to the drop*” and the controller responded, “*roger.*”

The controller turned their attention to other traffic.

Between 1031:20 and 1033:40 there were no RTF transmissions.

At 1033.50 the controller advised the pilot of an unrelated aircraft that they had now left controlled airspace and that it would be a Basic Service.

There were no further RTF transmissions.

At 1035:00 the controller passed Traffic Information to the C208 pilot on the Rutan Long-EZ, “*there is traffic in your right two o’clock range of 2 miles crossing right left beneath you, is with me, indicating 3400 feet in the slow climb.*” The pilot responded, “*yep copied the traffic [callsign] and looking.*” (Figure 1).

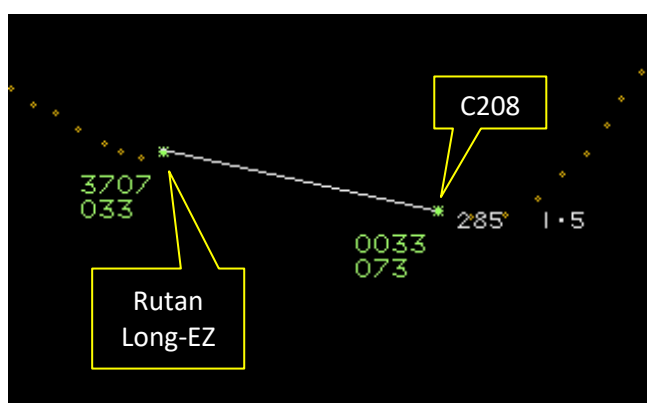


Figure 1 – 1035.00

At 1035:20 the controller passed traffic to the Rutan Long-EZ pilot, “[callsign] *keep a good look out, parachute traffic out of [departure airfield] is east abeam yourself by just less than a mile, 4000 feet, correction 3500 above, descending rapidly into [destination airfield].*” The pilot responded, “*copied that and turning to the north.*” The controller responded, “*he’s also turning to the north I believe, just over the top of you now about 2000 feet above.*” The pilot responded, “*looking.*” (Figure 2).

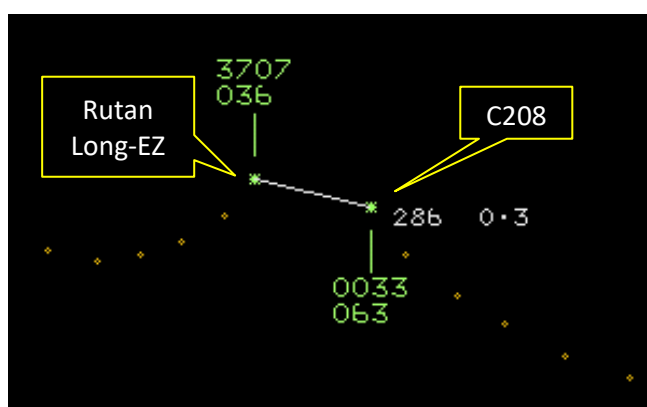


Figure 2 - 1035.20

At 1035:22 CPA as measured resulted in the two aircraft being separated by an indicated 0.1NM laterally and 2400ft vertically (Figure 3).

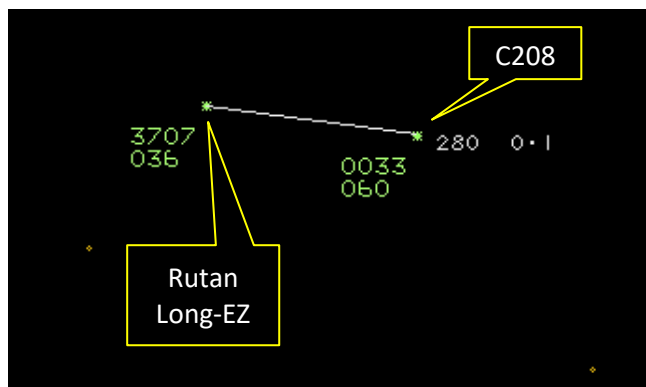


Figure 3 - 1035.22 CPA

After the next radar sweep, timed at 1035:25 the Rutan Long-EZ was displayed as having passed behind the descending C208. The C208 displayed an indicated level of FL058 and the Rutan Long-EZ FL036. It is therefore probable that the vertical separation was less than 2400ft as the aircraft tracks crossed (Figure 4).

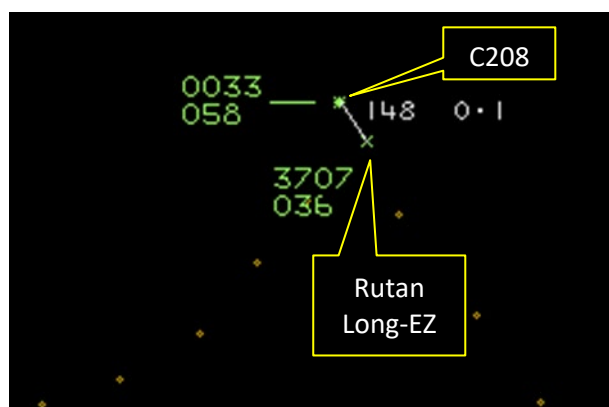


Figure 4 – 1035.25 post CPA (as measured)

At 1035:30 the controller updated the Traffic Information to the C208 pilot, “[callsign] *that traffic is beneath you, by er by 1000, er 2200 feet.*” The pilot responded, “*yeah copied thanks, we’re heading towards the zone at Beccles.*” The controller acknowledged with, “*roger.*” (Figure 5).

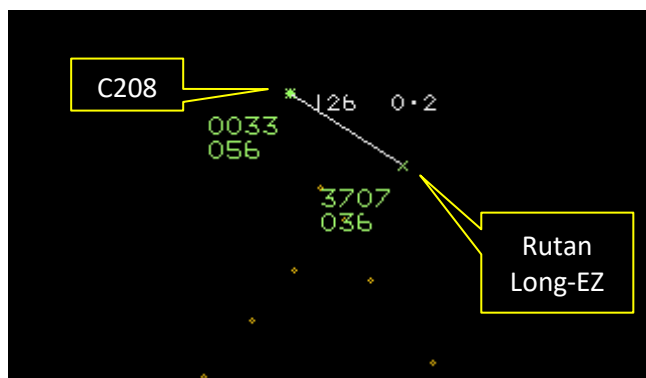


Figure 5 - 10:35.30

At 1035:40 the C208 pilot requested a frequency change and the controller updated the Traffic Information again, “*roger that, traffic is southeast of you by less than a mile, northeast bound and 1000 feet below.*” The pilot responded, “*er copied the traffic.*” (Figure 6).

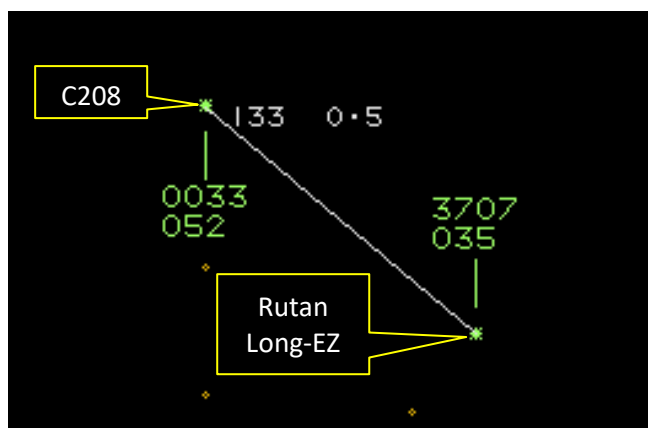


Figure 6 - 1035.40

At 1036:00 the controller updated the Traffic Information to the Rutan Long-EZ pilot, “[callsign] *the parachute aircraft is just north abeam by less than probably half a mile, 800 feet above descending rapidly.*” The pilot responded, “*visual with the Cessna.*” The controller replied, “*roger thanks.*” (Figure 7).

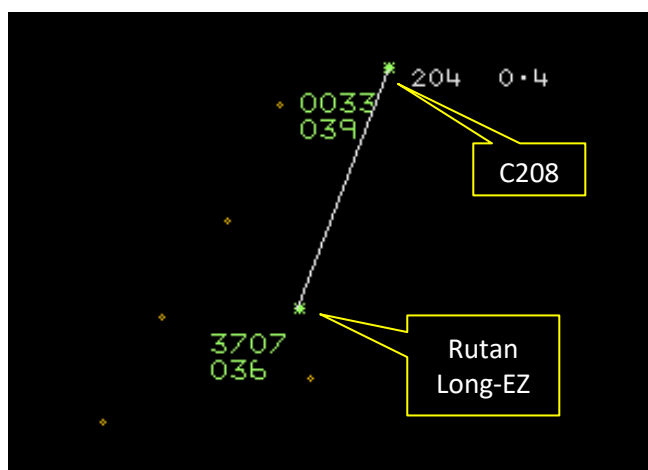


Figure 7 - 1036.00

At 1036:01 the aircraft were separated by an indicated 0.4NM laterally and 500ft vertically.

At 1036:10 the controller advised the C208 pilot, “[callsign] *that traffic’s passing behind now, radar service terminates freecall Beccles.*” The pilot responded, “*yeah speak to Beccles [callsign].*”

The Rutan Long-EZ pilot was in receipt of a Basic Service. Relevant CAP 774 extracts:

2.5 Given that the provider of a Basic Service is not required to monitor the flight, pilots should not expect any form of traffic information from a controller/FISO. A pilot who considers that they require a regular flow of specific traffic information shall request a Traffic Service.

2.6 However, where a controller/FISO has information that indicates that there is aerial activity in a particular location that may affect a flight, in so far as it is practical, they should provide traffic information in general terms to assist with the pilot’s situational awareness. This will not normally be updated by the controller/FISO unless the situation has changed markedly, or the pilot requests an update. Traffic information in general terms could include warnings of aerial activity in a particular location.

2.7 A controller with access to surveillance-derived information shall avoid the routine provision of traffic information on specific aircraft but may use that information to provide a more detailed warning to the pilot.

2.8 If a controller/ FISO considers that a definite risk of collision exists, a warning shall be issued to the pilot ((UK) SERA.9005(b)(2) and GM1 (UK) SERA.9005(b)(2)).

2.9 Whether traffic information has been provided or not, the pilot remains responsible for collision avoidance without assistance from the controller.

The Rutan Long-EZ pilot was first made aware of the presence of the C208 paradropping detail when they received Traffic Information at 1035:20. The radar screenshot indicates that the aircraft were separated by less than half a mile at this time. After this point in time the controller continued to pass Traffic Information until the Rutan Long-EZ pilot reported visual with the C208. CPA occurred at 1035:22 and the Rutan Long-EZ pilot subsequently reported visual with the C208 at 1036:00.

The C208 pilot was in receipt of a Traffic Service. Relevant CAP 774 extracts:

3.1 A Traffic Service is a surveillance based ATS, where in addition to the provisions of a Basic Service, the controller provides specific surveillance derived traffic information to assist the pilot in avoiding other traffic. Controllers may provide headings and/or levels for the purposes of positioning and/or sequencing; however, the controller is not required to achieve deconfliction minima, and the pilot remains responsible for collision avoidance.

3.5 The controller shall pass traffic information on relevant traffic and shall update the traffic information if it continues to constitute a definite hazard, or if requested by the pilot. However, high controller workload and RTF loading may reduce the ability of the controller to pass traffic information, and the timeliness of such information. Traffic is normally considered to be relevant when, in the judgement of the controller, the conflicting aircraft's observed flight profile indicates that it will pass within 3 NM and, where level information is available, 3,000 ft of the aircraft in receipt of the Traffic Service or its level-band if manoeuvring within a level block. However, controllers may also use their judgment to decide on occasions when such traffic is not relevant, e.g., passing behind or within the parameters but diverging. Controllers shall aim to pass information on relevant traffic before the conflicting aircraft is within 5 NM, in order to give the pilot sufficient time to meet their collision avoidance responsibilities and to allow for an update in traffic information if considered necessary.

3.6 Deconfliction is not provided under a Traffic Service. If a pilot requires deconfliction advice outside controlled airspace, Deconfliction Service shall be requested. The controller shall make all reasonable endeavours to accommodate this request as soon as practicable.

The C208 pilot was first made aware of the presence of the Rutan Long-EZ when they received Traffic Information at 1035:00. The radar screenshot indicates that the aircraft were separated by less than 2NM at this time. After this point in time the controller continued to pass Traffic Information to the C208 pilot and retained control of the aircraft until the Rutan Long-EZ pilot reported visual with them. The C208 pilot did not report having the Rutan Long-EZ in sight via RTF at any point.

Once the confliction and hazard had been identified, the controller was persistent and diligent in passing Traffic Information to the pilots of both aircraft, until the Rutan Long-EZ pilot reported having the C208 in sight. However, the late timing of the initial Traffic Information passed to both pilots had the potential to have impacted the ability of the pilots to fully meet their collision avoidance responsibilities prior to CPA occurring.

UKAB Secretariat

As indicated in the screenshots within the ATSI report, the recorded separation prior to the aircraft crossing flightpaths was measured at 0.1NM horizontally and 2400ft vertically. However, on the next radar sweep (4sec later) the separation was measured at 0.1NM horizontally and 2200ft vertically. Therefore, the mathematical CPA is assessed to have occurred between radar sweeps at a separation of 0.1NM horizontally and ~2200ft vertically.

Further examination of the NATS radar reply after the mathematical CPA reveals that, at 1035:56, the C208 crossed in front of the Rutan Long-EZ, left-to-right, descending through FL041. At this point the separation was 0.4NM horizontally and 500ft vertically. This point matches the Airprox as described in the report submitted by the Rutan Long-EZ pilot (Figure 8).

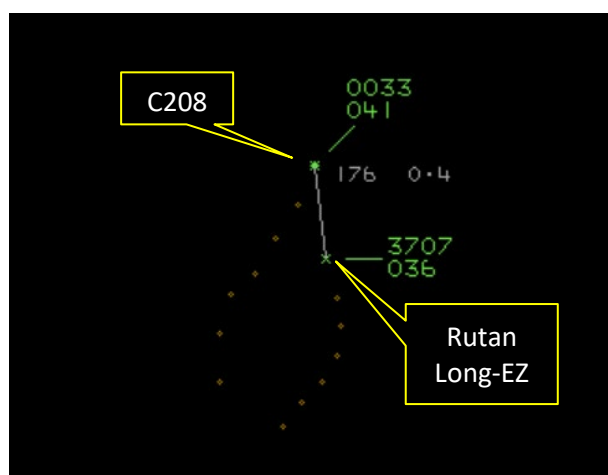


Figure 8 – 1035:56 C208 crossed in front of Rutan Long-EZ

The Rutan Long-EZ and C208 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

Summary

An Airprox was reported when a Rutan Long-EZ and a C208 flew into proximity 4.5NM southwest of Beccles airfield at 1035Z Saturday 14th May 2022. Both pilots were operating under VFR in VMC, the Rutan Long-EZ pilot in receipt of a Basic Service from Norwich Radar and the C208 pilot in receipt of a Traffic Service also from Norwich Radar.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, 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 Rutan Long-EZ pilot and noted that they had used their EC equipment to build awareness of aircraft in the vicinity and the Board had been especially encouraged that, after their EC equipment had given them an 'information' alert, **(CF4)** and after they had manoeuvred, the pilot had immediately engaged with air traffic control, aiding the situational awareness of the controller. Members then assessed the geometry of the event and agreed that the Rutan Long-EZ pilot's report had described the point at which the C208 had passed in front of them. As the mathematical CPA had occurred before that point, the Board agreed that the Rutan Long-EZ pilot had not been visual with the C208 at CPA **(CF5)**.

Next, members considered the actions of the C208 pilot and a GA pilot member commented that they had been surprised that, given that the pilot had been engaged in high frequency, high intensity commercially based operations, they had not been equipped with any additional EC equipment. A civil ATC member stated that, when in receipt of a Traffic Service, a pilot should not change level or level band without first advising and obtaining a response from the controller, and whilst members accepted that the C208 pilot may have been remaining within the 'level band' stated to the controller, either a 'drop complete' or a 'commencing descent' call to the controller would have enhanced situational awareness for both the controller and other pilots on the frequency **(CF2)**. The Board discussed the chosen flight profile of the C208 pilot and determined that they had been overly-focused on the task of descending and returning to base quickly and, although members appreciated the reasons for this, the Board agreed that this had resulted in them not assimilating the conflict information **(CF3)** when they had received Traffic Information from the Norwich Radar controller.

¹ (UK) SERA.3205 Proximity.

The Board then turned its attention to the ground element involvement and quickly agreed that, as the vertical separation between the aircraft at that time had been in excess of 4000ft, the initial Traffic Information that had been given to the C208 pilot had been passed at an appropriate time. Members noted that although the STCA had been activated (**CF1**), the controller had already been aware of the situation and had been taking appropriate action. The Board had been encouraged by the controller's tenacity in continuing to pass Traffic Information, and retaining the aircraft on frequency, until the situation had been resolved by the Rutan pilot calling visual with the C208.

Finally, the Board considered the risk involved in this Airprox. Members discussed that the controller had been aware of the high rate of descent of the C208 and that, whilst this could be considered to have been normal for them, this descent rate could be a surprise to pilots who are unfamiliar with paradropping operations. The Board wished to highlight that pilots can often be unaware of specifics that relate to aircraft operations that differ from their own. Although neither pilot had been visual with the other aircraft at CPA, the Board concluded that the separation that had existed at CPA had been such that there had been no risk of collision however, safety had been degraded. Consequently, the Board assigned a Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2022080				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
• Electronic Warning System Operation and Compliance				
1	Technical	• STCA Warning	An event involving the triggering of a Short Term Conflict Alert (STCA) Warning	
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
• Situational Awareness of the Conflicting Aircraft and Action				
3	Human Factors	• Understanding/Comprehension	Events involving flight crew that did not understand or comprehend a situation or instruction	Pilot did not assimilate conflict information
• Electronic Warning System Operation and Compliance				
4	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
• See and Avoid				
5	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

Degree of Risk:

C

Safety Barrier Assessment²

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, on receipt of Traffic Information regarding the Rutan Long-EZ, the C208 pilot did not sufficiently adapt their plan to allow for its presence.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the C208 pilot did not assimilate the information regarding the possible conflict with the Rutan Long-EZ.

See and Avoid were assessed as **ineffective** because, at the point of measured CPA, neither pilot had visually acquired the other aircraft.

Airprox Barrier Assessment: 2022080		Outside Controlled Airspace		Effectiveness				
Barrier		Provision	Application	0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✓	[Green bar to 5%]				
	Manning & Equipment	✓	✓	[Green bar to 5%]				
	Situational Awareness of the Confliction & Action	✓	✓	[Green bar to 15%]				
	Electronic Warning System Operation and Compliance	✓	✓	[Green bar to 5%]				
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✓	[Green bar to 10%]				
	Tactical Planning and Execution	✓	!	[Yellow bar to 10%]				
	Situational Awareness of the Conflicting Aircraft & Action	✓	!	[Yellow bar to 20%]				
	Electronic Warning System Operation and Compliance	!	✓	[Green bar to 15%]				
	See & Avoid	✗	✗	[Red bar to 20%]				
Key:		Full	Partial	None	Not Present/Not Assessable	Not Used		
Provision	✓	!	✗	●				
Application	✓	!	✗	●	○			
Effectiveness	■	■	■	■	□			

² The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).