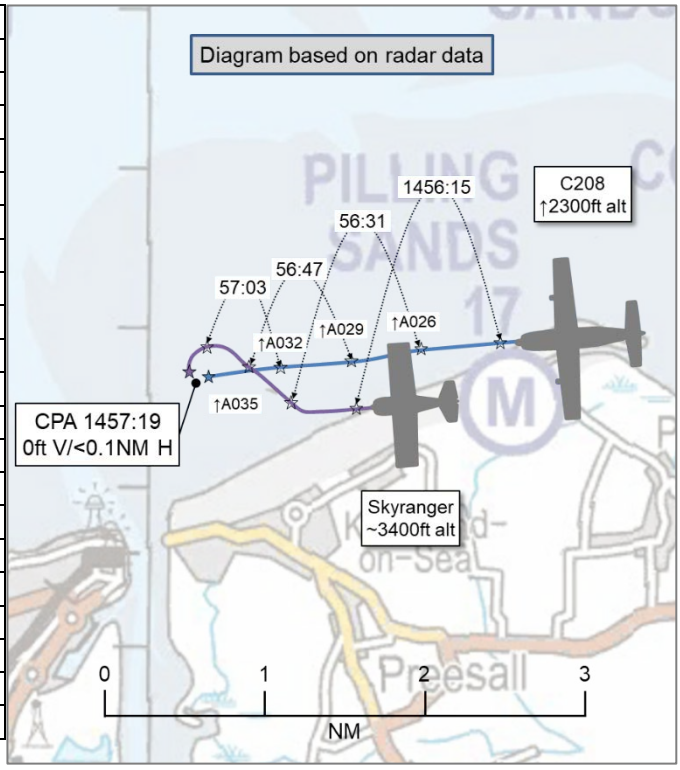
AIRPROX REPORT No 2021062

Date: 30 May 2021 Time: 1457Z Position: 5357N 00259W Location: 3NM NE of Fleetwood

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C208 Caravan	Skyranger
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	None
Altitude/FL	FL031	FL031
Transponder	A, C, S	A, C, S
Reported		
Colours	White, black	White, red
Lighting	Beacon	Strobe
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	4000ft	2500-3500ft
Altimeter	QNH (1025hPa)	QNH
Heading	260°	NK
Speed	100kt	NK
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	50ft V/0m H	Not Seen
Recorded	0ft V/<0.1NM H	



THE C208 CARAVAN PILOT reports climbing in a nose-high attitude on parachute operations to climb up to FL150 on a heading of around 260°. Passing Knott End-on-Sea at around 4000ft, an aircraft suddenly emerged from underneath on the left-hand side tracking approximately SE. By the time the aircraft was sighted, the danger had passed and so no avoiding action was taken. The other aircraft was then seen to manoeuvre and turnabout. They believed that the pilot was trying to sight the aircraft that they had surely heard passing close by.

At the commencement of operations, they telephone to inform a number of Air Traffic Units to advise them that parachuting will be active up to FL150. These are Scottish Control, Swanwick Control, Swanwick(Military), Warton Radar & Blackpool. Warton usually advise anyone on their frequency that are heading towards the parachuting that it is active, with Blackpool placing parachuting activity on their ATIS. They have 2 VHF radios in the C208; one is tuned to the drop zone (parachute frequency 129.905) and, with the other radio, they call Scottish around FL070 to request/gain access to enter controlled airspace within an approved operating area overhead the drop-zone. Controlled airspace starts at FL095 overhead Cockerham. Scottish usually gives them a Basic Service from initial contact until entering controlled airspace, whereupon they will be under Radar Control. Below FL070 they do not habitually request/receive a service. The only unit which perhaps could provide such would be Warton. With the Airprox occurring on a Sunday, they would have been closed in any case and no service would have been available to affect this particular outcome. Their operation is considering routinely requesting a service from Warton prior to entry into controlled airspace if pilot workload and gaps in the Warton frequency allow.

Since this Airprox, the organisation has purchased a SkyEcho 2 combined with mini-iPad to display transmitting traffic to help minimise the potential of a similar occurrence. This system is now fitted and is operational in the aircraft.

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

THE SKYRANGER PILOT reports that they were pilot in command of the [Skyranger] at the time of the reported Airprox. They were conducting a training flight with a student from [a local airfield] and had been airborne for around 20min at the reported time of 1455. The detail was Exercise 15 in the UK NPPL syllabus, Unusual Attitudes, which includes manoeuvring the aircraft into nose-high or nose-low positions and then instructing the student in the recovery from these attitudes. As is normal for this type of exercise, they carried out HASELL[1] checks periodically as the manoeuvres are quite dynamic in nature and clearly the aircraft will be moving in an unpredictable manner during the exercises. They were aware that the parachute drop aeroplane was active and for that reason ensured that they kept what they believed to be a safe distance from the parachute drop zone and airfield. They operated over the beach between Knott End-on-Sea and west of the parachute drop zone at altitudes between 2500ft and 3500ft as it is unpopulated with plenty of field options immediately to the south for an engine-out landing. They did not see the reporting aircraft at the time stated despite keeping a very keen lookout for the reasons stated above.

Typically, a large number of microlight aircraft operate in this area at weekends and they tend to use 129.830KHz so, on a weekend, unless the pilot is heading towards the west coast they remain on 129.830KHz. If they venture out to the west of Fleetwood/north of Blackpool they usually ask for a service from Blackpool as aircraft approaching from the north usually get asked to report at the tall tower and so tend to fly down the coast. Blackpool has no radar coverage so cannot offer a Traffic Service. On a weekday, they would request a service from Warton Radar.

Factual Background

The weather at Blackpool Airport was recorded as follows:

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METAR EGNH 301450Z 32008KT 9999 FEW036 19/10 Q1027=
METAR EGNH 301520Z 31007KT 9999 FEW040 20/10 Q1026=
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Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken. Altitude data is displayed on the radar in Flight Levels – the QNH that was input to the radar processor was 1027hPa, giving an approximate difference of +400ft between altitude and Flight Level.

The Skyranger was manoeuvring to the west of Cockerham parachuting site in the minutes leading up to the Airprox. At 1455:43 the Skyranger could be seen to enter a right-hand level turn, at FL029 (3300ft), while the C208 was climbing on an approximate track of west; the aircraft were separated by 1.6NM and 1700ft at this time (see Figure 1). The Skyranger rolled out of this turn onto a track that was approximately parallel to the track of the C208, which was continuing its climb and, at 1456:11, the aircraft were separated by 1.1NM and 1100ft with the Skyranger in the C208 pilot's 11 o'clock (see Figure 2)

[1] Height, Airframe, Security, Engine, Location, Lookout.

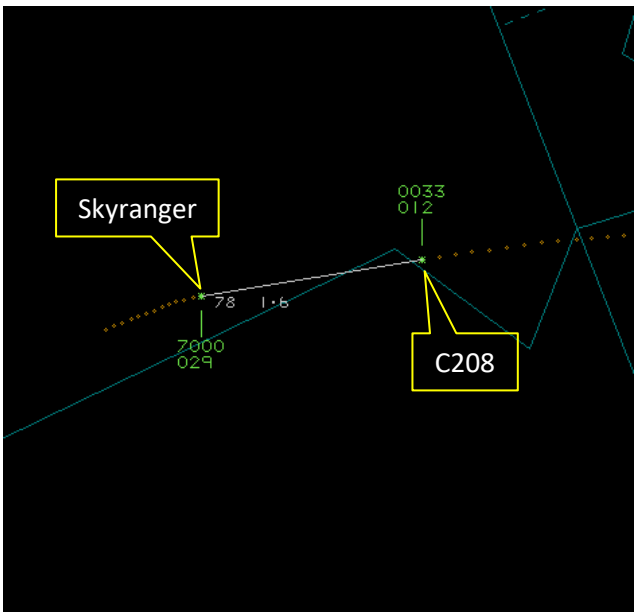

Figure 1 – 1455:43

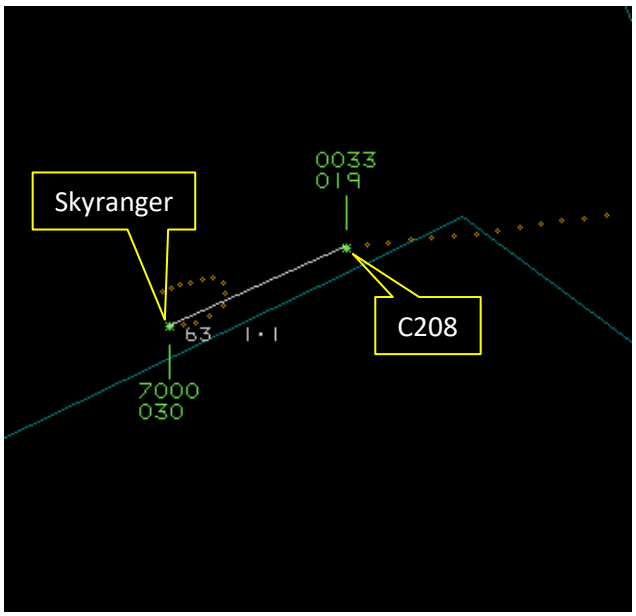

Figure 2 – 1456:11

The Skyranger then turned to the north and, at 1456:51, crossed in front of the climbing C208 at a range of 0.5NM and 500ft above (see Figure 3). The Skyranger pilot then reversed the turn towards the south and towards the C208 (which was still climbing on a westerly track). Radar CPA was measured at 1457:19 with the aircraft separated by 0.1NM laterally and with no vertical separation (see figure 4). However, one radar sweep (4sec) later, the tracks had crossed and a second radar separation was measured at 0.1NM laterally and 200ft vertically at 1457:23 (see Figure 5). The actual closest point of approach could not be determined as it occurred between radar sweeps.

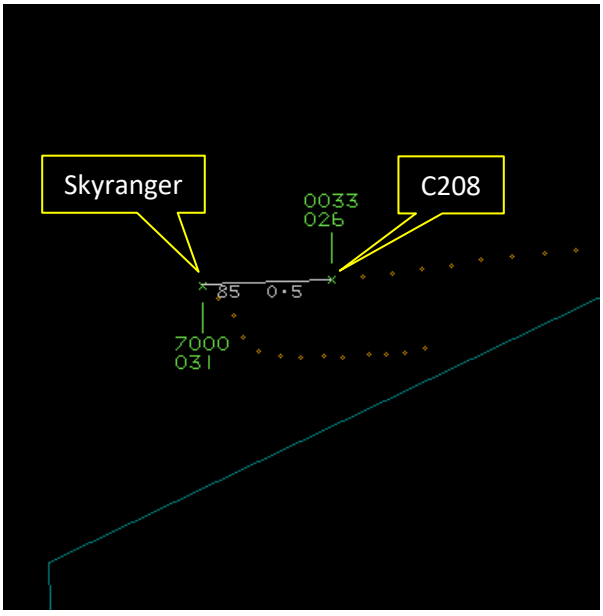

Figure 3 – 1456:51

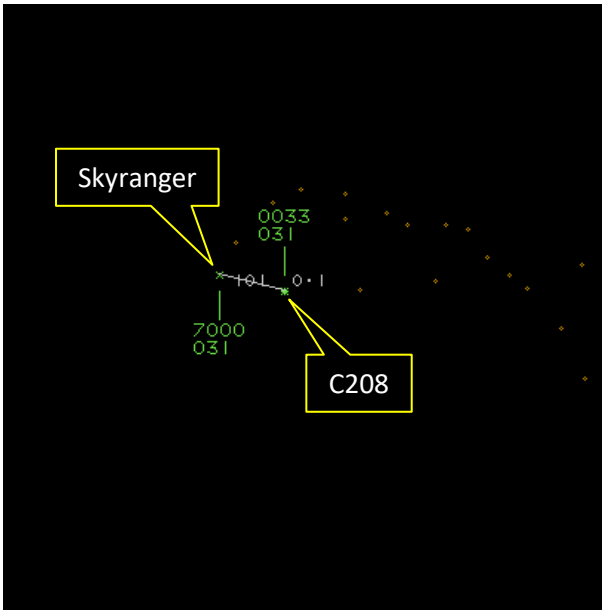

Figure 4 – 1457:19 – Radar CPA

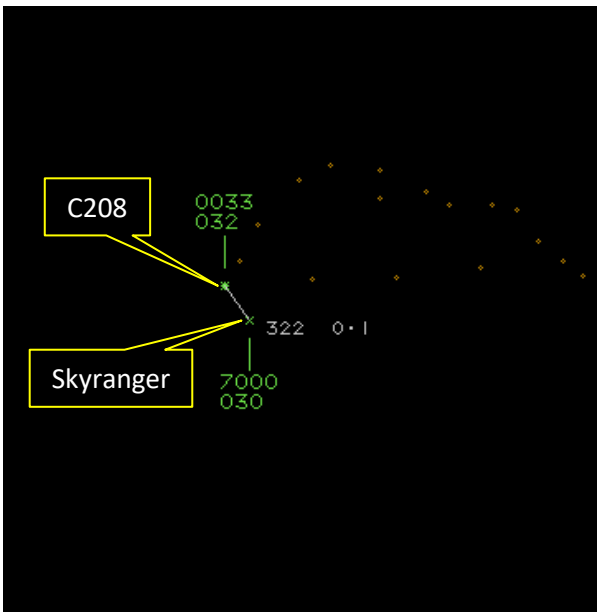

Figure 5 – 1457:23 – tracks crossed

The C208 and Skyranger 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 C208 pilot was required to give way to the Skyranger.[3] If the incident geometry is considered as overtaking then the Skyranger pilot had right of way and the C208 pilot was required to keep out of the way of the other aircraft by altering course to the right.[4]

Summary

An Airprox was reported when a Cessna 208 Caravan and a Skyranger flew into proximity 3NM NE of Fleetwood at 1457Z on Sunday 30th May 2021. Both pilots were operating under VFR in VMC; neither pilot was in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots 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 a combination of written contributions and dial-in/VTC comments.

The Board first considered the actions of the C208 pilot and heard from a GA pilot member who noted that this event took place on a weekend when options to secure an Air Traffic Service in the area of the Airprox had been limited. That said, the Board wished to highlight to pilots the CAA VHF Low Level Common Frequency trial[5] that became effective on 1st June 2021 (after this event). Whilst this frequency is primarily for use at 2000ft agl and below, it can be used above 2000ft where there is no LARS coverage or LARS is unavailable, the objective being for pilots to announce their routing and intentions for the benefit of others monitoring the frequency. In this event, neither pilot had been listening on the same frequency as the other and so there had been no opportunity to communicate with each other. Furthermore, the C208 had not been equipped with any other electronic means of detecting other aircraft and, therefore, members agreed that the C208 pilot had not had any situational awareness of

[2] (UK) SERA.3205 Proximity.
[3] (UK) SERA.3210 Right-of-way (c)(2) Converging.
[4] (UK) SERA.3210 Right-of-way (c)(3) Overtaking.
[5] https://www.caa.co.uk/General-aviation/Safety-information/VHF-Low-Level-Common-Frequency-Trial

the presence of the Skyranger (**CF1**); the Board was heartened to hear that this had since been rectified with the purchase and fitment of a SkyEcho 2 device. The Board considered that the C208 pilot had been left to rely on their lookout to detect threats to their aircraft and that they had not seen the Skyranger until after it had already passed in front of them (**CF2**). The Board wished to remind pilots of the importance of weaving or levelling-off during a climb to minimise the number of blind-spots under the nose and fuselage of the aircraft.

The Board then considered the actions of the Skyranger pilot and noted that they had elected to remain on a frequency on which they would normally expect to find other microlight pilots operating in the area. Some members opined that the Skyranger pilot, knowing that parachuting activity had been taking place from a local airfield, may have been better served calling on the air/ground frequency of that site to inform them of their intentions and to perhaps establish if there had been any parachuting aircraft operating in their area, although it was acknowledged that it may not have been possible for the Skyranger pilot to monitor both the parachuting frequency and the microlight frequency and that a dynamic assessment of the most useful radio frequency would have had to have been made. Members agreed that, as it was, the Skyranger pilot had not had any situational awareness of the presence of the C208 (**CF1**) and had, therefore, also been relying on their own lookout to detect threats to their aircraft. The Board agreed that the Skyranger pilot had not seen the C208 climbing towards them and that this had been contributory to the Airprox (**CF2**).

Turning to the risk involved in this event, the Board took into account that neither pilot had received any information regarding the presence of the other aircraft, that the C208 pilot had not seen the Skyranger until after CPA and that the Skyranger pilot had not seen the C208 at all. Additionally, the CPA was measured on the NATS radar replay as occurring between radar sweeps, when the horizontal separation had reduced to <0.1NM and the vertical separation was assessed as 0ft. Therefore, members quickly agreed that separation had been reduced to the bare minimum, a serious risk of collision had existed (**CF3**) and that providence had played a major part in events. Consequently, the Board assigned a Risk Category A to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2021062			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			
1	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late or only generic, Situational Awareness
	• See and Avoid			
2	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			
3	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: A

Safety Barrier Assessment[6]

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

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

Flight Elements:

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

See and Avoid were assessed as **ineffective** because the C208 pilot did not see the Skyranger until it had already crossed their track, and the Skyranger pilot did not see the C208.