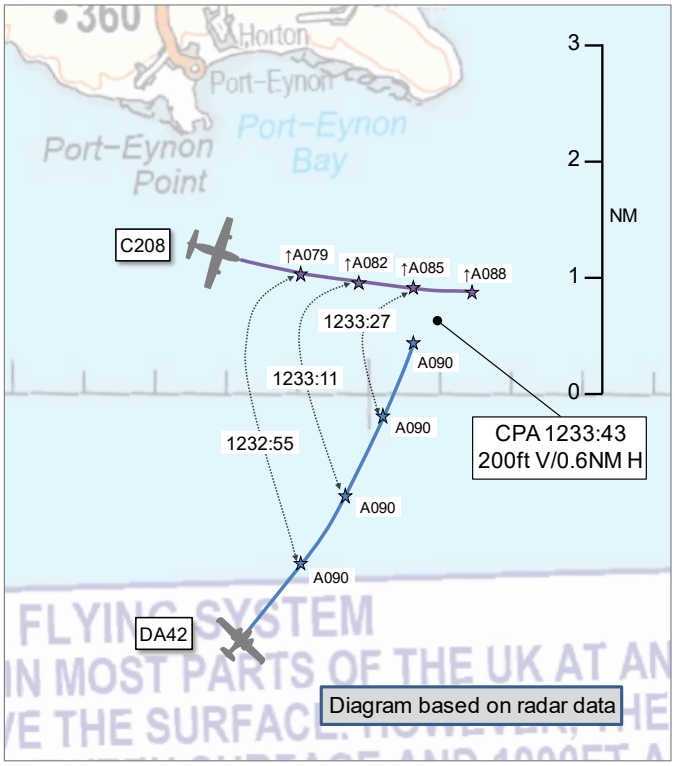
AIRPROX REPORT No 2024109

Date: 02 Jun 2024 Time: 1234Z Position: 5131N 00409W Location: 6NM SSW of Swansea Airport

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DA42	C208
Operator	Civ FW	Civ Comm
Airspace	London FIR	London FIR
Class	G	G
Rules	IFR	VFR
Service	Traffic	AGCS
Provider	Western Radar	Swansea Radio
Altitude/FL	9000ft	8800ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White	Red and white
Lighting	Strobes and navigation.	Landing/taxi, nav, strobes & beacon
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	FL90	5000ft
Altimeter	SPS (1013hPa)	QFE (1018hPa)
Heading	040°	NK
Speed	155kt	NK
ACAS/TAS	TAS	Not fitted
Alert	Information	N/A
Separation at CPA		
Reported	0ft V/1.5NM H	NK V/NK H
Recorded	200ft V/0.6NM H	



THE DA42 PILOT reports that they were returning to their base and, initially, they were routeing to cross controlled airspace. Upon being handed from Newquay Radar to Western Radar, they checked in with the latter requesting a Traffic Service and enquired about the status of the Swansea parachuting drop zone, which was close to their route. [The Western Radar controller's] response was that they were being provided with a Traffic Service but with limitations imposed by the performance of primary radar, and that Swansea was active with an aircraft squawking 'parachuting' (0033) descending for landing, adding that they [the controller] would call them if the aircraft got airborne again. Conditions were very good with an unimpeded view of the surface.

After a short time, Western Radar advised them to proceed *"direct* [waypoint]*"*, and they complied. This would take them east of their intended route, and just east of the Swansea drop-zone, rather than just west of it. As they approached Swansea, [the controller] called *"traffic, 11 o'clock, four miles, 2400[ft] below, climbing, left-to-right, parachute aircraft."* They advised that the traffic was not sighted, and selected the 'Traffic' page on their [Electronic Flight Instrument System (EFIS)]. The display was clear, but they changed the mode from 'unrestricted' to 'normal' anyway to prioritise only proximate traffic, should any appear. The range setting was appropriately set on both [the EFIS] and the primary flight display (PFD) Traffic Alerting System (TAS) inset display. The radar controller soon came back with *"previously called traffic, 11 o'clock, two miles, 1000[ft] below, still climbing"*. Despite excellent weather conditions, they still had not visually acquired the target, and the TAS display was still clear (both the PFD inset and the 'Traffic' page). They advised that they would turn left to avoid and, as they began the manoeuvre, they reported the traffic in sight. The controller replied, *"own navigation* [waypoint]*"*. As they manoeuvred behind the parachute aircraft, safely separated and unbroken visual contact after the initial acquisition, the TAS announced a bearingless target at 1NM range. The TAS displays were still clear, as would be expected with a bearingless target. The C208 was at the same level as they passed through its six o'clock. Once clear of the traffic they resumed their route.

Their personal takeaways were; the TAS display was checked for configuration prior to taxy. The mode was 'unrest' and there were no traffic failure captions on the multifunction display (MFD) 'Traffic' page, the MFD map display, or in the [EFIS] captions/alerts list. Indeed, the TAS display worked perfectly on the ground during taxy (announcing a nearby aircraft) and again on returning to a busy visual circuit for landing. However, during the cruise, it did not indicate this parachute aircraft at any point. [They remarked that] it was possible that the TAS in their aircraft may have been intermittently under-performing during flight for some reason, but without any alerts or cautions to that effect. [They thought that] it was also possible that the parachute aircraft was not correctly configured from an electronic conspicuity point of view, [noting that] for example only, some transponders do not automatically switch from ground (GND) to altitude (ALT) mode, and a transponder left in GND mode would emit the correct squawk (to the radar controller) but without any altitude information, potentially rendering the TAS in other nearby aircraft far less useful. That said, the ADS-B Out of the other aircraft seemed to have worked throughout. [They felt that] this was an always-useful reminder of the frailty of human vision for lookout, even in superb weather conditions, and as they were receiving a Traffic Service rather than a Deconfliction Service, the controller was under no obligation to provide vectors to avoid. However, on commencing their left turn to avoid, they confirmed that it was a sensible direction in which to turn, which was a very useful input in confirming the action to be taken.

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

THE C208 PILOT reports they departed Swansea airfield at 1228 to climb to 15,000ft. The reporting aircraft, although in the vicinity of Swansea airfield, did not contact Swansea Radio (as since confirmed by them in a telephone conversation). With the timings, [they thought that they] would probably be in the climb phase of flight. They were working Swansea Radio and Swansea drop zone, when working the drop zone above 5000ft. They were listening to Swansea Radio on the second box. Swansea Radio was quiet, with probably no more than 3 aircraft using them, so it would be no problem to get a call in.

Part of their daily routine is to inform by telephone, before the first flight of the day, London Information, Cardiff ATC, London Military, and Western Radar. Their procedure is to climb to the south of Swansea coast for noise abatement, clear away from other aircraft as most of them tend to stay over land, with the added safety of a long beach in case of a forced landing. They felt that if the reporting aircraft, flying in the vicinity of an airfield with an active parachute drop zone, had contacted Swansea Radio this incident would have been avoided as they could have easily altered their flightpath to accommodate the other aircraft. This is what they do on a daily basis.

The pilot assessed the risk of collision as 'None'.

THE WESTERN RADAR CONTROLLER reports that they were the controller at the time of the alleged Airprox and vaguely remembered working the [DA42] on a Traffic Service heading northbound. At some point they gave Traffic Information on an aircraft 3000ft+ climbing out from Swansea, which they thought was a paradropping aircraft. They thought that it was to the left of the [DA42's] position and the tracks looked like they would be close. They updated the traffic when there was, maybe, 1500ft between them and 2NM.The [DA42 pilot] requested a turn for avoidance, they thought that they gave 10° to the left so it would track behind, the pilot reported visual and said they would avoid. As they were on a Traffic Service, and the pilot reported visual, they did not believe, and were not aware, that an Airprox had taken place.

Factual Background

The weather at Cardiff was recorded as follows:

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METAR EGFF 021220Z AUTO 27011KT 9999 NCD 19/12 Q1028
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Analysis and Investigation

NATS Safety Investigation

The pilot of [the DA42] was receiving a Traffic Service from Western Radar, the controller passed Traffic Information on a para-dropping aircraft and subsequently updated Traffic Information on the same aircraft. The pilot of [the DA42] reported that they were in good VMC, however, not visual and asked for an avoidance heading, the controller advised a left turn and the pilot reported visual with the traffic. Safety Investigations was subsequently informed that the event had been reported as an Airprox.

Information available to the investigation include a report from the Western Radar controller, Airprox report from the DA42 pilot, radar and R/T recordings.

The pilot of [the DA42] was established on frequency with the Western Radar controller maintaining FL90. The pilot had been provided with a Traffic Service, with reduced Traffic Information due to the base of primary radar cover. The aircraft's route would take it close to the Swansea parachuting area, the pilot asked whether there was any notified activity and was informed that the area was active. An aircraft squawking 0033 (aircraft paradropping) was first displayed on radar at 1226:37 appearing to have departed Swansea. [The DA42] was tracking in a northeasterly direction whilst [the C208] was initially tracking southwesterly, on climb-out from Swansea, before turning onto an easterly track. The Western Radar controller passed Traffic Information to the pilot of [the DA42] at 1231:37, *"left eleven o'clock, 4NM crossing left-to-right indicating 2300ft below, climbing, believed to be a para-dropping aircraft"*. The pilot reported that they were not visual with the traffic.

The controller passed further Traffic Information at 1232:23 "*left eleven o'clock, 2NM crossing left-to-right indicating 1600ft below, climbing*". The pilot reported that they were still not visual asking "*would you suggest a turn to the left to avoid*?", the controller responded that they would suggest a 10° turn to the left and the pilot read back *"left 10° [callsign], ah yeah, there we go, traffic in sight now"*, at 1232:59. The controller then released the pilot onto their own navigation.

[The DA42] altered heading approximately 10° to the left and passed behind [the C208], the Closest Point of Approach (CPA) was measured as 0.6NM and 300ft.

The pilot of [the DA42] did not report the incident as an Airprox whilst on frequency with the Western Radar controller.

The Closest Point of Approach between [the DA42] and [the C208] occurred outside controlled airspace at 1233:40 and was measured on the Multi-Track Radar system as 0.6NM and 300ft.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken. The DA42 was positively identified using Mode S data throughout. The C208 was also identified with aircraft data from 1226:31. The first STCA between the DA42 and the C208 occurred at 1232:47 (Figure 1), which became a warning at 1233:31.

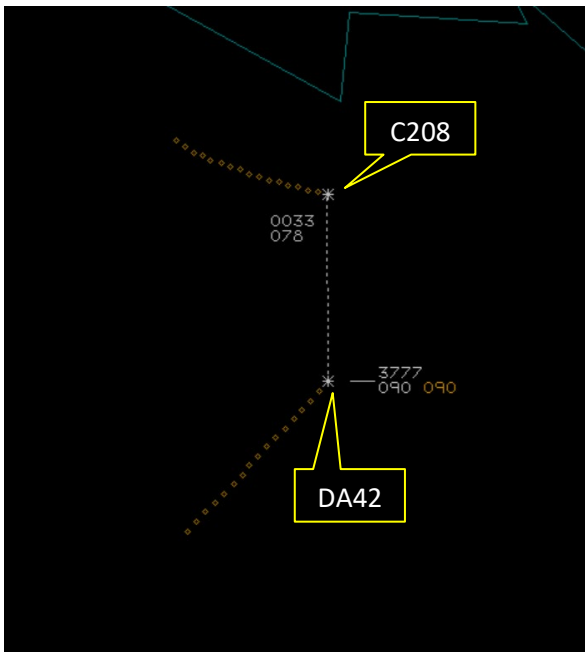

Figure 1 – Time 1232:47 separation on first radar screen alert 2.4NM.

The DA42 manoeuvred left and behind the C208 and the CPA was determined as occurring at 1233:43 with 200ft vertical and 0.6NM horizontal separation (Figure 2).

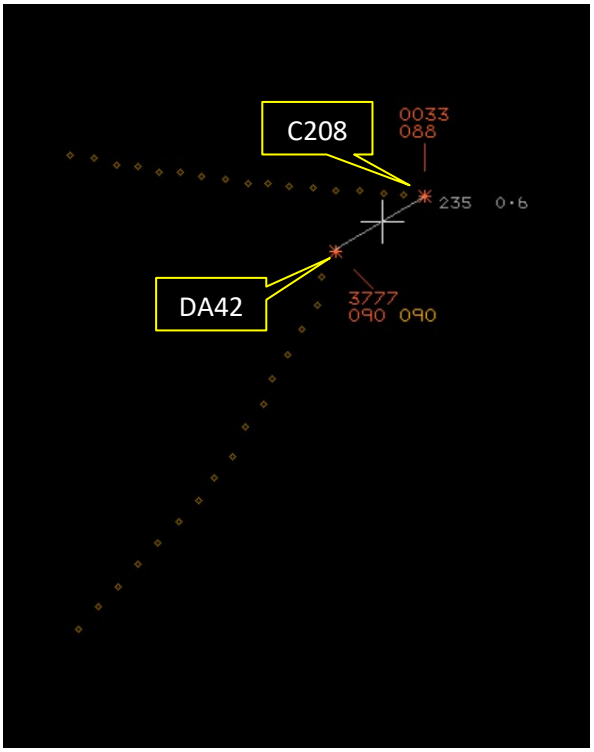

Figure 1 – Time 1233:43 separation at CPA was 200ft and 0.6NM.

The DA42 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] If the incident geometry is considered as converging then the C208 pilot was required to give way to the DA42.[2] The aircraft that has the right-of-way shall maintain its heading and speed.[3]

[1] (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.
[2] (UK) SERA.3210 Right-of-way (c)(2) Converging.
[3] (UK) SERA.3210 Right-of-way (a).

Summary

An Airprox was reported when a DA42 and a C208 flew into proximity 6NM SSW of Swansea Airport at 1234Z on Sunday 2nd June 2024. The DA42 pilot was operating under IFR in VMC and in receipt of a Traffic Service from Western Radar. The C208 pilot was operating under VFR in VMC and in receipt of an Air Ground Communication Service from Swansea Radio.

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 a report from the appropriate operating authority. 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 DA42 pilot, and noted that the pilot had been concerned about the position of the parachute dropping aircraft, as notified by Western Radar, but not displaying on their TAS nor sighted by them initially. Members considered that the DA42 pilot's request to verify a left turn as appropriate demonstrated proactive threat and error management of their flight, allowing the pilot to become sighted on the C208 and pass behind it. Members agreed that had the DA42's TAS performed as expected, rather than during the avoidance manoeuvre and while passing behind the C208, that the DA42 pilot would have been better placed to have made an earlier decision, although this had not been necessary on this occasion.

On turning their attention to the C208 pilot the Board considered that the pilot may have been better served to have called Western Radar after departure from Swansea, thus allowing them to have improved situational awareness of other aircraft transiting the area, whilst maintaining contact with Swansea drop zone on their primary radio, rather than maintaining a listening watch on Swansea Radio. Members agreed that the current process used by the C208 pilot had meant that they had been unaware of the DA42's presence and had also remained unsighted on the DA42.

Further, looking at the actions of the Western controller, the Board agreed that they had passed Traffic Information to the DA42 pilot in a timely manner. Members noted that there had been a short term conflict alert (STCA) displayed on the NATS radar replay, although neither the controller nor the NATS safety investigation had mentioned this in their reports.

Concluding their discussion, the Board agreed that the DA42 pilot had had good situational awareness of the C208, had sighted it, and had manoeuvred sufficiently early to pass behind it. The Board therefore determined that normal procedures, safety standards and parameters had pertained and, as such, assigned Risk Category E to this event and agreed on the following contributory factors:

CF1. There had been a short term conflict alert between the DA42 and the C208.

CF2. The C208 pilot had remained on Swansea's air/ground frequency after departure, where using Western Radar could have provided better awareness regarding proximate traffic.

CF3. The C208 pilot had had no situational awareness of the position or presence of the DA42.

CF4. The DA42 TAS had not alerted as expected.

CF5. The DA42 had not been sighted by the C208 pilot.

CF6. The DA42 pilot had been concerned by the proximity of the C208.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024109			

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	• Communications by Flight Crew with ANS	An event related to the communications between the flight crew and the air navigation service.	Pilot did not request appropriate ATS service or communicate with appropriate provider
	• Situational Awareness of the Conflicting Aircraft and Action			
3	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			
4	Human Factors	• Response to Warning System	An event involving the incorrect response of flight crew following the operation of an aircraft warning system	CWS misinterpreted, not optimally actioned or CWS alert expected but none reported
	• 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
6	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: E.

Safety Barrier Assessment[4]

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 the C208 pilot had not communicated with Western Radar on their second radio after departure instead of remaining on the Swansea air/ground frequency.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the C208 pilot had no situational awareness of the presence of the DA42.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the DA42's TAS alerted later than anticipated.

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

Airprox Barrier Assessment: 2024109 Outside Controlled Airspace