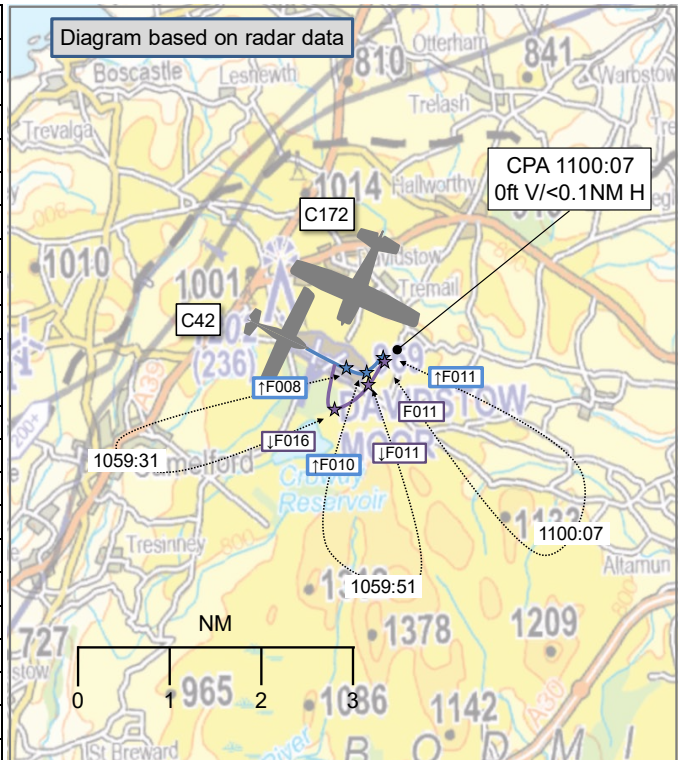


AIRPROX REPORT No 2023209

Date: 06 Sep 2023 Time: 1100Z Position: 5038N 00436W Location: Davidstow

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C42	C172
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	Basic
Provider	Davidstow	Newquay
Altitude/FL	FL011	FL011
Transponder	A, C, S	A, C, S
Reported		
Colours	White	White, Blue
Lighting	Anti-cols, Strobes	Nav, strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	350ft	1200ft
Altimeter	AAL	AGL
Heading	120°	130°
Speed	60kt	75kt
ACAS/TAS	Not fitted	Not fitted
Separation at CPA		
Reported	50ft V/100ft H	500ft V/0.5NM H
Recorded	0ft V/<0.1NM H	



THE C42 PILOT reports that they were conducting refresher training at Davidstow airfield for a lapsed NPPL holder. They were using RW12 as the winds were 100° at 5kt. Whilst climbing out for circuits, at 350ft AAL, a Cessna 172 emerged from their 1 o'clock high, descending rapidly in a nose down attitude, whilst turning towards them. They took control and banked hard left, whilst simultaneously descending, to give themselves as much of a chance as possible to not be hit by the Cessna. They then set up a 10° right-hand turn towards the south at 200ft AAL, periodically using wing raises and use of the overhead viewing panel. The registration was [redacted], as it was so close it was very easy to read, so the pilot called the other aircraft on frequency to ask their position, to which there was no reply. When they rolled onto a heading of south they spotted the Cessna 500ft in front, 200ft above climbing away. They telephoned Newquay ATC to report the near-miss and were told that the C172 pilot had stated to them that they were returning to [redacted], in a very shaky voice over the radio. The C42 pilot noted that they had, in the past, had to have words with the users at Bodmin airfield, as they seemed to think that they could do PFLs, fly-bys, etc at Davidstow, without PPR, nor even calling on the frequency.

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

THE C42 STUDENT reports that they were flying PU/T for the purposes of revalidating their licence. They were conducting circuits at Davidstow airfield using RW12. They were on a touch-and-go and were on the climb-out at about 350ft when a Cessna 172 descended on a PFL to their front using RW30. It came into their vision from high right and was less than 150ft away, they [C42 student] turned away to a left descent trying to keep them [the C172] in view as they went over the top of the wing. They had to turn back to the right to try and regain a visual with the plane, which they managed to do. [The Instructor] tried to call the C172 pilot on Davidstow frequency, however there was no reply. They had made all the standard circuit calls but the other pilot had not made any calls using that frequency. The instructor proceeded to report the Airprox to Newquay. The Cessna then turned away and left the area.

A GROUND WITNESS reports that during the afternoon of 6th September 2023 they saw the C42 plane practising take-offs and touch-and-go exercises, presumably with a pupil. During one take-off, another plane arrived overhead, which appeared to want to land on the same runway, so both planes ended up on a collision course. They opined that they thought that they would be phoning the emergency services, but somehow the planes avoided a collision. The distance between the aircraft at the closest point was estimated at 100-150ft. They wished to point out that they had no connection to [C42 operator].

THE C172 PILOT reports that they were teaching a student PFLs, using a field approximately 2 miles to the east of Davidstow airfield. They were receiving a Basic Service from Newquay and were not notified of any other traffic in their vicinity. They had taken the precaution of making a 180° clearing turn before commencing the PFL. No other traffic was observed. Shortly after reaching the “low key” position (so at approximately 1200ft AGL) they observed an aircraft around 500ft below and to the left [therefore they were on the other pilot’s right – “on the right, in the right”]. The other aircraft was a C42 microlight, which appeared to have taken off from Davidstow. The C42 [pilot] was not heard on the radio and did not appear to be in contact with Newquay. Immediately on observing the other aircraft they applied full power and made a climbing turn to the right.

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

THE NEWQUAY CONTROLLER reports that [C172 C/S] was on Newquay Radar frequency at the time of the Airprox on a Basic Service. [C42 C/S] had previously been on frequency and had requested to transfer to Davidstow radio frequency at 1050. Before they sent [C42 C/S] off frequency to Davidstow they informed the pilot that there was one other aircraft operating in the Davidstow area indicating 2800ft. There was no response from [C42 C/S] and they moved on to other ATC tasks. They continued to monitor all aircraft and at no time were there any reports of aircraft getting too close to each other or any visible conflicts on the radar picture. Both aircraft were under a Basic Service and required no separation. They were unaware of any incident at the time. Subsequently, they received a telephone report from the pilot in command of the C42 to inform them that whilst flying at Davidstow airfield at 1100, the C172 got too close to the C42, and that they would be filing an Airprox.

Factual Background

The weather at Newquay was recorded as follows:

METAR: EGHQ 061050z 08005KT 040V130 CAVOK 26/17 Q1019

Analysis and Investigation

Newquay Occurrence Investigation

The C172 pilot was in receipt of a Basic Service from Newquay Approach on 133.405MHz. [C42 C/S] had also recently been in receipt of a Basic Service from Newquay Approach but had left the frequency to the published Davidstow frequency. On leaving the APS frequency the ATCO passed specific Traffic Information on [C172 C/S] to [C42 C/S] indicating 1000ft above and 4-5NM away, but this transmission was not acknowledged by the pilot. At the time of the alleged Airprox neither aircraft were displayed on the Newquay radar.

CAA ATSI

The radar replay and Newquay RTF were reviewed and CAA ATSI concurs with the Newquay investigation report.

The pilot of C172 contacted Newquay Radar at 1042:20, advising airborne for a “*local flight over the moors*”, requesting, and was provided with, a Basic Service, the QNH and the Newquay conspicuity squawk 1747. No mention was made of Davidstow, and no further transmissions were heard from the pilot until they advised they were returning and QSY’ing at 1101:48.

The C42 pilot called at 1045:45 advising out of [redacted] for Davidstow. Again, a Basic Service, QNH and 1747 conspicuity squawk were provided.

At 1050:10 the C42 pilot reported “we’re visual with Davidstow. We’d like to QSY to [frequency] before we lose you.” The Newquay Radar controller replied “roger – just before you go, one other aircraft just west-northwest of you by 4 miles indicating 2800ft tracking northbound. Squawk conspicuity – bye bye”. (This Traffic Information was on the C172.)

The C42 pilot did not reply, but they were indicating 1800ft and may well have already been below radio coverage and so didn’t receive the information. The controller, who was dealing with outbounds, transits and instrument approach traffic, moved on and took another aircraft call immediately. The C42 did not arrive in the Davidstow area for another 6 minutes.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken, both aircraft could be seen and identified using Mode S data.

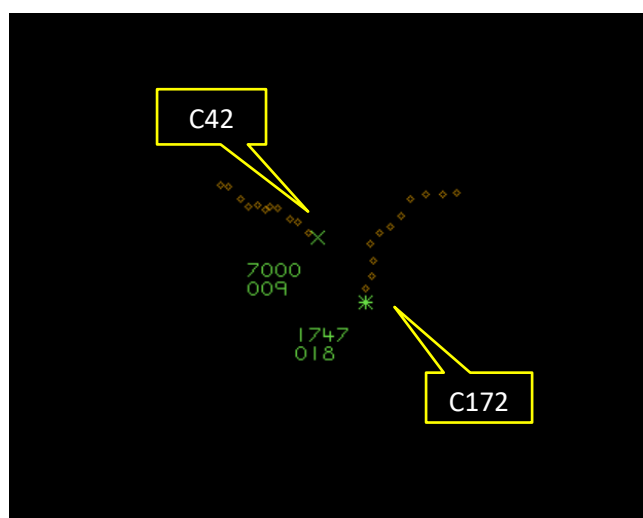


Figure 1 - 1059:08

By 1059:37, the radar contact of the C42 jittered and Mode C dropped out, possibly as the C42 made the approach to Davidstow Moor, but became stronger as the C42 apparently climbed out. The C172 had turned onto an easterly heading and begun descending (Figure 2).

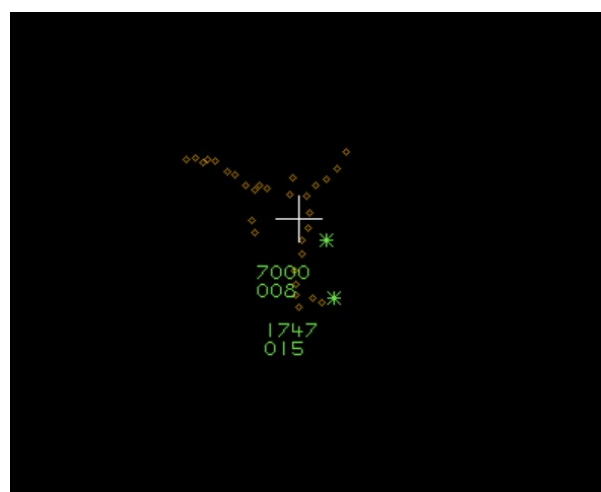


Figure 2 – 1059:37, white cross marking the approximate position of Davidstow Moor airfield.

The two aircraft continued to close, with the C42 climbing and the C172 descending, until CPA at 1100:07.

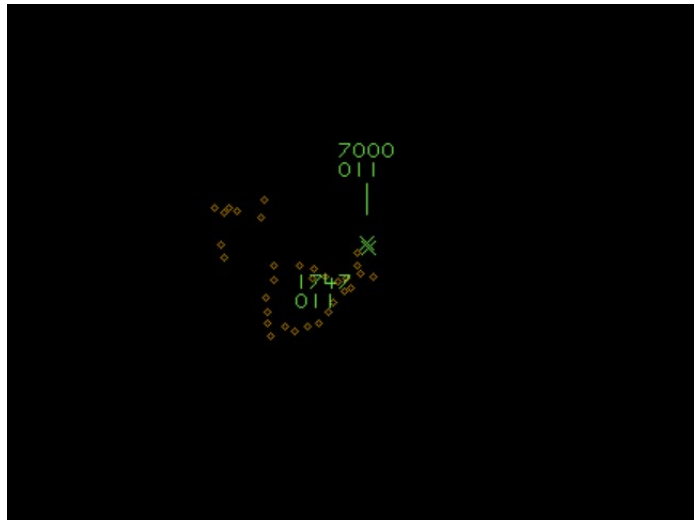


Figure 3 – 1100:07, CPA

The C42 and C172 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 An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation.²

Summary

An Airprox was reported when a C42 and a C172 flew into proximity at Davidstow Moor at 1100Z on Wednesday 6th September 2023. Both pilots were operating under VFR in VMC, the C172 pilot in receipt of a Basic Service from Newquay and the C42 pilot not in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs, a report from the air traffic controller involved and reports from 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 discussed the actions of the C42 pilot. They had been conducting visual circuits at Davidstow Moor on the Davidstow frequency. Although the Newquay controller had passed Traffic Information on the C172 prior to the C42 pilot leaving their frequency, the Board considered it likely that the C42 pilot had not received the information but, even if they had, given that this had occurred 6min prior to the Airprox, it probably would not have made any difference to the C42 pilot's situational awareness. The C172 pilot had not called on the Davidstow frequency and the C42 had not been fitted with any form of CWS which could have alerted them to the position of the C172. The C42 pilot had therefore received no prior situational awareness that the C172 had been close to the airfield (**CF5**). Fortunately, on climb-out, the C42 pilot had seen the C172 in time to take avoiding action, albeit late (**CF6**).

Turning to the actions of the C172 pilot, members wondered why the pilot had elected to conduct PFLs so close to Davidstow Moor (**CF3**) without, at the very least, calling on the frequency (**CF2**). They observed that there were plenty of other fields to choose from, but that anyway, with the correct permissions, the pilot could have used Davidstow Moor airfield for their PFLs. Noting that the pilot had reported that they had not received any Traffic Information from Newquay, members pointed out that if the pilot had required Traffic Information, then they should have requested a Traffic Service, because Traffic Information was not routinely passed under a Basic Service (which had been the type of service that they had been provided with at the time of the Airprox). Without any information from ATC, and

¹ (UK) SERA.3205 Proximity.

² (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome..

without a CWS, the C172 pilot also had not received any prior situational awareness about the C42 (CF5). However, members agreed that the C172 pilot should have expected to encounter traffic close to the airfield and, despite their assertion about being on the right, it had been for the C172 pilot to conform with, or avoid, the pattern of traffic using the airfield (CF1, CF4). Given the pilot's description of the position of the C42, members thought that the C172 pilot had seen the other aircraft after the Airprox, making this effectively a non-sighting (CF7).

Members opined that after two years of CAA funding available to pilots to help with the cost of a CWS (which was now sadly no longer available), it was disappointing that some pilots still had not fitted any form of CWS to their aircraft. They noted that, although each system had its limitations, still they thought it worthwhile in order to assist with visual acquisition.

The Board briefly looked at the role of Newquay ATC. They had been providing a Basic Service to both pilots and, prior to the C42 pilot leaving the frequency, had provided Traffic Information on the C172. Although they had not provided the reciprocal information to the C172 pilot, members agreed that this information had been above and beyond that which had been required under the terms of a Basic Service. It had also been highly likely that the C42 had faded from the Newquay radar once in the circuit at Davidstow Moor. Therefore, the Board was content that there had been little more that the controller could have done in the circumstances.

When determining the risk of the Airprox, the Board considered the reports from both pilots and that of the controller, together with the radar screenshots. They quickly agreed that this had been a close encounter and that a risk of collision had existed (CF8). Although they judged that the avoiding action by the C42 pilot had been enough to increase the separation, they agreed that safety had still been compromised; Risk Category B.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023209			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
	Flight Elements			
	• Regulations, Processes, Procedures and Compliance			
1	Human Factors	• Use of policy/Procedures	Events involving the use of the relevant policy or procedures by flight crew	Regulations and/or procedures not complied with
	• 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	• Aircraft Navigation	An event involving navigation of the aircraft.	Flew through promulgated and active airspace, e.g. Glider Site
4	Human Factors	• Monitoring of Environment	Events involving flight crew not to appropriately monitoring the environment	Did not avoid/conform with the pattern of traffic already formed
	• Situational Awareness of the Conflicting Aircraft and Action			
5	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
	• See and Avoid			
6	Human Factors	• Identification/ Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
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
	• Outcome Events			
8	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: 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:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the C172 pilot had been required to conform with, or avoid, the pattern of traffic at Davidstow Moor.

Tactical Planning and Execution was assessed as **ineffective** because the C172 had not called on the Davidstow frequency to advise of their position and had conducted their PFL too close to the Davidstow Moor circuit.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had any prior situational awareness that the other aircraft had been operating in the area.

See and Avoid were assessed as **partially effective** because although it had been a late sighting, the C42 pilot had managed to take emergency avoiding action.

		Airprox Barrier Assessment: 2023209		Outside Controlled Airspace					
				Effectiveness					
				Barrier Weighting					
				0%	5%	10%	15%	20%	
		Barrier	Provision	Application					
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:		Full	Partial	None	Not Present/Not Assessable		Not Used		
Provision	✓	⚠	✗	○					
Application	✓	⚠	✗	○					
Effectiveness									

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