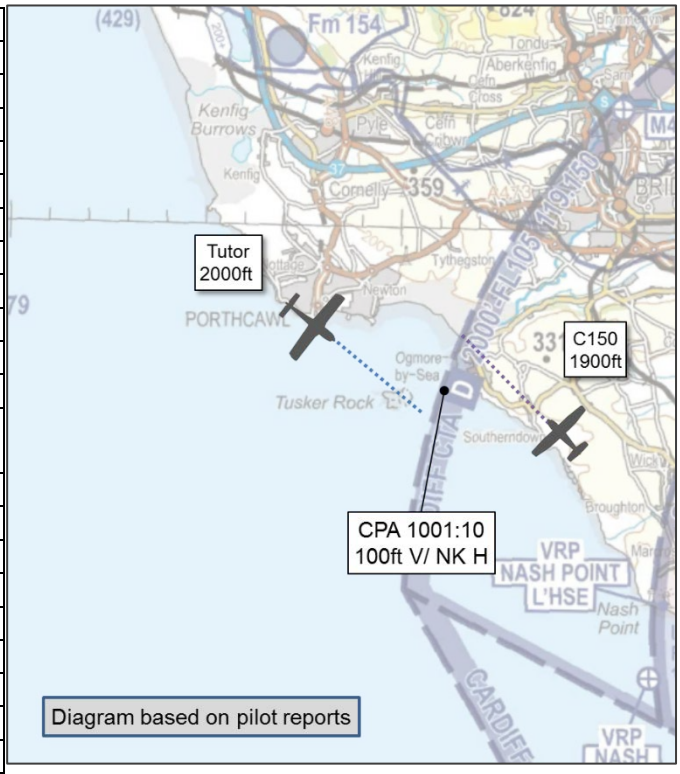
AIRPROX REPORT No 2019049

Date: 28 Mar 2019 Time: 1001Z Position: 5127N 00338W Location: Ogmore by Sea

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Tutor	C150
Operator	HQ Air (Trg)	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Basic
Provider	Cardiff	Cardiff
Altitude/FL		
Transponder	A, C, S	A, C
Reported		
Colours	White	Red
Lighting	HISL, Landing, Nav	Beacon, Landing
Conditions	VMC	VMC
Visibility	10km	10km
Altitude/FL	2000ft	1200ft
Altimeter	QNH (1037hPa)	QNH
Heading	090°	NK
Speed	120kt	80kt
ACAS/TAS	TAS	Not fitted
Alert	Information	N/A
Separation		
Reported	100ft V/500m H (seen on TAS)	10ft V/0.75nm H
Recorded	100ft V/ 1.3nm H	



THE TUTOR PILOT reports that he had completed a sortie in the local area and was commencing clearing turns to the south of Porthcawl for a coastline entry to the standard VFR Nash Point route to St Athan. He requested a non-standard altitude of 2000ft on the Cardiff QNH to deconflict with slower moving PA28 traffic which was in sight, 1nm ahead on the same routing at 1500ft. Cardiff gave a clearance to enter the CTR via the standard Nash Point route at 2000ft. Having passed to the south of Porthcawl following a 'feet wet' coastal route towards the Ogmore River, a TAS TA was received with an amber circular symbol seen in the 11 o'clock position with a relative altitude of -100ft. He immediately initiated a right turn to avoid and looked for the conflicting traffic. The TAS symbol indicated the traffic was passing down the left-hand side with lateral separation estimated from the TAS of about ½nm. The traffic was not seen. About 1min before the TAS TA, Cardiff had passed Traffic Information on a Piper Malibu routing outbound from the Cardiff zone on the Nash Point procedure, which he assumed generated the TAS contact. He opined that the coastline provided a robust deconfliction procedure with local traffic using a 'feet wet' when inbound and 'feet dry' when outbound, but that this was not always observed by other users.

He assessed the risk of collision as 'Medium'.

THE C150 PILOT reports that he was conducting the standard outbound transit via the coast, at 1200ft keeping 'feet dry' over the land in accordance with local agreements. He had no recollection of seeing another aircraft close by and cannot recall anything that could be considered an Airprox.

He assessed the risk of collision as 'None'.

THE CARDIFF CONTROLLER reports that he was informed that an Airprox had occurred, although he had no recollection of the event. He was operating as the Radar 1 Controller, with a high workload; due to staffing issues Radar 2 was not available and this had been NOTAM'd.

Factual Background

The weather at Cardiff was recorded as follows:

EGDX 230950Z 05011KT 9999 BKN037 BKN120 09/04 Q1032 BLU=

Analysis and Investigation

CAA ATSI

Both aircraft were on local VFR flights and in receipt of a Basic Service from Cardiff Radar at the time of the Airprox. The Tutor pilot had completed their detail and positioned to the south of Porthcawl for a standard re-join via Nash Point. The C150 pilot was on a standard outbound routing via Nash Point.

The relevant published local VFR entry and exit procedure involves outbound aircraft remaining feet dry until Nash Point and inbound aircraft feet wet from Nash Point. Both the C150 pilot and the Tutor pilot maintained the published feet dry and feet wet routings as promulgated in the UK AIP for outbound and inbound routings.

At the time of the Airprox, Cardiff Radar 1 and Radar 2 positions were being operated by a single controller and a warning of the expected reduction in services outside of controlled airspace had been promulgated by NOTAM. The Cardiff Radar frequency was very busy with Cardiff outbound traffic throughout the period of review of the radar and R/T recordings. Screenshots in this report have been taken from the Cardiff Radar recording.

At 0955:10, the C150 pilot called the Cardiff controller outbound via Nash Point and a Basic Service was agreed.

At 0957:20 (Figure 1), the Tutor pilot called the Cardiff controller advising that their detail was complete. They were cleared for a standard Nash Point recovery. The pilot readback standard Nash Point recovery not above altitude 1500ft.

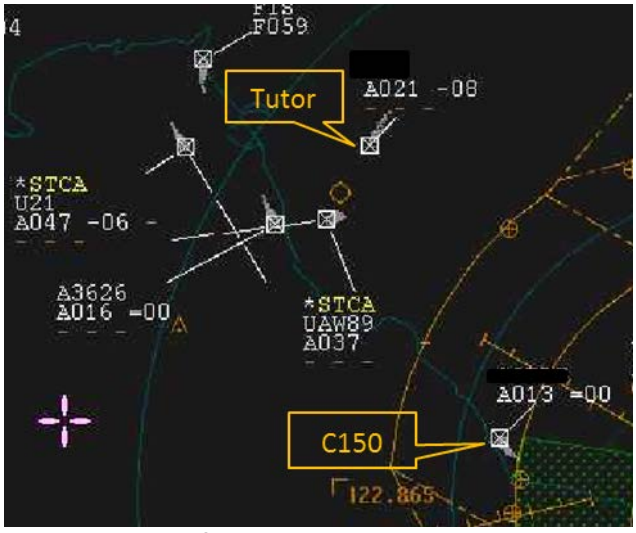


Figure 1 0957:20

At 0957:40, the Cardiff Radar controller made a general blind broadcast on the frequency to all pilots operating in the Porthcawl and Swansea areas, warning them that there was a lot of traffic in that area, that Cardiff were providing reduced traffic services due to radar outages and staffing, and

that they should keep a good lookout because there would be no Traffic Information calls from Cardiff radar.

At 0958:00, there was an aircraft transmission advising that a pilot was now visual with the joining traffic along the coast, the callsign was unreadable.

At 0958:10 (Figure 2), the controller asked the pilot of a third aircraft (transponder code 3626) if they were recovering and established that this aircraft was approaching Porthcawl recovering to St Athan. The controller issued a standard Nash Point arrival clearance not above altitude 1500ft and passed Traffic Information on the C150 as *"traffic outbound from Nash routing along the coast".* The pilot responded that they would keep a good lookout for traffic and be not above height 1500ft.

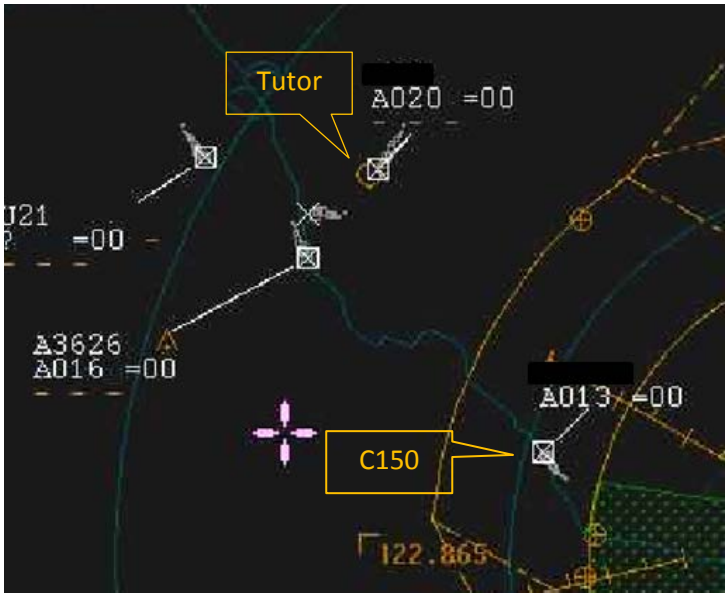


Figure 2 - 0958:10

At 0959:00 (Figure 3), the controller advised the C150 pilot to keep a good lookout as they routed along the coast as there was a couple of aircraft recovering back to St Athan, at 1500 and 2300ft. The pilot responded that they were looking.

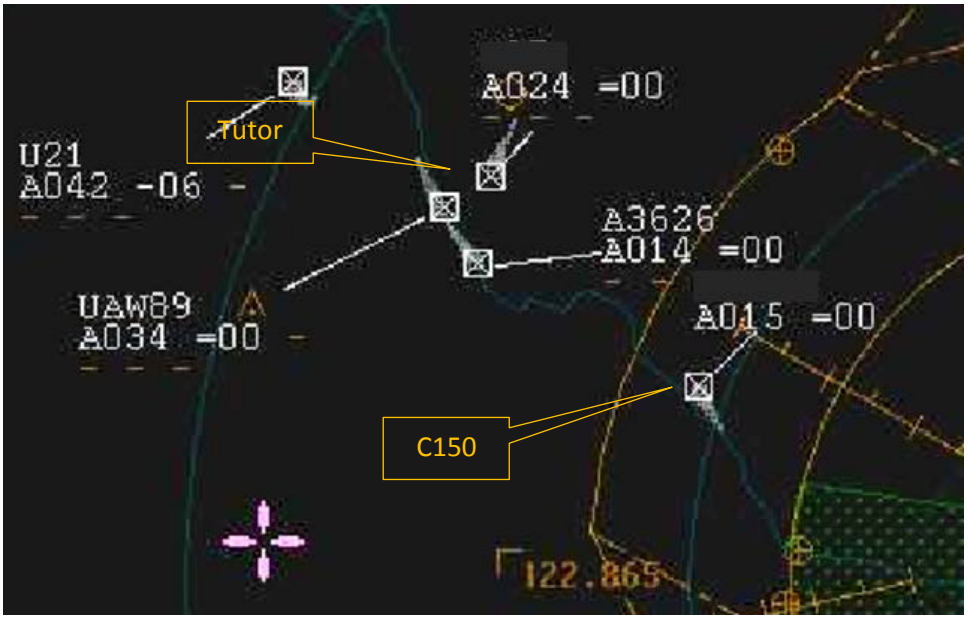


Figure 3 - 0959:00

At 0959:20, the third aircraft (SSR 3626) reported that they were overhead Porthcawl routing along the coast keeping feet wet at 1500ft. The controller acknowledged.

At 0959:40, the controller instructed the third aircraft pilot to report Nash Point in sight and the pilot acknowledged. The controller then passed Traffic Information to the third aircraft at 1000:00 advising that a Tobago had just departed St Athan outbound via Nash point. The pilot advised that they were looking for the traffic.

At 1000:10 (Figure 4), the controller passed Traffic Information to the Tutor pilot advising them that a Tobago had departed St Athan outbound via Nash Point and advised that the third aircraft (SSR 3626) was ahead of them by about half a mile. The Tutor pilot responded that they had copied the traffic and had the third aircraft in sight. The STCA alerted between the C150 and the Tutor.

At 1000:30 the Tutor pilot advised that they were faster than the one ahead and requested a non-standard join not above altitude 2000ft. This was approved by the controller.

Figure 4 1000:10

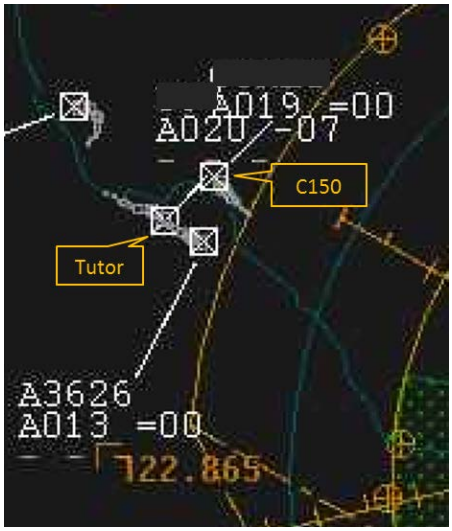


Figure 5 - 1001:10

At 1001:10 the aircraft passed each other on the left-hand side with 100ft vertical separation. ATSI were unable to measure the lateral distance between the two aircraft but Cardiff ATC reported the separation as 1.3nm (Figure 5).

Under the terms of a Basic Service CAP 774 states:

> *"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."*
>
> *"If a controller/ FISO considers that a definite risk of collision exists, a warning shall be issued to the pilot (SERA.9005(b)(2) and GM1 SERA.9005(b)(2))."*
>
> *"Whether traffic information has been provided or not, the pilot remains responsible for collision avoidance without assistance from the controller."*

The controller was not required to monitor the flight of the C150 or the Tutor. At 0957:40 the controller issued a general warning to all aircraft on the Cardiff Radar frequency that the airspace was busy, that there would be no traffic information available, and to keep a good look out. The C150 pilot and the Tutor pilot were on frequency at the time. At 0959:00 the controller also passed Traffic Information to the C150 pilot, warning them to keep a good lookout for two aircraft inbound to St Athan, one of which was the Tutor.

The controller went above and beyond discharging their responsibilities in the provision of a Basic Service, despite them having to handle a level of traffic that would normally be handled by two controllers. The Airprox took place in class G airspace under a Basic Service, where separation between aircraft is ultimately the responsibility of the pilot.

UKAB Secretariat

The Tutor and C150 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].

Comments

HQ Air Command

The barriers available in this Airprox were electronic conspicuity (EC), a surveillance-based Air Traffic Service (ATS) and lookout. Plan-to-avoid was unavailable as only the Tutor pilot had access to the CADS software that is available to military users.

Although the Cardiff controller was extremely busy and had warned his traffic of the likelihood of a reduction in the passage of Traffic Information (TI), both pilots were informed of the presence of factor-traffic despite both being on a Basic Service (BS) and there being no requirement for the controller to pass TI. This, coupled with the interaction of the Tutor's TAS with the transponder on board the Cessna 150, permitted the Tutor pilot to take appropriate action to maintain or increase separation despite being unable to see the Cessna (the Cessna pilot did not see the Tutor).

This Airprox reminds us of the limitations of EC, ATS and lookout – no single barrier acted to prevent this Airprox but all 3 played a part in the avoidance of a worse outcome. The Cardiff controller is to be commended for passing TI when there was no obligation to do so and when busy with other traffic on a higher level of ATS.

Summary

An Airprox was reported when a Tutor and a C150 flew into proximity at 1001hrs on Thursday 28th March 2019. Both pilots were operating under VFR in VMC, and both were in receipt of a Basic Service from Cardiff.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and 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 looked at the actions of the Tutor pilot and noted that, in climbing to keep above the aircraft he was following ahead, the Tutor pilot had unfortunately put himself at the same level as the outbound traffic. The Cardiff controller had given him plenty of Traffic Information, but had also warned that, due to being busy, they would not be able to call all tracks and so there was probably a doubt in the Tutor pilot's mind that he would get updates from the controller on traffic to affect him. He had received TAS indications about an aircraft 100ft below him and was concerned that it was in his vicinity and that he couldn't see it. The controller then told him about a departing Tobago and the Board thought that the Tutor pilot had probably conflated the TAS information with that passed by the controller on the Tobago (**CF1**). The Board heard from a military member that the azimuth indications on the TAS in the Tutor are so unreliable that pilots are instructed not to make any changes in heading based upon TAS indications. With this in mind, and not being visual with the C150 (**CF2**), the Tutor pilot had become concerned that the outbound traffic might not be conforming to the standard outbound procedure of keeping 'feet dry', when in fact it was.

For his part, the C150 pilot was flying outbound in accordance with the standard procedures. He had heard the Traffic Information passed by the controller that two aircraft were inbound, which included

[1] SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

the Tutor, and was not concerned by the proximity of any of the aircraft. Although he could not remember the exact details of the incident the Board thought this was likely because there was nothing unusual in what he saw.

The Board briefly looked at the actions of the Cardiff controller, he was very busy controlling on one radar position traffic that was normally the task for two controllers. The reduction in service had been NOTAM'd so all pilots were aware of the situation and he advised on the RT of the likelihood in a reduction in Traffic Information. Both aircraft were under a Basic Service so the controller was only required to pass Traffic Information on traffic that he perceived to be a direct threat, but the controller supplemented this with generic calls to ensure both pilots were aware of the prevailing traffic situation and the Board commended him for this.

In assessing the risk, the Board quickly agreed that there had been no risk of collision. Although the Tutor pilot perceived that there was an aircraft in his vicinity, in fact everyone involved was adhering to standard procedures and safety was not degraded, therefore the risk was assessed as Category E.

PART C: ASSESSMENT OF CAUSE AND RISK

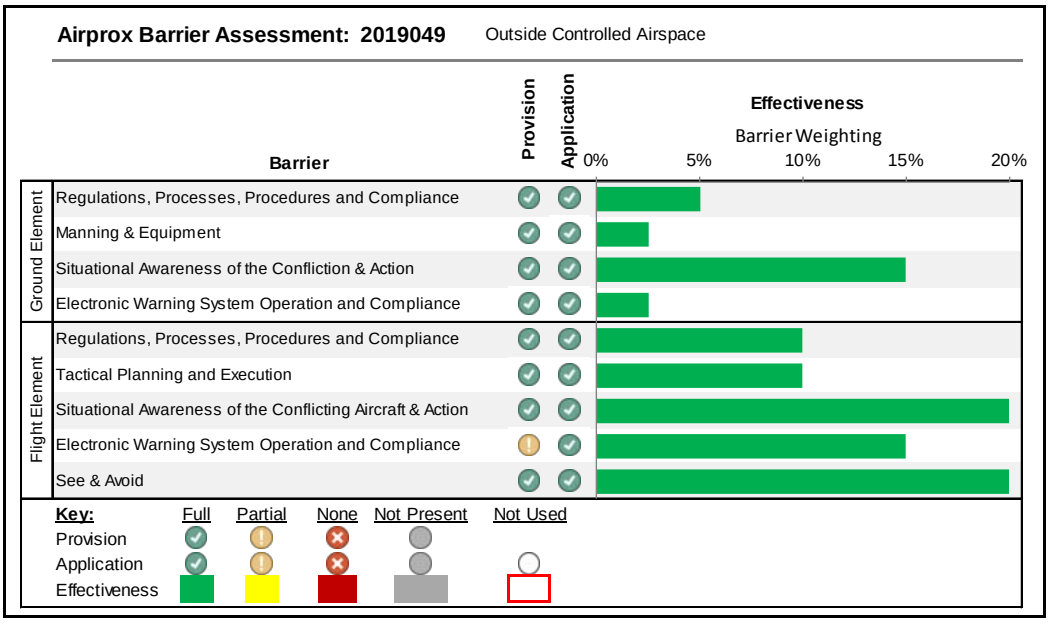
Contributory Factors:

CF	Factor	Description	Amplification
	Flight Elements		
	• Situational Awareness of the Conflicting Aircraft and Action		
1	Human Factors	• Interpretation of Automation or Flight Deck Information	CWS sighting report
	• See and Avoid		
2	Human Factors	• Monitoring of Other Aircraft	Non-sighting by one or both pilots

Degree of Risk: E.

Safety Barrier Assessment[2]

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that they had all been effective.



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