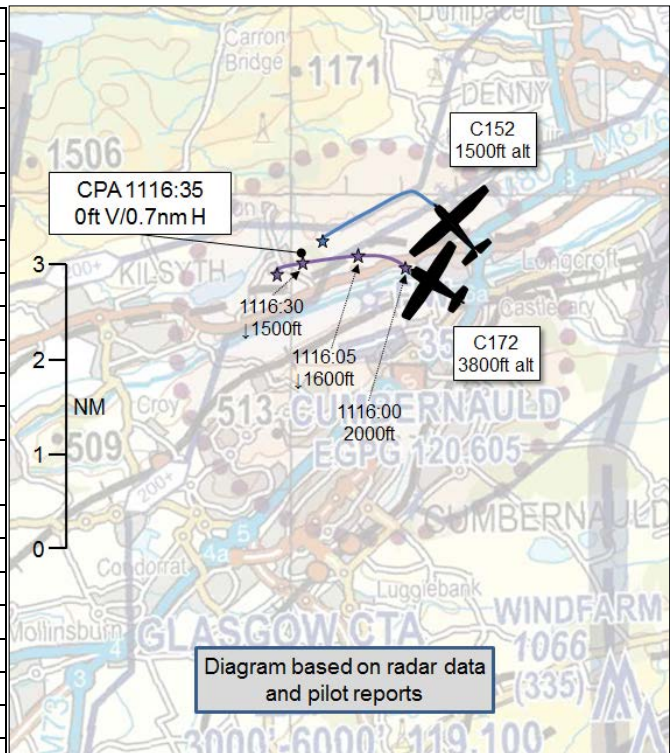


AIRPROX REPORT No 2017231

Date: 22 Sep 2017 Time: 1116Z Position: 5559N 00400W Location: Cumbernauld ATZ

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C152	C172
Operator	Civ Trg	Civ Trg
Airspace	Cumbernauld ATZ	Cumbernauld ATZ
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Cumbernauld	Cumbernauld
Altitude/FL	1500ft	1500ft
Transponder	A, S	A, C
Reported		Not reported
Colours	White, Blue, Red	
Lighting	Landing, Nav, Beacon	
Conditions	VMC	
Visibility	>10km	
Altitude/FL	1000ft	
Altimeter	QFE (1000hPa)	
Heading	260°	
Speed	85kt	
ACAS/TAS	Not fitted	
Alert	N/A	
Separation		
Reported	0ft V/20m H	Not Seen
Recorded	0ft V/0.7nm H	



THE C152 PILOT reports that he was in the circuit for RW08LH with another C152. He had just completed a touch and go when the C172 pilot called Cumbernauld approaching from the south, the C172 pilot was passed the airfield information and told the circuit was active. The C172 pilot reported they were going to join crosswind from the deadside. The C172 pilot made multiple requests for an update on the position of the traffic and was told the circuit was active, the instructor of the other C152 repeated this multiple times; as result the Airprox C152 pilot could not call to report his position. When he turned from crosswind onto downwind he could not see the C172 due to the left wing being low for the turn. He had not expected the C172 to be crosswind yet, because of the short amount of time between their initial call to Cumbernauld and their call with their intentions, but at this point the C172 had already crossed the RW26 threshold and was on crosswind at about 1800ft AAL. The C172 pilot started turning for a left-hand downwind, reporting they would join at 1500ft AAL. The other C152 was at this point on short final, and the Airprox C152 pilot was downwind but still not visual with the C172. The C172 quickly came into view from his 10 o'clock high, making a descending turn whilst slowing down. Due to his speed and the C172 pilot's descending and slowing down, they were on a collision course. The C172 pilot was told by Cumbernauld Radio that they had cut into the Airprox C152's flightpath, and the Airprox C152 pilot reported he would make a right orbit for spacing. By this time, he was within 20m of the C172 and he decided to make a right turn towards the Campsie Fells because he expected the C172 pilot to turn left onto base. At no point did the C172 pilot apologise for what had happened, nor did they land so that he could discuss the situation with them.

He assessed the risk of collision as 'High'.

THE C172 PILOT reports that he was instructing a practice forced landing PFL at Cumbernauld and did not consider there to have been an incident worthy of note. He recalled asking the Cumbernauld

radio operator if there was any other traffic in the circuit because he wanted to practice a PFL with his student. He was waiting for an answer about if there was any other traffic in the circuit and, if there was, what their position would be in the circuit. Instead he got an aggressive answer that "the circuit is active"; and that 3 times. With that answer he was not able to do anything so, with a very good lookout before he started his PFL, he reported "high left hand downwind for a glide in". At that moment he was well above circuit altitude (1500ft AGL). During the descent he had a good lookout, but he did not see any other aircraft in the circuit. If there were radio call's he still was not able to refer this to the position of another aircraft. After his first touch-and-go he flew 3 more circuits without hearing anything on the radio.

Factual Background

The weather at Glasgow was recorded as follows:

METAR EGPF 221050Z AUTO 11009KT 9999 -RA BKN022 BKN029 BKN039 CB 13/11 Q1013
 METAR EGPF 221120Z AUTO 12011KT 100V170 8000 -RA BKN020 BKN025 TCU 13/11 Q1013

Analysis and Investigation

CAA ATSI

The Airprox was reported by the pilot of a C152 as a result of the aircraft coming into proximity with a C172 in the visual circuit for RW08 left hand at Cumbernauld. Both aircraft were in receipt of an Air/Ground Service from Cumbernauld at the time of the Airprox. It should be noted that recording of R/T at Cumbernauld is achieved using a voice activated system and, as such, the R/T recording could not be fully matched to the area radar replay during the investigation.

At 1112:05, the C172 pilot called Cumbernauld Air/Ground (A/G) and advised that they were 3nm south of the airfield and requested landing information. The A/G operator passed the runway in use as RW08 left hand, provided the QFE & QNH, and advised that there were 2 aircraft in the circuit (Figure 1).

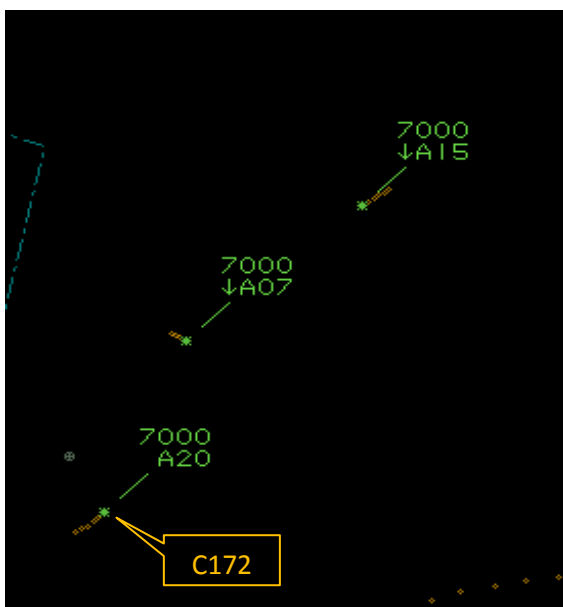


Figure 1 - 1112:05

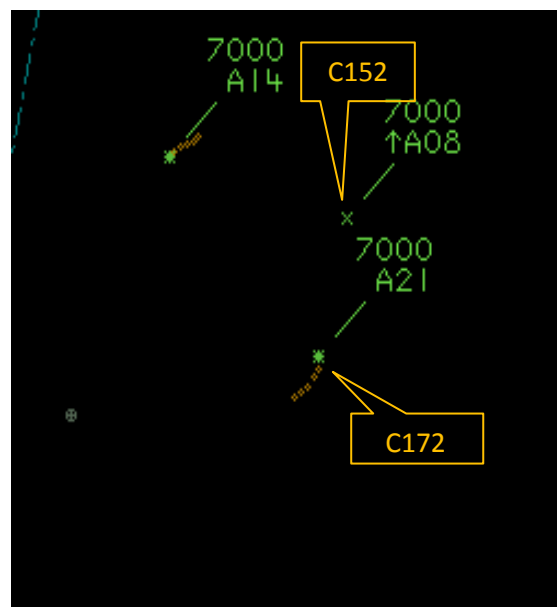


Figure 2 - 1114:15

At 1114:15, the C172 pilot requested the surface wind and runway in use. The A/G operator passed the surface wind and confirmed again that the runway in use was 08LH. The C172 pilot responded with a request to confirm that the runway in use was 08. The A/G operator confirmed again that the runway in use was 08LH. The C172 pilot acknowledged this and enquired as to whether there was any traffic for them. The A/G operator responded that the circuit was active (Figure 2).

Between the end of the transmission at 1114:55 and 1117:24 the C172 voice changed and the following R/T exchanges took place:

The C172 pilot asked if there was any other traffic in the circuit. The A/G operator responded again that the circuit was active. The C172 pilot responded (sounding quite exasperated) that this was why they had asked if there was any other traffic. The A/G operator (also sounding exasperated) asked someone else if they would like to respond to the C172 pilot and someone simply responded with the C172 callsign and the word "Affirm". The C172 pilot responded that they would like to make a practice forced landing and that they were now high left hand downwind RW08. The A/G operator responded that they had the C172 in sight, that the C172 pilot had just cut in front of another aircraft [the Airprox C152] who was on the downwind leg and advised that there was also an aircraft on final approach. The C172 pilot said they were looking for the traffic. The Airprox C152 pilot advised the A/G operator that they would take up a right-hand orbit and that this was due to the C172, which was now just ahead and slightly above them. The C172 pilot advised that he had the aircraft over the runway in sight; however, the pilot would not have been in a position to sight the Airprox C152 which was by then behind them.

Figure 3 shows the position of the aircraft at 1115:39.

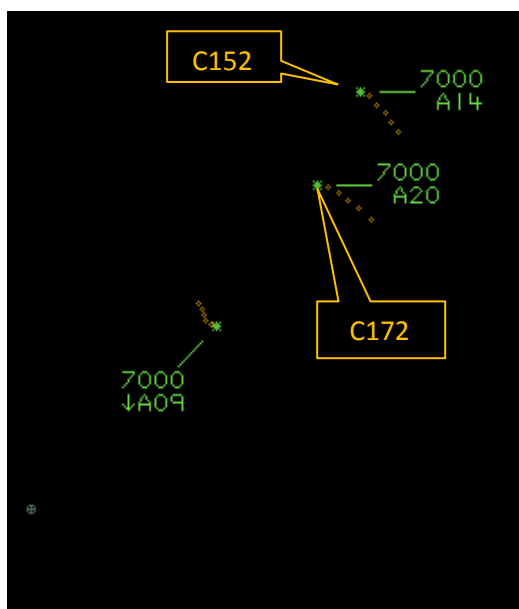


Figure 3 - 1115:39

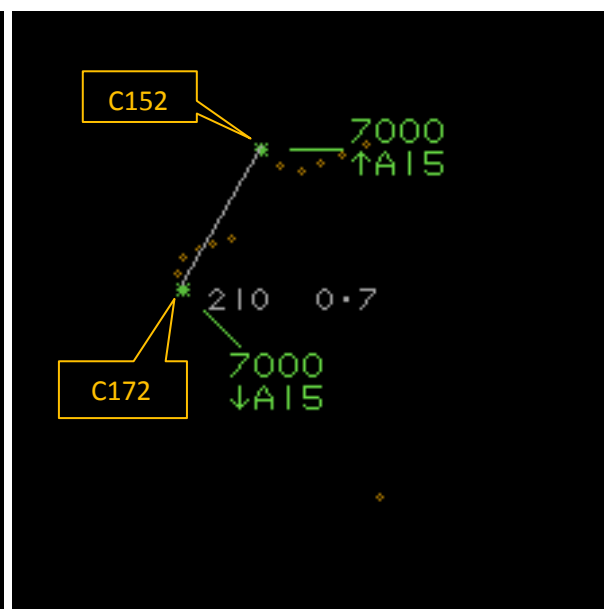


Figure 4 - 1116:37

CPA occurred at 1116:37 with the aircraft displayed as being 0.7nm apart and at the same height (Figure 4).

The A/G operator advised the pilots of the C172 that the visual circuit was active several times but it would have aided their situational awareness if information on the positions of the aircraft within the circuit had been provided. Suitable phraseology can be found in CAP 413 Ch 4, Paras 4.144 to 4.153 'Aerodrome Air/Ground Communication Service Phraseology'.

A/G operators are required to provide traffic and weather information to pilots operating on and in the vicinity of the aerodrome. Such traffic information is based primarily on reports made by other pilots. Information provided by an A/G operator may be used to assist a pilot in making a decision; however, the safe conduct of the flight remains the pilot's responsibility.

UKAB Secretariat

The C152 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 hazard¹. 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 operation².

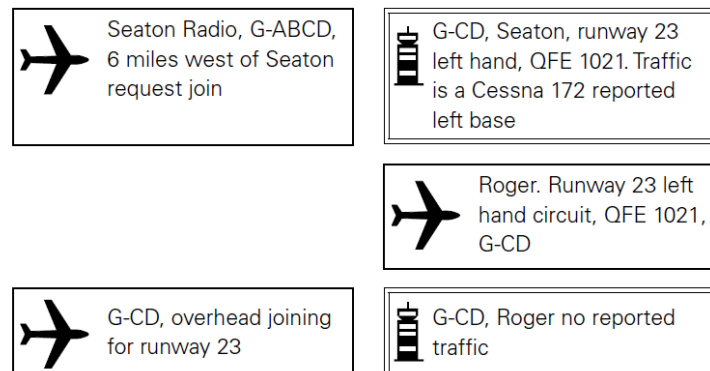


Figure 5: Example Air/Ground operator's phraseology - CAP 413, Page 64

Summary

An Airprox was reported when a C152 and a C172 flew into proximity in the visual circuit at Cumbernauld airfield at 1116 on Friday 22nd September 2017. Both pilots were operating under VFR in VMC, both pilots in receipt of an Air/Ground Service from Cumbernauld.

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 and reports from the appropriate ATC authorities.

The Board began by looking at the actions of the C172 pilot. Members noted that he had established himself in the Cumbernauld overhead in preparation to commence a Practice Forced Landing (PFL). Prior to commencing the PFL, the C172 pilot and his student had endeavoured to ascertain the position of the other aircraft in the visual circuit from the Cumbernauld A/G operator a number of times but, unfortunately, the replies had merely been that the circuit was active. Members agreed that this did not provide sufficient information regarding the number of aircraft that had reported in or re-joining the visual circuit, and that this would have hindered the C172 pilot's situational awareness regarding the number in the circuit and their last reported positions. The Board also noted that the ensuing R/T transmissions had prevented the C152 pilot from making his downwind call, and so the C172 pilot would have had no situational awareness that the C152 was downwind as he too turned downwind. Notwithstanding, members commented that it remained the responsibility of the pilot for the safe conduct of his flight when under an AGCS, and for integrating with the pattern of traffic as he joined; the Board agreed that, given the uncertainty of the situation, the C172 pilot should have remained in the overhead to ensure that he had identified the position of all the aircraft in the visual circuit prior to commencing his PFL.

The Board then looked at the actions of the C152 pilot. The GA member noted his comment about not being able to see the C172 joining because of the high wing of his aircraft, but stated that common practice was to lift the wing on such aircraft before turning downwind to assist in gaining situational awareness on other aircraft in or joining the circuit; this could have offered an opportunity for earlier sighting of the position of the C172, and he wondered whether the C152 pilot had done so. The Board noted that the C152 pilot had reported seeing the C172 descending from above, and that he said that they had flown within 20m of each other. Members found it difficult to reconcile the substantial

¹ SERA.3205 Proximity.

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

difference between the 0.7nm separation seen on the radar recordings with the C152 pilot's report of 20m. Some members also wondered why, having seen the C172 descending in his 10 o'clock, the C152 pilot had not acted sooner to increase the separation before they became co-altitude. The Board noted that the second, non-Airprox C152 pilot's confirmation of the A/G operator's transmission had blocked the frequency and had restricted the opportunity for the C152 pilot to report downwind; had this transmission been made, this may have alerted the C172 pilot to the position of the Airprox C152.

The Board then looked at the actions of the A/G operator. They agreed that although he had passed the minimum information that was required of him, he had had the opportunity to provide more relevant Traffic Information to the C172 pilot based on the previous position reports from the other aircraft that were in and joining the visual circuit. Some members also commented that he was clearly able to see the aircraft in the circuit given that he had made a call to the C172 pilot that he had 'cut in front' of the C152. A protracted discussion then ensued about what an A/G operator could pass as Traffic Information in such circumstances. The CAA ATM Safety Regulation Specialist provided clarity in that 'An AGCS provides for the informal exchange of information on aerodrome conditions and other activities at the aerodrome between pilots and between pilots and an A/G Operator. It is used by pilots to announce their intentions in order to develop their situational awareness of other aerodrome traffic and includes the provision of information from an A/G operator on other aircraft in the aerodrome traffic circuit and in the vicinity of the aerodrome; this information being based primarily upon position reports made by other pilots. AGCS is not considered as an air traffic service (ATS) and Air/Ground operators may not utilise radiotelephony (RTF) phraseology which might imply the provision of an ATS³.' Notwithstanding, nothing constrains an A/G operator who is able to view the circuit from providing suitable information to pilots about aircraft in the traffic pattern provided the information is couched in the correct form as contained in CAP 413. Ultimately, the Board were surprised that the A/G operator had not relayed the positions of the other aircraft in the circuit to the C172 pilot, but had, on the other hand, felt able to pass information to the C172 pilot that he had, in his opinion, 'cut up' another aircraft in the circuit.

The Board then looked at the cause and risk of the Airprox. Operating as they both were in a visual circuit under an AGCS, it was incumbent on both pilots to avoid collisions with each other, and for the C172 pilot to integrate with the C152 already in the traffic pattern. The Board agreed that in such circumstances the safe conduct of the flight remains the responsibility of the pilots, and that the C172 pilot should have done more to establish the positions of the other aircraft in the circuit prior to commencing his PFL. They therefore agreed that the cause of the incident was that the C172 pilot did not integrate with the C152 in the visual circuit pattern. That being said, the Board also agreed that there were two contributory factors that had a direct impact upon the incident. Firstly, that effective communications were not established by all active parties, and particularly between the C172 pilot and the A/G operator; the form and content of the R/T exchanges had not helped to reconcile the situation. The second contributory factor was that multiple calls and sub-optimal R/T had resulted in frequency congestion that had restricted the C152 pilot's ability to make his downwind call; this in turn had limited the C172 pilot's ability to gain situational awareness regarding the position of the C152. Turning to the risk, the Board noted that, although the C172 pilot had not seen the C152, the C152 pilot had seen the C172 and had turned to avoid. Noting also the recorded separation on radar of 0.7nm, the Board considered that, although safety had been degraded, there was no risk of collision. Accordingly, the degree of risk was assessed as Category C.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The C172 pilot did not integrate with the C152 in the visual circuit pattern.

Contributory Factor(s): 1. Effective communication was not established.
2. R/T congestion was such that the C152 pilot was not able to make a downwind call.

³ CAP 452, Chapter 4, Introduction states: AGCS radio station operators provide traffic and weather information to pilots operating on and in the vicinity of the aerodrome. Such traffic information is based primarily on reports made by other pilots. Information provided by an AGCS radio station operator may be used to assist a pilot in making a decision; however, the safe conduct of the flight remains the pilot's responsibility.

Degree of Risk: C.

Safety Barrier Assessment⁴

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

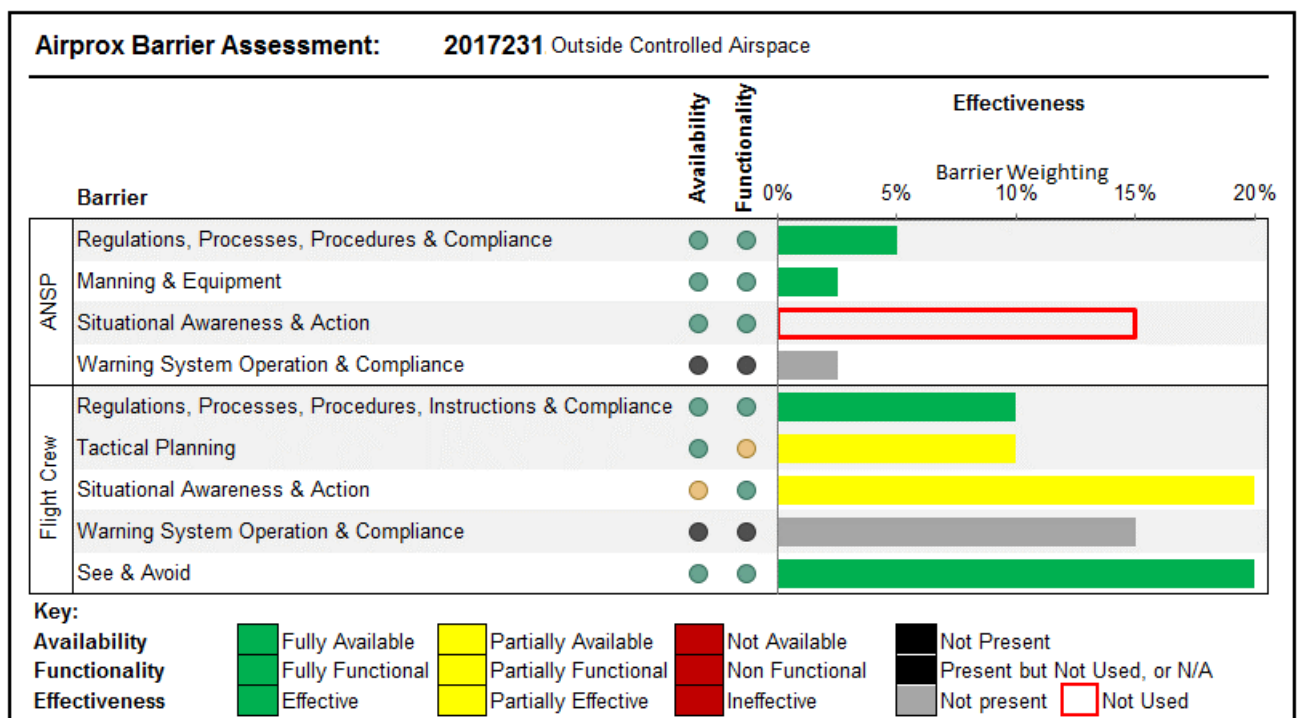
ANSP:

Situational Awareness and Action were assessed as **not used** because an Air/Ground Operator is not required to resolve a conflict in the visual circuit, this remains the responsibility of the pilots.

Flight Crew:

Tactical Planning was assessed as **partially effective** because the C172 pilot did not alter his joining plan after not positively identifying all the aircraft in the visual circuit prior to commencing his PFL.

Situational Awareness and Action were assessed as **partially effective** because the C172 pilot only had generic SA on the circuit state as passed by the A/G operator.



⁴ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](http://www.ukab.co.uk).