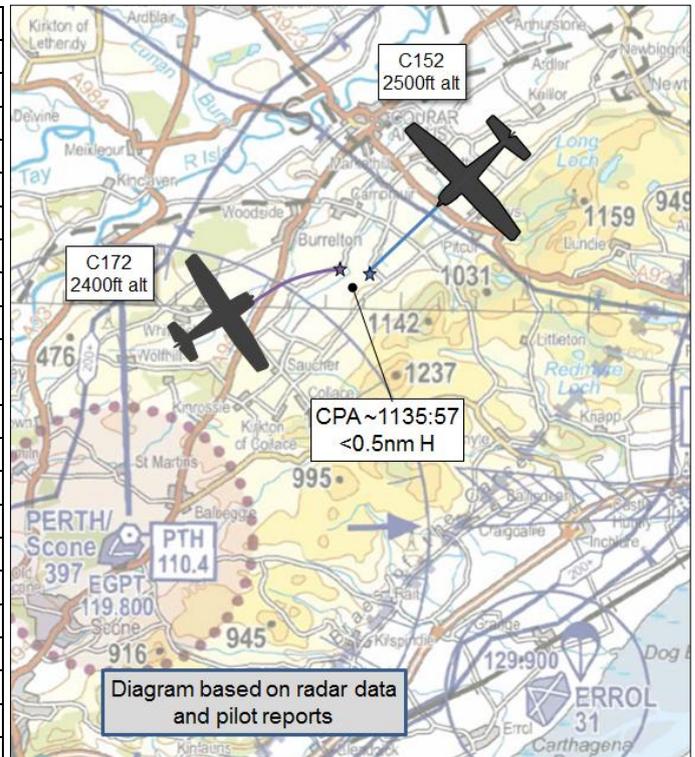


AIRPROX REPORT No 2017139

Date: 30 Jun 2017 Time: 1135Z Position: 5630N 00316W Location: NNE Perth

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C172	C152
Operator	Civ Pte	Civ Club
Airspace	Scottish FIR	Scottish FIR
Class	G	G
Rules	VFR	VFR
Service	None	None
Altitude/FL	NK	2500ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White, Red	White, Grey, Red
Lighting	Strobes, Beacon	Anti-cols
Conditions	VMC	Choose an item.
Visibility		>10km
Altitude/FL	2400ft	2500ft
Altimeter	QNH (1008hPa)	QNH
Heading	075°	240°
Speed	85kt	90kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	'100-200ft'	NK
Recorded	NK	



THE C172 PILOT reports that the other aircraft was observed straight-and-level, and very slightly above normal eye-line. After about 1-2 seconds it was apparent that it was travelling in the opposite direction. He gently pitched down and slightly right to avoid.

He assessed the risk of collision as 'High'.

THE C152 PILOT reports the he was approaching Perth from the northeast and was about to change frequency to them when he saw the C172 fly to his left and slightly below. He heard it before he saw it, by which time it was already abeam and too late to take any avoiding action.

He assessed the risk of collision as 'Medium'.

Factual Background

The weather at Dundee was recorded as follows:

METAR EGNP 301120Z 03011KT 350V090 9999 BKN020 16/11 Q1008=

UKAB Secretariat

Neither pilot was receiving an ATS at the time of the incident although, shortly before, the C152 had been receiving a Basic Service from Scottish Information who provide their service without access to radar. The C152 squawk changed at 1135:03, implying that by then the C152 pilot had left their frequency. The NATS radars show the two aircraft approaching each other, at 1135:10 (Figure 1), 2.4nm apart, with the C172 indicating 2300ft and the C152 indicating 2500ft.

By 1135:46 (Figure 2), when the two aircraft were 0.6nm apart, the Mode C of the C172 had dropped out and, shortly afterwards, both aircraft fade from the radar; therefore, the exact CPA is not known although it is likely to be not much less than 0.5nm.

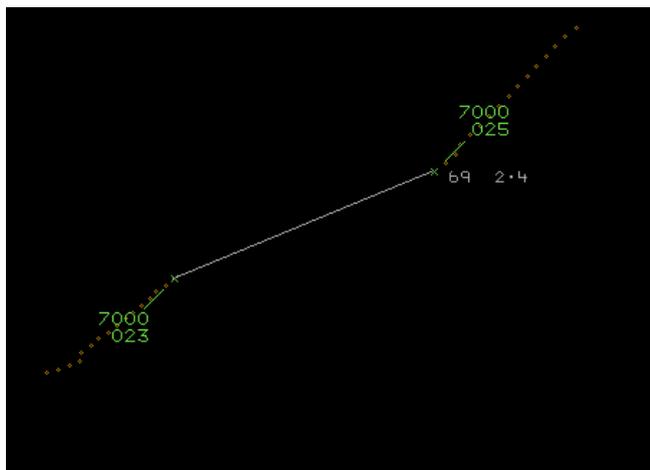


Figure 1 (C172 heading NE) 11:35:10

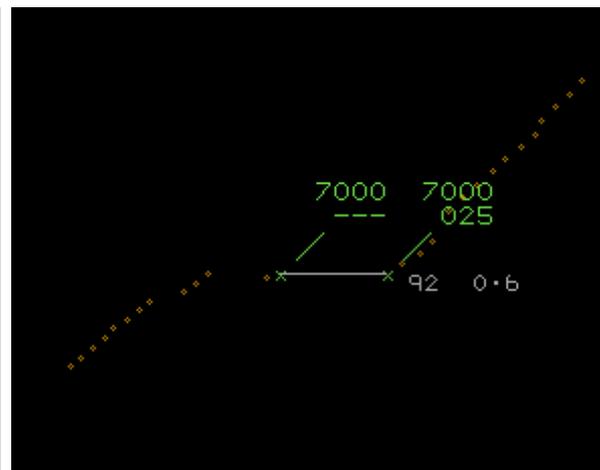


Figure 2 1135:46

The C172 and C152 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard¹. If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right².

Summary

An Airprox was reported when a C172 and a C152 flew into proximity at 1135 on Friday 30th June 2017. 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 the pilots of both aircraft and radar photographs/video recordings.

The Board first looked at the actions of the C172 pilot. He was just leaving the Perth area when he saw the C152, albeit late, travelling in the opposite direction. He managed to take avoiding action and estimated that the two aircraft past each other 100-200ft apart. For his part, the C152's pilot was a student returning to Perth, but had not yet changed to the Perth frequency; he didn't see the C172 until it was abeam, and too late to take any avoiding action. The Board noted that neither pilot was receiving a radar service and, although they knew that it was not always possible to get a radar service in parts of Scotland, in this area both Leuchars and Dundee may have been able to provide an ATS. Unfortunately, the circumstances were such that both pilots were on different frequencies at the time of the incident, and so were not aware of the other's presence via the RT. Additionally, neither aircraft was fitted with a CWS, yet both aircraft had transponders; had either been fitted with a CWS, they would have received a warning about the other. Members highlighted the increasingly affordable CWS now available, and commended all pilots to consider their fitment for just such an eventuality.

Having negated two of the barriers to mitigate against mid-air collision, this left only see-and-avoid as the final barrier, which fortunately had been successful. Notwithstanding, in determining the cause of the Airprox, the Board quickly agreed that this had been a late sighting by the C172 pilot and effectively a non-sighting by the C152 pilot. In assessing the risk, the Board agreed that the avoiding action taken by the C172 had been enough to ensure safe separation, and so they assessed the

¹ SERA.3205 Proximity.

² SERA.3210 Right-of-way (c)(1) Approaching head-on.

incident as risk Category C; although safety had been degraded, effective avoiding action had prevented the two aircraft coming into close proximity.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A late sighting by the C172 pilot and effectively a non-sighting by the C152 pilot.

Degree of Risk: C.

Safety Barrier Assessment³

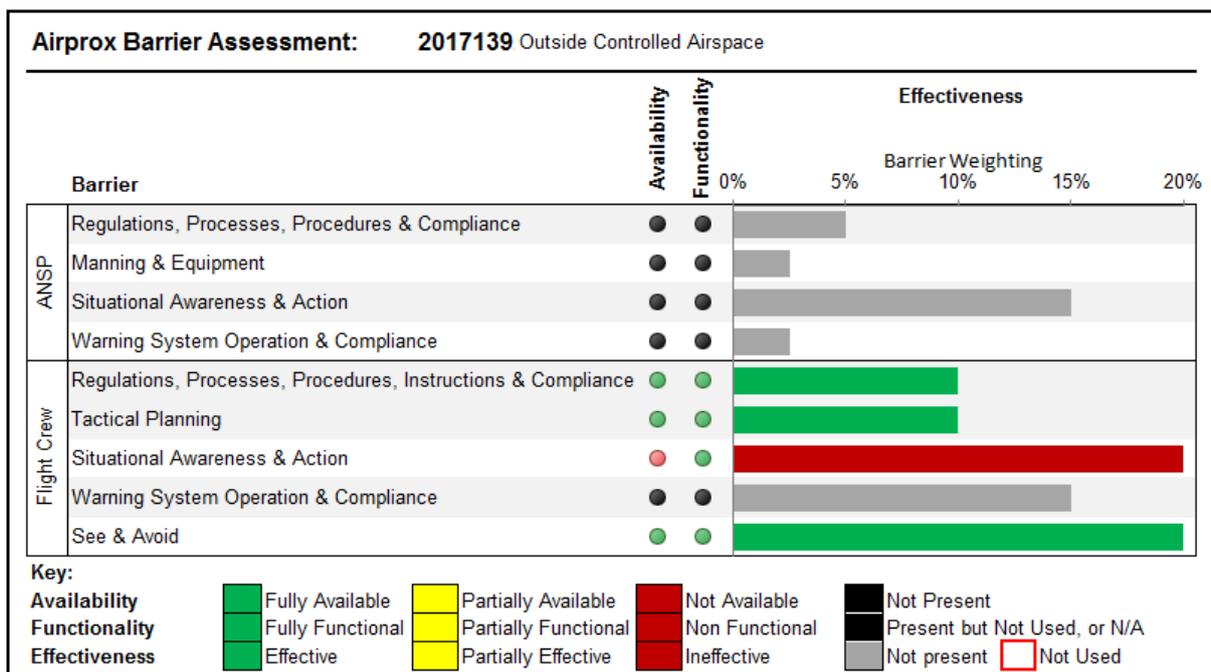
In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Flight Crew

Situational Awareness & Action was assessed as **ineffective** because neither pilot had received any situational awareness about the other.

Warning System Operation and Compliance was assessed as **not present** because neither aircraft was fitted with a CWS.

See and Avoid was assessed as **fully effective** because the C172 pilot had taken timely and effective avoiding action.



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