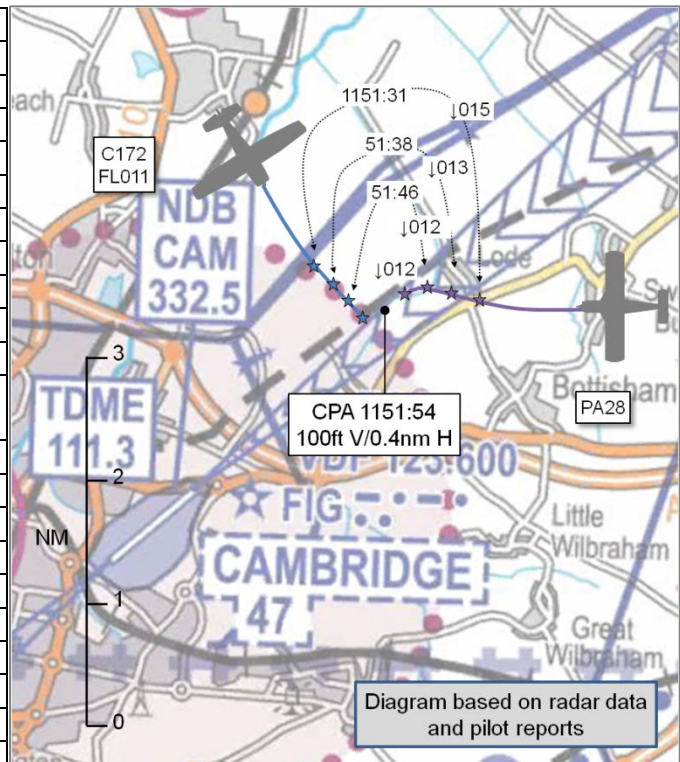


AIRPROX REPORT No 2015137

Date: 5 Aug 2015 Time: 1151Z Position: 5214N 00013E Location: Cambridge ATZ

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C172	PA28
Operator	Civ Trg	Civ Trg
Airspace	Cambridge ATZ	Cambridge ATZ
Class	G	G
Rules	VFR	VFR
Service	Aerodrome	Aerodrome
Provider	Cambridge	Cambridge
Altitude/FL		
Transponder	A,C	A,C
Reported		
Colours	White, Black, Blue, Yellow	White, Grey, Red
Lighting	NK	NK
Conditions	VMC	VMC
Visibility	>10km	10km
Altitude/FL	800ft	1000ft
Altimeter	QFE (1012hPa)	QFE
Heading	140°	233°
Speed	80kt	90kt
ACAS/TAS	Not fitted	Not fitted
Separation		
Reported	100ft V/400m H	Not seen
Recorded	100ft V/0.4nm H	



THE C172 PILOT reports that he was instructing a student; they had called to re-join the circuit 5 miles away and were instructed by ATC to join and report right base. They heard the pilot of the PA28 call up at a similar time and knew he was advised to call left-base. At that stage, the C172 instructor looked, but was not visual with the PA28. They reported right base and were told to report final and that they were number 1. Again the PA28 could not be seen. Shortly afterwards the student configured the aircraft for the approach and, as they were about to turn final, he recalled that he heard ATC instruct the PA28 pilot to orbit in his current position. The instructor looked to the left and saw the PA28 establishing on final approach and flying straight at them. He took control of the aircraft, immediately idled the engine power, put the aircraft in a 'steep dive' and at 800ft turned away from the PA28 and onto final. He believed the PA28 pilot then acknowledged the instruction to orbit. They then landed without further incident. Discussing it on the ground later, both the instructor and the student estimated that the PA28 was 400m from colliding with them.

He assessed the risk of collision as 'High'.

THE PA28 PILOT reports that he was on a training flight and reported to Cambridge tower when 8 miles to the east. Another aircraft called 6 miles north. The PA28 pilot was asked to report left base for RW23 main, and the other pilot was told to report right base. The other pilot had a shorter distance to run, and both aircraft were a similar speed, so the PA28 pilot maintained a normal approach profile to join left base behind the other traffic. He couldn't see the other traffic so he elected to carry out a left-hand orbit to ensure adequate spacing. Once he had re-established on finals, he saw the other aircraft completing its landing roll-out.

He assessed the risk of collision as 'Low'.

Factual Background

The weather at Cambridge was recorded as follows:

EGSC 051150Z 18009KT 120V240 9999 SCT040 20/12 Q1013=

Analysis and Investigation

CAA ATSI

At 1148:30 the C172, 6.3nm north of Cambridge Airport called Cambridge Tower for rejoin, reporting their position as being 5.8 miles north. The Tower controller instructed the pilot to join and report right base for RW23 which was readback by the pilot. (Figure 1).

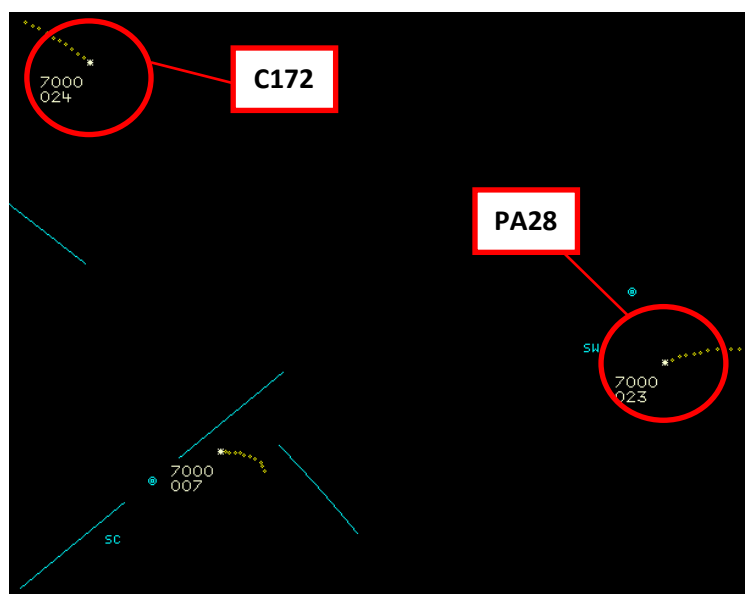


Figure 1 – 1148:30

At 1150:00 the PA28 pilot, 5.3nm ENE of the airfield, reported their position as being 5 miles (without reference to a cardinal point or the airfield), and requested rejoin. The Tower controller instructed the pilot to join and report left base for RW23 which was readback. The C172 was 4nm north of the airfield at this time (Figure 2).

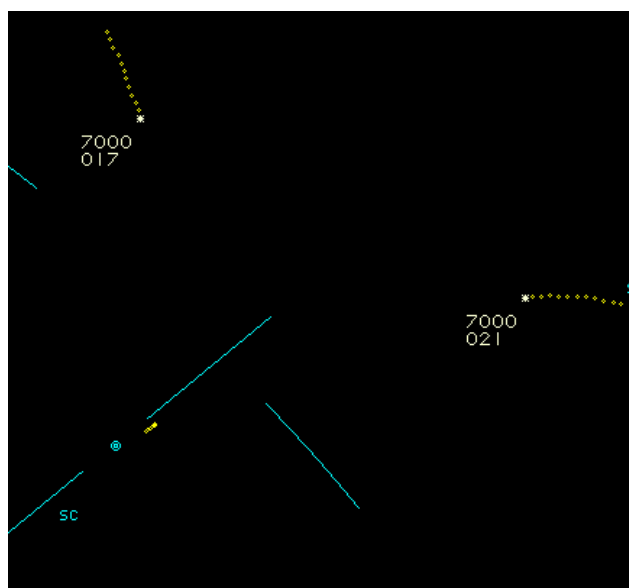


Figure 2 – 1150:00

The controller then passed Traffic Information on the C172 to the PA28 pilot, which they acknowledged, stating that they had already been made aware of the information from the approach controller. The controller then passed Traffic Information to the C172 pilot on the PA28 which was acknowledged by the pilot, who reported that they were not visual, but they added that they would keep a lookout.

At 1151:00 the C172 pilot reported on right base and was instructed to report final. (Figure 3).

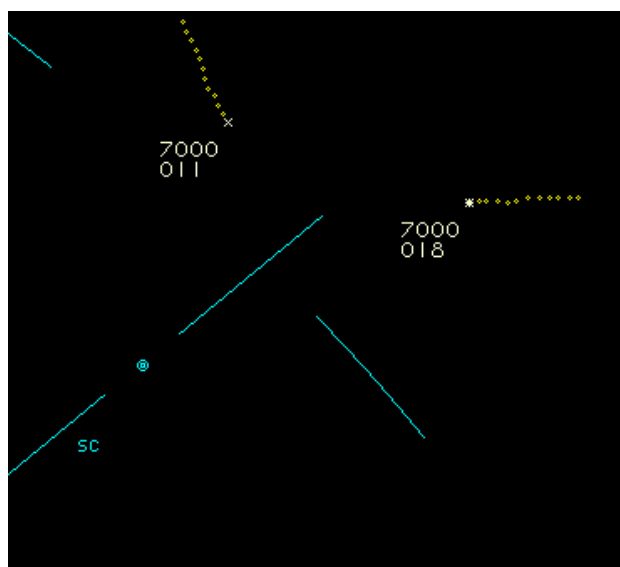


Figure 3 – 1151:00

At 1151:10 the controller instructed the PA28 pilot to report final, advising that he was No2 to the C172 (incorrectly stated as being on left base). The pilot acknowledged the Traffic Information, correctly identifying the other traffic as being on right base, but did not acknowledge the order in sequence, which was not picked up by the controller.

At 1151:40 the controller asked the PA28 pilot if they were visual with the C172 turning finals at 2.5 miles, which was not answered fully by the pilot of the PA28 who acknowledged the question without answering it, but then added that they would orbit in their present position, also reported as being at 2.5 miles. (Figure 4).

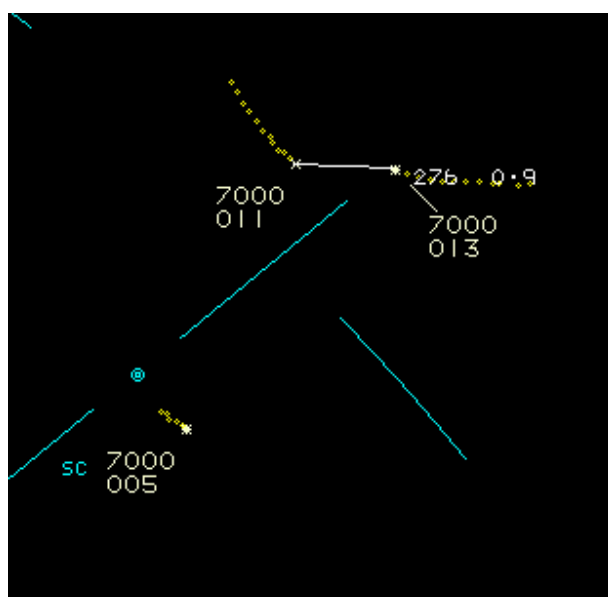


Figure 4 – 1151:40

CPA was at 1151:54. The C172 was on right base and the PA28 had commenced a left-hand orbit. The aircraft were separated by 0.4nm horizontally and 100ft vertically (Figure 5).

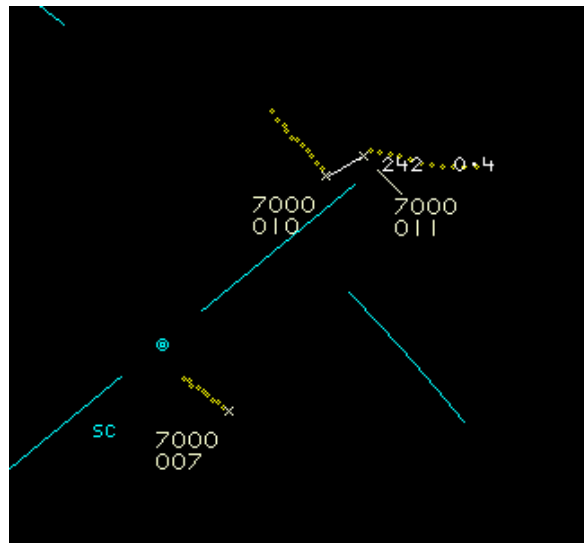


Figure 5 – 1151:54

UKAB Secretariat

The C172 and PA28 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. When making an approach to land SERA regulations state:

Landing. An aircraft in flight, or operating on the ground or water, shall give way to aircraft landing or in the final stages of an approach to land.

(i) When two or more heavier-than-air aircraft are approaching an aerodrome or an operating site for the purpose of landing, aircraft at the higher level shall give way to aircraft at the lower level, but the latter shall not take advantage of this rule to cut in front of another which is in the final stages of an approach to land, or to overtake that aircraft.³

Summary

An Airprox was reported when a C172 and a PA28 flew into proximity at 1151 on Wednesday 5th August 2015. Both pilots were operating under VFR in VMC in the Cambridge visual circuit, and both were receiving an Aerodrome Service from Cambridge Tower.

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 and operating authorities.

The Board first looked at the actions of the C172 pilot. Although aware of the PA28 from Traffic Information, he had not seen the aircraft until a late stage and some members felt that he may have been startled by the appearance of the PA28. Others wondered why this would be the case given that the aircraft had not come within 0.4nm of each other, they also wondered why the C172 pilot had felt the need to put his aircraft into a 'steep dive' when the distance between them was considered by

¹ SERA.3205 Proximity.

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

³ SERA 3210 Right of way.

some as normal ops in the visual circuit. Having seen the PA28 late, but clearly thinking it was closer than it actually was, the Board noted that the instructor had been able to take control and, by turning onto finals, take effective avoiding action.

For his part, the Board noted that the PA28 pilot was aware of the joining C172 on right base, and that ATC had given a sequencing order which put the other aircraft ahead. Therefore, the Board thought that good airmanship would have dictated that he would need to slow down somewhat, or take positive action in order to allow the aircraft ahead to get in. Although he did eventually conduct an orbit, the Board thought that in light of the fact that he couldn't see the C172, he would have been better served by doing so earlier, by which he may have avoided startling the other pilot and avoided the Airprox altogether.

The Board expressed their disappointment that there was not an ATC report for this Airprox, without which vital information was missing. Although told that Cambridge ATC had not been made aware that an Airprox had been filed, given that both pilots were Cambridge based, the Board thought that the safety management process at Cambridge should have highlighted the incident and ensured that all parties submitted reports. Turning to the role of ATC in the incident, although the controller had given Traffic Information to both pilots, the Board recalled numerous Airprox in the past with aircraft simultaneously joining from left and right base, and some members opined that the controller could have issued a positive instruction for the two aircraft to turn in at set points, for example 4 miles final for the first aircraft and 6 miles for the second. By doing so, this incident could have been avoided. Members also wondered whether the controller had used his ATM effectively and, if so, why he didn't see the situation developing earlier; having two aircraft joining on opposite base legs should always set off alarm bells that there is a potential for conflict. That said, the Board noted again that the controller had issued a sequencing order for the pilots, and could justifiably have assumed that the PA28 pilot would alter his approach accordingly; therefore, the Board thought that the controller's actions had been appropriate.

In determining the cause of the Airprox, the Board agreed that because he had been told by ATC that he was number 2 to the C172, and was the higher aircraft during the join, it had been for the PA28 pilot to give way. As a result, the Board decided that the cause was that the PA28 pilot had not sequenced effectively with the C172 and had consequently flown into conflict. However, the Board agreed that both pilots had taken timely and effective action to avoid a collision, and so they assessed the risk as Category C.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The PA28 pilot did not sequence effectively with the C172 and flew into conflict.

Degree of Risk: C.