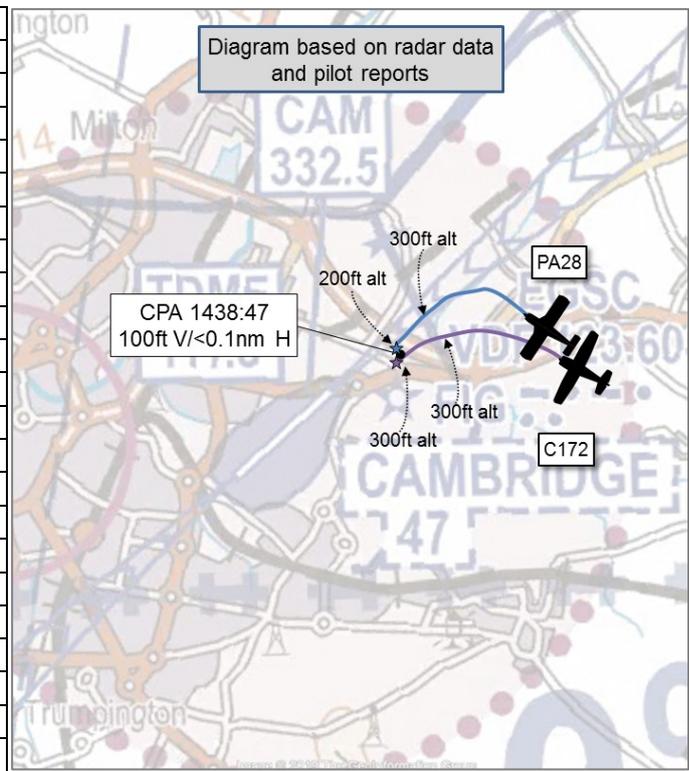


**AIRPROX REPORT No 2018271**

Date: 30 Sep 2018 Time: 1438Z Position: 5212N 00010E Location: Cambridge ATZ

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	C172
Operator	Civ FW	Civ FW
Airspace	Cambridge ATZ	Cambridge ATZ
Class	G	G
Rules	VFR	VFR
Service	ACS	ACS
Provider	Cambridge	Cambridge
Altitude/FL	200ft	300ft
Transponder	A, C	A, C, S
<b>Reported</b>		
Colours	Not reported	White
Lighting	Beacon, Strobe	Nav, Landing
Conditions	VMC	VMC
Visibility	10km	Not reported
Altitude/FL	150ft	200ft
Altimeter	NK (1017hPa)	Not reported
Heading	230°	230°
Speed	75kt	70kt
ACAS/TAS	Not fitted	Not fitted
<b>Separation</b>		
Reported	Not reported	0ft V/220m H
Recorded	100ft V/<0.1nm H	



**THE PA28 PILOT** reports that he was conducting pre-solo crosswind training (320/10) on RW23 main. While downwind, the C172 joined left-base behind him. Both aircraft went around sequentially. The C172 called 'Downwind to Land' before he was able to, and was informed that there was one ahead. His student called 'Downwind for Touch and Go' and was informed he was No1. The C172 pilot was then offered the 'Grass Runway', which he accepted. He searched for the C172 during base-leg and final turn. Shortly after rolling out on final approach, he saw the C172 through the port, rear window, close in the 8 o'clock. He instructed his student to go-around, which was executed immediately. His student was not aware of the C172's proximity. Although both aircraft captains were aware of each other, he deemed that separation was inappropriate and inadequately controlled by the C172 captain. In his opinion, allowances had not been made for safe separation during an abnormal event.

He assessed the risk of collision as 'Medium'.

**THE C172 PILOT** reports that he had completed approximately 50mins of a 60min trial lesson so, he decided to complete the flight with a low approach, into a go-around, for a visual circuit to land. After the go-around off RW23 main, he flew a standard left-hand circuit to follow behind the PA28, who had also initiated a go-around ahead of him. He established on downwind, visually behind the PA28, who reported "late downwind" and were told to report final, No1 (for RW23 main). The C172 pilot then called "downwind to land", to which he was told to report final, No2 to the PA28 late downwind, ahead of him. He acknowledged, and he was visual. The PA28 turned left onto about a 1.5nm base. ATC asked the C172 pilot if he would like to accept RW23 grass; he accepted the offer and was then told to report final for RW23 grass. He acknowledged. He then modified his circuit shape to suit that of the grass runway, with the PA28 turning onto final for RW23 main in sight. His shorter base-leg meant that he would effectively catch up to the PA28, who was established on final approach for RW23 main. He was, however, mindful of the fact that this may result in a parallel approach being flown so he conscientiously remained slightly south of the final approach track for RW23 grass, until very short final. By this point, the PA28 was to his right, so he remained slightly left of the extended grass runway centreline to

mitigate any risk of convergence. He remained visual with the PA28 and ensured that he did not converge. As he approached about 200ft, the PA28 called going around and then stated over the radio "I'm going to file against [C172 C/S] because that was far too close". He completed his landing on RW23 grass and completed the flight with no further incident. He telephoned ATC after his flight to seek clarification on whether he was wrong to conduct the approach to the grass runway in that manner. The controller and her colleague both stated that he had kept adequate distance from the PA28 and that he had conducted himself in a safe manner. He believed that his approach was safe and acceptable because he remained in visual contact with the PA28 throughout the entire circuit and approach. Furthermore, from his experience, when the grass and main runways are being used, it is permissible to adopt parallel operations. He also sought clarification from another Cambridge Air Traffic Controller who confirmed that parallel approaches and landings can be conducted. It is not uncommon for Cambridge-based Tiger Moths to conduct parallel approaches and landings at Cambridge Airport during busy periods. Several publications, such as the UK AIP and Jeppesen charts state that parallel approaches are flown at Cambridge airport. There are no accessible publications that state parallel approaches and landings are prohibited at Cambridge, or that approaches should be staggered, i.e. no side by side approaches. He felt that he was offered the grass runway to allow for an efficient arrival, and that if he had to ensure that his approach was staggered (i.e. remain No2 to the PA28), then the grass runway alternative should not be offered.

He assessed the risk of collision as 'None'.

**THE CAMBRIDGE CONTROLLER** reports that the pilot of the PA28, who was in the fixed-wing circuit, reported that he was going-around as the C172 was positioned too closely to him. At the time she was utilising both the main and the grass runways, using the approved parallel runway operations as per the Cambridge MATS Part 2. Because both the aircraft were in the circuit she was using reduced separation in the vicinity of an aerodrome and did not consider it a risk at any time. This is an approved operation that Cambridge ATC use on a day to day basis. The PA28 was doing slightly wider circuits than the C172 so she offered the C172 pilot the option of the grass runway. The criteria for using both runways had been met: Traffic Information had been passed and acknowledged by the PA28 pilot. The C172 on final approach for the grass runway was landing and the PA28 was remaining in the circuit. She was visual with both aircraft whilst on final and witnessed the go-around. She did not consider it to be any different to any other parallel runway arrival. The MATS Part 2 procedure is as follows:

### *2.2.3 Circuit Procedures - Parallel Runway Operations - 23/05.*

*Parallel departures and arrivals for runways 23/05 grass and main are permitted only for VFR aircraft and for IFR aircraft making a visual approach provided;*

- *Each aircraft is continuously visible to ADI or the aircraft are continuously visible with each other and appropriate Traffic Information has been passed.*
- *Both aircraft are classified as "light" for the purposes of wake turbulence separation.*
- *ADI shall endeavour to sequence traffic to prevent two aircraft arriving side by side on final approach. In the event of this happening unintentionally, traffic information shall be updated and if necessary controllers may consider sending one aircraft around.*
- *In the event of simultaneous departures, ADI shall pass Traffic Information, and consider de-conflicting the aircraft either through climb or turn instructions.*
- *Main and grass runways 23/05 are not separated for the purposes of wake turbulence separation.*

The PA28 pilot did not report the Airprox on the R/T or contact her after the event.

She perceived the severity of the incident as 'None'.

## **Factual Background**

The weather at Cambridge was recorded as follows:

METAR EGSC 301420Z 33009KT 9999 FEW028 SCT036 14/05 Q1018

## Analysis and Investigation

### CAA ATSI

The PA28 was conducting pre-solo crosswind training in the visual circuit RW23 and the C172 had returned to the visual circuit upon nearing the completion of a 1-hour trial flying lesson. The Cambridge controller was providing a combined Aerodrome and Approach Non-Radar Service at the time of the Airprox and the R/T was very busy.

At **1434:00**, the C172 was cleared for a low approach RW23 main and was advised that the PA28 ahead in the climb out lane was turning left into the visual circuit.

At **1435:00** (Figure 1), the PA28 had turned downwind left-hand ahead of the C172.



Figure 1 - 1435:00

Figure 2 – 1436:10

At **1436:10** (Figure 2), the PA28 pilot called late downwind for a touch and go and was instructed to report final. The pilot provided an accurate readback. Immediately after this transmission had ended the C172 pilot called downwind, was instructed to report final and was advised that they were No2 and were following the PA28 ahead. An accurate readback was received from the pilot. The C172 appeared on the radar replay to be almost on top of the PA28.

At **1437:30**, the radar contacts had faded from the radar and the controller asked the C172 if they would like to position for RW23 grass. The pilot responded with *“affirm”* and the controller instructed the pilot to report final for RW23 grass. The pilot responded with *“wilco”*.

At **1437:35**, the controller passed traffic information to the PA28 pilot advising them that the C172 was on their left-hand side, on final, positioning for the grass RW. The pilot responded with *“copied”* and then asked for a reminder of their airborne time. The controller passed the airborne time.

At **1438:30**, the controller instructed the PA28 to continue approach and passed traffic information on a departing helicopter that would be lifting and remaining north of the main RW. At the same time the PA28 pilot reported going around.

At **1438:35**, the controller cleared the C172 to land on RW23 grass. The pilot readback the landing clearance.

At **1439:00**, the PA28 pilot advised the controller that they would be filing on the C172 as they thought that they were too close.

Due to the absence of radar contacts on the radar replay in the final stages leading up to the Airprox, it could not be determined whether the aircraft arrived side-by-side on final approach. The controller may have been attempting to expedite the arrival of the C172 by enquiring whether the pilot would like to make their approach to the grass RW. However, this had the potential to increase the likelihood of the aircraft arriving side-by-side on final approach.

### **UKAB Secretariat**

The PA28 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<sup>1</sup>. 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<sup>2</sup>.

Cambridge Airport RW23/05 main has an ICAO code of 4E, although this is an instrument approach runway, Cambridge ATC permit parallel approaches to RW05/23 main and RW05/23 grass when aircraft are either both VFR or one is VFR and the other is IFR making a visual approach. The distance, as measured on Google Earth, between the centrelines of RW05/23 main and RW05/23 grass is 188m. EASA CS ADR-DSN states that for parallel approaches:

*CS ADR-DSN.B.050 Minimum distance between parallel non-instrument runways*

*(a) Where parallel non-instrument runways are intended for simultaneous use, the minimum distance between their centre lines should be:*

*(1) 210 m where the higher code number is 3 or 4*

Cambridge Airport UKAIP EG AD 2 EGSC 2.20 entry for the use of parallel runway operations states that:

*b) Go-around Procedure Runway 05/23 (Grass). Parallel runway operations may be in progress on 05/23 main and 05/23 grass runways. Subject to ATC instructions, aircraft going round from approaches to 05/23 grass must maintain runway track until advised by ATC.*

### **Summary**

An Airprox was reported when a PA28 and a C172 flew into proximity at 1438hrs on Sunday 30<sup>th</sup> September 2018. Both pilots were operating under VFR in VMC and in receipt of an Aerodrome Control Service from Cambridge.

### **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.

The Board began by looking at the actions of the C172 pilot. The radar replay showed that whilst downwind he had flown closer to the PA28 than members thought desirable, and that it was evident that he had remained too close during his turn onto base-leg. Members deduced that his close proximity to the PA28 may have been the reason the controller offered the C172 pilot the grass runway in an attempt to maintain a safe and orderly flow of traffic. When the C172 pilot accepted the grass runway, he tightened his circuit pattern and the combination of his close proximity to the PA28 and this tighter pattern meant that he then caught up with the PA28 even more; it was this that brought him into the view of the PA28 pilot and prompted the PA28 pilot to go-around.

<sup>1</sup> SERA.3205 Proximity.

<sup>2</sup> SERA.3225 Operation on and in the Vicinity of an Aerodrome.

For his part, the Board agreed that although the PA28 pilot was aware that the C172 was in close proximity during the downwind leg of the circuit, he could not have known exactly how close it was behind until its pilot turned final for the grass runway and he was able to see it. Although members noted that he had been given Traffic Information on the C172 by the controller, and that it was clear from the R/T that the C172 was making an approach to the grass runway, it appeared that that Traffic Information had not included the fact that the C172 was effectively going to conduct a parallel approach and so, seeing the C172 so close, he decided to discontinue his approach and go-around. Although noting that parallel approaches were a feature of grass/main concurrent operations, the Board opined that the sudden appearance of the C172 could have unsettled the PA28 pilot and so they understood why he had felt that its proximity was such that a go-around was his best course of action.

The Board turned to the actions of the controller. They agreed that the proximity of the C172 to the PA28 had prompted her to offer the C172 pilot the grass runway in an attempt to help resolve the fact that the C172 pilot was likely too close to the PA28 to land behind it on the main runway. Unfortunately, this had resulted in the C172 pilot flying closer to the PA28 than may have otherwise occurred due to the tightening of the C172 pilot's circuit pattern. Had the grass runway not been offered, then the C172 pilot would likely have had to go-around himself from final when it became clear that he could probably not land with the PA28 ahead on the main runway. Members noted that Traffic Information on the C172 had been passed to the PA28 pilot, and that it was this that had resulted in the PA28 pilot gaining visual contact with the C172 and deciding to go-around. Had this Traffic Information included the fact that the C172 would likely be making a parallel approach, members thought it highly likely that the PA28 pilot would not have been so concerned given that he would have known the C172 pilot's intentions. In this respect, members noted that the use of parallel runway approaches at Cambridge, whilst not complying with the EASA minimum separation requirements, is contained within the Cambridge MATS Part 2, and that it states that Traffic Information should have been updated (or one of the aircraft told to go-around) once the 'unintended' parallel approach became a reality.

The Board then turned to the cause of the Airprox. Members agreed that both pilots were visual with the other (albeit at a late stage for the PA28 pilot) and had also received Traffic Information. Notwithstanding, there was considerable discussion about the C172 pilot's inadequate separation from the PA28 when downwind, and some members opined that this meant that he had not effectively integrated into the visual circuit. Whilst agreeing that his separation was less than optimal, others felt that the C172 pilot was clear that he was No2, that there were still options for him to resolve this separation by extending downwind or perhaps slowing down, and that it had been the offer of the grass runway which had then seduced him into continuing so close as he lined up for the parallel runway. The debate ebbed and flowed but, in the end, the latter view prevailed, and the Board agreed that the incident was best described as the C172 pilot flying close enough to the PA28 to cause its pilot concern. Turning to the risk, members quickly agreed that the C172 pilot was visual with the PA28 at all times and, although safety had been degraded, had arranged himself on a parallel track on final such that there was no risk of collision. Accordingly, they assessed the risk as Category C.

### **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: The C172 pilot flew close enough to the PA28 to cause its pilot concern.

Degree of Risk: C.

#### Safety Barrier Assessment<sup>3</sup>

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

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

**Flight Crew:**

**Tactical Planning** was assessed as **partially effective** because the C172 pilot flew too close to the PA28 in the circuit.

