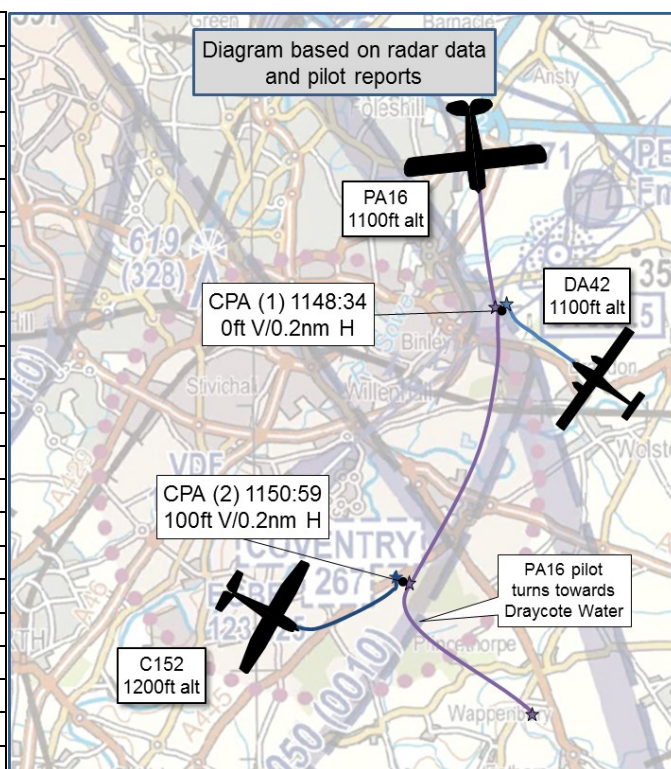


**AIRPROX REPORT No 2019190**

Date: 09 Jul 2019 Time: 1148 & 1150Z Position: 5222N 00128W Location: Coventry Airfield

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	DA42 & C152	PA16
Operator	Civ FW	Civ FW
Airspace	Coventry ATZ	Coventry ATZ
Class	G	G
Rules	VFR	VFR
Service	AFIS	AFIS
Provider	Coventry	Coventry
Altitude/FL	1100ft & 1200ft	1100ft
Transponder	A, C	A, C
<b>Reported</b>	Not reported	
Colours		Blue, White
Lighting		Not reported
Conditions		VMC
Visibility		>10km
Altitude/FL		1500ft
Altimeter		NK
Heading		180°
Speed		87kt
ACAS/TAS		Not fitted
<b>Separation</b>		
Reported	Not reported	0ft V/1nm H
Recorded	0ft V/0.2nm H & 100ft V/0.2nm H	



**THE COVENTRY AFISO** reports that Coventry Airport was using RW23 with a left-hand circuit which was active with 4 aircraft: a DA42 was on final at about 2nm; a C150 was late downwind; a C152 was early downwind; and a Tecnam Sierra was crosswind. The AFISO and Assistant had all 4 aircraft in sight when another aircraft was seen approaching from the north towards the DA42 on final. A couple of secs later, an aircraft called the frequency to say they were routing "through the extended centre line". Both the AFISO and Assistant recognised this to be the aircraft they had spotted, a PA16. The PA16 pilot was told the runway in use, direction of the circuit, and the QNH; the pilot read this information back accurately stating he had the traffic in sight. He believed the PA16 pilot came within 0.25nm of the DA42 on final causing it to complete a left-hand orbit [he recalled]. The PA16 pilot then continued towards the downwind leg. The AFISO again stated the position of the downwind traffic that the PA16 was now heading towards. The PA16 pilot then turned towards the traffic on the downwind leg, at the same altitude, causing the C152 to turn left in an effort to avoid a head-on collision. The AFISO again stated that the PA16 pilot was going the wrong way around the circuit and traffic was having to take avoiding action. The PA16 pilot then said he was turning towards a lake, which the AFISO identified as Draycote Water VRP and asked him to report once overhead. The PA16 pilot did not make contact prior to entering the ATZ and did not appear to take any action to avoid the 2 aircraft causing them to take avoiding action within the ATZ and while established in the circuit. The AFISO spoke to the pilots of both the DA42 and C152 and informed them of the intention to submit an MOR.

**THE DA42 PILOT** chose not to report despite a number of requests.

**THE C152 PILOT** reports that he was teaching a student circuits using RW23LH at Coventry airport. He heard on the radio a transiting pilot talking to the AFISO about routing around the airfield, on a route which he cannot recall, but which he thought at the time could put the pilot close to the airfield at around circuit height. Shortly after turning downwind, he heard a colleague on final report that an aircraft had flown in front of him, he thinks the other pilot said right-to-left, implying the aircraft was cutting across the established traffic pattern. He looked for the aircraft and saw it flying head-on towards him at circuit

height about at the upwind end of the downwind leg, roughly abeam the numbers, although he cannot be sure. There was no threat of immediate collision. In accordance with the rules of the air he should have made a right-hand turn, but that would have meant the other pilot turning right and keeping his aircraft within the circuit pattern. He therefore elected to make a left-hand turn towards the airfield. He immediately made a call on the radio to that effect to inform the oncoming pilot of his intentions and enable him to turn away from the circuit pattern safely. The other pilot then also turned to the left and acknowledged his mistake on the radio and apologised. The C152 pilot then reported that he was safely back on the downwind track. Given the distance between the aircraft, he assessed the risk of collision as minimal and that a steep turn to avoid the traffic had not been required.

**THE PA16 PILOT** reports that he was in contact with Birmingham and had been instructed to report at Ansty. When he reported at Ansty he was handed over to Coventry [UKAB note: in fact, no handover took place, the PA16 pilot free-called]. He saw an aircraft at about 3nm and a similar level, coming towards him where Coventry had instructed him to report, Draycote Water, then he resumed a southerly heading. At no time did Birmingham or Coventry inform him that left-hand circuits were in operation. He decided there was no need to take avoiding action.

The pilot assessed the risk of collision as 'None'.

## Factual Background

The weather at Birmingham was recorded as follows:

METAR EGBB 091150Z 33007KT 280V360 9999 SCT032 21/13 Q1020

## Analysis and Investigation

### UKAB Secretariat

The DA42, C152 and PA16 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>.

At 1148:10 (Figure 1), the PA16 pilot called Coventry whilst outside the ATZ but approaching the inbound lane for RW23, the DA42 was approaching the end of base-leg, about to turn final for RW23.

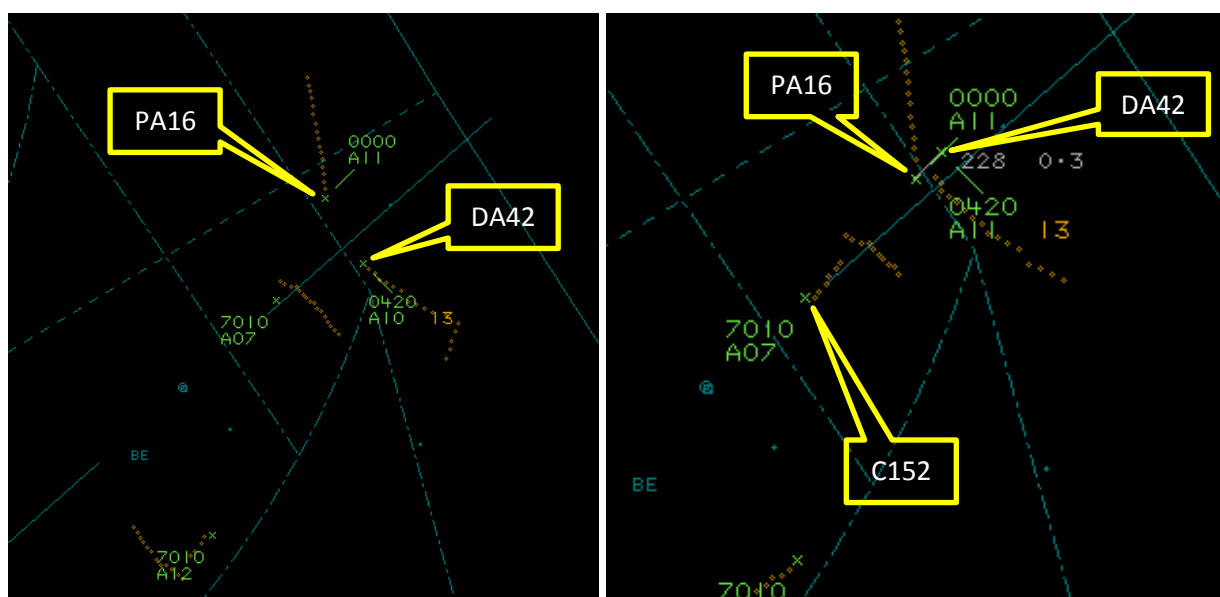


Figure 1: 1148:10

Figure 2: 1148:35 CPA (1)

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

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

At 1148:35 (Figure 2), the DA42 pilot turns right to avoid the PA16 crossing the final approach track at CPA (1).

The PA16 then turns right and flies into the ATZ at circuit height the wrong way downwind. At 1149:55 (Figure 3), the DA42 pilot has carried out a right-hand orbit and repositions onto final. The C152 pilot is just about to commence a turn onto downwind.

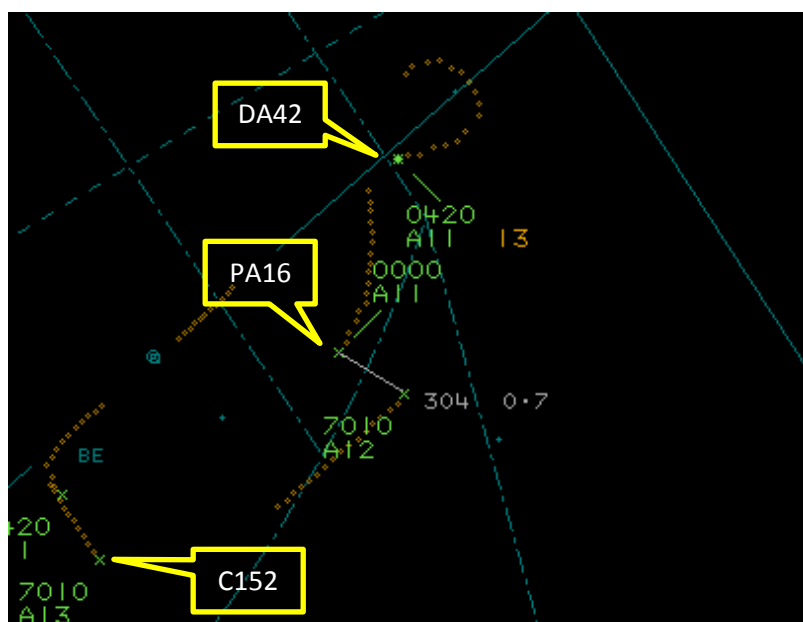


Figure 3: 1149:55 DA42 repositioning onto final approach after CPA (1)

At 1150:58 (Figure 4) the C152 pilot is now tracking downwind and turns left to avoid the PA16 at CPA (2). Shortly after, the PA16 pilot turns left to route to Draycote Water.

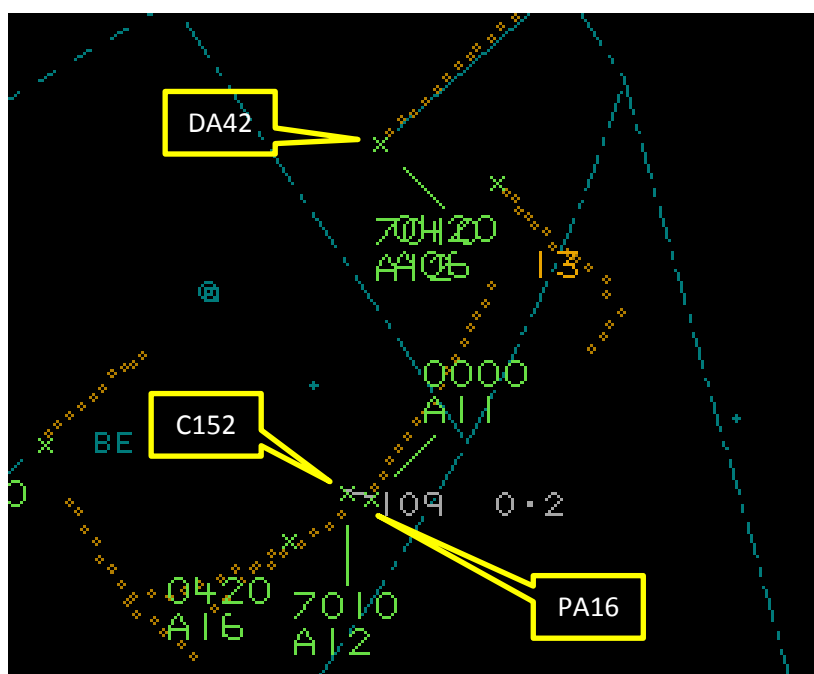


Figure 4: 1150:58 CPA (2)

## Summary

An Airprox was reported when a PA16 flew into proximity with a DA42 and a C152 in the Coventry ATZ at 1148hrs and 1150hrs respectively on Tuesday 9<sup>th</sup> July 2019. The pilots were operating under VFR in VMC and were in receipt of an AFIS from Coventry.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available consisted of reports from two of the pilots, radar photographs/video recordings and reports from the AFISO involved. 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 began by looking at the actions of the PA16 pilot and noted that he had initially contacted Coventry and had passed information that he was about to fly through the extended centreline. Albeit later than desirable, and not the best course of action to fly through the approach lane at circuit height just outside the ATZ of a busy airfield, members commented that this was at least a useful call to Coventry and the aircraft operating in its circuit as they gained situational awareness on the otherwise unknown aircraft. The DA42 pilot was on base leg outside the ATZ at the time but was able to avoid the PA16 by orbiting right-hand. Notwithstanding they were outside the ATZ, the PA16 pilot was still required to avoid the DA42 which was forming a pattern of traffic at Coventry (**CF2 & 4**).

Noting that the PA16 pilot was intending to route to Draycote Water, some members wondered whether he had become disorientated or flustered when he saw 'another aircraft 3nm away coming towards him from Draycote Water' (likely the DA42 that had taken avoiding action), and whether this had resulted in the PA16 pilot mistakenly turning into the ATZ and visual circuit as he reacted to that aircraft rather than continuing towards Draycote Water (**CF2, 6 & 7**). When he entered the circuit the wrong way and was warned by the AFISO, the PA16 pilot did not attempt to turn away from the circuit pattern but, instead, flew towards the C152 in the circuit. The Board felt that this indicated that the PA16 pilot had completely lost situational awareness at that point and may have become uncertain of his position (**CF3 & 4**). It was only after the encounter with the C152 (which he did not see) that the PA16 pilot turned away from the visual circuit towards Draycote Water. The PA16 pilot's report indicates that he saw no other aircraft after the DA42, and this is supported both by his lack of any action to avoid the C152 (**CF8**) and his assessment that there was no risk of collision. Although he may not have assimilated that he had penetrated the ATZ, the Board agreed that *de facto*, the PA16 pilot had not informed Coventry of his intention to do so, or of the change in his routing when he flew through the visual circuit (**CF5**). Members also wondered why the PA16 pilot thought that the AFISO would inform him that Coventry was operating a left-hand circuit when the correct procedure is to assume a left-hand circuit unless informed otherwise as stated in CAP413, Chapter 4, Paragraph 4.43, which states:

*When the traffic circuit is a right-hand pattern it shall be specified. A left-hand pattern **need not be specified although it is essential to do so when the circuit direction is variable.***

Turning to the actions of the DA42 pilot, the Board was disappointed that he had chosen not to contribute to the Airprox process because this meant that his perspective of the event could not be included in its deliberations. Nevertheless, members noted that he had broken off his approach to avoid the PA16 and, in doing so, had likely prevented the first CPA event from developing into a much closer encounter.

The Board then looked at the actions of the C152 pilot. Members noted that he had heard the R/T transmissions from the AFISO and had seen the PA16 approaching in the opposite direction to the circuit pattern in sufficient time to assess the situation and make a positive decision to make a left turn himself to avoid it rather than potentially cause the PA16 pilot to further infringe the circuit pattern if he turned right. The Board commended him for his pro-active thinking and actions which had undoubtedly prevented a far more serious incident from unfolding.

The incident had been reported by the Coventry AFIS who was concerned by the proximity of the PA16 to both of the other aircraft (**CF1**). In assessing the risk, the Board agreed that flying through the approach, ATZ and subsequently a visual circuit at circuit height represented a seriously hazardous situation that had only been mitigated by the actions of both the DA42 and C152 pilots. However, ultimately, the DA42 and C152 pilots had both carried out suitably timely and effective avoiding action such that although safety had been degraded there had been no risk of collision; risk Category C.

**PART C: ASSESSMENT OF CONTRIBUTORY FACTOR(S) AND RISK****Contributory Factor(s):**

	2019190		
CF	Factor	Description	Amplification
	<b>Ground Elements</b>		
	<b>• Situational Awareness and Action</b>		
1	Human Factors	• Personnel Perception Events	Concerned by the proximity of the aircraft
	<b>Flight Elements</b>		
	<b>• Regulations, Processes, Procedures and Compliance</b>		
2	Human Factors	• Flight Crew ATM Procedure Deviation	Regulations/procedures not complied with
	<b>• Tactical Planning and Execution</b>		
3	Human Factors	• Action Performed Incorrectly	Incorrect or ineffective execution
4	Human Factors	• Aircraft Navigation	Did not avoid/conform with the pattern of traffic already formed
5	Human Factors	• Accuracy of Communication	Ineffective communication of intentions
	<b>• Situational Awareness of the Conflicting Aircraft and Action</b>		
6	Human Factors	• Lack of Action	Pilot flew into conflict despite Situational Awareness
7	Human Factors	• Monitoring of Other Aircraft	Pilot did not sufficiently integrate with the other aircraft
	<b>• See and Avoid</b>		
8	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots

**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:

**Flight Elements:**

**Regulations, Processes, Procedures and Compliance** were assessed as **ineffective** because the PA16 pilot did not conform with or avoid the pattern of traffic formed by other aircraft in operation at Coventry.

**Tactical Planning and Execution** was assessed as **ineffective** because the PA16 pilot did not fully communicate his intentions and did not adjust his flight profile which resulted in him flying through the Coventry ATZ and visual circuit the wrong way at circuit height.

<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](#).

<b>Airprox Barrier Assessment: 2019190</b>		Outside Controlled Airspace						
<b>Barrier</b>		<b>Provision</b>	<b>Application</b>	<b>Effectiveness</b>				
				<b>Barrier Weighting</b>				
				0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✓					
	Manning & Equipment	✓	✓					
	Situational Awareness of the Confliction & Action	✓	✓					
	Electronic Warning System Operation and Compliance	○	○					
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✗					
	Tactical Planning and Execution	✓	✗					
	Situational Awareness of the Conflicting Aircraft & Action	✓	✓					
	Electronic Warning System Operation and Compliance	○	○					
	See & Avoid	✓	✓					
<b>Key:</b>		<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present</u>	<u>Not Used</u>		
Provision	✓	⚠	✗	○				
Application	✓	⚠	✗	○		○		
Effectiveness	■	■	■	■		□		