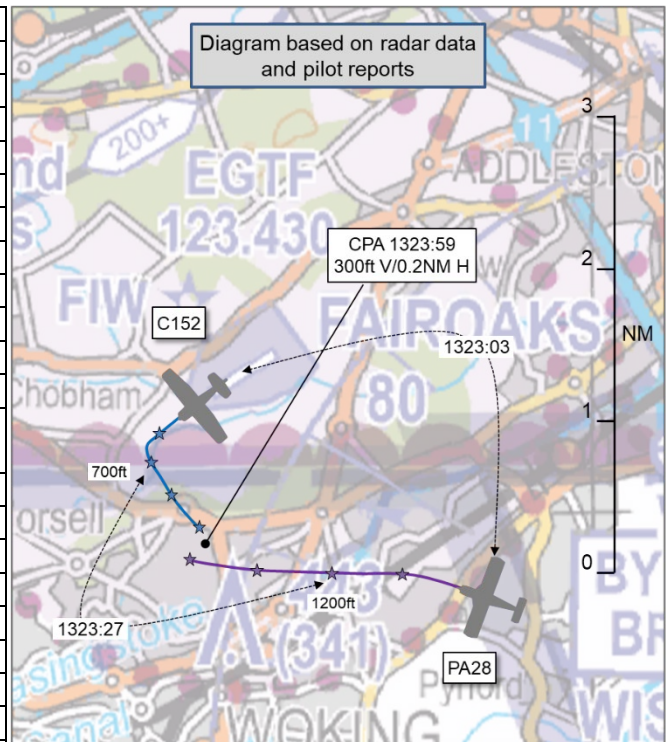


**AIRPROX REPORT No 2024017**

Date: 27 Jan 2024 Time: 1324Z Position: 5119N 00033W Location: Fairoaks ATZ

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

| Recorded          | Aircraft 1              | Aircraft 2           |
|-------------------|-------------------------|----------------------|
| Aircraft          | C152                    | PA28                 |
| Operator          | Civ FW                  | Civ FW               |
| Airspace          | Fairoaks ATZ            | Fairoaks ATZ         |
| Class             | G                       | G                    |
| Rules             | VFR                     | VFR                  |
| Service           | AGCS                    | AGCS                 |
| Provider          | Fairoaks Radio          | Fairoaks Radio       |
| Altitude/FL       | 1000ft                  | 1300ft               |
| Transponder       | A, C                    | A, C                 |
| Reported          |                         |                      |
| Colours           | White and blue          | Maroon and white     |
| Lighting          | Anti-collision, Landing | Navigation, beacon   |
| Conditions        | VMC                     | VMC                  |
| Visibility        | >10km                   | >10km                |
| Altitude/FL       | 1100ft                  | 1400ft               |
| Altimeter         | QNH (1033hPa)           | QFE (1030hPa)        |
| Heading           | 150°                    | ~060°                |
| Speed             | 65kt                    | 100kt                |
| ACAS/TAS          | Not fitted              | Not fitted           |
| Separation at CPA |                         |                      |
| Reported          | NK                      | 300-400ft V/~0.7NM H |
| Recorded          | 300ft V/0.2NM H         |                      |



**THE C152 PILOT** reports that they had been the Instructor on a training flight to complete a circuit session at Fairoaks on RW24LH. Everything had been standard up to the holding point of the runway. At holding point B1, the pilot had become aware of the PA28 inbound by keeping a listening watch on the radio. The PA28 had been inbound from OCK intending to join the Fairoaks circuit for touch-and-goes. The C152 student pilot then completed take-off and climb-out as standard. At a point between take-off and crosswind, the Instructor had heard the PA28 pilot reporting that they would be completing a downwind join. Following this, the Instructor had ensured a good lookout until the aircraft had been visual. Information was passed to the PA28 pilot from Fairoaks Radio regarding the C152 on climb-out and the intention to stay in the circuit. On crosswind at approximately 800ft in the climb, the PA28 had been observed through the front cockpit windshield, flying from left-to-right at what the Instructor estimated to be the circuit altitude of 1100ft and on the reciprocal of the downwind track. Both aircraft had been converging at the turning point of crosswind to downwind. The Instructor took control of the aircraft from the student in order to ensure that a dangerous loss of separation would not occur. At this point the following radio transmissions occurred: Fairoaks Radio: 'Fairoaks [C152 c/s] are you visual with the traffic'? Fairoaks [C152 c/s]: 'Affirm visual they appear to be flying the wrong way down downwind'. The PA28 pilot [transmitted] 'I'm not flying the wrong way down downwind, I'm doing a downwind join [redacted]'. In order to maintain separation, the C152 Instructor altered course to the left to pass behind the PA28. Soon after that, the C152 Instructor simultaneously levelled off at circuit altitude and made the turn to downwind. With the aircraft now straight and level they passed control back to the student and focused on regaining visual with the PA28 after they had passed behind. The student reported downwind as standard. The Instructor had then become visual with the PA28 who had been in the 7 o'clock position. This had put them off the port wing within the C152 circuit at the same level. It appeared that the PA28 pilot had completed a 180° turn behind the C152 to establish themselves on a tight downwind next to the C152. The C152 Instructor advised the student of the location of the traffic but instructed them to maintain the same track and continue with a normal circuit. As there had been a speed difference between the aircraft, the PA28 had then been in the 8 o'clock

position by late downwind. The following radio transmissions had occurred: 'PA28 c/s this is [C152 c/s], what are your intentions as you are now off our left-hand wing in the circuit'? The PA28 pilot responded with: 'I am downwind and am going to do a tight left-hand circuit to get ahead, I thought you were leaving the circuit'. [C152 c/s] replied with 'Roger'. The PA28 pilot then completed a tighter than standard turn to base and the C152 pilot completed a standard turn onto base. The student started to set up for the approach. As they descended on base, the PA28 pilot decided to go-around to allow them to complete the approach. The following radio transmissions occurred: '[PA28 c/s] going around'; Fair Oaks Radio: 'Roger and be aware that I did give you Traffic Information on the aircraft remaining in the circuit'. The PA28 pilot responded with 'Sorry I must've missed that'. Both aircraft remained in the circuit and no further issues developed.

The pilot assessed the risk of collision as 'Low'.

**THE PA28 PILOT** reports that they had been returning from a local flight and had been getting Traffic Information and, as time for the passenger had been a bit tight, decided to join downwind for RW24L. They headed from OCK and paralleled RW24 heading 060° and may have been on the ATZ edge or slightly inside at the normal height for 1400ft QFE, and the AGO advised that a C152 had been in the circuit. The PA28 pilot reports having seen the C152 climbing crosswind and heard them report "an aircraft is flying the wrong way downwind" and advised the AGO that they had contact; the PA28 pilot also advised "traffic sighted" and passed the C152 who continued their climb and circuit. The PA28 pilot turned right to descend to circuit height (1000ft) and was now on the inside of the C152 who asked the AGO what the PA28 pilot's intentions had been. The PA28 pilot replied that they would see if a landing was possible [noting that] they had been far too close to the RW and very quickly advised that they would go-around at circuit height. This had been done and was not the time saver the PA28 pilot had hoped for and apologised to the AGO and the C152 pilot over the radio for the mistake of not continuing the turn to position behind the C152 downwind.

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

**THE FAIROAKS AGO** reports that the PA28 pilot had reported overhead Ockham to join Fair Oaks. Fair Oaks had been using RW24 with a left-hand circuit, QNH 1033. They then reported that they would join downwind, which is not a standard join for this circuit approaching from the east. The C152 pilot reported holding B1 ready for departure, so they provided the traffic and the wind. The C152 pilot then stated they had been taking-off. The AGO reports that they had then told the PA28 pilot that there had been a fixed-wing departing, remaining in the left-hand circuit. Once the C152 had been climbing on the crosswind leg, the AGO had seen the PA28 flying the downwind leg in the wrong direction, as if they had been flying a 06RH circuit. The AGO then contacted the C152 pilot and asked if they had been visual with the traffic. The C152 pilot reported visual as they had begun their downwind turn, by which point the PA28 had been nearing their position very quickly. The C152 pilot had then taken evasive action and descended with a left turn to avoid the oncoming aircraft, before returning to the circuit altitude of 1100ft QNH. The PA28 pilot then turned downwind in the correct direction, very tight to the runway. When the C152 had been late downwind, they contacted the PA28 pilot to ask their intentions, as they were flying a non-standard circuit on their left wing. The PA28 pilot then replied, stating that they were going to try to make a tight turn to make the runway, and that they were not aware the other aircraft had been remaining in the circuit. The PA28 pilot had then performed a go-around, and the circuit returned to normal.

The AGO assessed the risk of collision as 'High'.

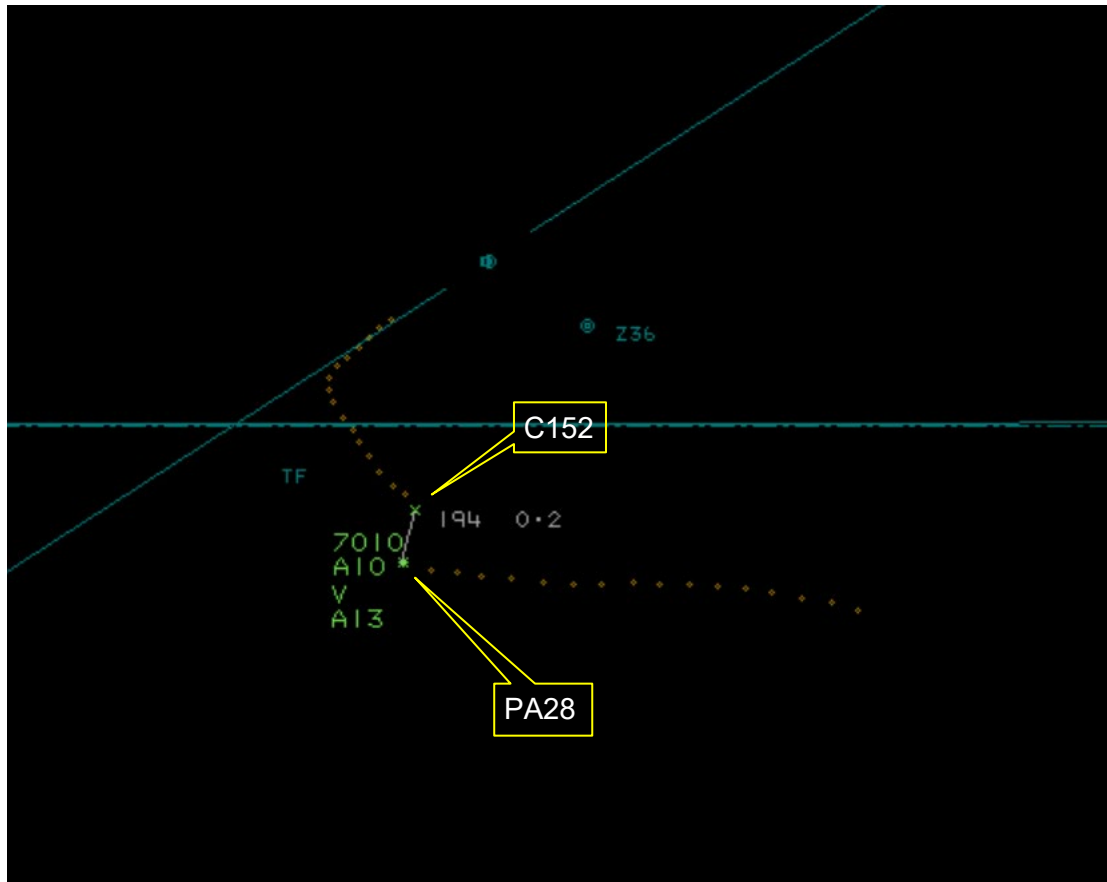
## Factual Background

The weather at Farnborough was recorded as follows:

METAR EGLF 271320Z AUTO 19008KT 150V230 9999 FEW018/// 08/04 Q1032

## Analysis and Investigation

### UKAB Secretariat



CPA at 1323:59 300ft V/0.2NM H

The C152 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 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>

### Summary

An Airprox was reported when a C152 and a PA28 flew into proximity in Fair Oaks ATZ at 1324Z on Saturday 27<sup>th</sup> January 2024. Both pilots were operating under VFR in VMC, both in receipt of an AGCS from Fair Oaks Radio.

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

Information available consisted of reports from both pilots, radar photographs/video recordings and a report from the air ground operator 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.

Members firstly considered the actions of the C152 pilot, acknowledging that they had achieved early visual contact with the PA28 and recognised that they had enabled greater situational awareness for both pilots involved through their use of the radio. The Board agreed that they had maintained a high

<sup>1</sup> (UK) SERA.3205 Proximity.

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

level of attention and had ensured limited risk of a collision. Members felt that, other than calling an Airprox on the RT, there had been little more that they could have done.

Members secondly reviewed the actions of the PA28 pilot. They noted that they had been rushed and appeared not to have followed the correct joining procedures for the runway in use from their arrival direction (**CF1, CF3**). The Board agreed that they had gained visual with, and situational awareness of, the C152 but had not sufficiently described their intentions on the RT (**CF2**) once they had recognised that they would be unable to integrate with the pattern of traffic already established (**CF4, CF5**). Members felt that the pilot’s decision-making once inside the ATZ had potentially been degraded by sub-optimal threat and error management, leading them to fly close enough to the C152 to cause its pilot concern (**CF6, CF7**). The Board stressed the need, when operating within the circuit, to follow procedures as closely as possible as this gives others a more recognisable air picture.

In considering the role and actions of the Fairoaks AGO, members recognised the nature and limitations of an AGCS and, in this case, praised the operator for their proactive inputs to enable greater situational awareness of the respective pilots, stressing that there had been little else they could have done in this case.

When determining the risk of the Airprox, the Board considered the reports from both pilots and the AGO involved; they noted the limitations of the service available from an AGCS but praised the proactive approach from the AGO in raising awareness in the circuit. Members noted the lack of carriage of electronic conspicuity equipment, highlighting that this had denied a critical barrier in the VFR environment. They noted that the C152 pilot had visually acquired the PA28 and tracked their progress as they had joined the circuit, taking control from their student and, having been concerned by the proximity of the PA28 (**CF8**), ensured separation. Members therefore agreed that, although safety had been degraded, there had been no risk of collision and awarded a Risk Category C to this event.

**PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**

Contributory Factors:

| 2024017                                                               |                                    |                                                                                                                                         |                                                                                            |
|-----------------------------------------------------------------------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Factor                                                                | Description                        | ECCAIRS Amplification                                                                                                                   | UKAB Amplification                                                                         |
| <b>Flight Elements</b>                                                |                                    |                                                                                                                                         |                                                                                            |
| <b>• Regulations, Processes, Procedures and Compliance</b>            |                                    |                                                                                                                                         |                                                                                            |
| Human Factors                                                         | • Use of policy/Procedures         | Events involving the use of the relevant policy or procedures by flight crew                                                            | Regulations and/or procedures not complied with                                            |
| <b>• Tactical Planning and Execution</b>                              |                                    |                                                                                                                                         |                                                                                            |
| Human Factors                                                         | • Accuracy of Communication        | Events involving flight crew using inaccurate communication - wrong or incomplete information provided                                  | Ineffective communication of intentions                                                    |
| Human Factors                                                         | • Action Performed Incorrectly     | Events involving flight crew performing the selected action incorrectly                                                                 | Incorrect or ineffective execution                                                         |
| Human Factors                                                         | • Monitoring of Environment        | Events involving flight crew not to appropriately monitoring the environment                                                            | Did not avoid/conform with the pattern of traffic already formed                           |
| <b>• Situational Awareness of the Conflicting Aircraft and Action</b> |                                    |                                                                                                                                         |                                                                                            |
| Human Factors                                                         | • Incomplete Action                | Events involving flight crew performing a task but then not fully completing that task or action that they were intending to carry out  | Pilot did not sufficiently integrate with the other aircraft despite Situational Awareness |
| Human Factors                                                         | • Lack of Action                   | Events involving flight crew not taking any action at all when they should have done so                                                 | Pilot flew close enough to cause concern despite Situational Awareness                     |
| <b>• See and Avoid</b>                                                |                                    |                                                                                                                                         |                                                                                            |
| Human Factors                                                         | • Incorrect Action Selection       | Events involving flight crew performing or choosing the wrong course of action                                                          | Pilot flew close enough to cause concern                                                   |
| Human Factors                                                         | • Perception of Visual Information | Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement | Pilot was concerned by the proximity of the other aircraft                                 |

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 PA28 pilot had not complied with published joining procedures at Fair Oaks.

**Tactical Planning and Execution** was assessed as **ineffective** because the PA28 pilot had not executed the correct join into the Fair Oaks circuit, had been ineffective in their communication, and did not conform with the pattern of traffic as established.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **ineffective** because the PA28 pilot, having gained situational awareness of the C152, then flew close enough to cause its pilot concern.

| <b>Airprox Barrier Assessment: 2024017</b> |                                                            | Outside Controlled Airspace |                   |    |     |     |     |  |
|--------------------------------------------|------------------------------------------------------------|-----------------------------|-------------------|----|-----|-----|-----|--|
| Barrier                                    | Provision                                                  | Application                 | Effectiveness     |    |     |     |     |  |
|                                            |                                                            |                             | Barrier Weighting |    |     |     |     |  |
|                                            |                                                            |                             | 0%                | 5% | 10% | 15% | 20% |  |
| Ground Element                             | Regulations, Processes, Procedures and Compliance          | ✓                           | ✓                 |    |     |     |     |  |
|                                            | Manning & Equipment                                        | ✓                           | ✓                 |    |     |     |     |  |
|                                            | Situational Awareness of the Conflicting Aircraft & 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>                                |                                                            |                             |                   |    |     |     |     |  |
| Provision                                  |                                                            |                             |                   |    |     |     |     |  |
| Application                                |                                                            |                             |                   |    |     |     |     |  |
| Effectiveness                              |                                                            |                             |                   |    |     |     |     |  |

<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](#).