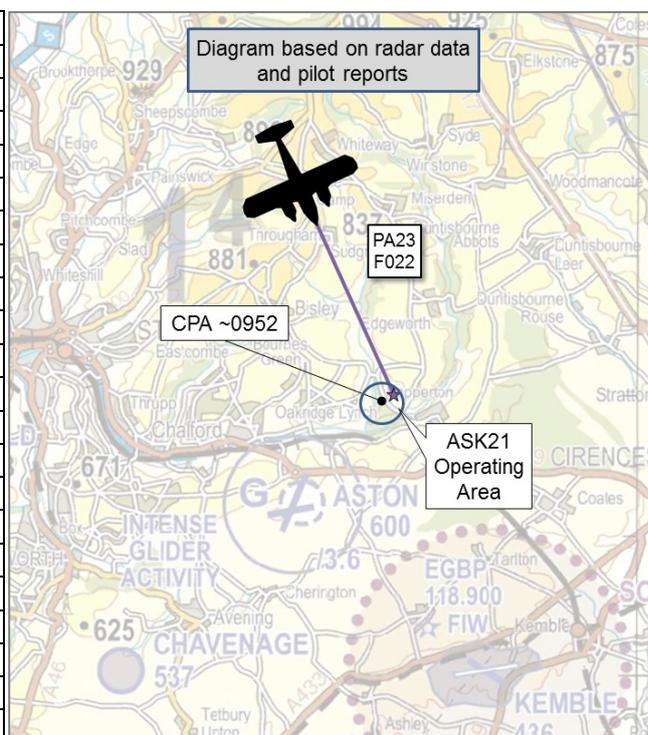


## AIRPROX REPORT No 2019157

Date: 22 Jun 2019 Time: ~0952Z Position: 5143N 00205W Location: ~2nm NE Aston Down

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

| Recorded          | Aircraft 1        | Aircraft 2    |
|-------------------|-------------------|---------------|
| Aircraft          | ASK21             | PA23          |
| Operator          | Civ Gld           | Civ FW        |
| Airspace          | London FIR        | London FIR    |
| Class             | G                 | G             |
| Rules             | VFR               | VFR           |
| Service           | None              | None          |
| Altitude/FL       | N/K               | FL022         |
| Transponder       | Not fitted        | A, C, S       |
| <b>Reported</b>   |                   |               |
| Colours           | White             | White, Blue   |
| Lighting          | Not reported      | Not reported  |
| Conditions        | VMC               | VMC           |
| Visibility        | >10km             | 10km          |
| Altitude/FL       | 2000ft            | N/K           |
| Altimeter         | NK                | QNH (1021hPa) |
| Heading           | Circling          | 220°          |
| Speed             | 50kt              | 150kt         |
| ACAS/TAS          | Not reported      | Not fitted    |
| <b>Separation</b> |                   |               |
| Reported          | 0ft V/50-100yds H | Not seen      |
| Recorded          | NK                |               |



**THE ASK21 PILOT** reports giving an instructional flight, circling to the left, when the student called out that there was an aeroplane heading towards them from the NW. He saw the aeroplane as they came around the turn at ½ - 1nm, so he took control and made a sharp, well-banked turn to the right to avoid it as it flew by to their left. He could see the registration letters on the fuselage but couldn't make them out at the distance and speed of the aeroplane. It continued to fly in a straight-line heading SE towards Kemble airfield and did not appear to take any avoiding action, suggesting that it hadn't seen them.

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

**THE PA23 PILOT** reports that he did not see the ASK21.

### **Factual Background**

The weather at Gloucestershire was recorded as follows:

METAR EGBJ 220950Z 0000KT 9999 FEW030 19/11 Q1020

### **Analysis and Investigation**

#### **UKAB Secretariat**

The ASK21 and PA23 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>. If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right<sup>2</sup>. If the incident geometry is considered as converging then the PA23 pilot was required to give way to the ASK21<sup>3</sup>.

<sup>1</sup> SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

<sup>2</sup> SERA.3210 Right-of-way (c)(1) Approaching head-on.

<sup>3</sup> SERA.3210 Right-of-way (c)(2) Converging.

A primary radar return is seen in the area of the Airprox for one radar sweep.

### **PA23 Operating Authority Comment**

They reviewed the information available and tried to see if they could reconstruct any flight paths. The PA23 carries mode S, and so is able to be seen on FlightRadar24 (FR24). However, due to the limitations of MLAT at lower levels, the track of the flight is not complete and ends approximately 1 min before the event. At 0950z, the position of the PA23 is recorded as tracking directly towards Aston Down on a southerly heading. They have assumed that the other aircraft involved in the event originated from the local Gliding Club, but this is just an assumption. No glider shows on FR24. They do not know if the gliders are equipped with FLARM or PowerFLARM, or whether, if so, the system was switched on. They are aware from talks given at regional airspace user groups that conspicuity systems are not always switched on in gliders in order to preserve battery life or even to disguise their position, either good thermals or during competitions. PowerFLARM detects Mode S transmissions, so would have made the PA23 visible to the glider. They have spoken to the pilot of the PA23. He was in communication with Bristol Radar during that section of the flight but does not know if he had contacted Bristol at the time of the reported event. He does not recall any traffic information being given regarding the presence of the glider, and states that Bristol just asked him to report leaving. The PA23 pilot has spoken to the task specialist, who was on the aircraft, and he has no recollection of any traffic information being passed.

### **Summary**

An Airprox was reported when an ASK21 and a PA23 flew into proximity at about 0952hrs on Saturday the 26<sup>th</sup> of June 2019. Both pilots were operating under VFR in VMC, the ASK21 pilot not in receipt of a service and the PA23 pilot in receipt of a Basic Service from Bristol.

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

Information available consisted of reports from both pilots and radar photographs/video recordings. 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 PA23 pilot. Some members thought he could have spoken to Aston as he approached but others commented that it is very difficult to contact all the agencies and airfields that a pilot transits past without it detracting from their lookout. That being said, he was probably not in contact with an ATS at the time of the incident and members thought that even if he had been in contact with Kemble he might have gained some situational awareness of Aston's activities **(CF1)**. Furthermore, it is doubtful that he would have received any specific Traffic Information from Bristol due to the glider's limited radar cross-section meaning that it was probably not displaying on the controller's radar **(CF2)**. Ultimately, members noted that the PA23 pilot did not see the ASK21 **(CF3)**, and the Board commented that this highlights the importance of a robust lookout that also mitigates any obscuration from the cockpit.

Turning to the actions of the ASK21 pilot, members noted that the student saw the PA23 at about ½ to 1nm and that the instructor was able to bank to the right to avoid the PA23 as it flew past **(CF4)**. Acknowledging that there was little else the glider pilot could do, some members wondered whether this would have materially increased separation given the closing speed.

The Board noted that the PA23 pilot's operating company had opined that had the ASK21 been fitted with PowerFLARM it would have alerted the pilot to the presence of the PA23. Although undoubtedly true, members also noted that the PA23 was also not fitted with any form of Electronic Warning System and would similarly have benefitted from the installation of PowerFLARM or similar. Members were keen to point out the benefits of all aircraft carrying both transponders and Electronic Warning Systems to increase pilots' situational awareness of other aircraft in their vicinity.

The Board then considered the risk. Members noted that the PA23 pilot did not see the ASK21 at all, and that it was likely the emergency avoiding action of the ASK21 pilot had at increased separation (at least marginally) at the last minute. Based on the glider pilot’s assessment of the separation of 50-100yds, the Board agreed that the associated late-sighting and non-sighting had meant that safety had been much reduced below the norm. Accordingly, they assessed the risk as Category B.

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

Contributory Factor(s):

| 2019157   |               |  |  |
|---|---------------|--|--|
| CF  | Factor        | Description                                | Amplification  |
| <b>Flight Elements</b>  |               |  |  |
| <b>• Tactical Planning and Execution</b>                              |               |  |  |
| 1   | Human Factors | • Communications by Flight Crew with ANS   | Pilot did not communicate with appropriate service provider      |
| <b>• Situational Awareness of the Conflicting Aircraft and Action</b> |               |  |  |
| 2   | Contextual    | • Situational Awareness and Sensory Events | Generic, late, no or incorrect Situational Awareness             |
| <b>• See and Avoid</b>  |               |  |  |
| 3   | Human Factors | • Monitoring of Other Aircraft             | Non-sighting or effectively a non-sighting by one or both pilots |
| 4   | Human Factors | • Monitoring of Other Aircraft             | Late-sighting by one or both pilots                              |

Degree of Risk: B.

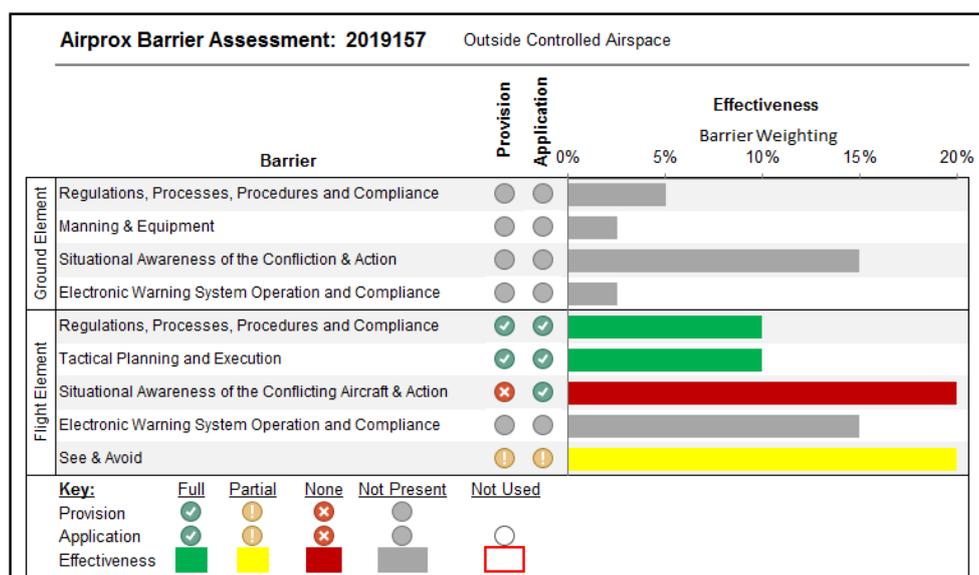
Safety Barrier Assessment<sup>4</sup>

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

**Flight Elements:**

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **ineffective** because neither pilot had any SA on the other aircraft.

**See and Avoid** were assessed as **partially effective** because although the PA23 did not see the ASK21, the ASK21 pilot saw the PA23 late and was able to carry out emergency avoiding action



<sup>4</sup> The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).