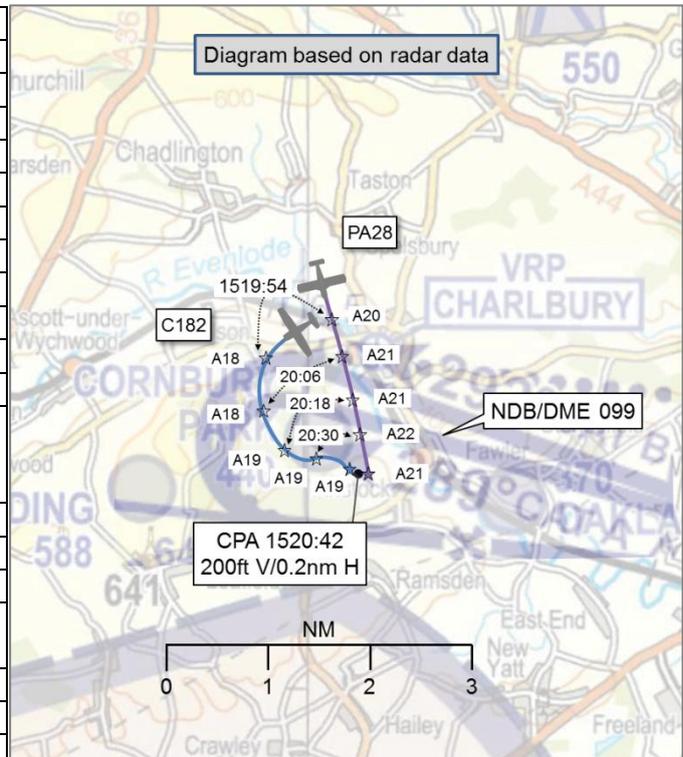


**AIRPROX REPORT No 2015088**

Date: 10 Jun 2015 Time: 1520Z Position: 5151N 00129W Location: 5nm W Oxford Airport

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

| Recorded    | Aircraft 1                       | Aircraft 2    |
|-------------|----------------------------------|---------------|
| Aircraft    | C182                             | PA28          |
| Operator    | Civ Trg                          | Civ Pte       |
| Airspace    | London FIR                       | London FIR    |
| Class       | G                                | G             |
| Rules       | IFR                              | VFR           |
| Service     | Traffic                          | Basic         |
| Provider    | Oxford Radar                     | Brize Radar   |
| Altitude/FL | 1900ft                           | 2100ft        |
| Transponder | A/C/S                            | A/C/S         |
| Reported    |                                  |               |
| Colours     | White/maroon                     | White/green   |
| Lighting    | HISL, strobe, nav, landing, taxi | Strobes, nav  |
| Conditions  | VMC                              | VMC           |
| Visibility  | >10km                            | 20nm          |
| Altitude/FL | 1900ft                           | 2200ft        |
| Altimeter   | QNH (1030hPa)                    | NK            |
| Heading     | 099°                             | 180°          |
| Speed       | 100kt                            | 115kt         |
| ACAS/TAS    | Not fitted                       | Not fitted    |
| Separation  |                                  |               |
| Reported    | 100ft V/0.5nm H                  | 200ftV/500m H |
| Recorded    | 200ft V/0.2nm H                  |               |



**THE CESSNA 182 PILOT** reports that he was performing an NDB DME 099 procedure at Oxford with an approach time of around 1515. They were in good VMC but under a Traffic Service for the instrument approach for RW01. The controllers were under a reasonably high workload vectoring an AirMed aircraft onto a final approach RW01 through Brize, and he found out later that they were also coordinating other instrument traffic from London. He had completed his base turn inbound on 099° and was just beginning the descent at around 1900ft on the QNH. It was at this point that they saw a PA28 in his 10 o'clock, 1nm, which flew straight across within 1nm of his path, at a very similar level, heading south into the Brize Zone. He did not report that he had taken any avoiding action, but he did comment that he passed just behind the other aircraft. He noted that he had just transferred from Radar to the Tower, which he opined was another possible reason why the controllers may not have been able to tell him about the other aircraft after they had switched frequency. They informed ATC of the aircraft, and they reported it to Radar. He had received no call that he could remember, and the radar controllers said they could not remember if they had given him the information due to the high workload and would have to listen to the RTF tapes to find out. They also mentioned that they had had no communication from Brize radar regarding the traffic. When they looked at the screen they believed the aircraft to be at 2000ft. The C182 pilot commented that there may have been a little confusion in the Oxford Controllers' minds about whether he was on a Traffic or a Basic service because they had departed initially on a Traffic Service then 'downgraded' this to a Basic Service for a general handling phase of the flight before requesting a further Traffic Service as they headed back towards the OX NDB at a time when the controllers were handing over. He recalled he was given a reduced Traffic Service on entering the radar overhead so this may also have added to the issue. However, at the time of the incident he recalled being about 5nm to the west of the airport.

He assessed the risk of collision as 'None'.

**THE PIPER PA28 PILOT** reports that he was first alerted to the Airprox some 2 weeks after the event. He was flying more or less due south and routing via Popham's overhead. He was on autopilot, linked to GPS, and maintaining a steady heading. It was a busy flying day with lots of aircraft around but excellent visibility; his front-seat passenger and he were keeping a good look-out. There were several encounters with other traffic on the day, although he did not consider any of them significant. His GPS log showed he held a steady altitude of around 2200ft for most of the journey, with a straight track between waypoints. He was receiving a Basic Service from Brize Radar. He did recall a Cessna type aircraft coming in at a similar altitude, or perhaps a little lower, on a converging course from his left at about his 9 o'clock (i.e. from the direction of Oxford). Even as he saw it, the aircraft's pilot took avoiding action he thought, and turned sharply away. At the time he considered this was not an especially close encounter but was grateful for the positive avoiding response of the other pilot; he would have been ready to take action himself if necessary. He remembered thinking at the time that possibly this was a trainee pilot with an instructor out of Oxford, and that the instructor had taken control to make a positive response to the developing situation. He did not think anything more of it until he was advised about the Airprox. [UKAB Note: this sighting was in fact before the Airprox that was reported by the C182 pilot, and is likely to have been when they initially crossed over a minute or so prior.]

He assessed the risk of collision as 'None'.

**THE BRIZE ZONE CONTROLLER** states that the Airprox was reported to him some time after the event and, as such, he had a very limited recollection. The aircraft that he was working was believed to be the subject PA28 because the pilot was on the frequency at the time of the reported Airprox, and his flight profile would place the aircraft in the correct location. The pilot was operating under a Basic Service and was given permission to transit Brize Norton Class D controlled airspace at 2200ft. The aircraft was displaying mode 3A and C. No conflicting Oxford traffic was observed or called to the PA28 pilot as far as he can remember. Nothing was declared on frequency by the aircraft's pilot at the time. Traffic Information regarding the profile would have been available to adjacent units as the aircraft was displaying a BZN Zone transponder code. No such information was requested.

**THE BRIZE SUPERVISOR** stated that this Airprox has been brought to his attention a significant amount of time after the incident has taken place. He was unable to recall whether he witnessed the transit in question as nothing was reported on frequency or notified to him by the controller. He therefore had no further comment to add.

## Factual Background

The Oxford weather was:

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EGTK 101450Z 05014KT 020V080 9999 SCT038 15/07 Q1027=
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## Analysis and Investigation

### CAA ATSI

ATSI had access to both pilot reports, the Swanwick Radar recording and recordings of the relevant radio frequencies. The C182 pilot had taken off from Oxford on a training flight. Initially the C182 pilot had departed to the east on a Traffic Service from Oxford Radar. After announcing an intention to carry out general manoeuvring to the east for approximately 10 minutes, the service was changed to a Basic Service. At 1459:10, the C182 (code 4506) pilot called Oxford for a rejoin to hold, followed by an instrument approach. A Traffic Service was agreed although the C182 pilot was advised that Traffic Information in the overhead would be limited. At 1515:10, the C182 pilot commenced an NDB/DME 099 approach which involved tracking to the west before making a base turn and returning to Oxford (Figure 1).

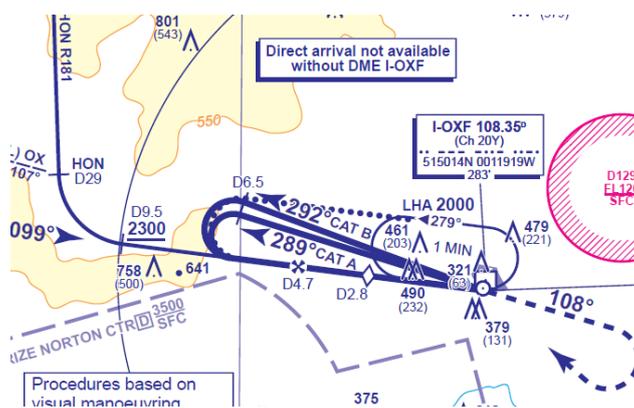


Figure 1 NDB(L)/DME 099.

The PA28 was observed on radar approaching from the north indicating 2000ft (code 3702 – Brize Radar). At 1519:42, as the C182 pilot commenced the base turn (to the left), the C182 crossed the path of the PA28 from east to west at a range of approximately 0.5nm and 100ft below (Figure 2). [UKAB Note: this was probably when the PA28 pilot saw the C182].

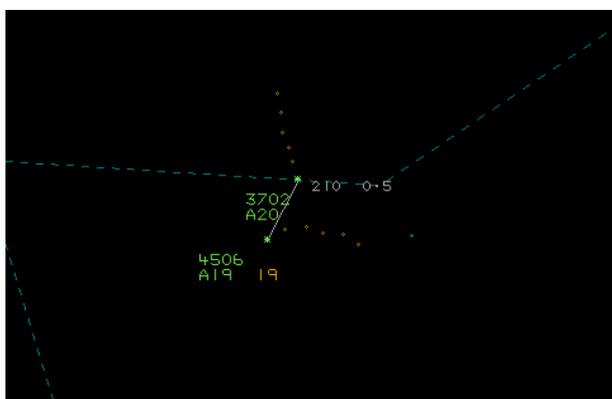


Figure 2 (Swanwick MRT 1519:42).

At 1520:26 the C182 pilot reported base turn complete and was transferred to Oxford Tower. At 1520:45 the C182 pilot reported the PA28 to Oxford Tower.

At 1520:49 CPA occurred – 0.2nm and 200ft (Figure 3).



Figure 3 (Swanwick MRT at 1520:49).

No Traffic Information was passed to the C182 pilot and no coordination with Brize Radar took place. The controller at Oxford was under training and the workload was moderate to busy.

In relation to the provision of a Traffic Service, CAP493, Section 1, Chapter 12 states:

'A Traffic Service is a surveillance-based type of UK FIS where, in addition to the provisions of Basic Service, the controller provides specific surveillance-derived traffic information to assist the pilot in avoiding other traffic.'

A controller shall pass traffic information on relevant traffic, and shall update the traffic information if it continues to constitute a definite hazard, or if requested by the pilot.

Traffic is normally considered to be relevant when, in the judgement of the controller, the conflicting aircraft's observed trajectory indicates that it will pass within 3 NM and, where level information is available, 3,000 ft of the aircraft in receipt of the Traffic Service or its level-band if manoeuvring within a level block. However, the controller is not required to achieve defined de-confliction minima and pilots remain responsible for collision avoidance even when being provided with headings/levels by ATC.'

## Military ATM

The Radar Analysis Cell captured the incident based upon the London QNH of 1026 hPa.

The PA28 pilot was provided with a Zone transit at 1518:41 with no altitude restriction. The geometry at Figure 4 at 1520:25 demonstrates that the Cessna 182 had previously crossed the path of the PA28 prior to turning left, closing the geometry with the PA28.

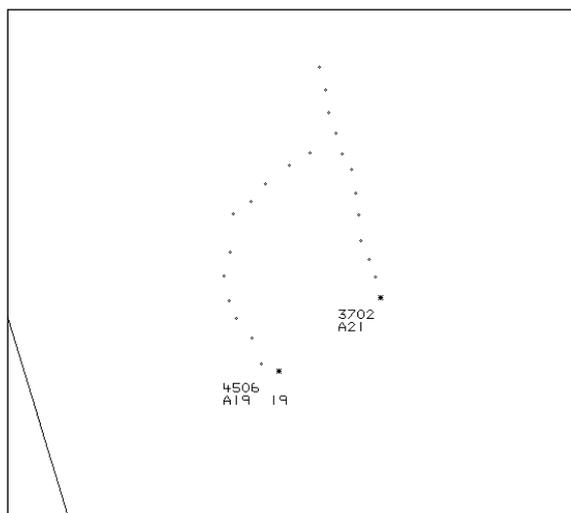


Figure 4: Geometry at 1520:25 (Cessna squawk 4506; PA28 squawk 3702).

The CPA was at 1520:42 (Figure 2) with 200ft vertical and 0.2nm horizontal separation.

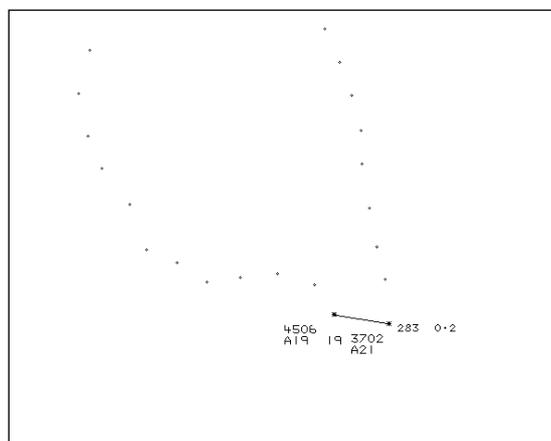


Figure 5: CPA at 1520:42.

At 1521:15, Brize informed the PA28 pilot that he was entering Brize controlled airspace for a Radar Control Service, remaining VMC.

No Traffic Information was provided by Brize; the PA28 pilot was placed on a discrete SSR code for the zone transit and, at the time of the Airprox, the aircraft was under a Basic Service. The PA28 was not fitted with ACAS/TAS so the remaining barrier to prevent an Airprox was the principle of 'see-and-avoid'. The PA28 pilot had seen the Cessna and had noticed the pilot's avoiding action [UKAB Note: but this was likely to have been on the first crossing of paths, not the reported Airprox]; the PA28 pilot felt that the separation distance was acceptable at this point in time and that he would have taken action himself had the other aircraft continued on a collision course.

### **UKAB Secretariat**

Both 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> Because the geometry was converging, the PA28 pilot was required to give way to the C182.<sup>2</sup>

### **Summary**

The Airprox occurred in Class G airspace of the London FIR. At the time, the C182 pilot was in receipt of a Traffic Service from Oxford Radar and the PA28 pilot was in receipt of a Basic Service from Brize. Neither pilot received Traffic Information about the other aircraft. The PA28 pilot reported seeing a Cessna aircraft on a converging course from his left at about his 9 o'clock. The radar recordings show that the C182 did cross in front of the PA28 from left to right at a range of about 0.5nm. However, the actual Airprox occurred approximately one minute later, after the C182 pilot had made a turn back towards the airport, with a CPA of 0.2nm horizontally and 200ft vertically. The PA28 pilot did not report seeing the C182 at this time. The C182 pilot reported seeing the PA28 in his 10 o'clock, 1nm, which then flew straight across within 1nm of his path at a similar level.

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

Information available included reports from both pilots, the Brize controller, area radar and RTF recordings and reports from the appropriate ATC and operating authorities.

The Board was disappointed that the Oxford controller had been unable to file a report as he had been unaware, until about two weeks after the event, that an Airprox had been filed. They commented that this reinforced the need for pilots to notify ATC of Airprox incidents on the RT so that valuable information could be retained, and notes could be made by ATC (and the other pilot if on frequency), in order to assist in assessing the incident.

The Board first discussed the actions of the Oxford Radar controller. The Board noted that, although the controller had been providing a Traffic Service to the C182 pilot, Traffic Information had not been passed with regard to the presence of the PA28 despite it being present on the radar display and displaying a Brize SSR conspicuity code. In debating the reason for this absence of Traffic Information, members speculated that it would only likely have happened if the Oxford controller was not closely monitoring the C182; they noted that, leading up to the incident, the service being provided to the C182 pilot had changed from a Traffic Service to a Basic Service and then back to a Traffic Service, which had been restricted whilst the C182 had been in the Oxford overhead. Some members wondered whether these numerous changes of service had led to the controller losing track of what he was providing at the time, and mentally reverting to the application of a Basic Service which would not have required him to track the C182. The Board also noted that the Airprox had occurred when the C182 was 5nm west of the airport, which was judged to have been outside the radar overhead, and so the PA28 and the C182 tracks should have been visible; the CAA ATSI advisor confirmed that the recording of the Oxford radar had shown both aircraft at the time of the Airprox. Finally, although the Airprox occurred just after the C182 pilot had been transferred to the Tower frequency, Civil ATC members confirmed that it was still the Radar controller's responsibility to

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

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

issue Traffic Information about conflicting traffic before transferring the C182 pilot to the Tower frequency.

The Board then discussed the actions of the Brize controller. Although recognising that the PA28 pilot had been in receipt of a Basic Service, some members wondered if the controller could have done more by passing Traffic Information to the pilot, or could have transferred him to Oxford's frequency on noting that his routing was taking him through Oxford's instrument approach. The Board were informed that the Oxford approach track was not displayed on the Brize radar display, and so he would not necessarily have been aware that the PA28 was likely to fly through. The Military ATC member then went on to explain that, to assist the movement of traffic within the vicinity of Brize and Oxford, a Letter of Agreement (LOA) had been established, which was reviewed annually; this review had taken place about two months previously. He confirmed that, in accordance with the current LOA, it was Oxford's responsibility to coordinate any traffic seen to be conflicting with their traffic. To assist Oxford ATC, pilots are instructed to squawk a Brize conspicuity code, and this had occurred on this occasion. He also considered that the option of transferring the pilot to the Oxford frequency was not practical because the aircraft had been about to enter the Brize CTR, where Brize would need to be in control of the PA28.

Some Board members wondered whether the PA28 pilot should have requested a Traffic Service, especially because his route would be taking him through an instrument approach to Oxford. A Civil Pilot member commented that it was equally possible that he had not realised that his flight would cross through the Oxford instrument procedure because it was not displayed on the CAA charts; the fact that it was not aligned with Oxford's runways might have understandably meant that the PA28 pilot could have thought he was doing his best to avoid Oxford's ATZ and instrument patterns when in fact he might be unaware that he was flying through one. Members recalled previous recommendations, both made in November 2014 (Airprox 2014097 and 2014126), that had called for the CAA to consider producing a chart of UK Airfield holding pattern positions, and expressed their concern that the recommendations had not been resolved to date. Ultimately, most members agreed that the pilot had been in communication with the correct ATC unit (Brize is notified as the LARS unit for the area), and had done all that was required of him in ATC terms given his likely knowledge of the airspace structure.

The Board then considered the cause of the Airprox. They noted that the tracks of the two aircraft had crossed twice. On the first occasion, approximately one minute before the Airprox had occurred, the pilot of the PA28 had seen the C182 pass ahead and turn away in what he had thought had been avoiding action; however, given that the C182 pilot did not report seeing the PA28 at this time, members opined that this was probably simply the C182 pilot following the instrument approach procedure's left turn. After his turn back towards Oxford, the C182 pilot had then observed the PA28 crossing from left to right in close proximity. Although assessing the risk of a collision as none, the Board noted that he had nevertheless elected to file an Airprox report, and they wondered if he had done so as a result of being startled by suddenly seeing an aircraft when he would justifiably have expected to have been warned of any conflicting traffic under his agreed Traffic Service. The Board agreed that, although pilots in Class G are ultimately responsible for seeing and avoiding other traffic, the C182 pilot should have been assisted with Traffic Information from the Oxford controller before he changed frequency; although it was agreed that this lack of Traffic Information was a contributory factor, the root cause of the Airprox was, nevertheless, determined to be because of a late sighting by the C182 pilot and a non-sighting by the PA28 pilot. The C182 pilot's own assessment of no risk, combined with the 200ft/0.2nm measured separation at CPA, led the Board to consider that here had, in the end, been little risk of collision, and that the risk should therefore be classified as Category C.

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

|                             |  |
|-----------------------------|--|
| <u>Cause:</u>               | A late sighting by the C182 pilot and a non-sighting by the PA28 pilot.  |
| <u>Contributory Factor:</u> | Oxford ATC did not give Traffic Information to the C182 pilot despite him being in receipt of a Traffic Service. |

Degree of Risk:

C.