

AIRPROX REPORT No 2014136

Date/Time: 8 Aug 2014 1102Z

Position: 5101N 00145W
(8.4nm S of Boscombe Down)

Airspace: London FIR (Class: G)

Aircraft 1 Aircraft 2

Type: PA28 PA28 Archer

Operator: Civ Club Civ Pte

Alt/FL: 2300ft 2500ft
QNH (1007hPa) QNH (1012hPa)

Conditions: VMC VMC

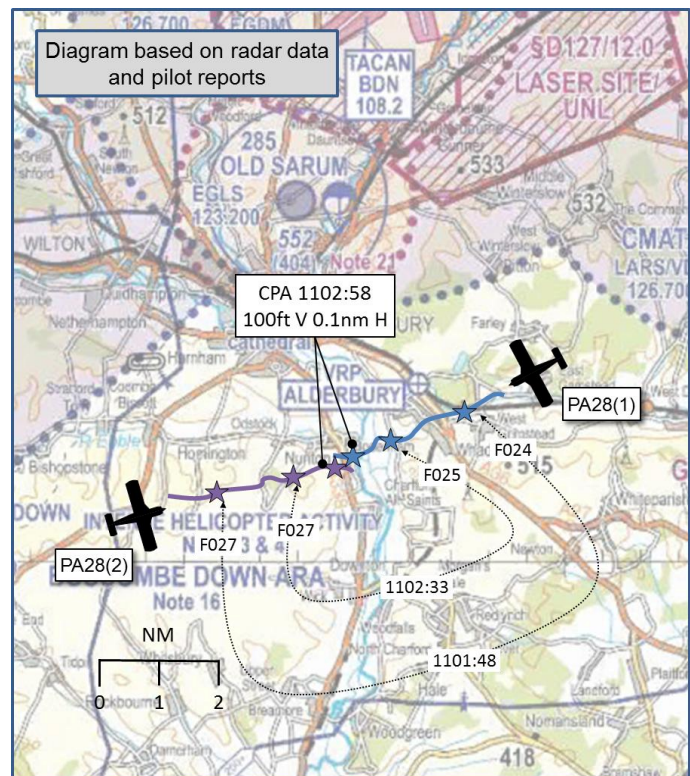
Visibility: 20km >10km

Reported Separation:

0ft V/200m H 0ft V/100m H

Recorded Separation:

100ft V/0.1nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE PA28 (1) PILOT reports flying a red, white and blue aircraft with a red rotating beacon and wing-tip white strobe lights illuminated, and squawking transponder Modes 3/A, C and S; no TCAS¹ was installed. He was flying with a passenger, VFR, heading 250°, cruising at 105kt, level at 2300ft and reports flying on QNH 1007hPa. He was receiving a Basic Service from Boscombe Zone and had received approval to penetrate the Middle Wallop / Boscombe Down CMATZ whilst remaining clear of the Middle Wallop ATZ. He had been instructed to report at Chilbolton and abeam Alderbury; the PA28 pilot recalls complying with these instructions whilst maintaining 2300ft. He noted that traffic in the area was busy, and he was having difficulty hearing Boscombe ATC transmissions, which were crackly, although Farnborough Tower, Radar and 'Compton Radio' were all perfectly clear later in his journey. The PA28 pilot recalls receiving Traffic Information on 'a variety of other aircraft' and considered 'one or two of the calls' to be closer than ideal but put this down to the communications difficulties, assuming that he had missed some earlier calls. He then received Traffic Information on an aircraft ahead but did not register the range due to the RT distortion. Shortly afterwards he saw a bi-plane passing below, and just to his left, approximately on a reciprocal heading and the PA28 pilot took the bi-plane to be the reported aircraft. Another call from Boscombe Zone followed immediately, but halfway through the Traffic Information, the pilot looked up and simultaneously heard his passenger say 'straight ahead', when he spotted another PA28, around 0.5nm ahead, heading directly towards them, at the same altitude. Making an immediate right turn, the PA28(1) pilot saw the other aircraft turn right at the same time, and then heard the other pilot call Boscombe Zone to say that the aircraft had passed each other. The PA28(1) pilot assessed that the busy traffic situation combined with the 'corralled nature' of the local airspace and the RT problems lead to a high workload which made maintaining a good lookout more difficult.

He assessed the risk of collision as 'Medium'.

THE PA28 (2) PILOT reports flying a red, white and blue aircraft with a red fin strobe light and white wing-tip strobe lights illuminated, and squawking transponder Modes 3/A, C and S; no TCAS was installed. He was flying VFR in 'good VMC', heading 075°, at 105kt and level at 2500ft and reports flying on the Boscombe Zone QNH 1012hPa. He agreed a Basic Service with Boscombe Zone and received clearance to cross the MATZ but was instructed to remain clear of the Middle Wallop ATZ.

¹ Traffic and Collision Alerting System

The pilot read back the clearance and agreed to report south-abeam Alderbury. As he approached Alderbury, he received Traffic Information on an aircraft in his 11 o'clock, 200ft below him. The pilot acknowledged the Traffic Information and his co-pilot spotted a similar aircraft approaching at the same altitude; a fraction of a second later the pilot also saw it. He executed a steep, 60° banked turn to the right onto a heading of around 120° whilst maintaining his altitude; he noticed the other aircraft making a similar sharp turn to the right at about the same time. The PA28(2) pilot reports that he normally avoids flying directly over visual reference points, and in this case he was around 2nm south of Alderbury; he also normally avoids flying at 'round numbers of altitudes (2000'/2500' etc)', to reduce the risk of collision; however, on this occasion he intended to carry out an overhead join at Popham (airfield elevation 550ft amsl), so he elected to transit at 2500ft QNH.

He assessed the risk of collision as 'Medium'.

THE BOSCOMBE ZONE CONTROLLER AND SUPERVISOR report that they were not informed of the Airprox until nearly 2 weeks after the occurrence and could not recall specific details of the event, however they recalled that the unit's and controller's workloads as 'medium'.

Factual Background

The Boscombe Down weather at 1050 was recorded as:

METAR EGDM 081050Z 19006KT 9999 FEW030 BKN100 21/12 Q1008 BLU NOSIG

The Middle Wallop weather at 1050 was recorded as:

METAR EGVP 081050Z 19006KT 9999 FEW035 BKN100 22/13 Q1008 BLU NOSIG

Analysis and Investigation

Military ATM

The Boscombe Zone controller passed Traffic Information to the pilot of PA28(1) on non-Airprox traffic at 1101:47. At 1102:32 (Figure 1), Zone passed further Traffic Information as, "[PA28(1) callsign] *traffic believed to be you has traffic west 1 mile tracking east indicating 200 feet above believed to be a PA28 working this frequency.*" The PA28(1) replied that he was, "*not visual with anything above.*"

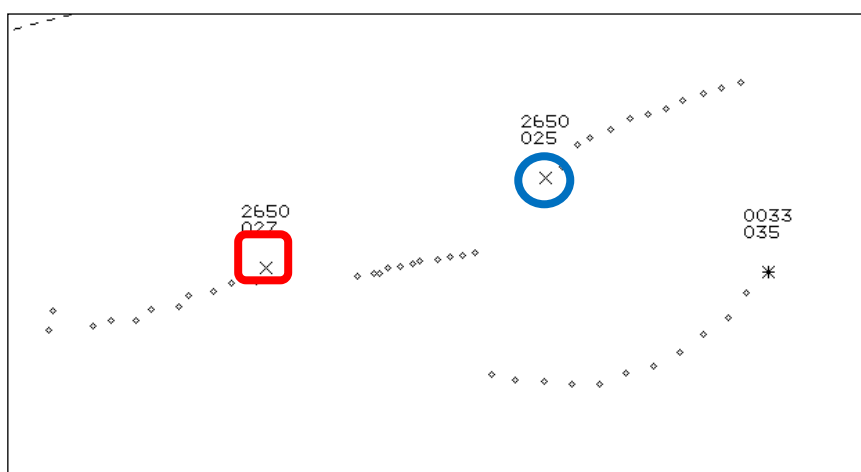


Figure 1: Geometry at 1102:32. PA28(1) heading 250° (blue circle); PA28(2) heading 075° (red square), both squawking 2650.

At 1102:45 (Figure 2), Zone began to call information to PA28(2) and after a delay the information was confirmed at 1102:54 (Figure 3), as "[PA28(2) callsign] *traffic believed to be you has traffic*

east half a mile tracking west indicating 200 feet below believed to be a PA28 working this frequency.”

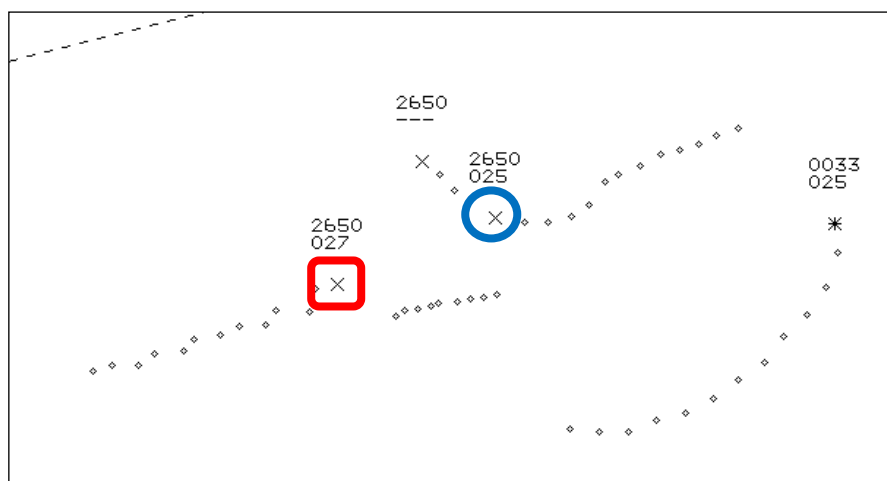


Figure 2: Geometry at 1102:45.

The CPA was at 1102:58 with 100ft vertical separation and 0.1nm horizontal separation; at 1103:01, the PA28(2) pilot confirmed that traffic had passed down the left side.

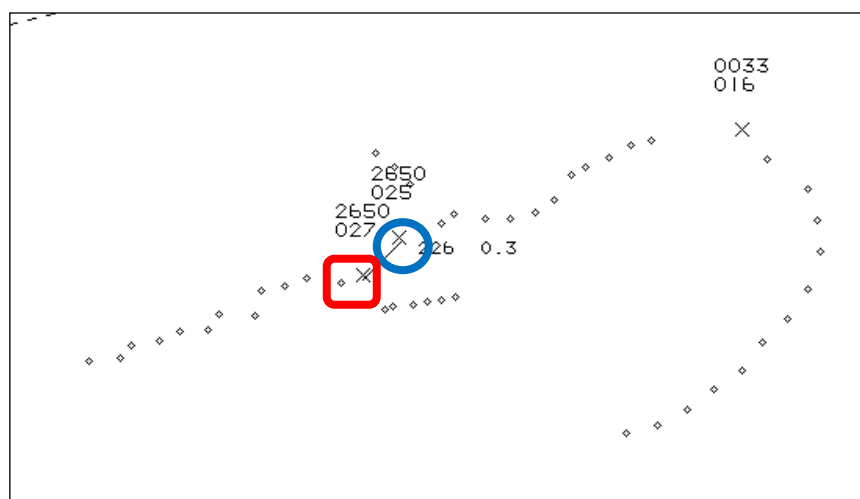


Figure 3: Traffic Information at 1102:54.

Despite being under a Basic Service, the controller had passed Traffic Information on other non-Airprox traffic. The controller demonstrated duty of care and commendable maintenance of track-identity to be able to pass Traffic Information to individual callsigns wearing non-discrete squawks, under a Basic Service. The phrase ‘traffic believed to be you’ was used correctly. Prior to the CPA, Traffic Information was passed to the pilot of PA28(1) at 1nm and the pilot of PA28(2) was provided Traffic Information at 0.5nm.

The pilot of PA28(1) reported RT issues; the tape transcript does not indicate an issue with either the frequency or that other callsigns were experiencing problems; however, the frequency was congested, and some calls appear to have been stepped-on with multiple transmissions. The Traffic Information prior to CPA was acknowledged and appears to have helped both pilots to achieve visual contact.

Neither aircraft was fitted with any form of TCAS, and this barrier was completely absent. Traffic Information was passed and appeared to have provided crucial information for the crews; given that the crews requested a Basic Service, they were fortunate on this occasion that the controller could see the squawks and had kept some form of track identity, even though it was not required under a Basic Service and controller workload was high. The look-out for both crews appears to

have been partially absent because the sightings were at 0.5nm for PA28(1) (Traffic Information passed at 1 nm) and PA28(2) reported first sighting at 200 metres (Traffic Information passed at 0.5nm). Ultimately, the information from Boscombe Zone and the late sightings, allowed the crews to take effective avoiding action.

UKAB Secretariat

At 1052:03 the Boscombe Zone controller passed the Portland QNH 1005hPa to the pilot of PA28(1) and approved his MATZ crossing; whilst the pilot did not readback the QNH, his report indicates that he was flying on 1005hPa. At 1056:56, the controller passed the Portland QNH 1005hPa to the pilot of PA28(2), who read it back correctly. From this point on the controller would have believed that both aircraft were on the same altimeter setting datum and would have passed Traffic Information accordingly. In fact, the pilot of PA28(1) reports flying at 2300ft on QNH 1007hPa, and the pilot of PA28(2) reports flying at 2500ft on QNH 1012hPa, which means, if their recollections are correct, that the aircraft were 65ft apart (1hPa=27ft).

Both pilots had equal responsibility to avoid a collision.² The aircraft were approaching head-on so both pilots were required to alter course to the right³, which they did.

Summary

An Airprox was reported between two PA28s in Class G airspace. Both pilots were in receipt of Basic Services from Boscombe Zone and received Traffic Information. Both pilots saw the other aircraft and took avoiding action in compliance with the Rules of the Air.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controller involved and reports from the appropriate ATC and operating authorities.

Whilst both pilots had received Traffic Information, one of them had reported that it had been received 'quite late' and the Board therefore discussed the actions of the Boscombe Zone controller. Noting that both pilots were in receipt of Basic Services (under which there is no requirement at all for the controller to identify or maintain track-identity on aircraft or to pass any Traffic Information), the Board agreed that the controller had done extremely well to pass both pilots as much information as he had, given the traffic situation and workload. The Board opined that if the pilots desired more Traffic Information then they would have been better served to have requested a Traffic Service. It was evident from this Airprox (and others) that many pilots had false expectations of what a Basic Service provides within ATSOCAS and the UK FIS. In this respect, the Board noted that the CAA had previously reported working on a 'Skyway Code' project, which was aimed at improving the awareness of the practical application of regulations amongst airspace users in the same easily digestible way that the Highway Code does for road users. Noting that this project had been ongoing for some time, the Board resolved to recommend that the CAA reviews progress on delivering the Skyway Code as an aid to improving understanding of ATSOCAS / UK FIS.

Turning to the cause and degree of risk, there was some discussion as to whether this was a late sighting by both pilots or whether they had flown into conflict with each other. Observing that both pilots had received Traffic Information, some members argued that, being aware of each other's presence, the pilots had then flown into conflict; however, others pointed out that the pertinent Traffic Information had been passed at around 1nm (under the controller's duty of care), and that this had only just given the pilots enough time to cue their lookout, see each other, and make avoiding action turns to the right. In the end it was agreed that the cause was best described as a late sighting by both pilots. Some members thought that the degree of risk was C because both pilots had turned

² Rules of the Air 2007, Rule 8, Avoiding Aerial Collisions

³ Rules of the Air 2007, Rule 10, Approaching Head-on

effectively and averted the collision; however, after some discussion, it was agreed that, although the turns had been effective in increasing separation, they had come so late that the CPA had only been extended to 0.1nm and 100ft head-on, representing a much reduced safety margin. Therefore, a Category B assessment was agreed.

PART C: ASSESSMENT OF CAUSE AND RISK

<u>Cause:</u>	A late sighting by both pilots.
<u>Degree of Risk:</u>	B.
<u>ERC Score⁴:</u>	20.
<u>Recommendation(s):</u>	The CAA reviews progress on delivering the Skyway Code.

⁴ Although the Event Risk Classification (ERC) trial had been formally terminated for future development at the time of the Board, for data continuity and consistency purposes, Director UKAB and the UKAB Secretariat provided a shadow assessment of ERC.