AIRPROX REPORT No 2014087

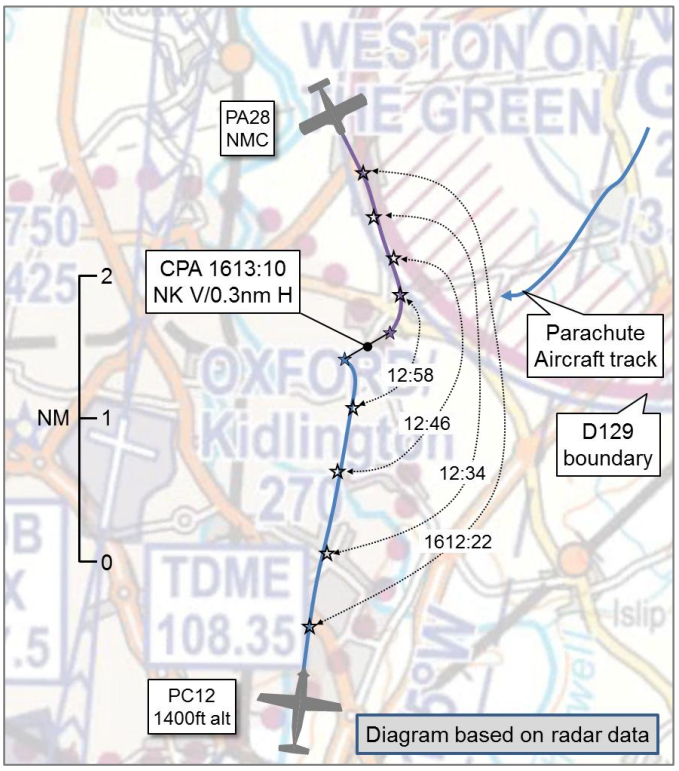
Date/Time: 9 Jun 2014 1613Z

Position: 5151N 00116W (Oxford – elevation 270ft)

Airspace: Oxford ATZ/ London FIR (*Class*: G)

Reporter: Oxford Radar

	Aircraft 1	*Aircraft 2*
Type:	Pilatus PC12	PA28
Operator:	Civ Exec	Civ Pte
Alt/FL:	1350ft QNH (1014hPa)	2500ft QNH (NK hPa)
Conditions:	VMC	VMC
Visibility:	>10km	>10km
Reported Separation:	200ft V/900m H	Not Seen
Recorded Separation:	NK V/0.3nm H	



The Oxford Radar Controller reported the separation as NK V/0.25nm H.

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE OXFORD RADAR CONTROLLER reports completing a radar-vectored NDB DME approach to RW19 at Oxford for an aircraft not involved in the Airprox (Aircraft A), and had already transferred it to Oxford TWR when a 7000 squawk was observed tracking toward the 4 mile point on the RW19 final approach track. No Mode C was displayed and the pilot was not in contact with Oxford Radar or Oxford TWR. It was clear the unknown aircraft was 'in confliction' with (Aircraft A) as it approached 4 DME, so the controller passed Traffic Information to Oxford TWR. The unknown aircraft passed within 0.25nm of (Aircraft A) and appeared to turn hard left to avoid, passing behind and north of (Aircraft A). The unknown aircraft then flew southeast towards the narrow gap between the Oxford ATZ and D129 (Weston-on-the-Green danger area). He reported that the unknown aircraft entered D129, which was notified as active to FL80 with parachute dropping, before turning right toward the Oxford ATZ where a PC12 was established downwind in the visual circuit at 1500ft QNH. He also reported that the unknown aircraft then entered the Oxford ATZ and approached head-on to the PC12 in the opposite direction to the established traffic pattern. It had also passed directly ahead of a para-dropping aircraft inside D129 by less than 0.5nm. The PC12 pilot reported to Oxford TWR that he saw the conflicting aircraft and was "too busy manoeuvring to get the registration". The pilot of (Aircraft A) subsequently reported to the controller that he did not see the unknown aircraft.

THE PC12 PILOT reports joining the visual circuit at Oxford. The silver and red aircraft had strobe, recognition, navigation, taxi, landing and logo lights selected on, as was the SSR transponder with Modes A, C and S. The aircraft was fitted with TCAS I. The pilot was operating under VFR in VMC, in receipt of a Traffic Service, he reported. Oxford Radar advised all traffic of an unidentified aircraft, not in contact with Oxford, 'transiting the zone N/NE'. Whilst he was keeping a good look out and positioning in the circuit, heading 010° at 110kt and altitude 1350ft, a TCAS TA warning went off with traffic high in his 12 o'clock, crossing from left to right. The pilot took immediate action and turned left onto an early base leg. During the manoeuvre he briefly saw a low-wing aircraft in his peripheral vision, but not distinctly enough to give a description.

He assessed the risk of collision as 'Low'.

THE PA28 PILOT reports transiting to his home airfield; he did not see the PC12. The white and orange aircraft had the tail beacon selected on, as was the SSR transponder with Mode A. The aircraft was not fitted with Modes C or S, an ACAS or TAS. The pilot was operating under VFR in VMC, not in receipt of an Air Traffic Service. The pilot reported that he was a highly experienced flying instructor with extensive familiarity of flying in the local area and of visiting a number of foreign countries. He stated he was returning to his home airfield, at a planned altitude of 2500ft, having undertaken an unsuccessful 'flight test' earlier in the day at another airfield. His route home was one he had flown on many occasions previously; he was aware of the instrument pattern at Oxford and the danger area at Weston-on-the-Green. He stated that he always told his students that although they may be outside or above an airfield's ATZ, it was prudent to remain clear of the 'instrument procedure path' and to call ATC. He stated that this was the one occasion in all of his flying experience where he chose to 'fly silently' and that he believed the failed test in the morning was a significant distraction. He stated that if he had contacted Oxford ATC, 'none of this would have happened'.

As a result of this incident, the PA28 pilot took the following actions:

1. Refresher training of around 5hr with an FI Instructor.
2. Purchase and use of a NATS Ltd 'Aware' device.
3. Subscription to 'Sky Demon' to aid planning.
4. A personal undertaking always to contact a relevant ATSU.
5. Active encouragement to other pilots to follow the same actions.

Factual Background

The weather at Brize Norton was recorded as follows:

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EGVN 091550Z 20006KT 9999 FEW045 SCT280 23/11 Q1014 BLU NOSIG=
EGVN 091650Z 20008KT 9999 FEW048 SCT080 BKN110 23/11 Q1014 BLU NOSIG=
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Analysis and Investigation

CAA ATSI

The PC12 pilot was on a VFR flight to Oxford and was in receipt of an Aerodrome Control Service from Oxford TWR. The PA28 pilot was operating under VFR on a transit flight and was not in receipt of an Air Traffic Service.

The pilot of aircraft (A) was operating under VFR on a local flight and was in receipt of a Traffic Service from Oxford Radar. The parachuting aircraft pilot was operating under VFR on a local flight from Weston-on-the-Green and was in communication with Weston Drop Zone Control.

ATSI had access to reports from the Oxford Radar controller and all four pilots, area radar recordings and RTF and transcripts of the Oxford Radar frequency.

At 1610:40, the Oxford Radar controller telephoned the Oxford Tower controller to advise about traffic that was just about to transit the Weston-on-the-Green gap and was not talking to the Radar controller.

At 1611:00, a Cherokee (squawking 7010) that was not involved in the incident was established on final approach to RW19 at Oxford, with (Aircraft A) positioned behind for low approach and go around. The PA28 was 3.2nm north of Oxford tracking southeast, see Figure 1. The Oxford tower controller broadcast "*Traffic just approaching from the northwest to er transit southeastbound northeast of the ATZ's, traffic unknown is not talking to radar out*".

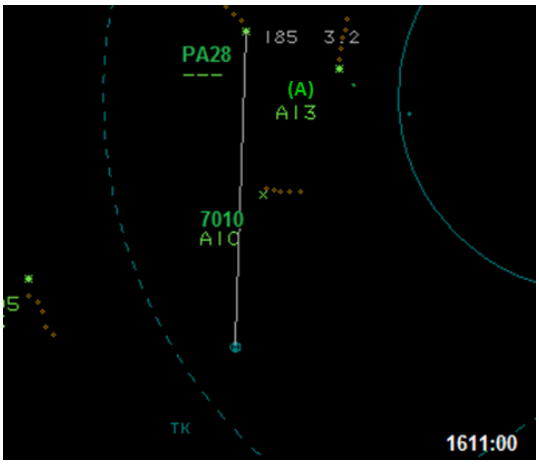

Figure 1: 1611:00

The PA28 pilot tracked behind (Aircraft A) at 1611:19 when the lateral distance between the two aircraft was 0.6nm, see Figure 2.

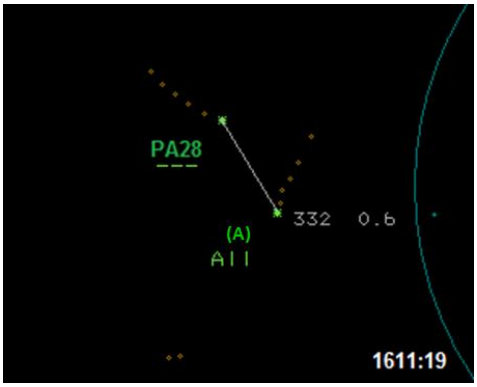

Figure 2: 1611:19

At 1612:20, (Aircraft A)'s pilot was on final for low approach and go around, the PC12 pilot was joining left-hand for RW19, the pilot of the parachuting aircraft was carrying out parachuting operations within D129 and the PA28 pilot was on the edge of D129, see Figure 3.

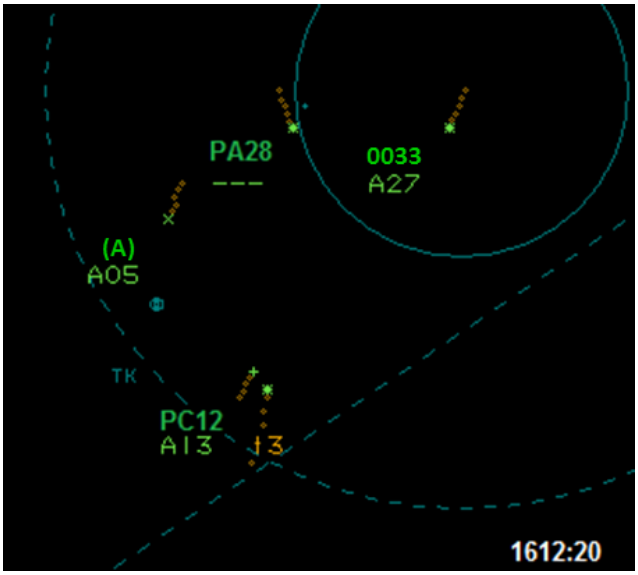

Figure 3: 1612:20

At 1612:46, the Oxford Tower controller informed the PC12 pilot that "*you're now number one, there is er be advised there is traffic not talking to radar it's just er to the northeast of the ATZ heading southeastbound type unknown height unknown also Weston on the Green is active*", see Figure 4.

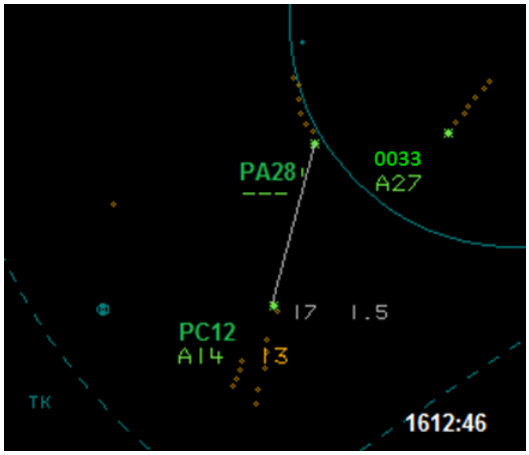

Figure 4: 1612:46

CPA with the PC12 occurred at 1613:11, with the lateral distance between the two aircraft measured as 0.2nm, see Figure 5. At 1613:18, the PC12 pilot reported being clear of the traffic and on left base for RW19; the Tower reported that he had the PC12 in sight.

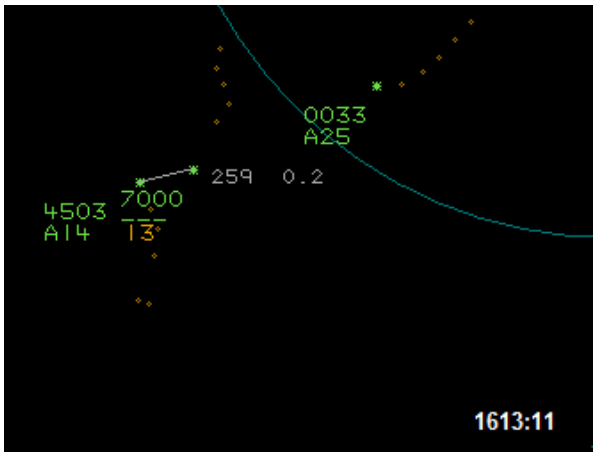

Figure 5: 1613:11

CPA with the parachuting aircraft occurred very shortly afterwards, at 1613:20, see Figure 6. The minimum lateral distance between the two aircraft was 0.6nm.

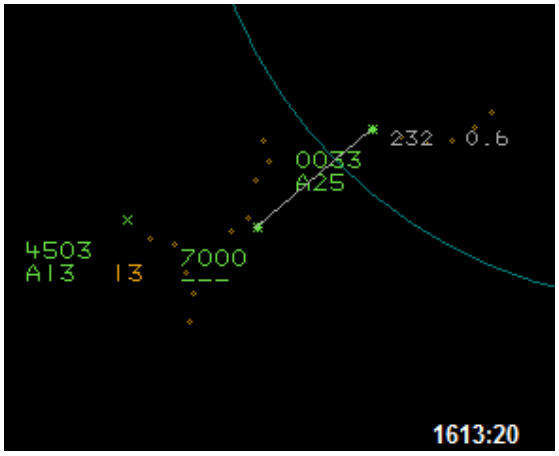

Figure 6: 1613:20

According to the area radar recordings the PA28 was on the edge of D129 but did not enter the lateral limits of the danger area. The PA28 pilot briefly crossed the lateral limits of the Oxford ATZ after CPA. The Oxford local radar recordings may have indicated that the PA28 was in a different position to those indicated by the area radar recordings.

The reported conflictions took place in Class G airspace and therefore all pilots involved were ultimately responsible for their own collision avoidance. The Oxford Tower controller gave a general broadcast giving the position and direction of flight of the PA28 as the pilot of (Aircraft A) was making an approach at Oxford. The PC12 pilot was passed Traffic Information on the PA28 by Oxford Tower but he did not visually acquire the PA28 until after TCAS had alerted him to the traffic and he had taken avoiding action.

UKAB Secretariat

The PC12 and PA28 pilots shared an equal responsibility for collision avoidance and not to fly into such proximity as to create a danger of collision[1]. The PA28 pilot was required to remain clear of the pattern of traffic formed by the traffic in the visual circuit at Oxford[2] and, if he wished to enter the ATZ, was required to obtain the permission of Oxford ATC before entering[3]. The PA28 pilot's reported altitude of 2500ft would have placed him above the vertical limit of the Oxford ATZ (altitude 2270ft) but this cannot be confirmed due to lack of Mode C SSR. Due to a significant degree of radar jitter at CPA, the lateral separation was assessed as being greater than that recorded. Using the subsequent track of the PA28, it is assessed that the horizontal separation at CPA with the PC12 was 0.3nm.

Summary

An Airprox was reported by the Oxford Radar Controller when the geographic tracks of a Pilatus PC12 and a Piper PA28 indicated them to be in proximity at 1613 on Monday 9th June 2014. Both pilots were operating under VFR in VMC, the PC12 pilot in the visual circuit at Oxford in receipt of an Aerodrome Control Service and the PA28 pilot not in receipt of an Air Traffic Service.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, radar photographs/video recordings, reports from the air traffic controller involved and reports from the appropriate ATC authority.

The Board first considered the pilots' actions. The PC12 pilot was established downwind in the RW19 visual circuit at Oxford and received Traffic Information, relayed by Oxford TWR. He received a TCAS alert and saw the PA28 'high in his 12 o'clock' as he 'turned left on to an early base leg'. The Board felt that this supported the PA28 pilot's reported altitude of 2500ft and therefore that he was most likely above the vertical limit of the Oxford ATZ. For his part, the PA28 pilot had decided to transit without the benefit of an ATS; whilst this was his right, the Board felt that he would have been better served by contacting Oxford TWR, especially in the congested airspace around the Oxford ATZ. The Board noted that the PA28 pilot had already identified this particular mitigation in his own analysis of the incident, and commended him for his frank report and the remedial measures that he had taken on his own initiative.

Turning to the Oxford RAD, he had identified that the PA28 was potentially conflicting traffic and passed Traffic Information to the benefit of those in receipt of a service from him. Without altitude data, including a visual sighting by the Oxford TWR if feasible, it was not possible to say for certain whether the PA28 pilot had infringed the ATZ or not. However, the Board noted that the PA28 pilot

[1] Rules of the Air 2007 (as amended), Rule 8 (Avoiding aerial collisions).
[2] ibid., Rule 12 (Flight in the vicinity of an aerodrome).
[3] ibid., Rule 45 (Flights within aerodrome traffic zones).

had described flying at his planned altitude of 2500ft, that the PC12 pilot described seeing the PA28 'high in his 12 o'clock' and that Oxford TWR had reported the PC12 in sight but had not reported on the PA28. Consequently, the Board felt that the RAD controller's assumption that the PA28 pilot had infringed the Oxford ATZ was mistaken. Whilst the Board felt that the Oxford RAD was correct to apply 'defensive controlling', in this case, with all those involved operating in Class G airspace, it was to be expected that traffic could transit the area remaining outside the ATZ, that they may or may not be squawking or be in RT contact with Oxford, and that pilots may have to take their own separation, (in this case greatly assisted by the provision of Traffic Information). As such, the Board determined that the Oxford Radar controller had perceived a conflict and that normal procedures, safety standards and parameters had pertained.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The Oxford controller perceived a conflict.

Degree of Risk: E.

ERC Score[4]: 1.

[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.