

AIRPROX REPORT No 2013177

Date/Time: 18 Dec 2013 12:20Z

Position: 53 28N 002 23W
(Manchester Barton Airfield)

Airspace: Manchester ATZ (*Class:* G)

Aircraft 1 Aircraft 2

Type: MD902 PA28

Operator: NPAS Civ Trg

Alt/FL: 1000ft 1000ft
QFE (1000hPa) QFE (1001hPa)

Conditions: VMC VMC

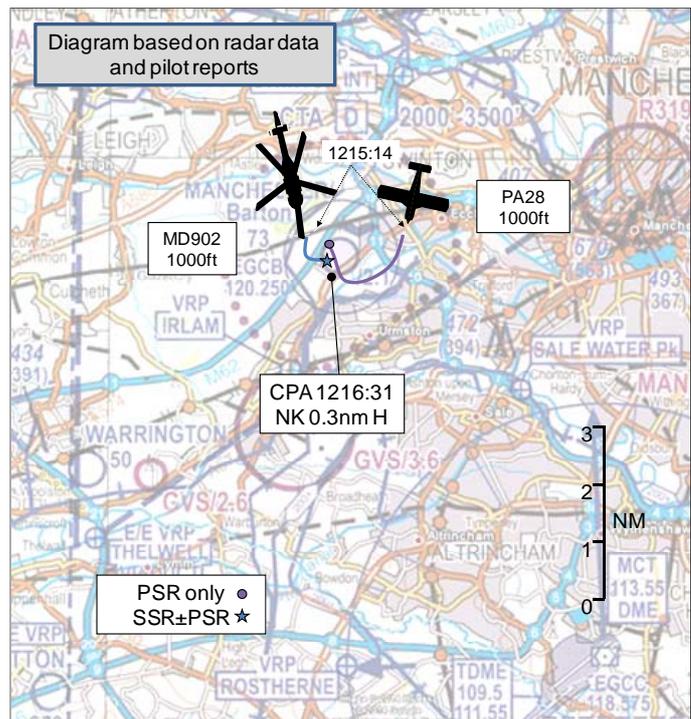
Visibility: CAVOK 10k

Reported Separation:

0 V/200-300m H 0 V/150m H

Recorded Separation:

N/K/0.3nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE MD902 PILOT reports operating with anti-collision and navigation lights on and transponder Mode 3A and C selected. He was on task, and reports flying orbits near to the RW27 threshold in the Barton visual circuit, flying in VMC at 1000ft. He heard, and then became visual with, an aircraft calling for an overhead join. He also reported seeing an R44 departing via RW27 underneath him and he watched it climb away. He looked up and saw a PA28 in his 12 o'clock at the same height about 200-300m away. He took an avoiding action turn to the right and reported on the frequency that he wasn't happy with the other aircraft's positioning.

He assessed the risk of collision as 'High'.

THE PA28 PILOT reports flying an orange and white aircraft with landing lights on and transponder Mode 3A selected. He reported descending to join the Barton RW20 RH circuit on the deadside at 1000ft: he was informed by Barton Information about the helicopter hovering in the circuit, and was visual with it. He reached the upwind threshold and turned right, in accordance with circuit rules, still with the helicopter in sight. As he passed the helicopter he heard the other pilot complain about his positioning, when he disagreed, the MD902 pilot reported that he wished to file an Airprox.

He assessed the risk of collision as 'None'.

Factual Background

The weather at Manchester was reported as follows:

METAR EGCC 181150Z 18016KT 9999 BKN019 09/07 Q1002 NOSIG

The Barton ATZ consists of a circle 2nm radius centred 532818N 0022323W on the longest notified runway 09R/27L and extends to a height of 2000ft above aerodrome level (elevation 73ft), excluding that portion of the circle that lies within the Manchester CTR.

The UK AIP page AD 2.EGCB-6, 17 Oct 2013, Section 2.20, paragraph 5, Helicopter Operations, states:

- (a) Helicopter circuit height 500ft.
- (b) Helicopter circuit training is flown in accordance with the chart on page EGCB 4-1.
- (c) Helicopters must not fly above 500ft whilst joining / leaving the airfield and whilst within the circuit, unless practising emergency procedures...

The UK AIP page AD 2.EGCB-8, (10 Jan 2013), Section 2.22, Paragraph 1, Fixed Wing Flight Procedures, states:

- (a) Fixed winged circuit height is 1000ft (Barton QFE)
- (b) Fixed winged standard join is overhead at 1800ft Barton QFE. Pilots should inform ATS if performing a non-standard join prior to entering the ATZ.
- (c) Variations on circuit direction are permitted for training, weather or operational requirements providing the FISO is informed of the pilots intentions.
- (d) Circuit directions: Runways 14, 20, 27L, 27R - RH; Runways 02, 09L, 09R and 32 -LH.
- (e) Orbits within the circuit are not permitted unless required for safety reasons...

Analysis and Investigation

CAA ATSI

The Airprox occurred at 1216:33 UTC, within the Class G airspace of the Manchester Barton (Barton) Aerodrome Traffic Zone (ATZ), between an MD902 and a PA28. The MD902 was operating VFR and monitoring a situation on the western boundary of the airfield. It's pilot was conducting left-hand orbits and was in communication with Barton Information on frequency 120.250MHz. The PA28 was operating on a local VFR flight from Barton and was returning from the north for an overhead join on runway 20 right hand traffic pattern. CAA ATSI had access to area radar recording, together with the written reports from the FISO and Air Traffic Service Unit (ATSU) and written reports from the MD902 pilot and PA28 pilot. The ATSU reported that, due to a software malfunction on the day, there was no RTF recording available. The radar returns from the PA28 suffered from track jitter.

The MD902 was conducting left-hand orbits just to the west of the airfield when the PA28 entered the ATZ from the north, positioning to join overhead. The PA28 pilot had been advised about the MD902 hovering in the circuit and confirmed that he had the MD902 in sight.

At 1214:55 the MD902 was 0.6nm west of the Aerodrome Reference Point (ARP) in a left turn indicating FL012 (converts to a height 876ft based on QFE 1001). The PA28 was shown on radar as a primary contact 1nm north of the airfield positioning towards the airfield without SSR or Mode C level reporting.

The MD902 pilot's written report indicated that he had the PA28 in sight and was aware that it was joining overhead. The MD902 pilot reported losing sight of the PA28 as it descended in the vicinity of the ship canal (on the deaside). At 1215:50 using the Manchester (M10) single source radar, the PA28 was shown 0.8nm east of the ARP in a right turn. At this time the MD902 was 0.6nm west of the ARP at FL013 (976ft) (see Figure 1).

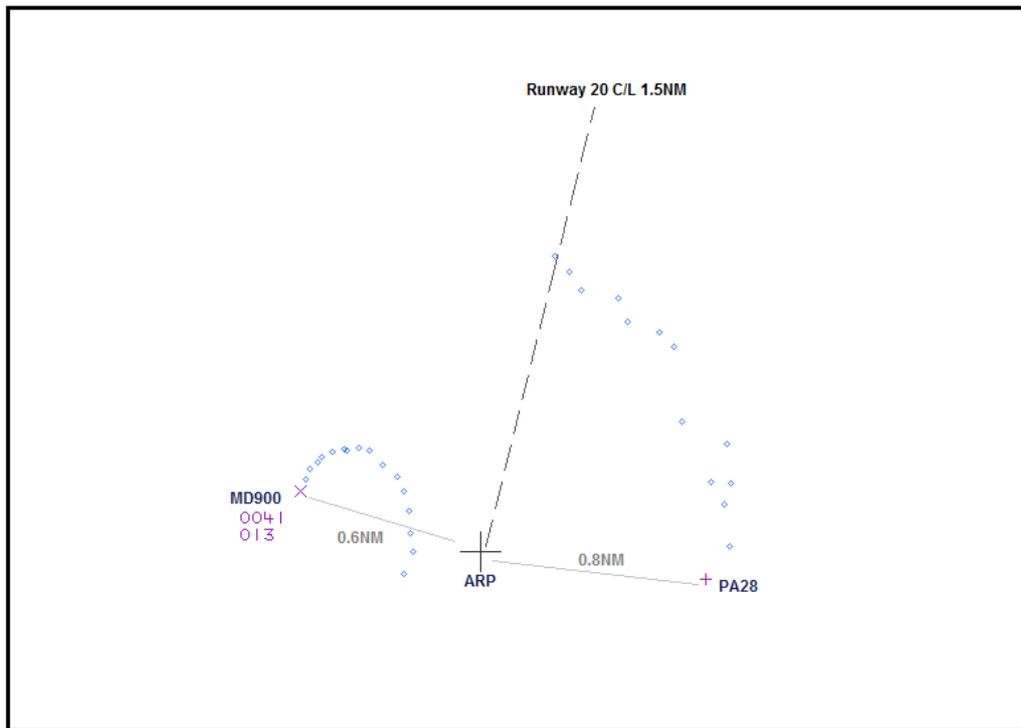


Figure 1 – M10 single source radar at 1215:50
(Note: MD900 = MD902)

As the PA28 turned crosswind an R44 was departing from RW27 and started to display on radar. The PA28 pilot's written report indicated letting down on the deadside with the MD902 continuously visible. As he approached the RW02 threshold, the MD902 was in his 12 o'clock at 500 metres and he elected to turn right to avoid a conflict with it. At 1216:26 the PA28 is shown crossing the RW02 threshold (see Figure 2).

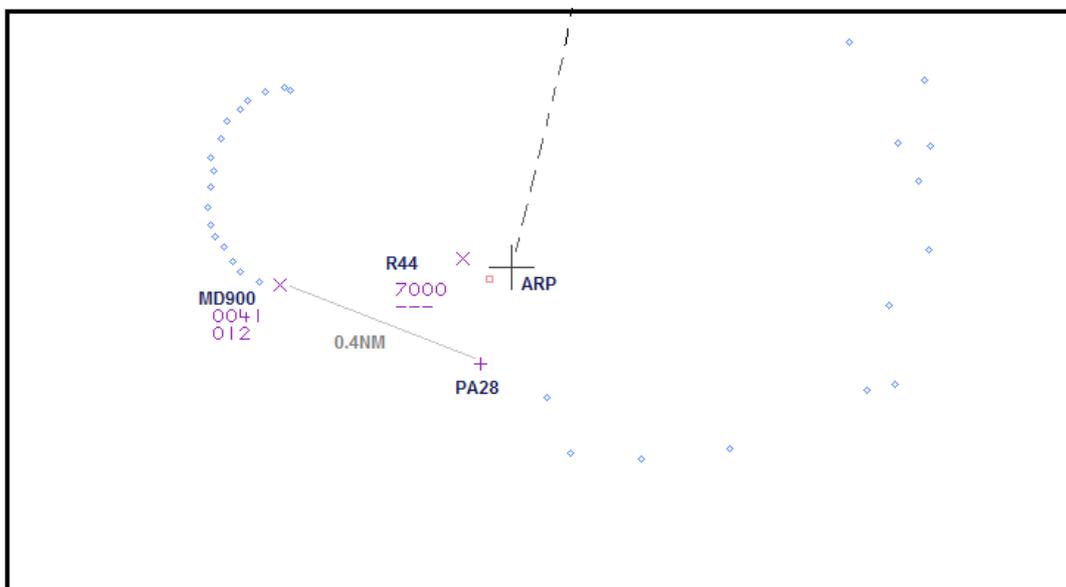


Figure 2 – M10 single source radar at 1216:26

The MD902 pilot's written report indicated sighting the departing R44 helicopter climbing away below him and at the same time he observed the PA28 at the same height in his 12 o'clock at a range of 200-300 metres. The MD902 immediately turned right to reportedly avoid a collision. The MD902 and PA28 pilots, in their written reports, both reported being at 1000ft.

The PA28 faded from the single source (M10) radar but is shown on the next Swanwick MRT update at 1216:31. The range between the two aircraft was 0.3nm (555m) (see Figure 3).

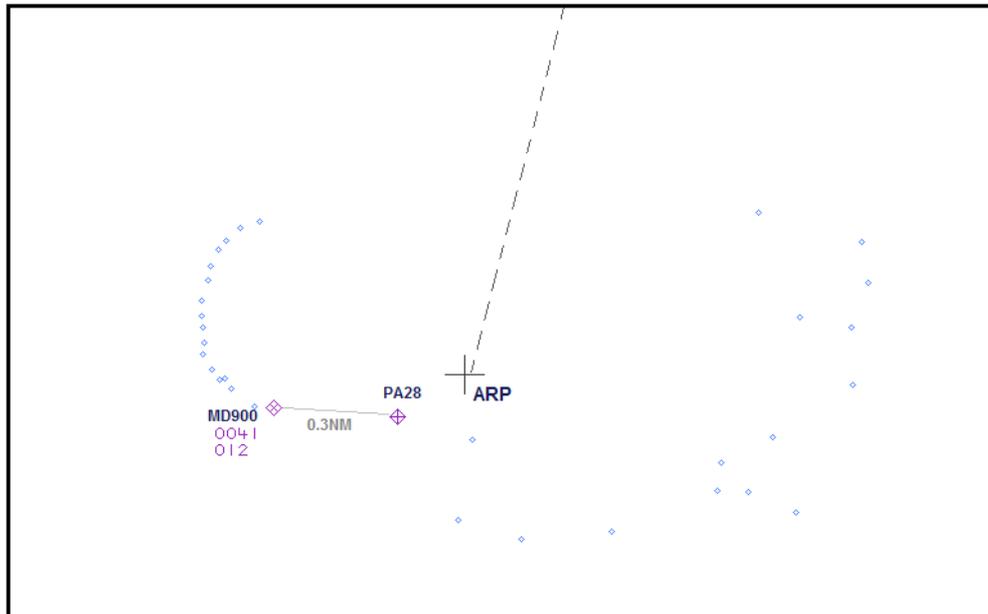


Figure 3 – Swanwick MRT at 1216:31

The CPA occurred between radar updates (1216:33): using the radar trail history the estimated range between the two aircraft at CPA was 0.2nm (370m).

The MD902 pilot advised the FISO that he was unhappy with the separation and intended to file an Airprox. The ATSU reported that the helicopter was on task to monitor a site on the west side of the airfield and was in a left hand orbit. Whilst the FISO had passed traffic information to both aircraft, this was probably not sufficient to ensure that the PA28 pilot was fully aware of the nature of the MD902's operation or the potential for conflict between the two circuit patterns. It was also not clear if the MD902 had declared a priority status or required a sterile area. The ATSU advised that the helicopter would normally operate on task away from the airfield and this particular situation on the airfield was unusual.

The helicopter pilot was operating on task but the implications and nature of the MD902's requirements had not been fully understood or communicated to the inbound PA28 pilot. Both pilots reported each other in sight, and this likely reassured the FISO that they would position appropriately.

UKAB Secretariat

Both pilots were equally responsible for collision avoidance and for not flying into such proximity as to create a danger of collision¹. Additionally, in the absence of any special dispensation the MD902 was required to conform to the pattern of traffic formed by other aircraft intending to land at that aerodrome or keep clear of the airspace in which the pattern was formed². If the geometry is considered to be 'head-on' then both pilots were required to alter their course to the right³.

Comments

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 10 (Approaching head-on).

NPAS

The MD902 was operating in accordance with our normal procedures and his position, height and method of operation were made known to Barton tower and the other aircraft operating at the time. The requirement to operate for extended periods on the airfield boundary had been brought about by a high profile police operation taking place in close proximity to our base. This had been ongoing for several weeks and Barton airfield had been fully aware and involved in the nature of the operation. However, in light of this incident, a review of these operations is being undertaken with a view to providing further separation between police aircraft and other traffic.

Summary

A MD902 and a PA28 flew into conflict whilst operating in the Barton visual circuit at 1000ft Barton QFE on the 18th December 2013. The MD902's task at the airfield was unusual and there was some uncertainty about the nature and priority of the operation. The MD902 pilot indicated he would be operating at the RW27 threshold and clear of RW20. The PA28 pilot had the MD902 continuously in sight during his join and, when turning crosswind, recognised that there was a conflict and turned right to increase separation. The MD902 pilot lost sight of the PA28 as it descended on the deadside and regained visual contact when the PA28 was crosswind. The MD902 pilot then took avoiding action by turning to the right.

As a result of this Airprox, discussions between the ATSU and helicopter operator have resulted in an agreement for the integration of their helicopter operations at the airfield. This will be included in the airfield FISO local instructions manual and is aimed at establishing a sterile area around helicopter priority operations in order to prevent similar occurrences in the future.

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 controllers involved and reports from the appropriate ATC and operating authorities.

In considering the actions of the MD902 pilot, some members of the Board wondered whether it was truly necessary for the MD902 to be operating at exactly the fixed-wing circuit height within the airfield boundary. In response, the helicopter pilot members of the Board commented that the nominal 500ft helicopter circuit height at Barton may well have been too low for the MD902 pilot to achieve his tasking; had he been able to be lower he no doubt would have done so. Whilst ATC will often give priority status to Police helicopters on task, without specific dispensation the Rules of the Air still pertain, and there was some discussion about whether the MD902 pilot should have been expected to conform to them or whether a sterile area should have been declared, especially since this had been a recurring task over the previous weeks of which the PA28 pilot may well not have been aware. More specifically, the Board wondered whether, because this operation had been going on for a few weeks without incident, possibly the FISO and the MD902 pilot had become immune to the idea that it was unusual activity. In this respect, the Board were pleased to note that Barton and NPAS have since reviewed this incident and have implemented procedures to avoid a repeat.

Turning to the PA28 pilot, as he joined the circuit he was told about the MD902, which he was visual with at all times. He clearly felt that he had left enough room when he turned for his downwind leg but the Board considered that had he just extended his pattern a little to go around the MD902 he would have avoided startling the other pilot.

In deciding the risk, the Members initially debated whether this was a benign event where normal procedures had pertained and that the MD902 pilot had simply been startled by the PA28's appearance close by. However, after some discussion, in the end they agreed that it had been the timely and effective actions of the MD902 pilot that had ensured that normal safety standards had been achieved, and so this was a category C risk. Although it was acknowledged that the PA28 pilot

had had the MD902 in sight throughout, the cause of the Airprox was considered to be that the PA28 pilot flew close enough to the MD902 to cause its pilot concern.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The PA28 pilot flew close enough to the MD902 to cause its pilot concern.

Degree of Risk: C

ERC Score⁴: 4

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.