

AIRPROX REPORT No 2013157

Date/Time: 10 Nov 2013 1641Z (Sunday)
(Twilight)

Position: 5324N 00259W
(7nm NW of Liverpool Airport)

Airspace: (Class: D)

Reporting Ac **Reported Ac**

Type: EC135P2+ PA31 Chieftain

Operator: Civ Comm Civ Comm

Alt/FL: 1500ft 1400ft
 QNH (1020hPa) QNH (1020hPa)

Weather: VMC CLOC VMC CLBC

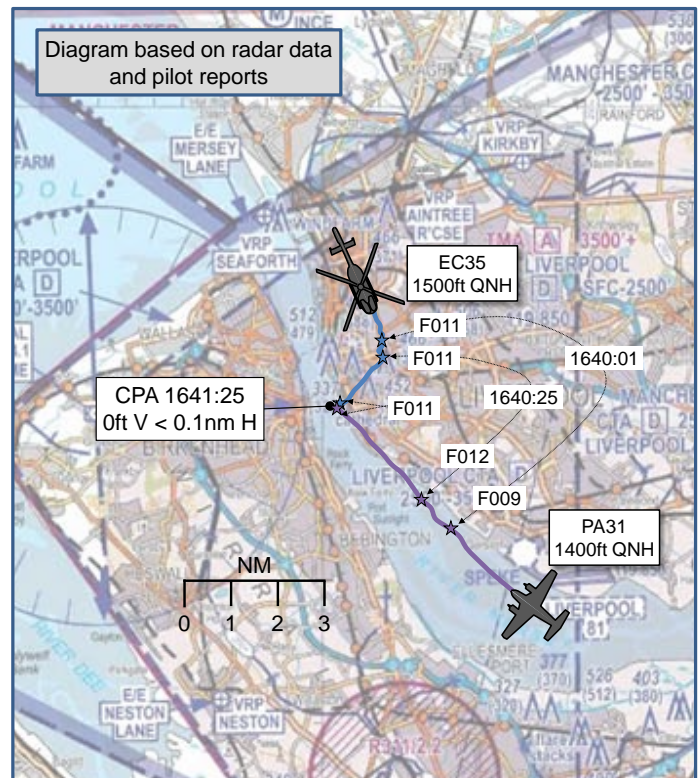
Visibility: 35km 10km

Reported Separation:

 0ft V/100ft H 0ft V/100ft H

Recorded Separation:

 0ft V/<0.1nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE EUROCOPTER EC135 PILOT reports operating under VFR over the centre of Liverpool City, in receipt of a Radar Control Service from Liverpool Approach. Landing, taxi, navigation, position and strobe lights were illuminated, as well as white HISLs¹. SSR Modes 3/A, C and S were selected. The helicopter was equipped with ACAS but no warning was received. While in a gentle right-hand turn at 1500ft, a low-wing twin-engine aircraft passed 'right in front' of his helicopter, left to right, at a distance of 100ft or less. The pilot and two observers were looking out of the right-hand windows of the EC135 but, being in a right-hand turn, they did not see the other aircraft until it was just passing in front of them. The other aircraft continued on the same track, descending until it was low over the off-shore wind-farms just North of Birkenhead. The pilot does not recall receiving Traffic Information on the PA31 from Liverpool ATC, even though it had taken off from Liverpool Airport. The EC135 pilot recalls that around 10 minutes before the Airprox he had called Liverpool ATC at least twice to report that he was on-scene, but had not received a response.

He assessed the risk of collision as 'Extremely High'.

THE PA31 PILOT reports flying northwest, outbound from Liverpool, VFR, in a predominately white aircraft. Strobes, position and navigation lights were illuminated and SSR Modes 3/A, C and S were selected. The aircraft was not equipped with ACAS. Having been cleared for take-off from RW27 with a right turn, VFR, not above 1500ft, direct to the Isle of Man, he levelled the aircraft at 1400ft (QNH 1020hPa) and was transferred to Liverpool Radar. The frequency was very busy and while waiting to transmit he saw a helicopter, illuminated by a white light, approaching in front of his starboard wing-tip. The EC135 passed behind him, and he transmitted to the Radar controller that he was level at 1400ft, on track to the Isle of Man, visual with the traffic passing behind him.

He assessed the risk of collision as 'High'.

THE LIVERPOOL RADAR APPROACH CONTROLLER reports monitoring a trainee controller 'on a fairly busy traffic situation'. The EC135 was operating VFR over the 'city centre', 6nm northwest of Liverpool Airport. Approach was advised by Tower that the PA31 was airborne, VFR, heading

¹ High Intensity Strobe Lights

northwest, routing direct to its destination. Although Approach recalls that Traffic Information on the EC135 had been passed to the pilot of the PA31 by the Tower controller, he does not recall his trainee passing Traffic Information on the PA31 to the EC135 pilot. The Approach controller reports that it was likely that Traffic Information was not passed because they were busy dealing with a light-aircraft pilot who was unsure of his routing through the Zone, and was likely to conflict with a B737, which was positioning for an ILS on RW27.

Factual Background

Sunset for the Liverpool area was at 1619.

The Liverpool weather at 1620 and 1650 was recorded as:

METAR EGGP 101620Z 23003KT 9999 FEW030 08/05 Q1020=
METAR EGGP 101650Z 23003KT 9999 FEW030 07/04 Q1021=

Analysis and Investigation

CAA ATSI

ATSI had access to reports from both pilots, recorded area surveillance and transcription of Liverpool Tower and Radar frequencies. Additionally ATSI interviewed the Liverpool Radar controller and the Liverpool Tower controller. Training was in progress on the Liverpool Radar position. Both the Liverpool Tower controller and the Liverpool Radar controller reported the workload as high due to the volume of traffic.

At 1630:38 the EC135 pilot reported being at his intended site of operation, 7nm northwest of Liverpool Airport.

The PA31 pilot had originally filed an IFR flight plan routing via Wallasey at 4000ft but, at 1631:15, he contacted Liverpool Tower and requested to cancel IFR and take a VFR clearance to his destination to the northwest. The IFR flight plan was cancelled and a VFR clearance not above 1500ft on track to his destination was issued.

At 1637:00 the PA31 pilot reported ready for departure and the Tower controller instructed him to line-up and wait RW27; he was given take-off clearance at 1637:50 when the EC135 was 6.8nm northwest of Liverpool Airport (Figure 1).

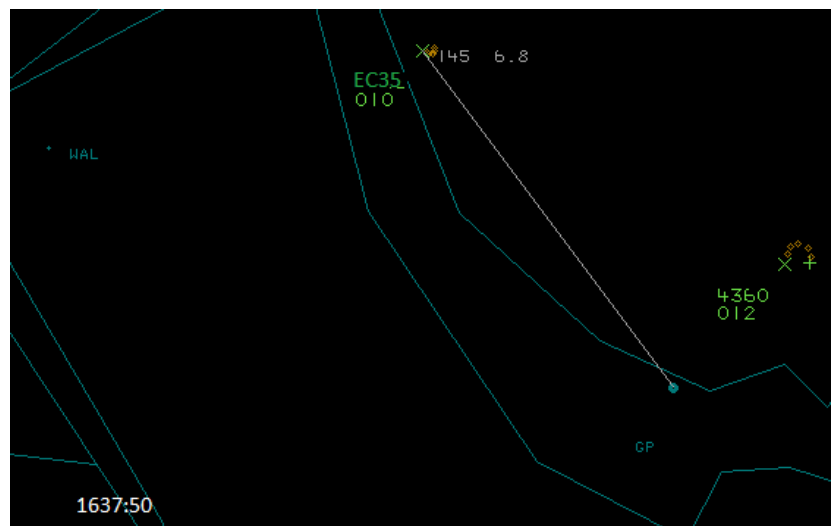


Figure 1 (EC35=EC135)

At interview the Tower controller stated he was aware of the EC135 because it had been coordinated crossing the extended centreline earlier, but that traffic operating north of the M62 (as the EC135 was) would not normally be notified to the Tower controller. Also, the PA31's routing meant the Tower controller was expecting the pilot to route towards Wallasey, which would take the PA31 approximately 2.5nm to the west of the EC135.

At 1638:42 the Tower controller telephoned the Radar controller to advise that the PA31 was airborne at 1638 and routing direct to his destination, VFR, not above 1500ft. At interview the

Radar controller advised that the first time he would be aware of the departing PA31 was when the “*airborne*” phone-call was made. The Radar controller also stated that, in this circumstance, the passing of Traffic Information would be the Radar controller’s responsibility and that, although some Tower controllers would have passed Traffic Information on the EC135 to the PA31 pilot, the Radar controller would not have expected them to do so.

Following the “*airborne*” phone-call for the PA31, there was a gap in transmissions on the Radar frequency for approximately 40sec before the frequency became very busy – the Radar controller reported the traffic as being medium-to-heavy and the busiest day for a long time. A light aircraft that was being positioned towards right-base, having been given routing to a non-notified VRP², was unexpectedly tracking south and was potentially impacting on other traffic being vectored for the ILS, which increased the Radar controller’s workload. The Radar controller stated that normally, the “*airborne*” call would prompt any necessary Traffic Information to be passed. On this occasion Traffic Information on the PA31 was not passed to the EC135 pilot.

At 1640:25 the PA31 pilot was instructed to contact Liverpool Radar. The PA31 was 3.7nm northwest of Liverpool Airport, 2.9nm south of the EC135 (Figure 2).

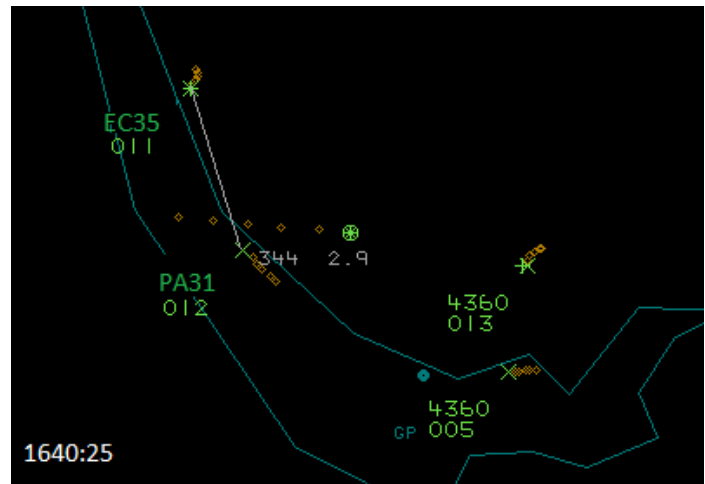


Figure 2 (EC35=EC135)

The two aircraft continued to converge until CPA at 1641:25, when the EC135 and the PA31 were 0.1nm apart at the same level (Figure 3).

The pilot of the EC135 reported that he saw the PA31 pass left to right at a distance of 100ft or less. Because the EC135 was in a right-hand turn the crew did not see the PA31 until it was passing just in front.

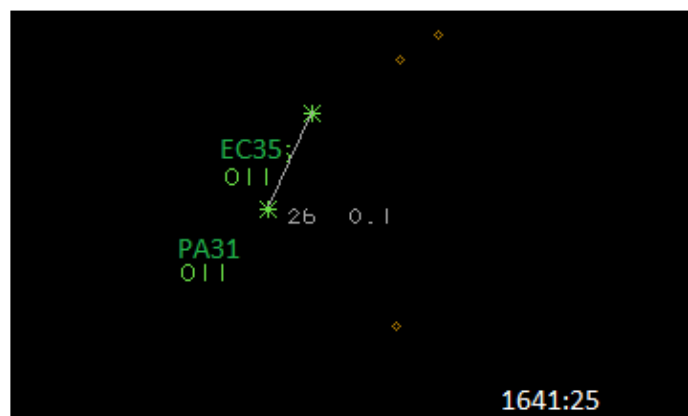


Figure 3 (EC35=EC135)

The PA31 pilot did not contact the Liverpool Radar controller until 1641:46. He reported that he had seen the EC135 on his right wing tip before it passed behind him. The pilot of the PA31 also estimated the horizontal distance between the two aircraft as 100ft.

When the Tower controller gave take-off clearance to the PA31 pilot, the EC135 was not considered to be relevant traffic due to the expected routing of the PA31. Also, given that the intentions of the EC135 pilot were unknown to the Tower controller, and the distance of the EC135 from the Airport, it may have been appropriate for the Tower controller to expect Traffic Information to be passed by the Radar controller. However, as the PA31 pilot was transferred to the Radar controller later than might usually be expected, and at the point of transfer the track of the PA31 appeared to be conflicting with that of the EC135, it may have been prudent on the part of the Tower controller to pass general Traffic Information on the EC135 to the PA31 pilot.

Traffic information was not passed to the EC135 pilot by the Radar controller after the “*airborne*” call was received. The Radar frequency became very busy 40 seconds later, and the PA31 pilot

² Visual Reporting Point

was not able to make contact until after the Airprox occurred. It is likely that the light aircraft, which was following an unexpected routeing, caused some distraction to the Radar controller and drew attention to a different part of the screen; however, the issuance of a routeing to a non-notified VRP is likely to have caused the confusion on the part of the light aircraft, which led to the subsequent increase in workload and RT volume.

Summary

The Airprox was reported by the pilot of an EC135P2+ when it came into proximity with a PA31 in Class D airspace approximately 7nm northwest of Liverpool Airport. The EC135 pilot was operating VFR over Liverpool and was in receipt of a Radar Control Service from Liverpool Radar. The PA31 pilot was on a VFR flight from Liverpool Airport, and prior to the Airprox, had been in receipt of an Aerodrome Control Service from Liverpool Tower. At the time of the Airprox the PA31 pilot had been transferred to Liverpool Radar but had not yet reported on frequency. Neither pilot saw the other aircraft until very late, and the distance between the two aircraft was estimated by both pilots to be approximately 100ft. Believing that the PA31's routeing would ensure that it remained well to the west of the EC135, the Tower controller did not pass Traffic Information to the PA31 pilot; the Radar controller did not pass Traffic Information to the EC135 pilot due to high workload, which was partially caused by the issuance of a routeing to a VFR aircraft to a point that is not a notified VRP.

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.

There was considerable discussion about the relative contributions by the pilots and air traffic controllers in this occurrence. The Board noted that, whilst both pilots were operating under VFR, and therefore had the responsibility to avoid other traffic, they were both operating in Class D airspace under a Radar Control Service and ATC should therefore have ensured that the pilots had sufficient information to enable them to achieve appropriate separation.

With regard to the Tower Controller, if the PA31 pilot had departed under IFR, as originally planned, then the Tower Controller would have been obliged to seek a release from the Approach Controller, who would then have been alerted to the potential confliction. However, as the Approach Controller reported, it was not normal practice for the Tower Controller to pass traffic information to departing VFR traffic in situations similar to this. Fundamentally, the Board noted that because of the change in departure type, there was a degree of misunderstanding by the Tower Controller as to the PA31's intended track. The PA31 pilot had been cleared 'on track to destination' but the Tower Controller still expected the PA31 pilot to route via Wallasey; the PA31 pilot had quite reasonably taken the new clearance as authority to route direct. In the Board's opinion, the lack of either specific VFR routing instructions or Traffic Information on the location of the EC135 meant that the Tower Controller had not effectively equipped the PA31 pilot with the information he needed to separate himself from the EC135.

Turning to the Approach Controller, the Board noted that both he and the trainee acknowledged that Traffic Information should normally have been passed to the EC135, pilot but that their workload was high and they had both become distracted dealing with another aircraft. The Board noted that following the call from the Tower Controller to advise them that the PA31 was "airborne ... and routeing direct to his destination, VFR, not above 1500ft", there had been a 40sec window when the Approach Controller might have been able to pass Traffic Information to the EC135; however, the Board recognised that this time had probably been consumed in dealing with the problems caused by the other aircraft crossing the runway centreline.

The Board then discussed the responsibilities of the pilots. They noted that the PA31 pilot had the EC135 on his right and was consequently obliged, under the Rules of the Air, to give way, regardless of any lack of Traffic Information. The Board also opined that, although there was no formal

requirement to do so, good practice in busy Class D airspace would have been for the PA31 pilot to have provided ATC with at least some indication of his intended routing for the benefit of all. In the EC135, although it was highly likely that the EC135 pilot would have been very task-focussed, nonetheless, he also still had a responsibility to avoid collisions. Recognising that he was in a right-hand turn belly-up to the PA31 at the time of the Airprox, some members observed that, with several crew members on-board, the pilot might have been able to use his crew more effectively to clear his path as he turned and thereby ensure that airborne lookout was maintained at an appropriate priority over his task duties. Finally, the Board was concerned that, despite TCAS being fitted to the EC135, the pilot did not receive any alerts from his equipment as the two aircraft came close to each other. Given that the PA31's SSR was clearly functioning as shown on the radar replays, they suggested that the EC135 operator might wish to conduct a test of the associated TCAS equipment in order to ensure that it was serviceable.

The Board agreed that this was a complicated occurrence with regard to the responsibilities of all four of the principal actors, and there were many different aspects to the incident sequence. Following considerable discussion Board Members eventually agreed that the fundamental cause was that, in the absence of Traffic Information, the PA31 pilot had flown into conflict with the EC135; they concluded that the lack of warnings from the EC135's TCAS, and the Tower Controller's misperception of the PA31 pilot's routing, were contributory factors. The Board agreed that this had been a very close encounter, and that neither pilot had seen the other aircraft in time to take any effective action; consequently, it was agreed that the Degree of Risk was A.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: In the absence of any Traffic Information, the PA31 pilot flew into conflict with the EC135.

Contributory Factors:

1. The Liverpool Tower Controller did not perceive that the PA31 would depart towards the EC135.
2. The EC135 TCAS provided no warnings.

Degree of Risk: A

ERC Score³: 100

³ 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.