

AIRPROX REPORT No 2014048

Date/Time: 18 Apr 2014 0811Z

Position: 5121N 00039E
(3.3nm NE of Detling VOR)

Airspace: London TMA (Class: A)

Aircraft 1 Aircraft 2

Type: RJ85 Flexwing
Microlight

Operator: CAT Civ Pte

Alt/FL: 4200ft 3400ft
QNH (1021hPa) QNH
(1025hPa)

Conditions: VMC VMC

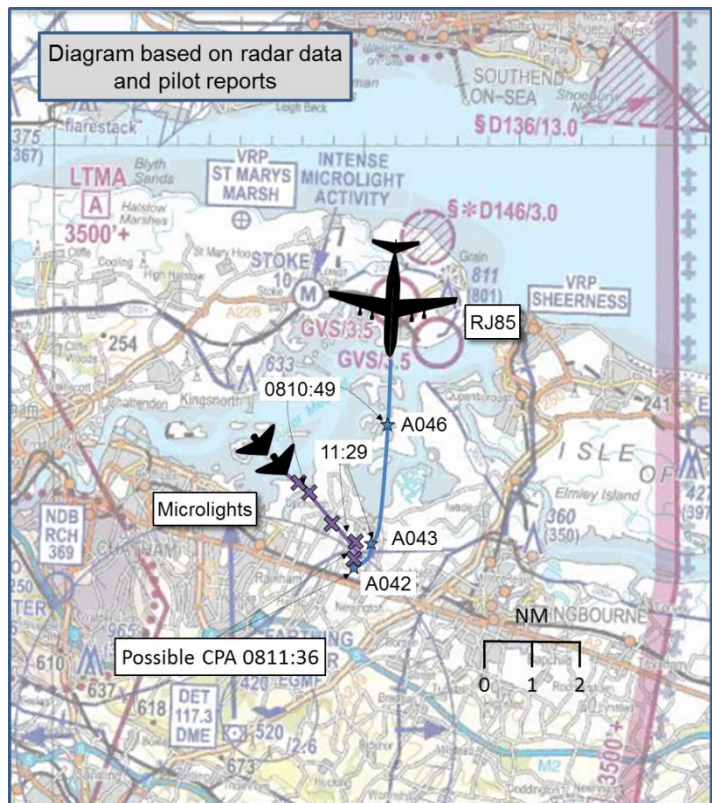
Visibility: >10km 10km

Reported Separation:

<100ft V<0.5nm H 300ft V/1nm H

Recorded Separation:

NK V/0.3nm H



PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

THE RJ85 PILOT reports inbound from the east for a SPEAR 1B arrival for RW09 at London City Airport, with strobes, navigation and taxi lights illuminated, and squawking Modes 3/A, C and S. He was flying IFR in VMC, clear between layers of cloud, and a Radar Control Service had been agreed with Thames Radar. The crew were cleared to fly the standard routing, leaving SPEAR on a heading of 240°, he recalled. The routing was to position them right-hand downwind to RW09 at 250kt, and they were cleared by the Thames Radar controller to descend to 4000ft and turn right on to either '270° or 280°' (he could not definitely recall which). Whilst in the turn, passing around 4200ft, the co-pilot 'saw something' and alerted the captain. The captain saw 'a small spot' and initially thought it was a small aircraft flying lower than the RJ85. On looking more closely, the captain reports that the other aircraft was 'very close', and passed down their right-hand side at around 4000ft, the same height as the RJ85 (which had been levelled off by this point). The RJ85 crew described the other aircraft as a single microlight or ultralight with a 'fixed white wing'. The pilot was sitting beneath the wing and behind a 'dark coloured canopy' with the engine behind him. They assessed that the microlight was less than 0.5nm away, and less than 100ft below them. The RJ85 crew informed Thames Radar, who then issued Avoiding Action to the aircraft behind them. They noted that the microlight was not displayed on their TCAS¹ display, and thought that it was probably not equipped with a transponder.

He assessed the risk of collision as 'high if ATC had turned them earlier'.

THE MICROLIGHT PILOT reports flying a blue flex-wing microlight at 70kt, in company with another similar aircraft, VFR in VMC with no transponder or lights fitted. They had submitted a VFR flight-plan to route to Le Touquet. They were flying through 'unrestricted airspace' below the Class A airspace of the LTMA², and had levelled at 3400ft on QNH 1025hPa when they saw a 'rather large turbo-prop aircraft' which 'seemed too close for comfort' and which the microlight pilot thought may have departed Southend Airport. The turbo-prop appeared to veer to the left and the microlight pilot thought that the crew may have seen and avoided them; the Microlight pilot immediately descended

¹ Traffic Alerting and Collision Avoidance System

² London Terminal Manoeuvring Area

to increase separation. Having filed a flight plan, the microlight pilot expressed surprise that Southend were not aware of their flight and tracking them on radar, and also that the turbo-prop was being flown 'so low within Class A airspace as to leave such a small amount of separation'.

He assessed the risk of collision as 'None'.

THE THAMES RADAR CONTROLLER reports providing a Radar Control Service to the RJ85 crew on a heading of 245° at 4000ft when the pilot asked if he could see traffic to the north of his aircraft, heading in the opposite direction, because he had just seen a microlight pass down his right-hand side in close proximity. The controller informed the pilot that there were two primary radar returns on the display, but that they were not under the control of Thames Radar, and they were not displaying any Mode C to indicate their altitude. By this time the RJ85 was clear of the radar returns but, because of the pilot's report, the Thames Radar controller decided to treat the radar contacts as if they were a microlight infringing controlled airspace and passed avoiding action to the aircraft behind the RJ85. After tracing the primary contacts, the controller realised that they had been a pair of microlights and that the RJ85 crew had only seen one of them.

Factual Background

The weather at London City at 0750 and 0820 was recorded as:

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METAR EGLC 180750Z 01008KT 340V060 9999 FEW024 09/03 Q1021=  
METAR EGLC 180820Z 36009KT 320V030 9999 FEW024 09/03 Q1021=
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Analysis and Investigation

CAA ATSI

ATSI had access to the written reports from both pilots and the controller, recorded area surveillance, transcription of the radio frequency and GPS data from the Microlight pilots.

Factual History

Prior to the Airprox being reported, the RJ85 was being vectored to position downwind right-hand for RW09 at London City and was heading 245° and descending to 4000ft; The base of controlled airspace in the area of the Airprox is 3500ft on the London QNH. At 0811:36 UTC the crew of the RJ85 contacted Thames Radar to inform them of an "ultralight" 0.5nm away on their right-hand side at 4000ft (Figure 1). Prior to the Airprox the primary only returns could be observed fairly constantly tracking southeast.



Figure 1.

The controller acknowledged the information and gave avoiding action against the primary returns to an Embraer E170 that was positioning behind the RJ85.

The controller informed the RJ85 that the traffic was behind him, and asked the crew to confirm that they were visual with the traffic at 4000ft, which they confirmed.

The written report from the microlight pilot stated that the two aircraft were operating close to the vertical boundary of the London TMA, levelling out at 3400ft on QNH 1025hPa. GPS information provided by the pilot indicated that his maximum height was 3535ft above the GPS datum. A subsequent report from the pilot of the microlight on London Information frequency stating that they were at 2000ft correlated with GPS height information provided by the pilot of the following aircraft. The pilot of the following aircraft in the microlight formation observed that the altitudes of the microlight and the RJ85 did not appear to pose a risk to either aircraft.

Analysis

The microlights did not have transponders so would have been considered to be operating below controlled airspace; unless other information indicated to the controller that the microlights had infringed controlled airspace, Traffic Information or Avoiding Action would not have been given. The base of controlled airspace in the area of the Airprox is 3500ft on the London QNH and, once the RJ85 reported that the microlights were, as they believed, at 4000ft and therefore inside controlled airspace, the controller took action to prevent further losses of separation.

Without Mode C information, it is not possible to determine if the microlight aircraft infringed controlled airspace. The pilot of the microlight reported being at 3400ft on QNH 1025 at the time of the Airprox. On QNH 1021hPa, which the RJ85 had set, the microlight would have been approximately 3292ft³. The GPS data provided by the pilots of the two microlights correlates with their reported pressure altitude and indicates that the aircraft did not infringe controlled airspace, but the data can only be considered approximate because the method used by GPS to calculate altitude is different to the way an altimeter senses altitude.

Summary

An Airprox was declared when the pilot of an Avro RJ85 reported seeing a microlight in the London TMA Class A airspace in close proximity, at 4000ft, 25nm southeast of London City Airport. The base of Controlled Airspace where the Airprox was reported is 3500ft. The GPS data from the Microlight pilots indicate that they did not infringe controlled airspace.

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.

The Board quickly agreed that all the available evidence supported the microlight pilots' report that the pair had not infringed controlled airspace. That being said, members were concerned that, having filed a VFR flight plan, the pilots appeared to believe that they would be actively monitored or protected by radar-equipped air traffic controllers. The Board remarked that if they had required that sort of service then it would have been necessary for them to have been in two-way radio contact, have obtained a radar service from an appropriate air traffic control unit, and to have been able to comply with all the requirements of such a service.

It was also clear to the Board that the RJ85 had not been cleared below 4000ft, and that the pilots had not descended beyond their clearance. The Board therefore concluded that this was a sighting report wherein it was likely that the distances involved and juxtapositions of the aircraft had been mis-

³ 1hPa = 27ft

perceived by the pilots. The microlight pilots may have been misled by the sight of a large aeroplane so close, whilst, for their part, the RJ85 was in a right turn at the time its pilots spotted the microlights and the Board agreed that, during a turn, it was easy to think that an aircraft was level with you when it was lower or higher. Irrespective, it was clear that normal safety standards and parameters had been maintained, and that the degree of risk was E.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A sighting report.

Degree of Risk: E

ERC Score⁴: 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.