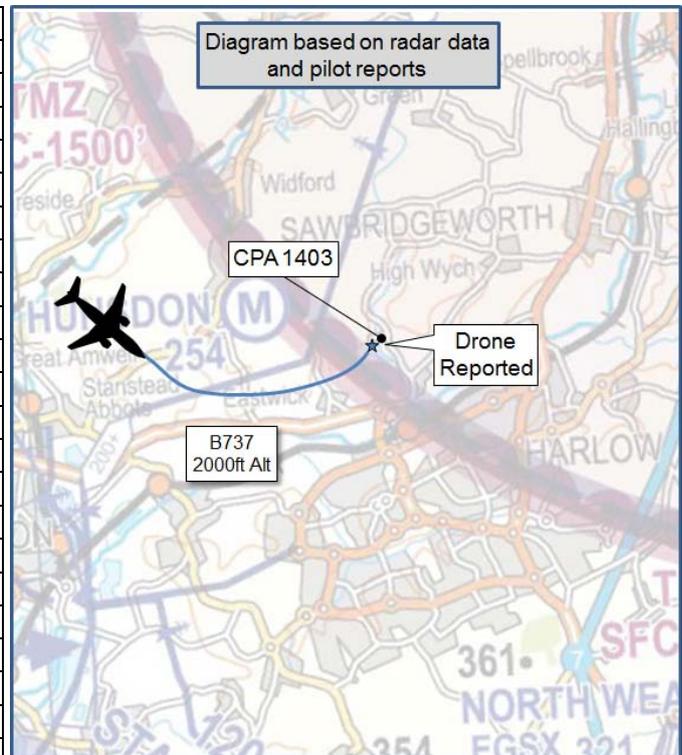


## **AIRPROX REPORT No 2016057**

Date: 31 Mar 2016 Time: 1403Z Position: 5148N 00005E Location: 8nm SW Stansted Airport

### **PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

| Recorded          | Aircraft 1    | Aircraft 2   |
|-------------------|---------------|--------------|
| Aircraft          | B737          | Drone        |
| Operator          | CAT           | Unknown      |
| Airspace          | Stansted CTR  | Stansted CTR |
| Class             | D             | D            |
| Rules             | IFR           |              |
| Service           | Radar Control |              |
| Provider          | Essex Radar   |              |
| Altitude/FL       | 2000ft        |              |
| Transponder       | A, C, S       |              |
| <b>Reported</b>   |               | Not reported |
| Colours           | Blue/White    |              |
| Lighting          | Strobe, Nav   |              |
| Conditions        | VMC           |              |
| Visibility        | >10km         |              |
| Altitude/FL       | 2000ft        |              |
| Altimeter         | QNH (1012hPa) |              |
| Heading           | 040°          |              |
| Speed             | 170kt         |              |
| ACAS/TAS          | TCAS II       |              |
| Alert             | None          |              |
| <b>Separation</b> |               |              |
| Reported          | 0ft V/70m H   | NK           |
| Recorded          |               | NK           |



**THE B737 PILOT** reports a positioning Captain was sitting in the passenger cabin on the left side. The positioning Captain observed a drone as the aircraft was establishing on the LOC RW04 at 7 to 8 miles from the airport. The PF did not see the drone but after the aircraft had parked the positioning Captain informed him he estimated that the drone was within 200ft of the aircraft. He informed the tower via radio and also gave a statement to the airport police.

He assessed the risk of collision as 'Medium'.

**THE DRONE PILOT** could not be traced.

### **Factual Background**

The weather at Stansted was recorded as follows:

METAR EGSS 311250Z AUTO 36007KT 320V030 9999 SCT034 11/02 Q1015

### **UKAB Secretariat**

The Air Navigation Order 2009 (as amended), Article 138<sup>1</sup> states:

'A person must not recklessly or negligently cause or permit an aircraft to endanger any person or property.'

Article 166, paragraphs 2, 3 and 4 state:

<sup>1</sup> Article 253 of the ANO details which Articles apply to small unmanned aircraft. Article 255 defines 'small unmanned aircraft'. The ANO is available to view at <http://www.legislation.gov.uk>.

'(2) The person in charge of a small unmanned aircraft may only fly the aircraft if reasonably satisfied that the flight can safely be made.

(3) The person in charge of a small unmanned aircraft must maintain direct, unaided visual contact with the aircraft sufficient to monitor its flight path in relation to other aircraft, persons, vehicles, vessels and structures for the purpose of avoiding collisions.'

(4) The person in charge of a small unmanned aircraft which has a mass of more than 7kg excluding its fuel but including any articles or equipment installed in or attached to the aircraft at the commencement of its flight, must not fly the aircraft

(a) in Class A, C, D or E airspace unless the permission of the appropriate air traffic control unit has been obtained;

(b) within an aerodrome traffic zone ...; or

(c) at a height of more than 400 feet above the surface unless it is flying in airspace described in sub-paragraph (a) or (b) and in accordance with the requirements for that airspace.'

A CAA web site<sup>2</sup> provides information and guidance associated with the operation of Unmanned Aircraft Systems (UASs) and Unmanned Aerial Vehicles (UAVs).

Additionally, the CAA has published a UAV Safety Notice<sup>3</sup> which states the responsibilities for flying unmanned aircraft. This includes:

'You are responsible for avoiding collisions with other people or objects - including aircraft.

Do not fly your unmanned aircraft in any way that could endanger people or property.

It is illegal to fly your unmanned aircraft over a congested area (streets, towns and cities).

Also, stay well clear of airports and airfields'.

## Summary

An Airprox was reported when a B737 and a Drone flew into proximity at 1355 on Thursday 31<sup>st</sup> March 2016. The B737 pilot was operating under IFR in VMC, the B737 pilot in receipt of a Radar Control Service from Essex Radar. The drone pilot could not be traced.

## **PART B: SUMMARY OF THE BOARD'S DISCUSSIONS**

Information available consisted of a report from the B737 pilot.

The Board noted that the drone was observed by a positioning pilot who was in the passenger cabin at the time. Although they reiterated that only Airprox reported by pilots and air traffic service providers are normally considered, in this circumstance it had been a professional pilot in the passenger cabin, and so they were inclined to accept the report's validity regarding estimated separation and flight path. Whilst the crew of the B737 did not see the drone, the positioning pilot who did had subsequently passed the information on to the aircraft captain who then reported that it was at 2000ft, whilst about 7nm from Stansted.

The Board first commented that, as for other aviators, drone operators are fundamentally required to avoid collisions with all other aircraft. More specifically, drone flight is prohibited in Class D airspace without the permission of the appropriate air traffic control unit and, therefore, the drone operator was not entitled to operate in this location.

In this incident, operating at 2000ft on the final approach path for Stansted Airport, and flying within Class D airspace without permission, led the Board to assess that, in his non-compliance, the drone operator was posing a flight safety risk. Operating as he was in airspace within which he was not

<sup>2</sup> [www.caa.co.uk/uas](http://www.caa.co.uk/uas)

<sup>3</sup> CAP 1202

permitted meant that the Board considered that the cause of the Airprox was that the drone had been flown into conflict with the B737. Due to the composition and size of the drone, the incident did not show on the NATS radars and, therefore, the exact separation between the two air-systems was not known. However, the Board noted that the B737 pilot, in consultation with the positioning pilot who had seen the drone, estimated the separation to be 0ft vertically and 200ft horizontally. Basing the assessment of risk on such estimates is problematic given the difficulty of accurately estimating distance with no external references, but it was clear to the Board that the drone had come close to the B737. The Board therefore determined that the risk was Category B; the drone's proximity had resulted in safety margins being much reduced below the norm, to the extent that the safety of the aircraft may have been compromised.

### **PART C: ASSESSMENT OF CAUSE AND RISK**

Cause: The drone was flown into conflict with the B737.

Degree of Risk: B.