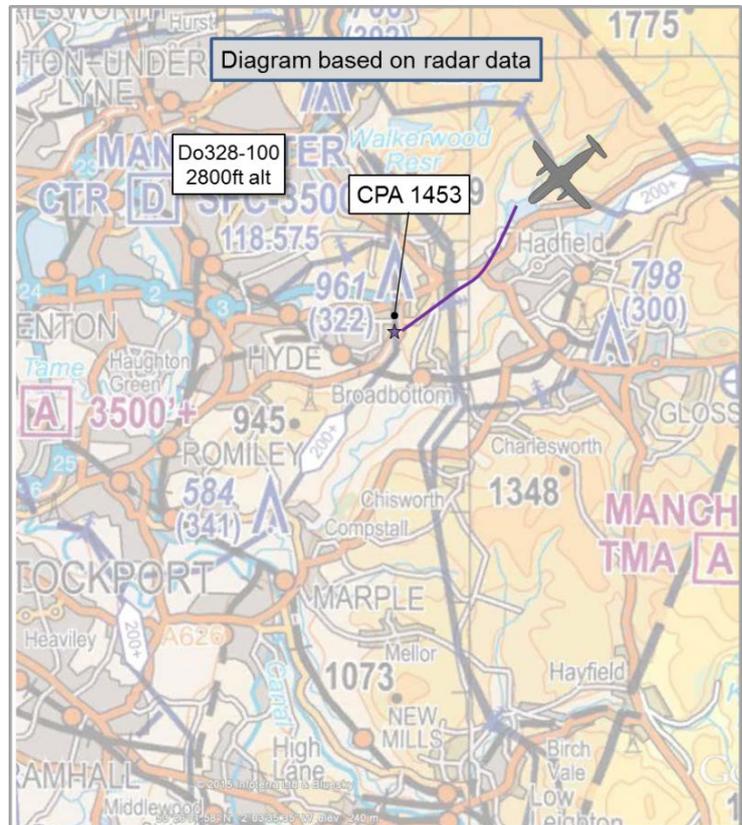


AIRPROX REPORT No 2015141

Date: 27 Aug 2015 Time: 1625Z Position: 5326N 00205W Location: 9.5nm E Manchester Airport

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Do328	Drone
Operator	CAT	Unknown
Airspace	Manchester CTR	Manchester CTR
Class	D	D
Rules	IFR	NK
Service	Radar Control	NK
Provider	Manchester Director	NK
Altitude/FL	2800ft	NK
Transponder	C, S	NK
Reported		
Colours	White, Red	NK
Lighting	Strobe, Landing lights	NK
Conditions	VMC	NK
Visibility	10km	NK
Altitude/FL	2800	NK
Altimeter	QNH (2800hPa)	NK
Heading	233°	NK
Speed	180kt	NK
ACAS/TAS	TCAS II	NK
Alert	None	NK
Separation		
Reported	50ft V/ 0.1nm H	NK
Recorded	NK	



THE Do328 PILOT reports just after capturing the glide path for RW23R he saw a drone just in front of the aircraft. It came from the nose and went over the starboard wing. It was bright royal blue and he thought it had 3 rotors. Size was approximately 50cm diameter. The estimated miss distance was about 50ft. It was reported to ATC on director freq 121.35. After landing, he was asked to call the ATC supervisor. He confirmed the details with the Supervisor and he said he would be filing a report. The aircraft was at approximately 2800ft at the time which is about 1500' AGL. The aircraft was inspected on arrival with no signs of any contact.

He assessed the risk of collision as 'High'.

THE MANCHESTER CONTROLLER reports the Do328 pilot reported a drone passing on his right hand side at 9.5nm final, altitude 3300ft, RW23R.

Factual Background

The weather at Manchester was recorded as follows:

METAR EGCC 271620Z 24012KT 9999 FEW049 18/07 Q1005 NOSIG

Analysis and Investigation

UKAB Secretariat

The Air Navigation Order 2009 (as amended), Article 138¹ 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:

‘(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 site² 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 Notice³ 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 Do328 and a Drone flew into proximity at 1625Z on 27 August 2015. The Do328 was operating under IFR in VMC. The drone was being operated within Class D Airspace of the Manchester CTR without the permission of the ATCU; the Drone operator could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilot of the Do328 and the air traffic controller involved, radar photographs/video recordings.

The crew of the Do328 reported seeing the drone at 2800ft, having just captured the glide slope for Manchester. The Board noted that, as for all aviators, drone operators are fundamentally required to avoid collisions with all aircraft. More specifically, drone flight above 400ft 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.

With the drone operating at levels of 2800ft the drone operator would certainly be operating on first-person-view (FPV), for which regulation mandates that an additional person must be used as a

¹ 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 www.caa.co.uk/uas

³ CAP 1202

competent observer who must maintain direct unaided visual contact with the drone in order to monitor its flight path in relation to other aircraft. Under FPV operations for drones of less than 3.5kg, the drone is not permitted to operate above 1000ft agl without prior CAA approval and a NOTAM issued. The Board thought it unlikely that, even if an observer was being used, that that observer would be able to see the drone at that level. At 2800ft the drone operator was flying within the Manchester CTR, Class D airspace, without permission and, due to his non-compliance, the Board considered that the drone operator was posing a flight safety risk.

The drone was operating in airspace within which he was not permitted; due to this the Board considered that the cause of the Airprox was that the drone operator had flown into conflict with the Do328. The drone did not appear on the NATS radars and therefore the exact separation between the two air-systems was not known; however, the Do328 pilot estimated the exact separation to be 50ft vertically and 0.1nm horizontally and the Board based their assessment of risk on this estimate; it was further noted that the Do328 pilot was concerned enough to carry out a visual check of the aircraft for damage as soon as practical after landing. It was determined therefore that separation had been reduced to the minimum and that luck had played a major part in events.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: Drone flown into conflict with D0328 within controlled airspace of the Manchester CTR.

Degree of Risk: A