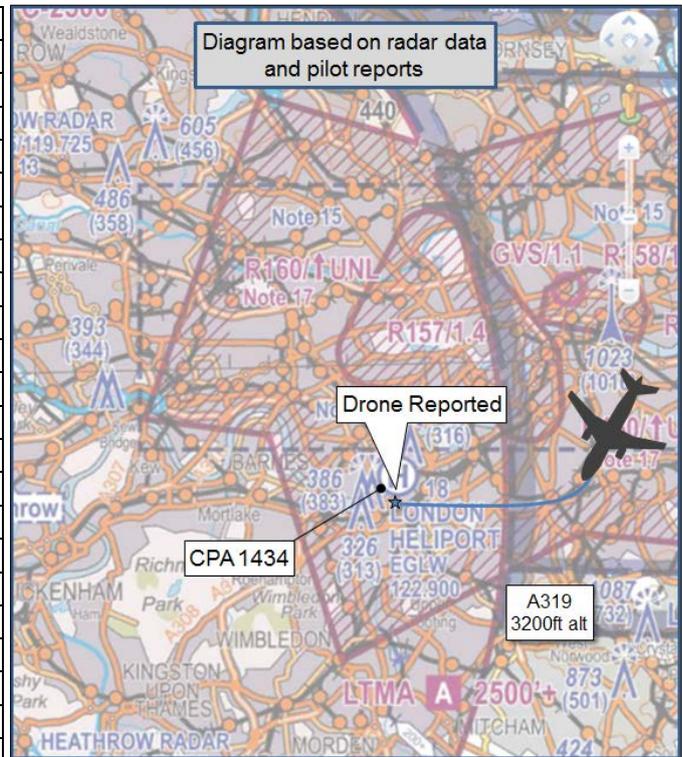


AIRPROX REPORT No 2016089

Date: 22 May 2016 Time: 1434Z Position: 5128N 00010W Location: 10nm E Heathrow

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	A319	Drone
Operator	CAT	Unknown
Airspace	LTMA	LTMA
Class	A	A
Rules	IFR	
Service	Radar Control	
Provider	Swanwick	
Altitude/FL	3200ft	
Transponder	A,C,S	
Reported		
Colours	Company	Orange
Lighting	Strobes, Nav	
Conditions	VMC	
Visibility	10km	
Altitude/FL	3200ft	
Altimeter	QNH	
Heading	217°	
Speed	160kt	
ACAS/TAS	TCAS II	
Alert	None	
Separation		
Reported	0ft V/50ft H	
Recorded		NK



THE A319 PILOT reports that he was approximately 10.5nm final to RW27L at Heathrow when the FO spotted a small drone at the same level. It passed down the right-hand-side of the aircraft, about 50ft from the wing-tip. It was about the size of a football and orange in colour, but it was too small to pick up any other details. ATC were immediately informed.

He assessed the risk of collision as 'Medium'.

THE drone operator could not be traced.

THE GS AIRPORTS CONTROLLER reports that the pilot of the A319 reported an orange coloured drone operating at 10nm final RW27L at 3000ft. Three minutes later another aircraft reported a drone in a similar position, the incident was reported to the Met police.

Factual Background

The weather at Heathrow was recorded as follows:

METAR COR EGLL 221450Z AUTO 28009KT 9999 FEW049 17/08 Q1008 TEMPO SHRA=

Analysis and Investigation

UKAB Secretariat

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

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>.

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.²

(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.

In addition, the CAA has published regulation regarding First Person View (FPV) drone operations which limit this activity to drones of less than 3.5kg take-off mass, and to not more than 1000ft².

Summary

An Airprox was reported when a A319 and a drone flew into proximity at 1434 on Sunday 22nd May 2016. The A319 pilots was operating under IFR in VMC, and in receipt of a Radar Control Service from Heathrow Director. The drone operator could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the A319 pilot and radar photographs/video recordings.

The crew of the A319 reported seeing the drone at about 3000ft, whilst on final approach to Heathrow. The Board first noted that, as for other aviators, drone operators are fundamentally required to avoid collisions with all other aircraft. More specifically, drone flight above 400ft is prohibited in Class A 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 levels of 3000ft, the drone operator would almost certainly have been operating on first-person-view (FPV), for which regulation mandates that an additional person must be used as a competent observer who must maintain direct unaided visual contact with the drone in order to monitor its flight path in relation to other aircraft. Notwithstanding, even if an observer was being used, the Board thought that they would not have been able to see the drone clearly at that level. Under FPV operations, for drones of less than 3.5kg, the drone is not permitted to operate above 1000ft agl without CAA approval being gained and a NOTAM being issued. At 3000ft, the drone operator was flying within the London TMA Class A airspace without permission and, in his non-compliance, the Board considered that the drone operator was posing a flight safety risk.

Operating as he was in airspace within which he was not permitted meant that the Board considered that the cause of the Airprox was that the drone had been flown into conflict with the A319. Although the incident did not show on the NATS radars, the Board noted that the pilot had estimated the

² ORS4 No. 1168 Small Unmanned Aircraft – First Person View (FPV) Flying available at: [ORS4 No 1168](#).

separation to be 50ft from the wing-tip of the aircraft and at the same height. Acknowledging the difficulties in judging separation visually without external references, the Board considered that the pilot's estimate of separation, allied to his overall account of the incident, described a situation where safety margins had been much reduced below the norm; they therefore determined the risk to be Category B.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The drone was flown into conflict with the A319.

Degree of Risk: B.