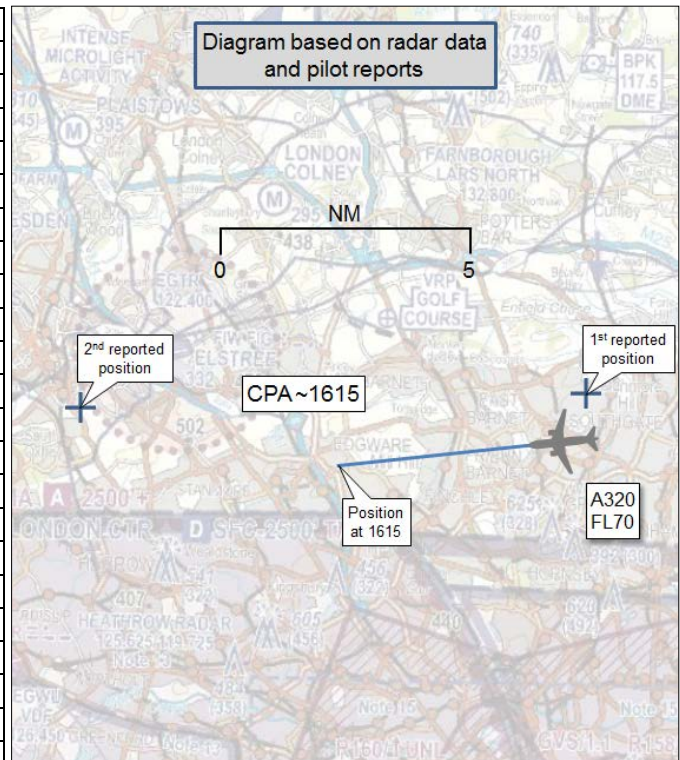


AIRPROX REPORT No 2016229

Date: 30 Oct 2016 Time: 1615Z Position: 5137N 00014W Location: 4nm SE Elstree

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	A320	Drone
Operator	CAT	Unknown
Airspace	London TMA	London TMA
Class	A	A
Rules	IFR	
Service	Radar Control	
Provider	Heathrow App	
Altitude/FL	FL70	
Transponder	A, C, S	
Reported		Not reported
Colours	Company	
Lighting	All on	
Conditions	VMC	
Visibility	20km	
Altitude/FL	FL70	
Heading	275°	
Speed	220kt	
ACAS/TAS	TCAS II	
Alert	None	
Separation		
Reported	2m V/5m H	
Recorded	NK	



THE A320 PILOT reports that during the intermediate approach from LAM, a large drone was seen by the flight crew, moving in a relative position from the forward left to the rear left of the aircraft. He assessed the drone to have passed less than 100ft from the aircraft (~20m) and possibly within the wingspan. The drone itself was blue and disc-like in structure, with a single rotor, approximately 50cm in diameter. ATC (Heathrow Approach) was immediately informed and Heathrow police met the aircraft upon arrival in order to complete a crime report. The pilot noted that here was a distinct possibility of damage if a collision were to have occurred.

He assessed the risk of collision as 'High'.

THE DRONE OPERATOR: The drone operator could not be traced.

THE HEATHROW CONTROLLER did not submit a report to the Airprox Board.

Factual Background

The weather at Heathrow was recorded as follows:

METAR COR EGLL 301620Z AUTO 06003KT 6000 NCD 12/10 Q1029 NOSIG=

Analysis and Investigation

UKAB Secretariat

There are no specific ANO regulations limiting the maximum height for the operation of drones that weigh 7kg or less other than if flown using FPV (with a maximum weight of 3.5kg) when 1000ft is the maximum height. Drones weighing between 7kg and 20kg are limited to 400ft unless in accordance with airspace requirements. Notwithstanding, there remains a requirement to 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. CAP 722 gives guidance that, within the UK, visual line of sight (VLOS) operations are normally accepted to mean a maximum distance of 500m [1640ft] horizontally and 400ft [122m] vertically from the Remote Pilot.

Nor are there any specific ANO regulations limiting the operation of drones in controlled airspace if they weigh 7kg or less other than if flown using FPV (with a maximum weight of 3.5kg) when they must not be flown in Class A, C, D or E, or in an ATZ during notified hours, without ATC permission. Drones weighing between 7kg and 20kg must not be flown in Class A, C, D or E, or in an ATZ during notified hours, without ATC permission. CAP722 gives guidance that operators of drones of any weight must avoid and give way to manned aircraft at all times in controlled Airspace or ATZ. CAP722 gives further guidance that, in practical terms, drones of any mass could present a particular hazard when operating near an aerodrome or other landing site due to the presence of manned aircraft taking off and landing. Therefore, it strongly recommends that contact with the relevant ATS unit is made prior to conducting such a flight.

Notwithstanding the above, all drone operators are also required to observe ANO 2016 Article 94(2) which requires that the person in charge of a small unmanned aircraft may only fly the aircraft if reasonably satisfied that the flight can safely be made, and the ANO 2016 Article 241 requirement not to recklessly or negligently cause or permit an aircraft to endanger any person or property. Allowing that the term 'endanger' might be open to interpretation, drones of any size that are operated in close proximity to airfield approach, pattern of traffic or departure lanes, or above 1000ft agl (i.e. beyond VLOS (visual line of sight) and FPV (first-person-view) heights), can be considered to have endangered any aircraft that come into proximity. In such circumstances, or if other specific regulations have not been complied with as appropriate above, the drone operator will be judged to have caused the Airprox by having flown their drone into conflict with the aircraft.

A CAA web site¹ provides information and guidance associated with the operation of Unmanned Aircraft Systems (UASs) and Unmanned Aerial Vehicles (UAVs) and CAP722 (UAS Operations in UK Airspace) provides comprehensive guidance.

Summary

An Airprox was reported when an A320 and a drone flew into proximity at about 1615 on Sunday 30th October 2016. The A320 pilot was operating under IFR in VMC in receipt of a Radar Control Service from Heathrow Approach. The drone operator could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the A320 pilot and radar photographs/video recordings.

Members agreed that the position and altitude of the drone was such that it had been flown into conflict with the A320 and that the reported separation was such that providence had played a major part in the aircraft not colliding. Some members also commented on the unusual reported

¹ dronesafe.uk

configuration of the single-rotor drone and wondered whether the pilot had mis-identified it. Others felt that the reported altitude was such that the drone may have been of a custom built configuration and not a mass-produced quad-rotor.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The drone was flown into conflict with the A320.

Degree of Risk: A.