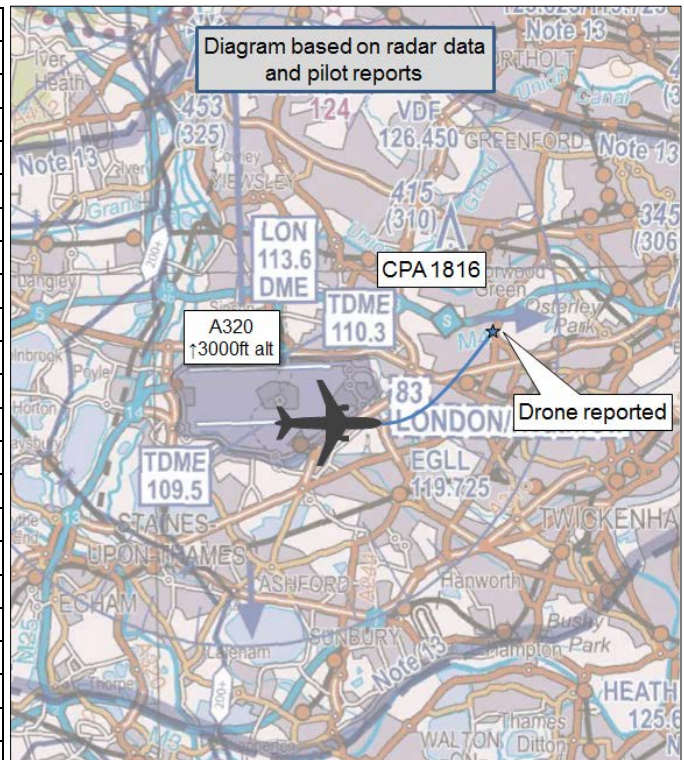


## **AIRPROX REPORT No 2016270**

Date: 03 Dec 2016 Time: 1816Z Position: 5129N 00022W Location: Heathrow

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	A320	Drone
Operator	CAT	Unknown
Airspace	LTMA	LTMA
Class	A	A
Rules	IFR	
Service	Aerodrome	
Provider	Heathrow TWR	
Altitude/FL	3000ft	
Transponder	A, C, S	
<b>Reported</b>		
Colours	Company	White, red
Lighting		
Conditions	VMC	
Visibility		
Altitude/FL	3000ft	
Altimeter	QNH	
Heading	030°	
Speed	230-250kt	
ACAS/TAS	TCAS II	
Alert	None	
<b>Separation</b>		
Reported	200-300ft V 0m H	
Recorded		NK



**THE A320 PILOT** reports that as they were on initial climb from Heathrow, a medium sized, white and red quadcopter-type drone was seen flying 200-300ft under their flight path. There was no time to take any avoiding action.

He perceived the severity of the incident as 'High'.

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

### **Factual Background**

The weather at Heathrow was recorded as follows:

METAR EGLL 031820Z AUTO 09006KT 9999 NCD 04/00 Q1025 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.

Neither 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 site<sup>1</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>2</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).  
..., stay well clear of airports and airfields'.

## Summary

An Airprox was reported when an A320 and a drone flew into proximity at 1816 on Saturday 3<sup>rd</sup> December 2016. The A320 pilot was operating under IFR in VMC, climbing out from Heathrow. 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 noted that the drone was operating at an estimated 3000ft and therefore beyond practical VLOS conditions. Also, in flying as they were within Class A airspace without the permission of Swanwick ATC, the Board considered that the drone operator had endangered the A320 and its occupants. Therefore, in assessing the cause, the Board agreed that the drone had been flown into conflict with the A320. Turning to the risk, although the incident did not show on the NATS radars, the Board noted that the pilot had estimated the separation of the drone to be about 200-300ft away. Acknowledging the difficulties in judging separation visually without external references, the Board

<sup>1</sup> [www.caa.co.uk/uas](http://www.caa.co.uk/uas)

<sup>2</sup> CAP 1202

considered that the pilot's estimate of separation, allied to his overall account of the incident, portrayed a situation where safety had been much degraded, 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 A320.

Degree of Risk: B.