



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 1159 on Friday 18<sup>th</sup> November 2016. The A320 pilot was operating under IFR in VMC, and in receipt of a Radar Control Service from Heathrow. The drone operator could not be traced.

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

Information available consisted of reports from the A320 pilot, radar photographs/video recordings, and a report from the air traffic controllers involved.

Members noted that the drone was operating at 3500ft and therefore beyond practical VLOS conditions. Also, in flying as it was within Class A airspace without the permission of ATC, the Board

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

<sup>2</sup> CAP 1202

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, the incident did not show on the NATS radars but the Board noted that the pilot estimated the drone to be within 50m of the aircraft. Acknowledging the difficulties in judging separation visually without external references, the Board considered that the pilot's overall account of the situation portrayed a situation where a collision had only been narrowly avoided and chance had played a major part. They therefore determined the risk to be Category A.

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

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

Degree of Risk: A.