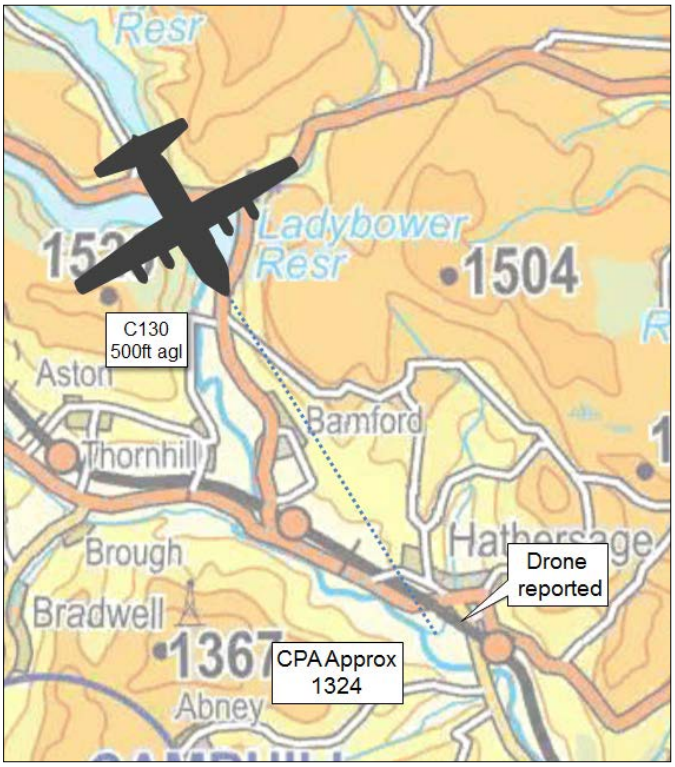
AIRPROX REPORT No 2016251

Date: 29 Nov 2016 Time: 1324Z Position: 5320N 00140W Location: Hathersage

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C130	Drone
Operator	HQ Air (Ops)	Unknown
Airspace	London FIR	
Class	G	G
Rules	VFR	
Service	None	
Provider		
Altitude/FL		
Transponder	A,C,S	
Reported		
Colours	Green	Black
Lighting	Strobes, Nav, Wing-tip	
Conditions	VMC	
Visibility	10km	
Altitude/FL	500ft	
Altimeter	QNH (1034hPa)	
Heading	south	
Speed	220kt	
ACAS/TAS	TCAS II	
Alert	Unknown	
Separation		
Reported	0ft V/200ft H	
Recorded	NK	



THE C130 PILOT reports he was southbound low-level from the Ladybower reservoir heading towards Chatsworth House, when they saw a black, 4 or 5 bladed drone, pass down the LHS of the aircraft at the same height and approximately 200ft away. The weather conditions were good, although forward visibility was compromised due to the low lying sun. The crew identified the object in the forward left quadrant and initially assumed it was a bird, but it quickly became apparent that the object was stationary in the windshield, suggesting a collision course. The aircraft was manoeuvred right to change the vector at which point it became apparent that the object was a drone in the hover. The aircraft was maintaining 500ft AGL at the time, and the drone was at the same level; it was close enough for the crew to see the detail of the drone including the individual blades.

He assessed the risk of collision as 'Very High'.

THE DRONE OPERATOR could not be traced.

Factual Background

The weather at Leeds Bradford was recorded as follows:

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METAR EGNM 291320Z 25008KT CAVOK 04/04 Q1032=
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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.

Additionally, 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[1] 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[2] 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.'

Comments

HQ Air Command

The only realistic mitigation against a mid-air collision with a small drone in Class G Airspace at low level is see and avoid. The crew were fortunate in this instance to be able to see the drone and take appropriate action. It is possible for a drone operator (or indeed any operator) to contact the Low Flying Ops Cell 0800 515 544 on the day to find out whether there are any planned military low level flights in their intended area of operations.

Summary

An Airprox was reported when a C130 and a drone flew into proximity at approximately 1324 on Tuesday 29th November 2016. The C130 pilot was operating under VFR in VMC, without an ATS. The drone operator could not be traced.

[1] www.caa.co.uk/uas
[2] CAP 1202

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the C130 pilot and radar photographs/video recordings.

Members agreed that notwithstanding the need to be reasonably satisfied that the flight could be carried out safely and without endangering other aircraft, by flying at around 500ft the drone was being operated in accordance with CAA guidelines. Therefore, because both air-systems were entitled to operate in that location, the Board quickly agreed that this was a simple conflict in Class G airspace. When it came to assessing the risk, although the incident did not show on the NATS radars, the Board noted that the pilot had estimated the separation to be about 200ft away and at the same height as the aircraft. 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, portrayed a situation where safety was not assured. The C130 pilot had managed to take avoiding action, albeit at a late stage, and they therefore determined the risk to be Category B.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: A conflict in Class G airspace.

Degree of Risk: B.