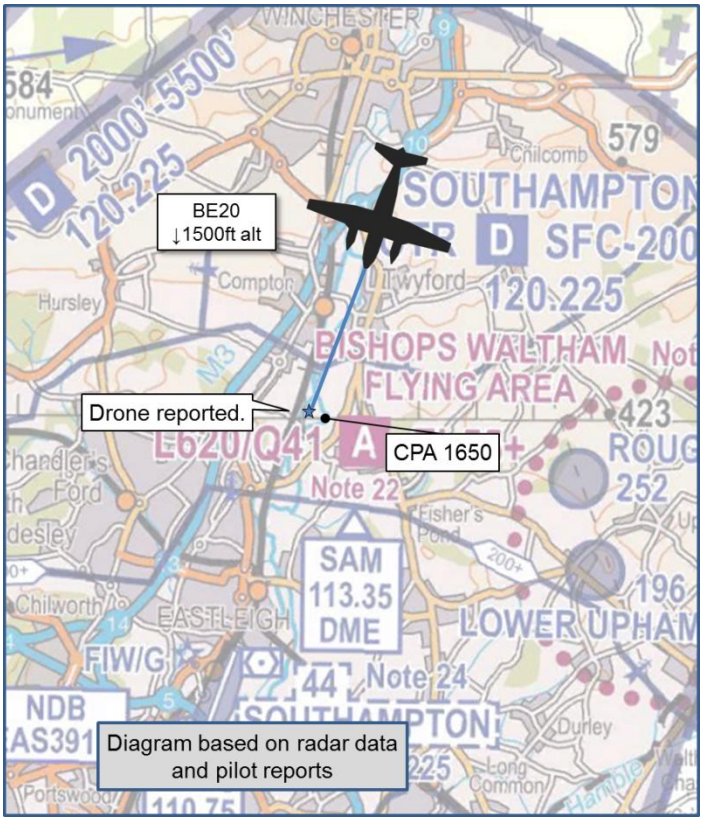
AIRPROX REPORT No 2015117

Date: 26 Jul 2015 (Sunday) Time: 1650Z Position: 5100N 00119W Location: Southampton Airport

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	BE200	Drone
Operator	Civ Comm	Unknown
Airspace	Southampton CTR	
Class	D	D
Rules	IFR	
Service	Aerodrome	
Provider	Southampton	
Altitude/FL	1100ft	
Transponder	A,C,S	
Reported		
Colours	White, red, blue	
Lighting	HISL, Nav	
Conditions	VMC	
Visibility	10km	
Altitude/FL	1100ft	
Altimeter	QNH (998hPa)	
Heading	200°	
Speed	130kt	
ACAS/TAS	Not fitted	
Separation		
Reported	0ft V/8m H	
Recorded	NK	



THE BE200 PILOT reports that he was established on the ILS to RW20 at Southampton, about 3nm from the airport, when he flew past a drone. The drone had 4 blades with silver or white arms and a black body, was approximately 1m in length. It was dead level with his aircraft and was about 2 wing lengths to his right. He had already completed checks, so cockpit workload was medium; even so there was insufficient time to take avoiding action.

He assessed the risk of collision as 'High'.

THE DRONE OPERATOR could not be traced.

THE SOUTHAMPTON AERODROME CONTROLLER reports the BE200 was inbound to RW20 when the pilot reported a silver drone. He reported it as on the right-hand-side at 1200ft on 3nm final. It was reported as within 2 wing lengths away from the aircraft and 1m x 30cms in size.

Factual Background

The weather at Southampton was reported as:

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METAR EGHI 261650Z 22012G26KT 190V260 9999 FEW010 SCT015 17/14 Q0998
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Analysis and Investigation

CAA ATSI

The pilot of the BE200 on final approach reported a drone on their right hand side, in line with them at 1200ft when they were at 3DME. After landing the pilot added that the drone had been as close as "2 wing-lengths to the right", 1 metre in length, "30cms wide" and silver in colour.

Radar replay confirmed no other contacts visible in the area.

UKAB Secretariat

The Air Navigation Order 2009 (as amended), Article 138[1] states:

> 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.'
>
> (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.

A CAA web site[2] provides information and guidance associated with the operation of Unmanned Aircraft Systems (UASs) and Unmanned Aerial Vehicles (UAVs).

The CAA has published a UAV Safety Notice[3] 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).
> Also, stay well clear of airports and airfields.

In addition, the CAA has published guidance 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 1000ft[4].

[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.
[2] www.caa.co.uk/uas
[3] CAP 1202
[4] ORSA No. 1108 Small Unmanned Aircraft – First Person View (FPV) Flying available at: http://www.caa.co.uk/docs/33/1108.pdf.

Summary

An Airprox was reported on 26 Jul 2015 at 1650 between a BE200 and a drone. The BE200 was on final approach to Southampton and the pilot described the drone as passing "within 2 wing lengths" of his aircraft. The drone operator could not be traced. The incident did not show on the NATS radars and so the exact separation could not be determined.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

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

The crew of the BE200 reported the seeing the drone at 1100ft at 3nm finals to Southampton airport. The Board first noted that, as for other aviators, drone operators are fundamentally required to avoid collisions with all aircraft. More specifically, drone flight above 400ft is prohibited in Class D 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, if flying at levels of around 1100ft, members opined that the drone operator was probably flying 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. 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. The Board noted that the ground in the area was about 80ft above mean sea level, and so members could not be sure that the drone was flying above 1000ft agl. Nevertheless, even if it was below 1000ft agl, it was still within the Southampton CTR Class D 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 operator had flown into conflict with the BE200. Unsurprisingly, the incident did not show on the NATS radars and therefore the exact separation between the two air-systems was not known; however, the BE200 pilot estimated the separation to be 8m, or two wing lengths away, and so the Board based their assessment of risk on this estimation. It was determined therefore that the risk was Category A, separation had been reduced to the minimum and chance had played a major part in events.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The drone was flown into conflict with the BE200.

Degree of Risk: A

AIRPROX 117/2015: ATSI Short Report

Time (UTC)	1652
Position of AIRPROX	Southampton Final Approach Runway 20.
Airspace	Class D
Minimum Distance	0ft vertical 17m horizontal

	Beech 200 (BE20)	**Drone**
Departure point	Prestwick	u/k
Destination	Southampton	u/k
Flight Rules	IFR	Unknown
Service	Aerodrome Control Service	None
Frequency	Southampton Tower 118.20 Mhz	
Weather	EGHI 261650Z 22012G26KT 190V260 9999 FEW010 SCT015 17/14 Q0998=	

Synopsis

The pilot of the BE20 on final approach reported a drone on their right hand side, in line with them at 1200ft when they were at 3DME. After landing the pilot added that the drone had been as close as "2 wing-lengths to the right", 1 metre in length, "30cms wide" and silver in colour.

Radar replay confirms no other contacts visible in the area.

Tim Roberts
ATS Investigator

29 October 2015

Distribution:

CAA Safety Data Department
UK AIRPROX Board