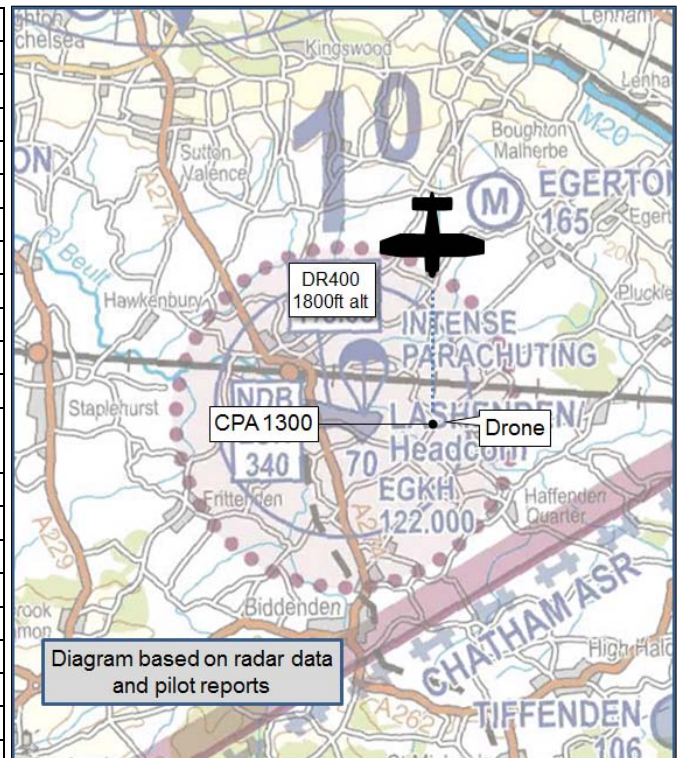


AIRPROX REPORT No 2016054

Date: 17 Apr 2016 Time: 1300Z Position: 5109N 00040E Location: Lashenden, Kent

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DR400	Drone
Operator	Civ Pte	
Airspace	Lashenden ATZ	Lashenden ATZ
Class	G	G
Rules	VFR	
Service	AGCS	
Provider	Lashenden	
Altitude/FL	NK	
Transponder	A, C off	
Reported		
Colours	White, Red, Green	Black, Blue
Lighting	Beacon, Strobes, Landing	
Conditions	VMC	
Visibility	>10km	
Altitude/FL	1800ft	
Altimeter	1013hPa	
Heading	180°	
Speed	80kt	
ACAS/TAS	Not fitted	
Separation		
Reported	50-100ftV/0m H	
Recorded		NK



THE DR400 PILOT reports that he was returning to Lashenden aerodrome, intending to join the circuit on the downwind leg. He was approximately abeam the airfield, 1nm beyond the crosswind end of the runway, and had announced his intentions on Lashenden's radio. There were several other aircraft in the circuit, visibility was excellent and he was scanning for other aircraft that might be joining the circuit. His passenger, also a qualified pilot, pointed to a drone flying towards them, it passed 50-100ft below his left wing-tip on a reciprocal heading. There was no time to take avoiding action. He immediately reported it on the radio to warn other aircraft and continued to make an uneventful landing. After landing, he reported the incident to the local police.

He assessed the risk of collision as 'High'.

The drone operator could not be traced.

Factual Background

The weather at Gatwick was recorded as follows:

METAR EGKK 171250Z 33006KT 290V360 9999 FEW045 11/00 Q1017=

Analysis and Investigation

UKAB Secretariat

The Air Navigation Order 2009 (as amended), Article 138¹ states:

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>.

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....

(b) within an aerodrome traffic zone ...; or

(c) at a height of more than 400 feet above the surface...

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 1000ft².

Summary

An Airprox was reported when a DR400 and a drone flew into proximity at 1300 on day 17th April 2016. The DR400 pilot was operating under VFR in VMC and joining the Lashenden circuit at 1800ft. The drone operator could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the DR400 pilot and radar photographs/video recordings.

The Board noted that the DR400 pilot reported seeing the drone at 1800ft. Flying at this height the drone operator would almost certainly be operating 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. Notwithstanding, even if an observer was being used, the Board thought that they would not have been able to see the drone clearly at that level. Additionally, flying at this height would place the drone within Lashenden’s ATZ, which is not permitted without permission.

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 had been flown into conflict with the DR400. Unsurprisingly, the incident did not show on the NATS radars and therefore the exact separation between the two air-systems was not known. Recognising the difficulty in estimating range in dynamic situations without references, the Board noted that the DR400 pilot had reported that the drone had flown 50-100ft below his aircraft; therefore, the Board determined that the risk was Category B, safety had been much reduced below normal.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The drone was flown into conflict with the DR400.

Degree of Risk: B.

² ORSA No. 1108 Small Unmanned Aircraft – First Person View (FPV) Flying available at: [ORSA No 1108](#).