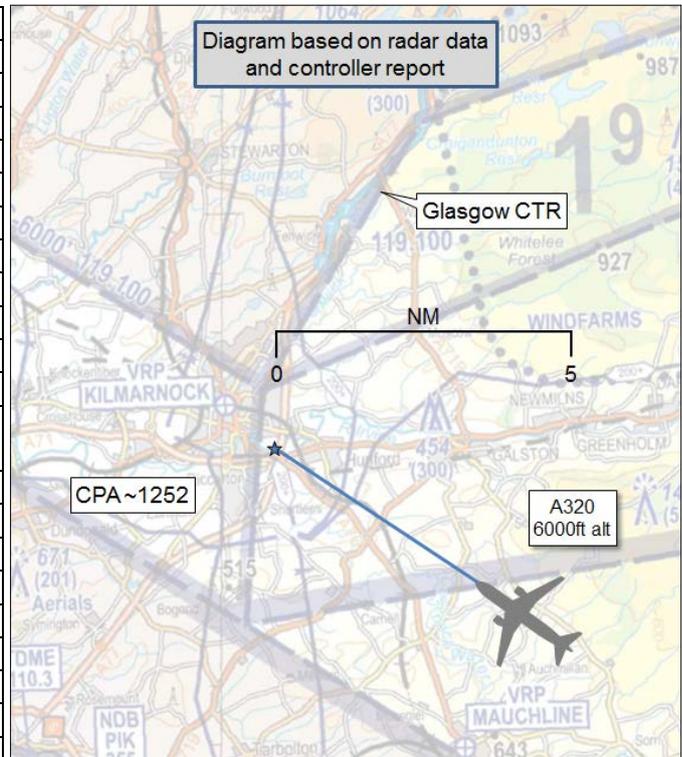


AIRPROX REPORT No 2016244

Date: 22 Nov 2016 Time: 1252Z Position: 5536N 00428W Location: 1nm SE Kilmarnock

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

| Recorded | Aircraft 1 | Aircraft 2 |
|-----------------|-----------------------|--------------|
| Aircraft | A320 | Drone |
| Operator | CAT | Unknown |
| Airspace | Scottish TMA | Scottish TMA |
| Class | D | D |
| Rules | IFR | |
| Service | Radar Control | |
| Provider | Glasgow | |
| Altitude/FL | 6000ft | |
| Transponder | A, C, S | |
| Reported | | Not reported |
| Colours | Company | |
| Lighting | Strobes, landing, nav | |
| Conditions | VMC | |
| Visibility | 10km | |
| Altitude/FL | 6000ft | |
| Altimeter | QNH (1004hPa) | |
| Heading | 290° | |
| Speed | 220kt | |
| ACAS/TAS | TCAS II | |
| Alert | None | |
| | Separation | |
| Reported | 100ft V/250ft H | |
| Recorded | NK | |



THE A320 PILOT reports level and decelerating on the base leg for RW05 at Glasgow when the First Officer saw a red and black drone, about 50cm x 50cm in size, pass down the left side of the aircraft, slightly below. The pilot noted that no action was possible in terms of flight-path change because, by the time it had been sighted and verbalised, it had passed behind. ATC was informed and police met the aircraft at the stand and the crew gave a statement.

He assessed the risk of collision as 'Medium'.

THE DRONE OPERATOR: The drone operator could not be traced.

THE GLASGOW CONTROLLER reports that whilst being vectored to the ILS RW05, the pilot reported a drone at his level of 6000ft. It was reported as being 400ft away, 1ft cubed and just southeast of Kilmarnock. The aircraft landed safely.

Factual Background

The weather at Prestwick was recorded as follows:

METAR EGPK 221250Z 35006KT 300V050 9999 FEW035 07/01 Q1004=

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.

Nor 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 site¹ provides information and guidance associated with the operation of Unmanned Aircraft Systems (UASs) and Unmanned Aerial Vehicles (UAVs) and CAP722 (UAS Operations in UK Airspace) provides comprehensive guidance.

Summary

An Airprox was reported when an A320 and a drone flew into proximity at about 1252 on Tuesday 22nd November 2016. The A320 pilot was operating under IFR in VMC in receipt of a Radar Control Service from Glasgow. 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, radar photographs/video recordings and a report from the air traffic controller involved.

Members agreed that at that altitude the drone could not have been operated within visual line of sight and as such was flown into conflict with the A320. 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

¹ dronesafe.uk

separation to be about 400ft in his report to Glasgow ATC, with the drone slightly below 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 where he was able to describe the drone in some detail, portrayed a situation where safety was not assured. Allied to the fact that the A320 pilot had not been able to take avoiding action due to the late sighting and rapid passing of the drone, the Board 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.