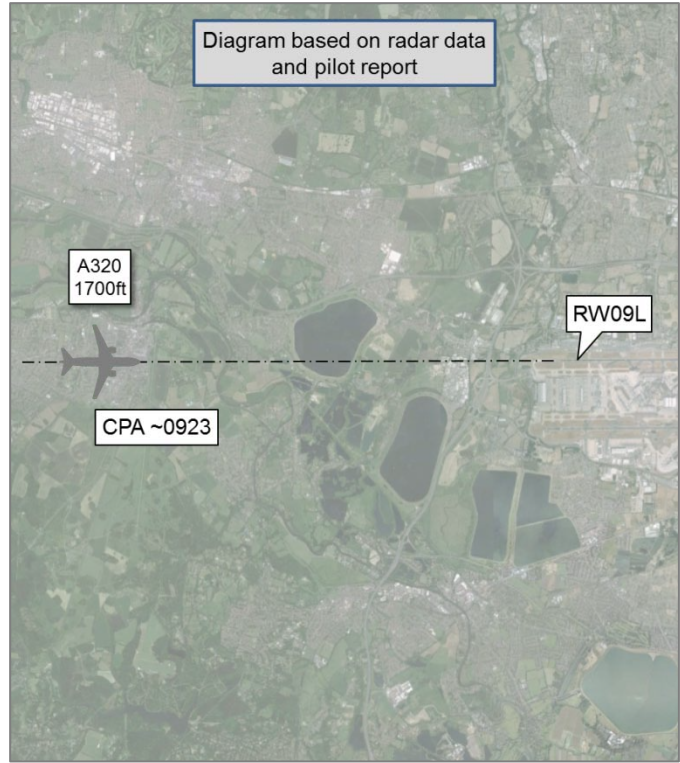


**AIRPROX REPORT No 2015024**

Date: 15 Mar 2015 Time: 0923Z Position: 5129N 00037W Location: 5nm west of Heathrow (Sunday)

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	A320	Drone?
Operator	CAT	Unknown
Airspace	London CTR	London CTR
Class	D	D
Rules	IFR	
Service	Aerodrome	
Provider	Heathrow	
Transponder	A/C/S	
Reported		
Colours	White/blue	Black
Lighting	All on	
Conditions	VMC	
Visibility	>10km	
Altitude/FL	1800ft	
Altimeter	QNH (1029hPa)	
Heading	090°	
Speed	160kt	
ACAS/TAS	TCAS II	
Alert	Nil	
Separation		
Reported	50ft V/0m H	
Recorded		NK



**THE A320 PILOT** reports conducting a normal approach to RW09L at London Heathrow. At 4.5nm from the threshold, a black object appeared and was observed tracking in a westerly direction, up the approach path. The object passed about 50ft directly above the aircraft. ATC were informed. The pilot did not take avoiding action, and the approach was continued to a normal landing. The pilot stated that the object was rectangular in shape and appeared to be propeller driven, 'like a drone'.

He did not make an assessment of the risk of collision.

**THE DRONE OPERATOR:** Despite extensive investigation, a drone operator could not be traced.

**THE HEATHROW AERODROME CONTROLLER** reports that the A320 pilot reported a balloon or drone like object passed above the aircraft at approximately 4.5nm from touchdown, at 1700ft.

**Factual Background**

The weather at Heathrow was recorded as follows:

METAR EGLL 150920Z 05008KT 020V080 9999 SCT018 BKN044 06/03 Q1028 NOSIG  
 METAR EGLL 150950Z 06010KT 9999 SCT021 BKN040 06/03 Q1028 NOSIG

**Analysis and Investigation**

**CAA ATSI**

The A320 was on a scheduled flight to Heathrow and making an approach to RW09L. At 0923:10, the aircraft had just passed 4.5nm final and was passing approximately 1700ft. At this point the

pilot reported passing an object “...some kind of balloon or drone, small drone type object that flew over us”. The controller questioned which direction the object was moving and the pilot replied west bound. The controller initially misidentified the reporting aircraft but requested again the details of the report to which the pilot confirmed “...a balloon or drone like object...” The radar replay did not indicate another object at the position during this time. Further landing aircraft were advised of the report but there were no other sightings. It has not been possible to identify whether the object was a balloon or a drone.

### **UKAB Secretariat**

The incident occurred at such an altitude that it is considered unlikely that the object was a drone controlled visually from the ground. The possibility exists that it may have been a drone controlled by ‘First Person View’. It is estimated that the prevailing wind at altitude would have caused a balloon to track almost directly along the approach path. The pilot stated that the object was rectangular in shape and appeared to be propeller driven.

### **Summary**

An Airprox was reported when an Airbus A320 flew into proximity with a reported drone or balloon at about 0923 on Sunday 15<sup>th</sup> March 2015. The A320 pilot was operating under IFR in VMC, in receipt of an Aerodrome Control Service from Heathrow.

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

Information available consisted of a report from the A320 pilot, radar photographs/video recordings, a report from the air traffic controller involved and a report from the appropriate ATC authority.

The Board considered the actions of the A320 pilot and noted that, with his aircraft configured for landing, he had had only a limited capability to take avoiding action had it been required. They also noted that the pilot had simply reported that the encounter had involved a non-specific drone-like or balloon-like object; Board members opined that it had probably been a combination of his closure speed and the startle factor of suddenly seeing something on his approach path that had contributed to his uncertainty. Some members felt that it may indeed have been a balloon, which the prevailing wind would have blown along the approach path, but others noted that he had later commented that it appeared to be propeller-driven and so this indicated to them that it was more possibly a small unmanned object. After much discussion, members agreed that, although there had clearly been something there, in this case there was simply too little information to make a reliable assessment of either what it was or the risk of collision. Nevertheless, it was clear that the A320 pilot had been concerned by its proximity and the consequent safety of his aircraft.

The Board also commented on the increasing incidence of Airprox involving ‘drones’. Members noted that, although drones were often marketed as toys, they were capable of being operated in the same airspace as commercial and GA aircraft to which they could easily cause catastrophic damage in a collision. They reiterated that even casual drone operators held the responsibility to ensure their activities were conducted legally and preferably with due regard to other airspace users. In this respect, members noted the contents and requirements of CAP722 (Unmanned Aircraft System Operations in UK Airspace – Guidance) and recent changes to CAP493 (Manual of Air Traffic Services Part 1), as set out in SI 2015/02 (Issue 1) dated 8 May 2015, concerning the procedure to be adopted when reporting an Airprox involving a ‘drone’.

[UKAB Note: SI 2015/02 (Issue 1) is included at Annex A to this report.]

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

Cause: The A320 pilot was concerned by the proximity of the balloon/drone.

Degree of Risk: D.

# Supplementary Instruction (SI) CAP 493 MATS Part 1

Safety and Airspace Regulation Group  
Intelligence, Strategy and Policy



Number 2015/02 (Issue 1)

Issued: 8 May 2015

Effective Date: 8 May 2015

## AIRPROX Involving Small Unmanned Aircraft

### 1 Introduction

- 1.1 A marked increase in the number of AIRPROX reports involving small unmanned aircraft (more generally referred to as 'drones') has occurred recently. A common theme through these recent reports is that the encounters have been reported at altitudes above 1,500 feet, which is in almost all cases well beyond a height that the person flying the 'drone' will be able to maintain visual contact with it, and the airspace around it.
- 1.2 The purpose of this Supplementary Instruction is to amend the AIRPROX reporting procedure within CAP 493 - Manual of Air Traffic Services Part 1 when an AIRPROX report involving a small unmanned aircraft is reported to ATC.

### 2 Background

- 2.1 A small unmanned aircraft is defined within the Air Navigation Order (ANO) as 'any unmanned aircraft, other than a balloon or a kite, having a mass of not more than 20 kg without its fuel but including any articles or equipment installed in or attached to the aircraft at the commencement of its flight.' This definition is all encompassing and includes traditional 'model aircraft' as well as the newer 'multicopter' types, whether they are being used recreationally or for commercial purposes. Small unmanned aircraft operations are specifically regulated by ANO 2009 articles 166 and 167; however, ANO 2009 article 138 (endangerment) also applies.
- 2.2 Because of their relatively simple nature, unless specific approval has been given, a small unmanned aircraft must always be operated within the direct visual contact of the person flying it so that they can avoid collisions with other aircraft. ANO 2009 article 166(3) specifically states:

'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.'
- 2.3 Unlike manned aviation, tracing the person in charge of small unmanned aircraft is extremely challenging, due to their remoteness from the aircraft itself. Therefore, speed of reporting is essential so that the operator can be located, particularly if it is likely that the aircraft is being operated in a manner that is likely to endanger others (e.g. in close proximity to another aircraft and/or at an excessive height). In order to achieve this, Air Traffic Service Units receiving an AIRPROX report involving what is

**CAP 493 Supplementary Instruction**

**Intelligence, Strategy and Policy**

thought likely to be a small unmanned aircraft must inform the Civil Police as soon as practicable.

**3 Revised MATS Part 1 Procedures**

3.1 With immediate effect, CAP 493 is amended as shown at [Appendix A](#).

3.2 This change will be incorporated into CAP 493, Edition 6 at Amendment 2 in due course.

**4 Queries**

4.1 Any queries or further guidance required on the content of this SI should be addressed to:

ATS Enquiries  
Intelligence, Strategy and Policy  
CAA Safety and Airspace Regulation Group  
2W Aviation House  
Gatwick Airport South  
West Sussex  
RH6 0YR

E-mail: [ats.enquiries@caa.co.uk](mailto:ats.enquiries@caa.co.uk)

4.2 Any queries relating to the availability of this SI should be addressed to:

ATS Documents  
Intelligence, Strategy and Policy  
CAA Safety and Airspace Regulation Group  
2W Aviation House  
Gatwick Airport South  
West Sussex  
RH6 0YR

E-mail: [ats.documents@caa.co.uk](mailto:ats.documents@caa.co.uk)

**5 Cancellation**

5.1 This SI shall remain in force until incorporated into CAP 493 or it is revoked, suspended or amended.

**Appendix A**

**Glossary**

**Definitions**

**Small Unmanned Aircraft** Any unmanned aircraft, other than a balloon or a kite, having a mass of not more than 20 kg without its fuel but including any articles or equipment installed in or attached to the aircraft at the commencement of its flight. (ANO)

**Abbreviations**

SUA Small Unmanned Aircraft

**Section 6: Chapter 3: Aircraft Accident, Incident and AIRPROX Reports**

**Paragraph 3: Reporting Action at Aerodromes**

Table 2

Circumstances of an Incident	Reporting Action by telephone to	Subsequent Action
AIRPROX Report	ACC Watch Manager Aircraft Operators Other ATSU's involved	Dispatch CA 1094A. SRG 1602 from all concerned to Safety Data.
<u>AIRPROX Report involving SUA</u>	<u>Civil Police: Provide location of AIRPROX as soon as practicable to initiate tracing action</u>  <u>ACC Watch Manager</u> <u>Aircraft Operator</u> <u>Other ATSU's as necessary</u>	

**Section 6: Chapter 3: Aircraft Accident, Incident and AIRPROX Reports**

**Paragraph 4: Reporting Action at ACCs**

**Table 3**

Circumstances of an Incident	Reporting Action by telephone to	Subsequent Action
AIRPROX Report	Aircraft Operators Other ATSU's involved	Dispatch CA 1094A. SRG 1602 from all concerned to Safety Data.
AIRPROX Report involving SUA	Civil Police: Provide location of AIRPROX as soon as practicable to initiate tracing action  Aircraft Operator Other ATSU's as necessary	