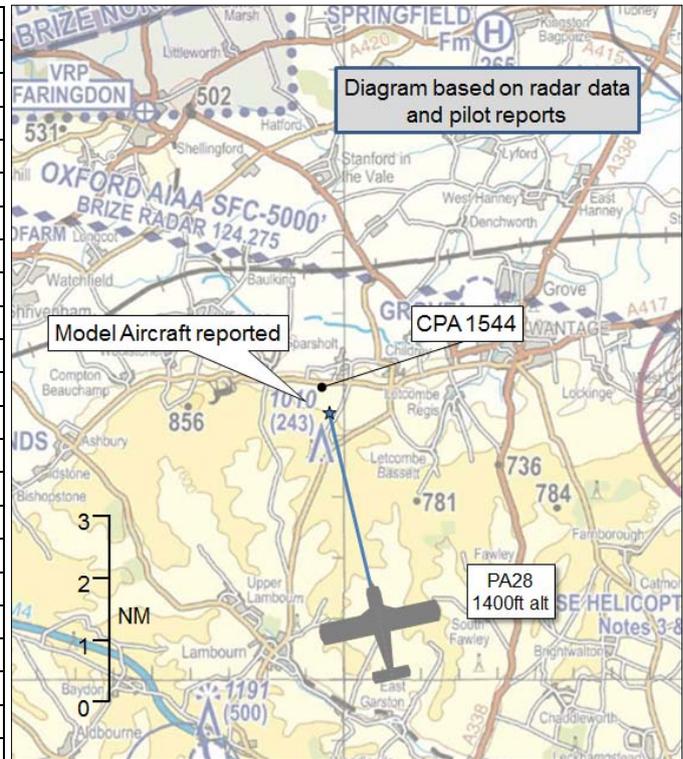


**AIRPROX REPORT No 2016146**

Date: 23 Jul 2016 Time: 1544Z Position: 5134N 00130W Location: 6nm SE Faringdon VRP

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

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	Model
Operator	Civ Club	Unknown
Airspace	Lon FIR	
Class	G	
Rules	VFR	
Service	Basic	
Provider	Brize	
Altitude/FL	1400ft	
Transponder	A, C, S	
<b>Reported</b>		
Colours	Blue, Gold	Red
Lighting	Strobes	
Conditions	VMC	
Visibility	>30km	
Altitude/FL	1600ft	
Altimeter	QNH (1020hPa)	
Heading	336°	
Speed	100kt	
ACAS/TAS	Not fitted	
<b>Separation</b>		
Reported	300ft V/15m H	
Recorded		NK



**THE PA28 PILOT** reports that he was conducting an en-route descent to 1300ft QNH in accordance with instructions issued by Brize Zone. He observed a bright-red, radio-controlled model-aircraft on a south-westerly heading in an area to the north of Sparshot Firs Mast. Ground elevation at this point is about 750ft amsl. He then observed the model commence a right-hand turn on to a north-east heading and, a few seconds later, it did a vertical zoom climb to a position slightly left and below his track. He took avoiding action by performing a steep turn to the right at 60° AOB. After regaining level flight, he reported the incident to Brize.

He assessed the risk of collision as ‘High’.

**The model aircraft operator could not be traced.**

**THE BRIZE CONTROLLER** reports that he was working with the radar positions App/Dir/Zone banded. The PA28 was on frequency, receiving a Basic Service, and had been identified so the controller was following it on radar. At approximately 1545, the pilot reported that he had come within 500ft of a model aircraft. The controller informed him that nothing could be seen on radar and asked whether he wished to file an Airprox; the pilot replied that he would telephone when he landed, which he did. The controller noted that they had not been informed of any model flying in the vicinity.

He perceived the severity of the incident as ‘High’.

**Factual Background**

The weather at Brize was recorded as follows:

METAR EGVN 231450Z 26006KT 9999 SCT048 26/13 Q1019 BLU NOSIG=  
 METAR EGVN 231550Z 25007KT 9999 FEW048 SCT250 25/13 Q1019 BLU NOSIG=

Portions of the tape transcripts between Brize Norton ATC and the PA28 are below:

From	To	Speech Transcription	Time
PA28	Brize Zone	{PA28 c/s} just uh had a uh model aircraft come closer than five hundred feet towards me	15:44:02
Brize Zone	PA28	{PA28 c/s} nothing seen on radar is that still in your current vicinity	15:44:11
PA28	Brize Zone	Yes about 15 seconds ago	15:44:17
Brize Zone	PA28	Ah roger nothing seen on radar	15:44:20

## Analysis and Investigation

### Military ATM

The pilots report indicates a red model aircraft being flown in the vicinity of the Faringdon VRP at approximately 750ft amsl. The controllers report indicates no awareness of model aircraft activity in the area. The NATS radar replay shows no contacts in the immediate vicinity at the time of the Airprox. The PA28 was under a Basic Service inbound to Brize Norton and the controller reported nothing observed on radar. The controller would have been unable to pass Traffic Information on the model aircraft as they were unaware of the model flying and had not been made aware of such activity from other sources.

### UKAB Secretariat

There are no specific ANO regulations regarding minimum separation of drones (including model aircraft) from people, vessels, vehicles or structures for drones, or model aircraft, up to 20kg that are not fitted with surveillance or data acquisition systems [i.e. without cameras] other than if flown using FPV (with a maximum weight of 3.5kg) when 50m [164ft] is the minimum distance (or 30m [98ft] when taking off or landing), or 150m [492ft] from any congested area or open-air assembly. For all drones or model aircraft up to 20kg that are fitted with surveillance and data acquisition systems [i.e. with cameras] the minimum separation distances are 50m [164ft] (or 30m [98ft] when taking off or landing) from people or objects that are 'not under the control of the person in charge' (i.e. third parties), or 150m [492ft] from any congested area or open-air assembly. Notwithstanding, CAP1202 advice is to never fly any drone or model aircraft within 50m [164ft] of a person, vehicle or building.

Neither are there any specific ANO regulations limiting the maximum height for the operation of drones (or model aircraft) 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 (and model aircraft) 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.

Specifically, the Air Navigation Order 2009 (as amended), states:

#### Article 138<sup>1</sup>:

A person must not recklessly or negligently cause or permit an aircraft to endanger any person or property.

<sup>1</sup> 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>.

Article 166, paragraphs 2, 3 and 4:

(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.

### **Occurrence Investigation**

The Brize investigation found that the incident occurred in the vicinity of the White Horse Hill, an area which is popular with model aircraft flyers and is also where Brize club pilots descend prior to entering the Brize CTZ via the Faringdon VRP. They commented that club pilots would be reminded of the need to be vigilant when operating in this area.

### **Summary**

An Airprox was reported when a PA28 and a model aircraft flew into proximity at 1545 on Saturday 23<sup>rd</sup> July 2016. The PA28 pilot was in receipt of a Basic Service from Brize. The model operator could not be traced.

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

Information available consisted of a report from the PA28, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board first looked at whether the model should have been flown in that location and, having no way of knowing its weight could not come to a conclusion over which of the height rules applied. However, noting that the spot heights on the charts in the area of the Airprox were in the region of 700-800ft, a model aircraft operator could legally fly his aircraft, whatever the weight, up to 400ft agl and thus the model could easily be justifiably in the region of 1200ft, close to the altitude of the PA28. Notwithstanding the need for the model operator not to endanger the PA28, without an associated report the Board had no way of knowing whether he was aware of the approaching PA28 or not. In the event the PA28 pilot saw the model in good time and was then able to take action when he saw it climbing quickly in his vicinity. In concluding that both air-systems were entitled to operate in this area, the Board thought that the incident was best described as a conflict in Class G and, because the PA28 pilot had taken timely and effective avoiding action, they assessed the risk as Category C.

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

Cause: A Conflict in Class G.

Degree of Risk: C.