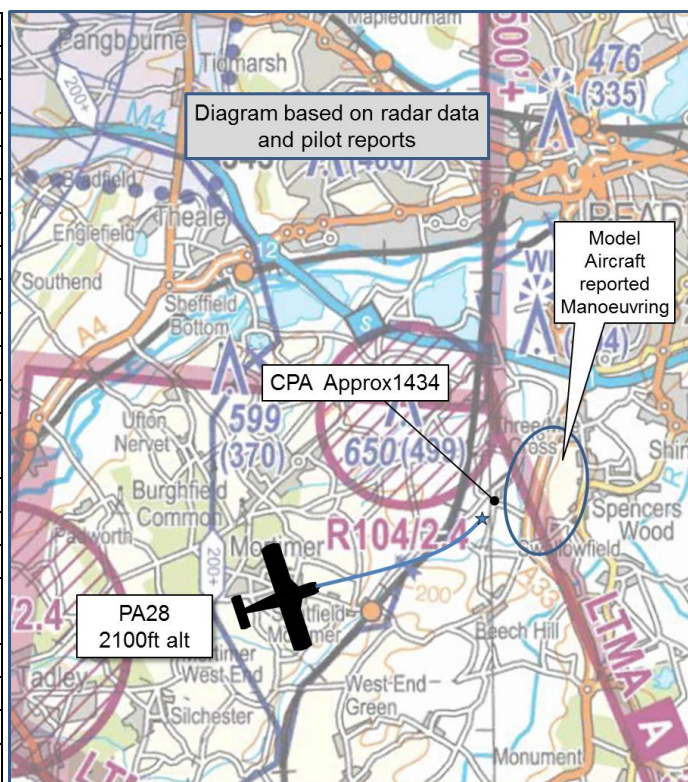


AIRPROX REPORT No 2015017

Date: 21 Feb 2015 (Saturday) Time: 1434Z Position: 5123N 00110W Location: IVO Brimpton

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	Model
Operator	Civ Pte	Unknown
Airspace	Lon FIR	Lon FIR
Class	G	G
Rules	VFR	NA
Service	Basic	None
Provider	Farnborough	NA
Altitude/FL	NK	NK
Transponder	3A, NMC	NA
Reported		
Colours	White	Orange
Lighting	Strobes, Wingtip lights	NK
Conditions	VMC	NK
Visibility	Good	NK
Altitude/FL	2100ft	NK
Altimeter	QNH (1001hPa)	NA
Heading	010°	NK
Speed	100kt	NK
Separation		
Reported	0ftV 20-100ft H	NK
Recorded	NK	



THE PA28 PILOT reports transiting to White Waltham at 2100ft whilst receiving a Basic Service from Farnborough. He noticed what he first thought to be an aircraft at some distance, but then realised it was an orange model aircraft. As it got closer he could see that it had a wing span of 4-5 ft and was in his 1 o'clock. It flew straight towards him and his natural reaction was to immediately turn left. He reported that it then flew along-side him between 20 to 100ft away and started to do aerobatics at a height of between 2000 and 2500ft, manoeuvring between 300ft below him and 300ft above him. The model was fast and powerful and could easily keep pace with his own aircraft. The incident lasted for about 90 seconds before the model turned south and continued to do aerobatics behind him; at times he had been frightened that it might hit his propeller. The pilot informed Farnborough that he was being "tagged" by a model aircraft and that he thought his avoiding action may have caused him to infringe on Brimpton. The Farnborough controller reported intermittent radar signals on a contact close to him. The pilot then warned White Waltham of the model aircraft for the benefit of other pilots. He noted that it appeared that the operator of the model aircraft was 'playing with his aircraft' and it was a very unnerving experience. His passenger was a pilot who regularly flew from Brimpton and reported that this is a regular occurrence.

He assessed the risk of collision as 'Very High'.

THE MODEL AIRCRAFT PILOT could not be traced.

Factual Background

The weather at Farnborough was reported as:

METAR EGLF 211420Z 32011KT 280V340 9999 SCT040 06/M01 Q1001=

Analysis and Investigation

CAA ATSI

The PA28 pilot was in receipt of a Basic Service from Farnborough LARS (W), squawking 0460 without Mode C level reporting. The Farnborough controller's workload was assessed as medium.

At 1422:30, due to a departure from Farnborough, the PA28 pilot was instructed to report if climbing above his reported level of 1900ft. The PA28 pilot responded that he was through 1700ft on QNH 1001. The PA28 continued to manoeuvre to the west and northwest of Farnborough. At 1433:44 the PA28 was 4.4nm east of Brimpton Airfield and 12.2nm northwest of Farnborough. The PA28 continued to track east and at 1434:27 a manoeuvring and intermittent contact was shown in the PA28's 1 o'clock position at a range of 1.1nm – Figure 1.

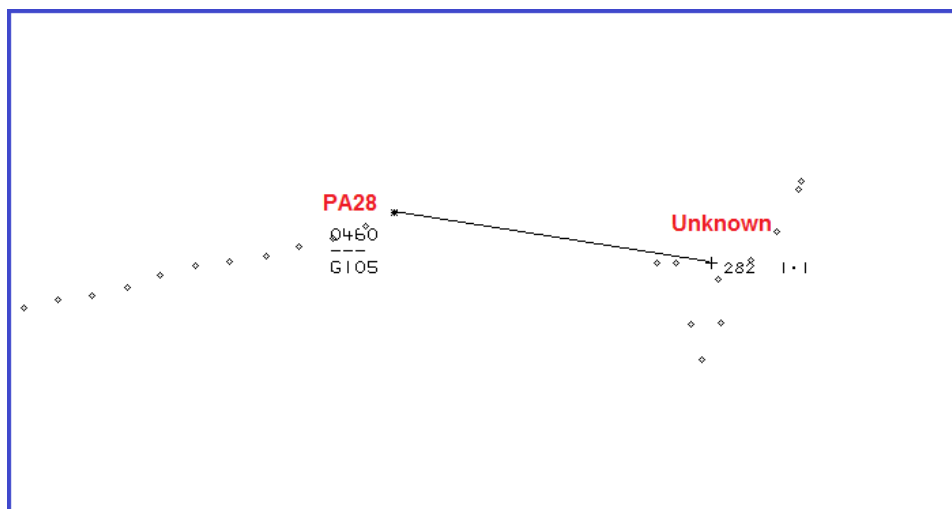


Figure 1 – Heathrow single source radar at 1434:27

At 1434:39 the PA28 was 6nm east of Brimpton Airfield. The horizontal distance between the two aircraft was 1nm with the unknown contact in a left turn – Figure 2.

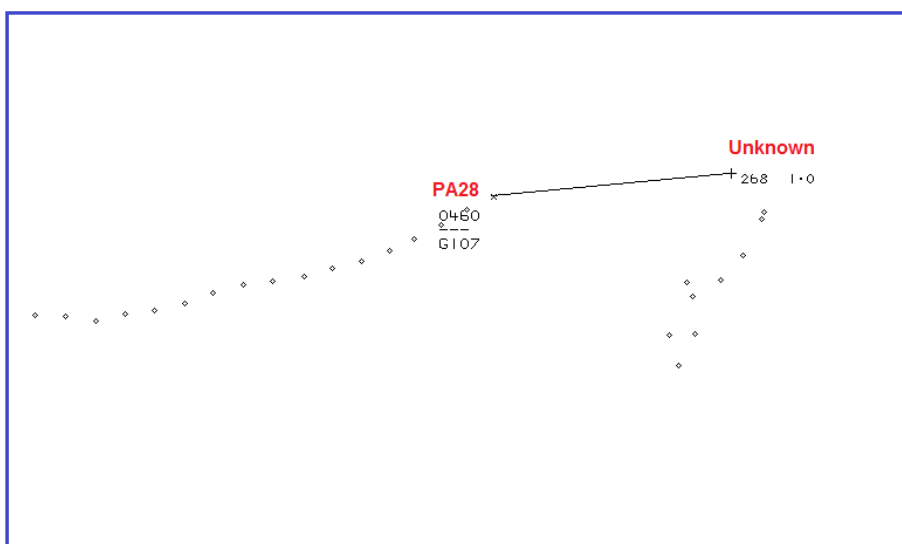


Figure 2 – Heathrow single source radar at 1434:39

At 1434:43 the PA28 called Farnborough and the following RTF exchange occurred:

PA28 *“Er we’re getting close to Brimpton – but we have to get close to Brimpton and someone’s got a model aircraft which is like tagging us or trying to get close to us he’s like buzzing us around”*

At 1434:59 the unknown intermittent contact was 0.6nm southeast of the PA28 tracking south. Figure 3.

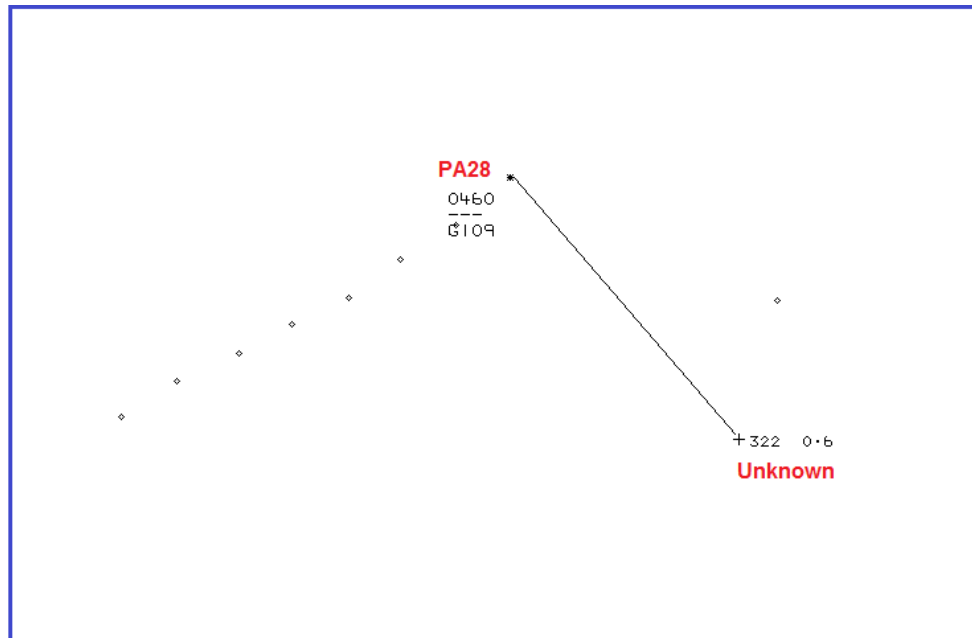


Figure 3 – Heathrow single source radar at 1434:59

ATC *“(PA28)c/s roger you’re still outside the lines on er my radar and is it a prima – is it a contact just to the east of you there’s an intermittent primary just there”*

PA28 *“We we’re about two hundred feet away from it and it’s a model aircraft er but for some reason it seems to be tagging us although it’s now sheared off”*

ATC *“(PA28)c/s roger has that gone off to the south now”*

PA28 *“Yeah it’s off to the south now [1435:20]”*

This was acknowledged by the controller who passed traffic information on another aircraft in the vicinity and the PA28 then transferred to the White Waltham frequency. The PA28 pilot’s written report indicated that he was at an altitude of 2100ft and the model aircraft was operating between 2000ft and 2500ft. It was not possible to determine if the unknown intermittent contact shown on radar was the aircraft sighted by the PA28 pilot.

The PA28 was in receipt of a Basic Service where the avoidance of other traffic is ultimately the pilot’s responsibility and where a controller is not required to monitor the flight¹.

‘A Basic Service is an ATS provided for the purpose of giving advice and information useful for the safe and efficient conducts of flights. This may include weather information, changes of serviceability of facilities, conditions at aerodromes, general airspace activity information, and any other information likely to affect safety. The avoidance of other traffic is solely the pilot’s responsibility.

Basic Service relies on the pilot avoiding other traffic, unaided by controllers. It is essential that a pilot receiving this ATS remains alert to the fact that, unlike a Traffic Service and a Deconfliction Service, the provider of a Basic Service is not required to monitor the flight.’

¹ CAP774 Chapter 2, Paragraph 2.1

UKAB Secretariat

The Air Navigation Order 2009 (as amended), Article 138² 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.’

Summary

An Airprox was reported on 21 February at 1434 between a PA28 and a model aircraft. The PA28 was VFR in VMC and flying at 2100ft under a Basic Service with Farnborough. The model aircraft operator could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilot of 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 were somewhat perplexed by this occurrence. The PA28 pilot had clearly seen some sort of model in proximity yet advice from the British Model Flying Association (BMFA) was that models of the size described would not normally be flown by line of sight at 2000ft because they would likely be too small to be seen and effectively controlled from the ground. Nevertheless, the BMFA also advised that it was conceivable for such models to be flown at these altitudes using first-person-view³ (FPV); however, they seldom flew aerobatics because they became difficult to control. Notwithstanding, Board members discussed light-weight, jet-powered, large model aircraft that were becoming increasingly popular, and which could easily fly at this level, reportedly at speeds of up to 200kts. Such models were usually flown with FPV but, if done so, were also legally required to be flown with an observer alongside the operator. The Board wondered whether it had been such a model that might have appeared to be doing aerobatic-type manoeuvres in the vicinity of the PA28 when simply conducting general handling in the area.

Although they could not discount it completely, because such models were usually constructed of light-weight materials the Board thought it unlikely that the primary radar trace seen by Farnborough was the model aircraft. Recognising that although small objects such as birds can sometimes reflect as radar returns to nearby radar heads, nevertheless members opined that a model in this location would probably not have presented a large enough cross-section to the radar, and would therefore be

² 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>.

³ Using video cameras mounted on the model to relay live video to an operator on the ground equipped with virtual reality goggles or displays.

unlikely to show as a primary return. Members therefore felt that the reported ranges of the primary returns from the PA28 could not be relied upon as being those of the model.

Looking at the cause of the incident, the Board agreed that the model aircraft had been flown into conflict with the PA28. However, without any further substantive information regarding separation ranges, it was difficult to assess the risk so they reluctantly categorised it as D – insufficient information.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The model aircraft was flown into conflict with the PA28.

Degree of Risk: D.