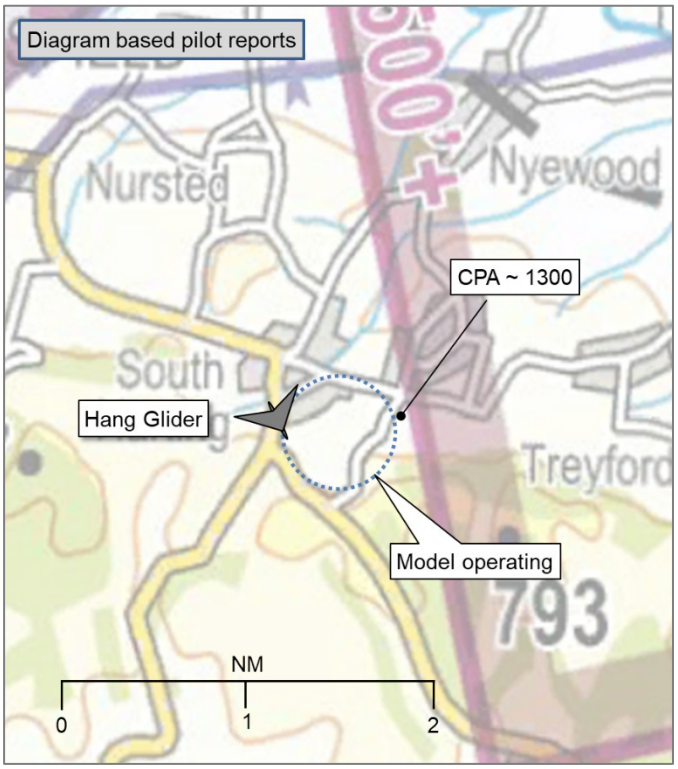
AIRPROX REPORT No 2021205

Date: 13 Sep 2021 Time: ~1300Z Position: 5057N 00052W Location: Harting Down

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Hang glider	Model Glider
Operator	Civ Hang	Civ UAS
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VLOS
Service	None	None
Altitude/FL	NK	NK
Transponder	Not fitted	Not fitted
Reported		
Colours	White, Blue	White
Lighting	None	None
Conditions	VMC	VMC
Visibility	>10km	5-10km
Altitude/FL	2700ft	530m (1738ft)
Altimeter	(1013hPa)	agl
Heading	NK	circling
Speed	25kt	NK
ACAS/TAS	Not fitted	Not fitted
Separation at CPA		
Reported	0ft V/100ft H	1000ft V/100m H
Recorded	NK	



THE HANG GLIDER PILOT reports that having flown 20km on a cross-country flight they returned to the vicinity of South Harting (South Downs) where they were joined in a thermal by a very large model sailplane. The model was being flown from the top of Harting Down. The model was opposite in the circle and so no avoidance was taken, however, the pilot considered that the distance and height from the model operator was excessive given the proximity of the two aircraft. Upon speaking to the model operator it was clear that they had underestimated the distance between the model and the hang glider.

The pilot assessed the risk of collision as 'High'.

THE MODEL GLIDER OPERATOR reports that they launched their model, which has a 6m wing span and a weight of 12.5kg, and flew as normal with several other model gliders. One or two hang gliders were already in the air and had achieved good height and had flown away from the slope. Their model was flying in an area roughly left of the centre of the slope (NNW). The model encountered a strong thermal and rose quite quickly. The air was clear and smooth and the visibility was very good. There were no other aircraft in that area at all. For a short moment they were enthralled by the great conditions and allowed the model to climb in the thermal. At this point a hang glider flew towards the model, from a west/north westerly direction, and at a height which was potentially similar to the model. It was potentially similar to the height of the model but size difference and viewing angle (from the ground) made this difficult to assess. Their variometer showed around 530m(1738ft) from the hill top. This is a visual display on their transmitter and required them to look away from the model to read it, consequently they did not look away very often and this was the highest reading that they saw. The hang glider headed towards the model and began to circle to the left (west) of their position. They maintained clear visible separation, completed one or two circles while they assessed where the hang glider was going. They then flew directly away from the hang glider, to the right hand side of the slope (easterly). They then descended and a short while later made a safe landing at the back of the site in the long grass. Sometime later, when they were flying their model again, they were approached by a hang glider pilot who said they were the pilot of the hang glider that had flown towards the model on the previous flight. The hang glider pilot said "I was surprised to see your model there". They told the

pilot that they were thermalling in that space first and that the hang glider had joined them. Looking up from the ground, that is what they saw happen. They also said that they had maintained clear, visible separation from the hang glider and flown directly away from it. At no time did their model ever fly directly towards the hang glider, a point which the other pilot acknowledged and accepted. The model operator believed that the hang glider gained most of their height during the earlier part of their flight and joined the thermal, with the model, already at a fairly constant height. They did not believe that the hang glider gained any significant height in the area where they were flying. They wondered whether initially the hang glider pilot failed to see the model as they joined the thermal which may explain why the hang glider came in relatively 'close' and why the pilot was subsequently surprised to see the model. At no time did the hang glider pilot take any action to move away from the model. Later, when neither of them were flying, discussions about the incident were calm and civil.

The pilot assessed the risk of collision as 'None'.

Factual Background

The weather at Southampton was recorded as follows:

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METAR EGHI 131250Z 11007KT 040V160 9999 BKN026 20/14 Q1017=
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Analysis and Investigation

UKAB Secretariat

Unfortunately neither the hang glider, nor the model glider displayed on the NATS radars, therefore the exactly geometry of the two aircraft could not be verified.

The model glider operator was a member of the BMFA whose members, under Model Aircraft Article 16 Authorisation[1] are exempt from the 400ft limit covered by the CAA Drone and Model Aircraft Code. The remote pilot must maintain a direct unaided visual contact with the model at all times. Additionally:

> (1) The operation of model aircraft within this authorisation is limited to a height of 120m (400ft), unless the conditions below are met.
>
> (2) A model aircraft is permitted to fly at a height in excess of 120m (400ft) above the surface, in accordance with the limitations of this authorisation, if all the conditions in sub paragraphs a) to e) below are met.
>
> a) The model aircraft is not a rotorcraft with more than two lift generating rotors or propellers;
> b) The model aircraft is not an 'automated model aircraft';
> c) The model aircraft is not being flown within the Flight Restriction Zone of an aerodrome, unless operating with the appropriate permission from the aerodrome as set out in ANO article 94A.
> d) The model aircraft remains within the visual line of sight of the remote pilot;
> e) The mass of the model aircraft (MTOM- see section 3.6) shall not exceed 7.5kg, with the exception of the circumstances in (e(i), (ii) or (iii)) below;
>
> i. The model aircraft is a glider, the mass (MTOM) of which does not exceed 14kg. In this case, it may not be flown at a height greater than 120m above the remote pilot but may be flown at a height exceeding 120m above the surface directly beneath the glider.
> ii. The model aircraft is being operated at an established club site approved for the operation of model aircraft with a MTOM greater than 7.5kg but less than 25kg above 400ft, by the BMFA,

[1] BMFA Model Aircraft Article 16 Authorisation available Here

following the conditions set out in section 4.7.
iii. The model aircraft is being operated within the conditions set out in section 4.4(6) (model aircraft within a display), for the purpose of flying within a 'model aircraft flying display'.

Harting Down is operated by the Meon Valley Soaring Association, the club is affiliated to the BMFA, which all club members must join.

During the flight, the remote pilot shall keep the unmanned aircraft in VLOS and maintain a thorough visual scan of the airspace surrounding the unmanned aircraft in order to avoid any risk of collision with any manned aircraft. The remote pilot shall discontinue the flight if the operation poses a risk to other aircraft, people, animals, environment or property.[2]

Comments

BHPA

The BHPA acknowledges the hang glider pilot's concern regarding the proximity of a large model sailplane to their aircraft and the probable surprise at seeing it - especially as they estimated the horizontal separation at CPA to be 100ft but did not appear to radically alter their flight path to avoid the model.

However, we deduce from the hang glider (HG) pilot's comments that it was not so much the proximity of the two aircraft to each other but the distance of the model from its operator which concerned them most.

With model aircraft, there is always a very small risk of either the model suffering a radio control malfunction or the remote pilot losing sight/orientation of their model and thus proper control over it. Strong wind gusts and thermals could also independently adversely affect the model's flight path and more importantly, perception of distances/separation are not possible to accurately ascertain from a person on the ground operating a model many metres away. For these reasons, and despite both incident pilots disputing who was in the thermal first, the BHPA advocates that HG & PG pilots should be extremely cautious about flying in the same thermals as remote control model aircraft and to err on the side of safety and avoid the situation if possible.

It appears that the model sailplane owner conducted their operations according to regulation and did fly directly away from the HG.

Summary

An Airprox was reported when a hang glider and a model glider flew into proximity at Harting Down at around 1300Z on Monday 13th September 2021. The hang glider pilot was operating under VFR in VMC and was not in receipt of an ATS. The model operator was operating under VLOS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both the hang glider pilot and the model glider operator. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board first considered the actions of the hang glider pilot. They were unable to determine whether the model was in the thermal before the hang glider or vice versa. However, the BHPA member told the Board that because it was difficult for operators of model aircraft to see the orientation of either the model or approaching hang gliders from the ground, it was the BHPA's advice to keep clear of models where possible and not to join a thermal with a model. Prior to joining the thermal the hang glider pilot had no knowledge that the model was operating there (**CF1**). Once they had seen it the pilot was

[2] EASA Part UAS.OPEN.060 Responsibilities of the remote pilot (2)(b).

concerned by the model's proximity (**CF2**), although some members noted that the pilot did not take any avoiding action, which led them to believe the pilot was concerned by the model glider's presence and distance from the operator, rather than its proximity to the hang glider.

When looking at the actions of the model operator, members noted that they were operating within the regulations and authorisation of Model Aircraft Article 16. However, members wondered whether the operator was on the limits of what could be considered visual line of sight, echoing the BHPA member's comments that it would be difficult to assess how far away the model was from the hang glider when operating some distance away and from the ground. Nevertheless, it was not possible to determine who entered the thermal first and the model operator would have had no prior knowledge about the hang glider until they saw it (**CF1**). Once seen, the operator reported leaving the thermal as soon as possible after they had established the direction of flight of the hang glider.

In determining the risk of collision, without any corroborating data from radar or ADS-B, the Board only had the reports from the hang glider pilot and the model operator to consider, and their estimates of separation were very different. The BHPA member opined that as the hang glider pilot was in the air with the model, their estimate of the separation was likely to be more accurate than the model operator's. The Board agreed with this view but also noted that the hang glider pilot did not feel the need to take avoiding action and the model operator's description of leaving the thermal did not sound like emergency action either. They therefore agreed that there had been no risk of collision. Some members thought that this could be considered normal operations (Risk Category E), but others considered that the distance of the glider from the model operator and the lack of manoeuvrability of the hang glider meant that safety had been degraded. The Board therefore assigned Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2021205			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			
1	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
	• See and Avoid			
2	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: C.

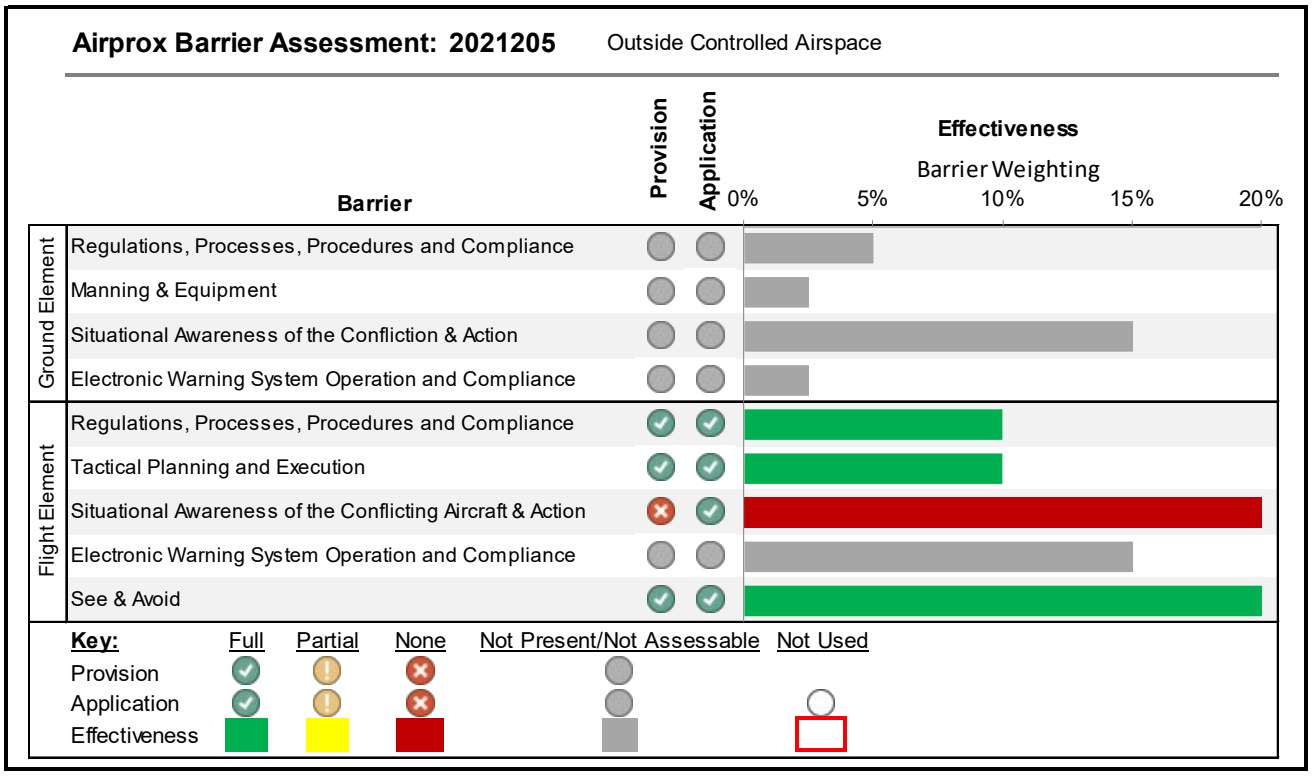
Safety Barrier Assessment[3]

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither the hang glider nor the model operator had any prior situational about the other until they became visual.

[3] The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the UKAB Website.


Airprox Barrier Assessment: 2021205
Outside Controlled Airspace
Barrier
Provision
Application
Effectiveness
Barrier Weighting
0%
5%
10%
15%
20%
Ground Element
Regulations, Processes, Procedures and Compliance
Manning & Equipment
Situational Awareness of the Confliction & Action
Electronic Warning System Operation and Compliance
Flight Element
Regulations, Processes, Procedures and Compliance
Tactical Planning and Execution
Situational Awareness of the Conflicting Aircraft & Action
Electronic Warning System Operation and Compliance
See & Avoid
Key:
Full
Partial
None
Not Present/Not Assessable
Not Used
Provision
Application
Effectiveness