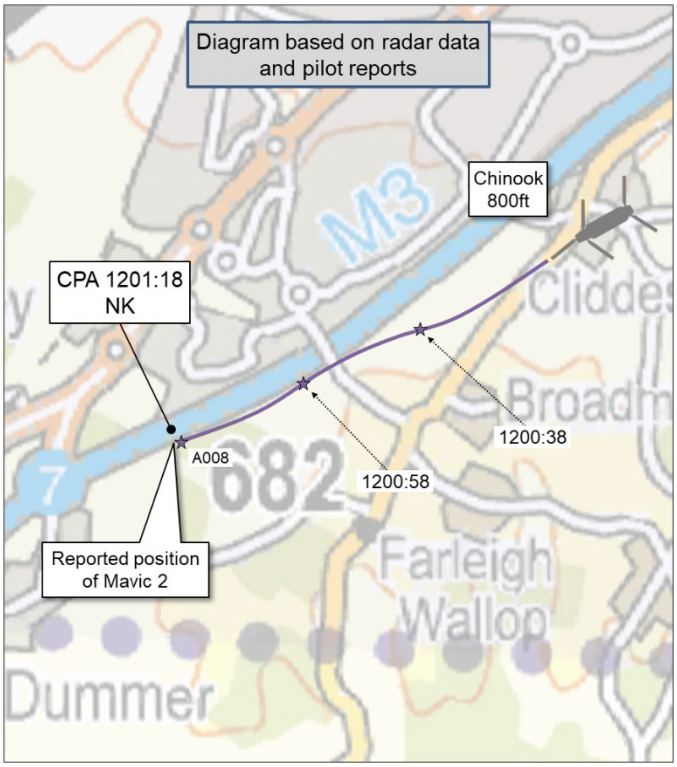
AIRPROX REPORT No 2024205

Date: 12 Aug 2024 Time: 1201Z Position: 5113N 00109W Location: 9NM W Odiham

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Mavic 2	Chinook
Operator	Civ UAS	HQ JAC
Airspace	London FIR	London FIR
Class	G	G
Rules	VLOS (Open Cat.)	VFR
Service	None	Basic
Provider	N/A	Odiham Tower
Altitude/FL	NK	800ft
Transponder	Not fitted	A, C, S
Reported		
Colours	Grey	Green
Lighting	Nav	NR
Conditions	VMC	VMC
Visibility	NR	>10km
Altitude/FL	10m	800ft
Altimeter	AGL	QNH (1007hPa)
Heading	NR	NR
Speed	"*hover*"	120kt
ACAS/TAS	Not fitted	TAS
Alert	N/A	None
Separation at CPA		
Reported	~15m V	NR
Recorded	NK	



THE MAVIC 2 PILOT reports that they were conducting an aerial survey of a telecommunications mast. Prior to the flight, they had checked Altitude Angel and had seen no flight restrictions or NOTAMs regarding low-level flying happening that day. While orbiting the site at 21m AGL, they heard a helicopter. As it was quite loud, they repositioned to see if they could spot it. The drone was in 'point of interest' mode to orbit around the mast at a very slow speed (0.4m/sec). They repositioned, maintaining VLOS with the drone, but did not spot the helicopter at that time. They continued to observe the drone on its orbit. As the drone was a quarter of the way through its orbit, they spotted the helicopter following the tree line north of the mast on the boundary with the M3. The helicopter was moving with immense speed at approximately 25-28m AGL. They immediately cancelled the automated orbit, lowered the drone and pitched backwards to avoid the Chinook. They then put the drone in a low hover 10m off the ground as the helicopter passed the mast and continued their route.

THE CHINOOK PILOT reports that, although unbeknownst to them, this Airprox is likely to have happened during a westerly departure from RAF Odiham. The Chinook departed RAF Odiham via the Western gate at 800ft on the Odiham QNH in accordance with departure procedures. This would have put the aircraft at approximately 400ft AGL. There is a well-known local area to avoid [..] up to approximately 100ft AGL in the vicinity of Basingstoke which the crew laterally displaced from (to the south), which is commonplace given their familiarity with the area.

[The pilot of the Chinook commented that], during a westerly departure from RAF Odiham at 800ft on the Odiham QNH, crews can be forced down to approximately 150ft AGL in places, particularly when laterally deconflicting with the local area to avoid. Crews are also then forced through a gap between the avoid area and Lasham glider site.

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

THE ODIHAM CONTROLLER reports that Odiham Tower was not made aware of any drones operating that day. Routinely, drone notifications are sent through by Station Mission Support Centre (SMSC) who distribute to all squadrons and ATC.

At the time [of the Airprox], nothing appeared on the ATM, therefore nothing was passed to the [pilot of the Chinook]. An Airprox was not declared on frequency.

Factual Background

The weather at Odiham was recorded as follows:

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METAR EGVO 121150Z 17008KT CAVOK 29/19 Q1007 NOSIG RMK BLU BLU
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Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and the Chinook could be positively identified from Mode S data (Figure 1). The Mavic 2 was not observed on radar. The pilot of the Mavic 2 provided an annotated picture showing the track of the Chinook traversing the Airprox location from the north-east to south-west, and the direction of their avoiding action to the south-east.

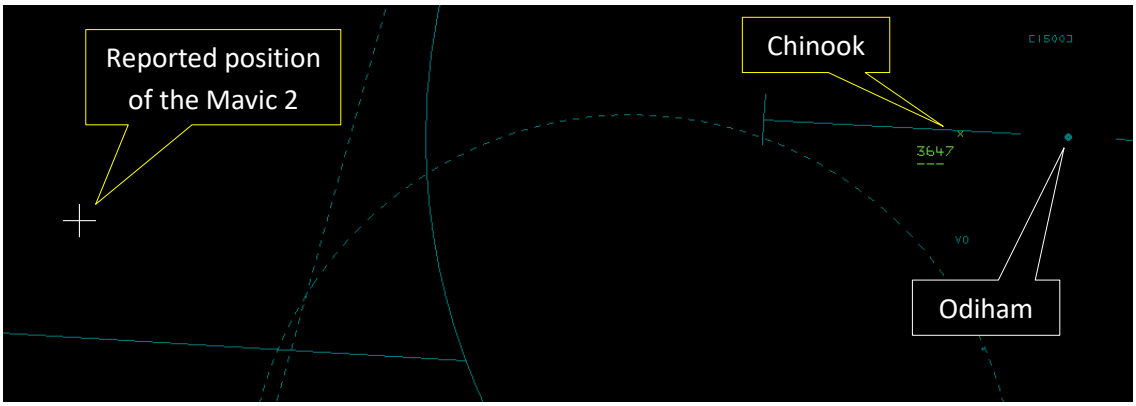


Figure 1 – The Chinook first appeared on the NATS radar at 1157:17

The diagram for this Airprox report was constructed from the radar data. The position of the Mavic 2 has been shown as the reported position. The pilot of the Mavic 2 had reported their height as 10m AGL. The elevation of the terrain at the reported position of the Mavic 2 is 534ft AMSL. Therefore, the separation between the Mavic 2 and the Chinook was estimated to have been around 233ft but this could not be verified. The horizontal separation between the Chinook and the reported position of the Mavic 2 was less than 20m but the actual separation could not be verified.

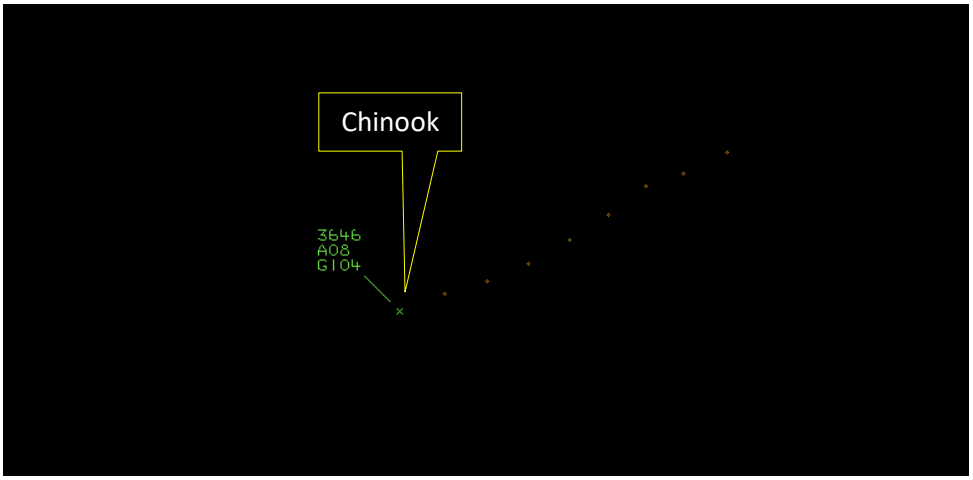


Figure 2 – CPA at 1201:18. The groundspeed of the Chinook was 104kt.

The Mavic 2 and Chinook pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.[1] 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

JAC

A welcome report from the Mavic 2 pilot but, unsurprisingly, an occurrence where the Chinook crews were not aware of, nor did they see, the drone. The Chinook was laterally deconflicting against known drone activity which, ironically, put them into confliction with another drone. The see-and-avoid barrier remains the most effective barrier with heavy reliance on the remote pilot to ensure they move from the path of the crewed aircraft.

Odiham-based pilots routinely operate low level and, therefore, the risk of encountering a drone is prevalent. Odiham have engaged with the local community regarding drone activity but this only reaches a small portion of the population. A further campaign is ongoing to publicise that 'you don't need to operate in an FRZ to tell us about it'. Remote pilots are encouraged to contact local units and/or inform the Military Airspace Management Cell (MAMC) of their planned flight (swk-mamclfcoord@mod.gov.uk or 0800 515544) to aid further situational awareness for all.

Summary

An Airprox was reported when a Mavic 2 UAS and a Chinook flew into proximity 9NM west of Odiham at 1201Z on Monday 12th August 2024. The Mavic 2 pilot was operating under VLOS in VMC not in receipt of an ATS and the Chinook pilot was operating under VFR in VMC in receipt of a Basic Service from Odiham Tower.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, a report from the air traffic controller involved and a report from the appropriate operating authority. 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 pilot of the Mavic 2. It was noted that, before flight, they had consulted a drone flight-planning app and had checked for any relevant NOTAMs. Members commended those actions. However, one member suggested that, given that their flight had been planned to have been conducted within a few miles of a busy military base, (and indeed, near to the particularly busy airfields of Popham and Lasham) it may have been prudent to have made a telephone call to the appropriate agency to have advised of their intended flight, even though they had conducted their flight below 100ft AGL.

It was noted that the pilot of the Mavic 2 had heard the sound of an approaching helicopter and members agreed that they had therefore gleaned sufficient situational awareness of the presence of a helicopter to have prompted a visual scan of the area. Members agreed that, upon the subsequent sighting of the Chinook, the pilot of the Mavic 2 had taken the appropriate avoiding action in a timely manner. Nevertheless, members appreciated that to have acquired the Chinook transiting at a low level very close to their position had caused considerable concern.

Members next considered the actions of the Odiham controller. It was agreed that they had not been required to have monitored the flight of the Chinook under the terms of a Basic Service.

[1] (UK) SERA.3205 Proximity.
[2] UK Regulation (EU) 2019/947- UAS.OPEN.060 Responsibilities of the remote pilot (2)(b).

Notwithstanding, it was further agreed that they had not had situational awareness of the presence of the Mavic 2 to have been able to have helped matters.

Turning to the actions of the pilot of the Chinook, members agreed that the TAS fitted to the Chinook would not have been expected to have detected the presence of the Mavic 2. It was further agreed that the pilot of the Chinook had not had situational awareness of the Mavic 2 and that it had not been visually acquired.

Members concluded their discussion and agreed that, once the pilot of the Mavic 2 had been aware of the presence of the Chinook, they had correctly discontinued their flight and had taken avoiding action in sufficient time for there to have been no risk of collision. Whilst it was appreciated that the encounter may have been startling for the pilot of the Mavic 2, members agreed that normal safety parameters had pertained. The Board assigned Risk Category E to this event.

Members agreed on the following contributory factors:

CF1. The Odiham controller had not been required to have monitored the flight of the Chinook under the terms of a Basic Service.

CF2. The pilot of the Chinook had not had situational awareness of the presence of the Mavic 2.

CF3. The TAS equipment fitted to the Chinook would not have been expected to have detected the presence of the Mavic 2.

CF4. The pilot of the Chinook had not sighted the Mavic 2.

CF5. The pilot of the Mavic 2 had been concerned by the proximity of the Chinook.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024205			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Ground Elements			
	• Situational Awareness and Action			
1	Contextual	• ANS Flight Information Provision	Provision of ANS flight information	The ATCO/FISO was not required to monitor the flight under a Basic Service
	Flight Elements			
	• Situational Awareness of the Conflicting Aircraft and Action			
2	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
	• Electronic Warning System Operation and Compliance			
3	Technical	• ACAS/TCAS System Failure	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment
	• See and Avoid			
4	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots
5	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: E.

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:

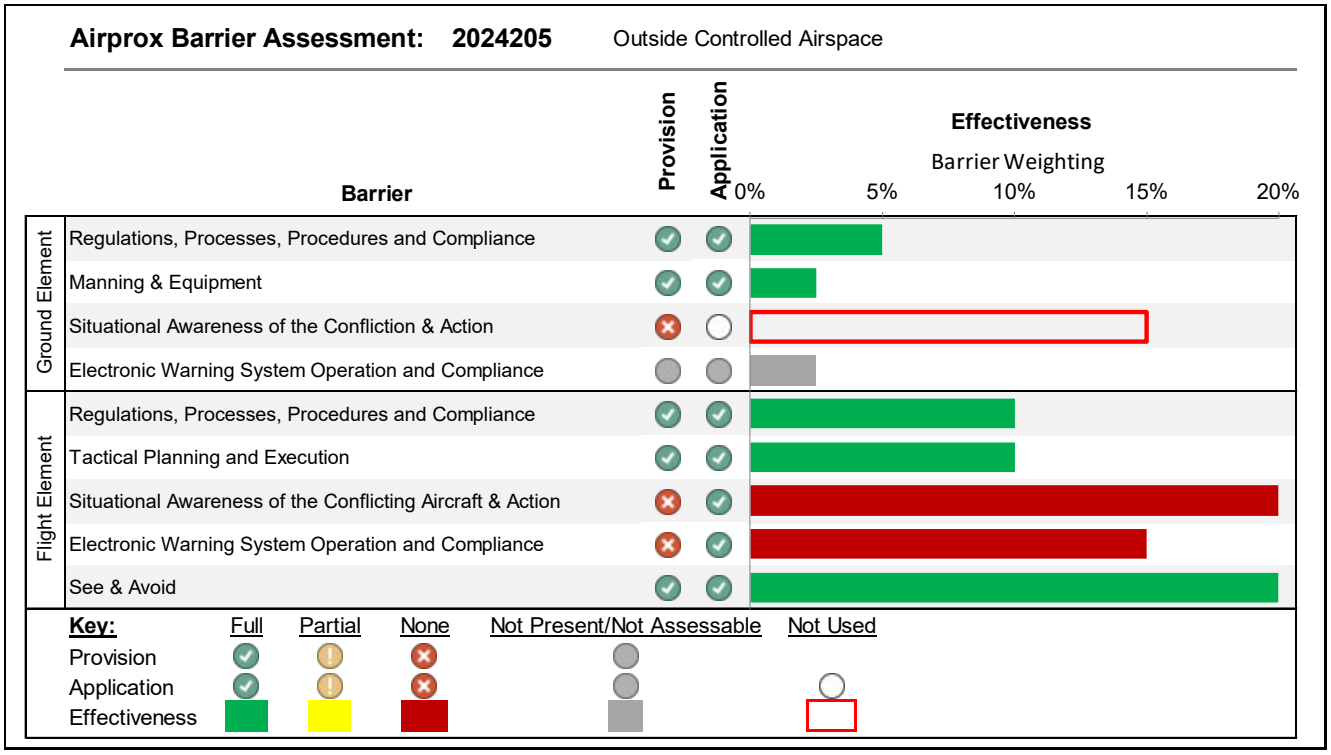
Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **not used** because the Odiham controller had not been required to have monitored the flight of the Chinook under the terms of a Basic Service.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the pilot of the Chinook had not had situational awareness of the presence of the Mavic 2.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the TAS equipment fitted to the Chinook would not have been expected to have detected the presence of the Mavic 2.



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