AIRPROX REPORT No 2023229

Date: 29 Sep 2023 Time: ~1342Z Position: 5116N 00124W Location: 12NM NE Andover

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Chinook	Unknown Aircraft
Operator	HQ JHC	Unknown
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	NK
Service	Basic	Unknown
Provider	Middle Wallop	NK
Altitude/FL	NK	NK
Transponder	A, C, S+	None
Reported		
Colours	Grey	White
Lighting	NR	NK
Conditions	VMC	NK
Visibility	>10km	NR
Altitude/FL	2000ft	NK
Altimeter	AMSL	NK
Heading	068°	NK
Speed	120kt	NK
ACAS/TAS	TAS	Unknown
Alert	None	Unknown
Separation at CPA		
Reported	0ft V/300m H	NK
Recorded	NK	

THE CHINOOK PILOT reports that during a VIP passenger task, they had completed a drop-off of the passengers in the SPTA and were returning to RAF Odiham for a refuel at about 2000ft altitude when they experienced an Airprox with a civilian light-aircraft. The weather during the day was warm and clear with few clouds around 3000ft altitude making it ideal conditions for general aviation and gliding. As the non-handling pilot, they were briefing the crew on a local game shoot avoid several miles ahead. As they scanned up from the map display, they noticed a light, high-wing aircraft, similar to a Cessna 172, ahead at a similar altitude and within 0.25NM, moving from right-to-left in the windscreen with a gentle bank towards. It was the black tyres that caught their attention, as the white fuselage was barely visible against the few clouds in the backdrop. Their immediate sense was to take avoiding action but they were unable to find the words to instruct the handling pilot. Instead, they took control, turning right and descending as they declared that they had control. The aircraft passed down the port side in the opposite direction. In hindsight, they believed that a collision would have still been avoided had no action been taken. Nevertheless, it felt uncomfortable.

At the time of the incident, they were receiving a Basic Service from Wallop Approach. As they were due to be joining to land at RAF Odiham within the next 10min, they chose to switch agency and report the Airprox with Odiham Approach. Subsequently, the crew discussed the event and the conditions for the day in detail and noted the following observations:

1. The handling pilot noticed the aircraft at a similar time to the NHP, however, they did not feel that positive action was required. As a crew, they agreed that the positive action was a safe course of action, and that aircrew must feel able to take control if required regardless of rank or experience.

2. They suspected that for a few seconds, it is possible that both the HP and the NHP scanned into the cockpit to view the map display at the same time. Prior to looking at the map display, the HP

had confirmed that TAS was clear. This serves as a reminder to continually scan, be disciplined with heads in and out calls and to avoid eyes being drawn into the cockpit for too long.

3. TAS was set to display on both HP and NHP at 7NM with volume audible. It did not give an indication of a traffic confliction immediately prior to or during the event. TAS was monitored for the remainder of the sortie. The crew later concluded that it was operating unreliably, sometimes working well but other times failing to pick up aircraft within 5 miles. For example, when transiting on the London Heli-lanes, they passed within 3NM of an NPAS helicopter at a similar altitude working on Northolt Approach. TAS remained blank which should not have been the case assuming the aircraft was transponding. This serves as a reminder that TAS is a useful tool, but should not always be relied upon and cannot replace good lookout.

4. Given the conditions of the day, a Traffic Service may have provided better awareness and protection.

5. CFIT and MAC are both significant risks in the DDH and ODH top risks. For passenger flying, the JHC FOB J1340.120.8 highlights low-flying as a hazardous profile requiring specific approvals to fly in the low-level environment. However, on the day, the crew felt that flying above 500ft to be far more dangerous with the risk of MAC being much greater than that of CFIT. Had the crew not already obtained DDH permission to low fly with passengers, they would have been forced into a riskier flight profile. Perhaps this order should be reviewed to ensure that crews are empowered to dynamically manage risk without being constrained by orders.

6. There are a number of distractions in the cockpit, such as tablets, meaning that crews eyes are more likely to be drawn into the aircraft. This serves as a further reminder to continually scan, be disciplined with heads in and out calls and to avoid eyes being drawn into the cockpit for too long.

The pilot assessed the risk of collision as ‘Low’.

THE UNKNOWN LIGHT AIRCRAFT PILOT could not be traced.

THE MIDDLE WALLOP CONTROLLER reports that whilst operating as OJTI with an APS trainee, they received a call from Odiham stating that the Chinook pilot had reported an Airprox with them, that had occurred whilst on frequency with Middle Wallop. The details were given as: at 1342 whilst operating at 2000ft the pilot reported a light high-wing white aircraft in their 11 o’clock (range and level not specified). Upon reviewing the FPS, the Chinook pilot reported on the Wallop Approach frequency at 1343 routeing from the west, back to Odiham in Class G airspace. The aircraft was placed under a Basic Service and given the Portland 1018hPa. The pilot reported changing to Odiham at 1345, the pilot did not indicate on the Middle Wallop frequency that an Airprox had occurred.

THE ODIHAM SUPERVISOR reports that the Airprox was declared on the Odiham Approach frequency at 1346. Details passed by the Chinook pilot were as follows:

At approximately 1442L at approximately 2000ft, a white light fixed-wing was seen in the 11 o'clock. Both aircraft took avoiding action. The crew thought it was a C152 or C172 but were not sure which. Grid reference was passed.

The Odiham Approach controller did not see any radar returns in the area that the Airprox was reported.

As the Supervisor, they phoned Boscombe Down to see whether they had worked the Chinook, and when they said that they had not, they called Middle Wallop. They confirmed that the Chinook pilot had left their frequency at 1345Z so the Supervisor passed all the details of the Airprox to the Middle Wallop Supervisor.

Factual Background

The weather at Middle Wallop was recorded as follows:

METAR EGVP 291320Z 28011KT 9999 FEW036 18/09 Q1022 NOSIG RMK BLU BLU=

Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken. The Chinook could not be seen on radar until 1343:39, after the CPA reported to ATC by the Chinook pilot. At 1345:41, just before the Airprox was called on the Odiham frequency, the Chinook could be seen to make a slight left turn. No other traffic could be seen on the radar at any time.

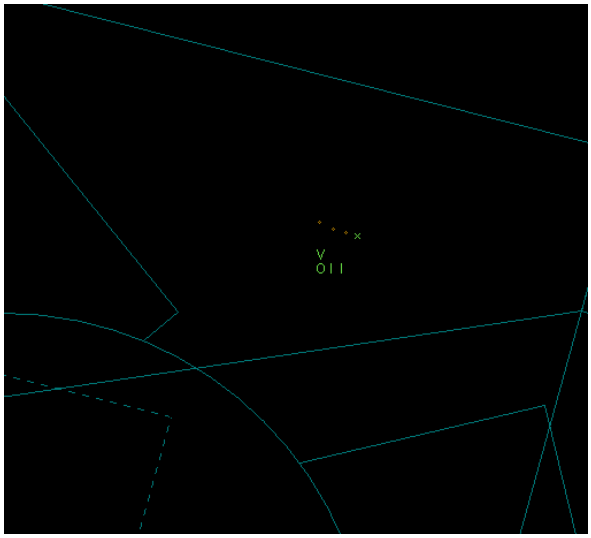


Figure 1 – 1343:39

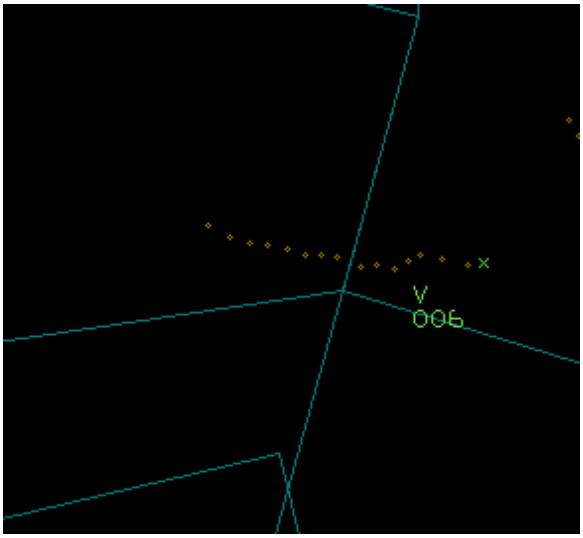


Figure 2 – 1345:41

The Chinook and unknown aircraft 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] If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.[2] If the incident geometry is considered as converging then the Chinook pilot was required to give way to the light aircraft.[3]

Comments

JAC

This Airprox serves as another reminder of the importance of robust heads-in/out calls that are required by all crew members to ensure the crew understand which look-out arcs are not being covered.

This conflicting aircraft did not appear on TAS, which has been described as unreliable by the crew. It cannot always be called upon to detect other aircraft and certainly cannot replace lookout. Although operating under a Basic Service could be questioned whether it is the most appropriate Air Traffic Service, the aircraft was not seen on radar either so there would be no guarantee an upgrade would have helped. Finally, a reminder that it is helpful to report an Airprox on the frequency the crews are working at the time of the incident to aid the investigation, rather than changing frequency.

Summary

An Airprox was reported when a Chinook and an unknown light-aircraft flew into proximity 12NM NE Andover at around 1342Z on Friday 29th September 2023. The Chinook pilot was operating under VFR

[1] (UK) SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.
[2] (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on. MAA RA 2307 paragraph 13.
[3] (UK) SERA.3210 Right-of-way (c)(2) Converging. MAA RA 2307 paragraph 12.

in VMC, and in receipt of a Basic Service from Middle Wallop, unfortunately the unknown aircraft pilot could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the Chinook pilot, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate operating authorities. 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 discussed the actions of the Chinook pilot. They wished to thank the pilot for their frank and honest report and assessment of the conditions leading up to the Airprox, noting that the pilot had already identified areas in which they could have acted differently. On the day, they had dropped their passengers and had been returning to base. Members noted the height of the transit and briefly discussed whether the pilot would have been better served climbing to an altitude where they could have received a Traffic Service from Middle Wallop. However, taking into account the pilot's point of view about keeping clear of GA traffic, and noting that the light-aircraft had not been detected by the radar, they agreed that it would not have had any bearing on this particular Airprox. The TAS on the Chinook could only detect transponding aircraft, which the light-aircraft had not been, and so could not have alerted the pilot to the presence of the conflicting traffic (**CF4**). Without a radar-derived surveillance ATS, or a TAS warning, the Chinook pilot had received no prior situational awareness that the light-aircraft had been in the vicinity (**CF3**). Fortunately, the NHP had seen the light-aircraft with enough time to have taken avoiding action, and although they had assessed that there would not have been a collision, still they had been concerned by its proximity (**CF5**). Members wished to highlight to pilots that it is helpful if Airprox are reported on the frequency in use at the time of the event as this initiates the investigation process with ATC; on this occasion Middle Wallop ATC may have had more success in tracing the unknown light-aircraft if they had known about it at the time of the occurrence.

Although the light-aircraft pilot could not be traced, members discussed the actions of the pilot in broad terms. The aircraft had not been displaying a transponder code, and checking ADS-B sources also did not display the aircraft, therefore it could be assumed that either the aircraft had not been equipped with any EC equipment, or the pilot had turned it off. This meant that the aircraft could not be detected by the TAS on board the Chinook. Members also noted that the pilot had chosen to fly below 2000ft at a level that was normally frequented by low-level military aircraft and thought that they may have been better served choosing a higher level (**CF2**).

The Board briefly discussed the actions of the Middle Wallop controller. They had been providing a Basic Service to the Chinook pilot and, as it had been operating at low-level, it had been at the base of radar cover, therefore the controller would not have been able to provide anything more than a Basic Service, under which they had not been required to monitor the aircraft (**CF1**).

When determining the risk, the Board considered the Chinook pilot's report together with those of the controllers. The lack of radar data meant that the only separation data available was the estimation by the Chinook pilot. Nevertheless, the Board noted that the pilot described seeing and then avoiding the light-aircraft and that the pilot noted that, although not a comfortable separation, there would not have been a collision even without the avoiding action. The Board therefore agreed that, although safety had been degraded, there had been no risk of collision; Risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2023229			
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			
	• Tactical Planning and Execution			
2	Human Factors	• Pre-flight briefing and flight preparation	An event involving incorrect, poor or insufficient pre-flight briefing	
	• Situational Awareness of the Conflicting Aircraft and Action			
3	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			
4	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			
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: C.

Safety Barrier Assessment[4]

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 controller was not required to monitor the Chinook under a Basic Service.

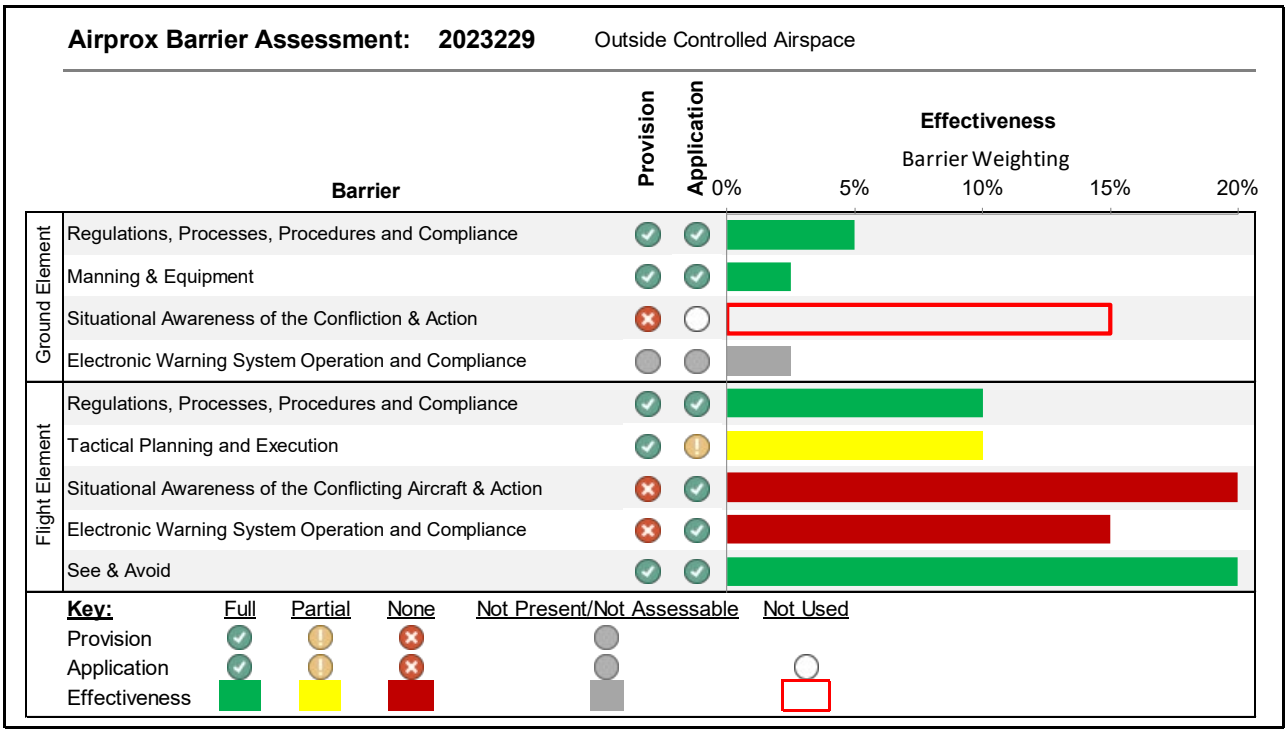
Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the light-aircraft pilot, whilst operating without any EC, had chosen to operate without an ATS, at a level normally frequented by military low flying aircraft.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the Chinook pilot had no prior situational awareness about the light-aircraft.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the TAS on the Chinook could not detect the non-transponding light-aircraft.

[4] 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: 2023229
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