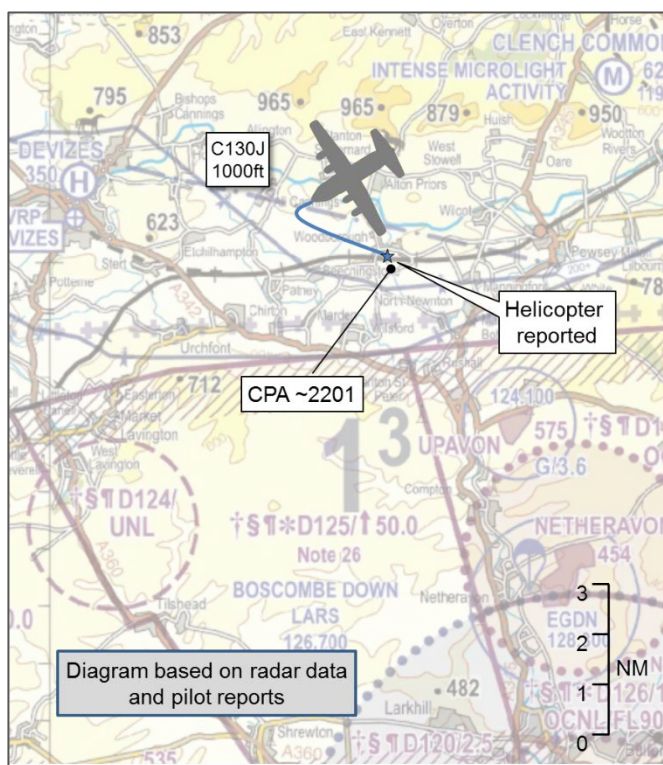


AIRPROX REPORT No 2019161

Date: 26 Jun 2019 Time: 2201Z Position: 5120N 00151W Location: IVO Salisbury Plain

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C130J	Helicopter
Operator	HQ Air (Ops)	Unknown
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	
Service	Information	
Provider	Salisbury Ops	
Altitude/FL	NK	
Transponder	A, C, S	
Reported		
Colours	Green	
Lighting	Strobes, Nav	
Conditions	VMC	
Visibility	>10km	
Altitude/FL	1000ft	
Altimeter	QNH (1028hPa)	
Heading	123°	
Speed	140kt	
ACAS/TAS	TCAS II	
Alert	None	
Separation		
Reported	500ft V/0m H	
Recorded		NK



THE C130 PILOT reports he was carrying out a low level air-drop serial on Salisbury Plain. Whilst turning downwind, the crew noticed a strobe light coming directly towards them. The aircraft, assumed to be a helicopter, was assessed to be about 500ft below and was an extremely late spot due to the fact they were rolling out from a turn and the helicopter strobes were initially hidden within the lighting of a town. The aircraft seemed not to be squawking, nor was the pilot talking to Salisbury Ops. Prior to switching to Salisbury Ops, the crew had transmitted on NATO Low-Level frequency stating their intentions. The radio frequencies being used at the time were both UHF, Salisbury Ops to maintain situational awareness on a Wildcat immediately to the south of the drop zone within D128, and the drop frequency. Salisbury Ops had no SSR return and confirmed that there were no aircraft that they were talking to in the vicinity of the C130. The crew were not expecting to see any aircraft at this time in this area having consulted CADS prior to walking to the aircraft. Having subsequently checked CADS after landing there was no aircraft logged in the area other than the aircraft to the south.

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

THE HELICOPTER PILOT could not be traced.

THE SALISBURY AIR OPS RANGE CONTROLLER reports that the C130 pilot was operating outside the danger area when the Airprox occurred. Air Ops Range controllers cannot provide any deconfliction advice outside the danger area and only provide procedural deconfliction from participating aircraft within it. Consequently, the Air Ops Range controller had no knowledge about any aircraft that may have been in the vicinity of the C130, indeed the incident was not reported at the time, and the range controller had no prior knowledge about the incident until informed by the UKAB.

Factual Background

The weather at Boscombe Down was recorded as follows:

METAR EGDM 262150Z AUTO 05013KT 9999 OVC011/// 15/12 Q1028=

Analysis and Investigation

UKAB Secretariat

The C130 and helicopter pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard¹. If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right².

Comments

HQ Air Command

As the reported helicopter's route was not on CADS nor was its activity on the Salisbury Plain Training Area (SPTA) Airspace Allocation Sheet, the plan-to-avoid barrier was not available. The C130 crew were working Salisbury Ops and the Low-Level Common frequency, prioritising deconfliction from military traffic on SPTA, and the drop frequency to co-ordinate their tasking. At the time of the Airprox the helicopter did not appear to be communicating with an ANSP nor squawking.

The C130 crew, operating on NVD, spotted the helicopter close to CPA due to them manoeuvring and the helicopter being obscured by lighting of a town. It is a shame that the Airprox was not reported on frequency at the time as this may have made tracing the helicopter more likely.

This Airprox serves as a reminder that non-squawking, non-communicating traffic can be encountered anywhere and at any time in Class G airspace. A good lookout is key to maintaining safe separation from other aircraft.

Summary

An Airprox was reported when a C130 and a helicopter flew into proximity in the vicinity of Salisbury Plain at 2201hrs on Wednesday 26th June 2019. The C130 pilot was operating under VFR in VMC, in communication with Salisbury Ops. The helicopter pilot could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the C130 pilot, radar photographs/video recordings, reports from the Range Controller 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 looked at the actions of the C130 pilot. He was operating to a drop site on Salisbury Plain and was positioning outside the range prior to running in when he saw what he believed to be a helicopter. Members wondered whether he should have been receiving an ATS, but noted that he was using all of his radios to communicate with the drop site, Salisbury Ops and also on the low-level common frequency and was therefore not able to communicate with anyone else to get a radar service even if one had been available (which was unlikely at that altitude and location). As a result, and in the absence also of any electronic conspicuity from the reported helicopter, the C130 crew had no prior situational awareness about the other aircraft (**CF2**). Moreover, the helicopter had not shown on the

¹ SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

² SERA.3210 Right-of-way (c)(1) Approaching head-on. MAA RA 2307 paragraph 13.

NATS radars, nor had the range controller seen anything on his radar (which was a slave from the Boscombe Down radar, so it was likely that an ATS would not have prevented the Airprox anyway.

Members noted that the C130 pilot reported that he had only seen a strobe-light, and that there was nothing showing on the radar at that time or later. Together with the fact that the reported helicopter would have had to have been flying fairly low in order to be 500ft below the C130, members debated what could have been operating in that vicinity. Noting that it was night, that there were no other military aircraft booked into the low-flying system or booked into CADS, and that a police or HEMS helicopter would probably have been squawking, some members wondered whether in fact it wasn't a helicopter that the pilot had seen, but something else entirely. Perception of distances and geometry from lights at night is notoriously difficult, and some members wondered whether the light might have been further away or even emanating from something on the ground. Without a squawk, the TCAS on the C130 could not detect the other aircraft if there was one (**CF3**), and, as a result, without any prior situational awareness the C130 pilot was late in spotting the lights (**CF4**).

The Board then quickly looked at the role of the range controller. He was providing a procedural service from other aircraft operating within the range and, with the C130 being outside the range, was not required to provide a service or monitor the C130 (**CF1**). The range controller reported that he had not known about the Airprox until sometime after the incident occurred, and members reiterated the advantages of reporting an Airprox on frequency at the time because, as in this case, the range controller may have been able to find out more details about the helicopter by alerting other air traffic units.

Finally, the Board assessed the risk and quickly agreed that without any evidence about the helicopter's, height or distance from the C130 they were unable to draw any meaningful conclusions as to what had actually happened or the risk of collision. They therefore reluctantly agreed that the incident should be classified as Category D, insufficient information to assess the risk.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2019161			
CF	Factor	Description	Amplification
Ground Elements			
• Situational Awareness and Action			
1	Contextual	• Situational Awareness and Sensory Events	Not required to monitor the aircraft under the agreed service
Flight Elements			
• Situational Awareness of the Conflicting Aircraft and Action			
2	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
• Electronic Warning System Operation and Compliance			
3	Technical	• ACAS/TCAS System Failure	Incompatible CWS equipment
• See and Avoid			
4	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

Degree of Risk: D.

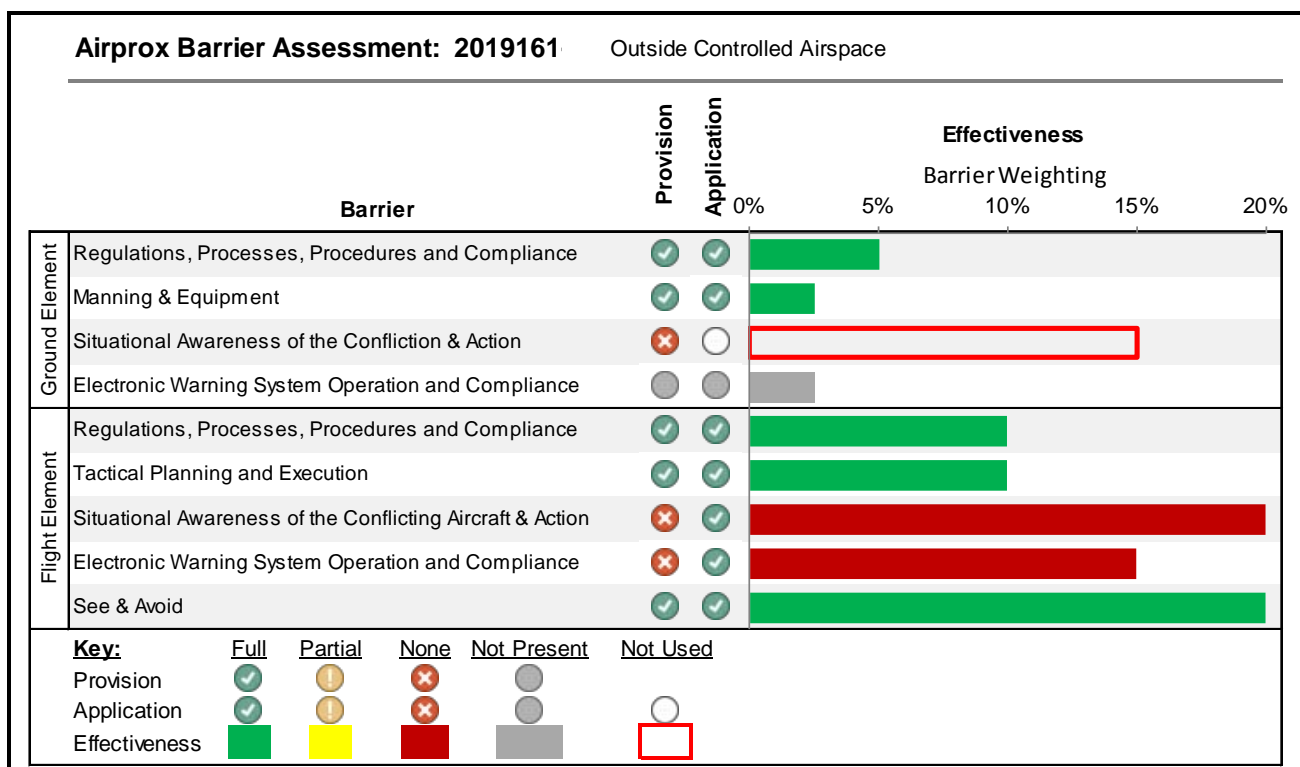
Safety Barrier Assessment³

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 the C130 pilot did not have any prior situational awareness about the other aircraft.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the C130's TCAS could not detect the non-squawking other aircraft.



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