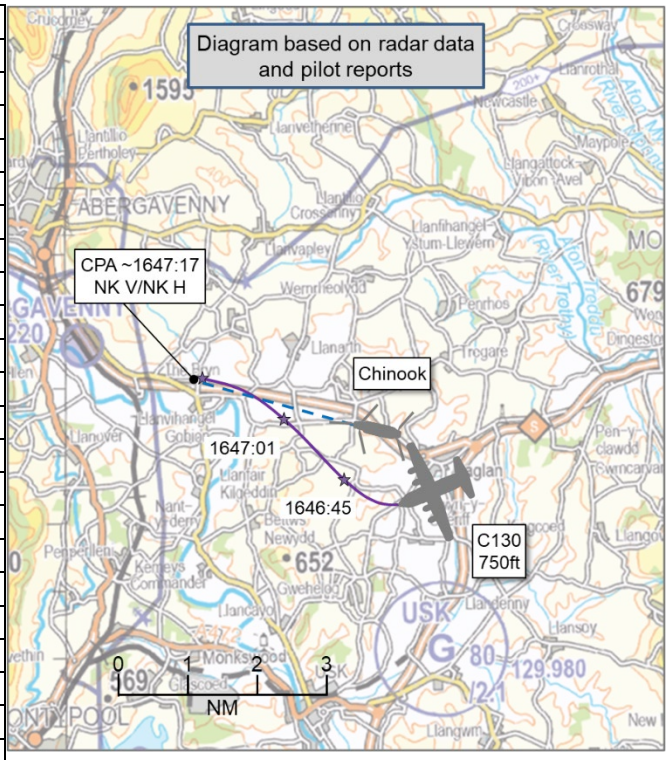
AIRPROX REPORT No 2024202

Date: 27 Jun 2024 Time: ~1647Z Position: 5147N 00255W Location: IVO The Bryn, Monmouthshire

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Chinook	C130
Operator	HQ JAC	Foreign Mil
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	Listening Out
Provider	LL Common	LL Common
Altitude/FL	NR	750ft
Transponder	A, C	A, C
Reported		
Colours	Green	Grey
Lighting	Position, strobes	Navigation
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	150ft	500ft
Altimeter	RPS (1010hPa)	NK
Heading	280°	'West'
Speed	60kt	220kt
ACAS/TAS	TAS	TCAS II
Alert	Information	None
Separation at CPA		
Reported	200ft V/0NM H	Not seen
Recorded	NK	



THE CHINOOK PILOT reports that during a navigation leg at low-level the Number 1 Crewman informed the crew of a fixed-wing aircraft, possibly a large multi-engine type (A400 or C130) in the aircraft's 5 o'clock, passing right-to-left, [with] no confliction. The crew continued along the route to the northwest. Approximately 30sec later, the Number 1 crewman updated the crew that the aforementioned aircraft had then been in the 7 o'clock and turning towards their aircraft and onto a similar heading. At this point, the handling pilot elected to begin an approach to a field to aid deconfliction. Simultaneously, the non-handling pilot made a Low-Level Common frequency call to alert the aircraft of their presence, during which time the rear crew continued to patter the aircraft overhead their location. By this time, the handling pilot had effected an approach to a field and came to a hover at approximately 20ft AGL. The aircraft was assessed to be a […] Hercules with an unknown callsign at the time. It was assessed to have passed overhead the aircraft at approximately 200ft AGL.

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

THE C130 PILOT reports that they had submitted this text in response to an RAF occurrence report. The crew of [C130 C/S] executed a visual low-level flight through Wales with a flight profile of 500ft AGL. As this was a familiarization flight, it was intentionally flown higher than a normal tactical training sortie. During the flight, the crew heard a broken and barely readable radio call on the Low-Level Common frequency (130.490MHz) referencing a Chinook. The crew responded to this radio call by stating, "any traffic any traffic, one C130 heading westbound, 220kts, 1000ft and below," while also providing a range and bearing from a nearby town. No response was heard. The crew continued along their route of flight and executed a climb to 1000ft AGL as they flew over rising terrain. From this altitude they continued visually scanning for potential traffic in the area, as well as listening for additional position reports in the event their higher altitude would improve their radio reception. The crew heard and saw nothing and continued their flight profile. The remainder of the flight proceeded normally; the crew never located another aircraft nor received any Resolution Advisory (RA) indicating there was an aircraft in

close proximity. The crew did not gain sight of the Chinook nor receive any information on its location and are unable to assess the risk of collision.

Factual Background

The weather at Bristol and Cardiff Airports was recorded as follows:

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METAR EGGD 271620Z AUTO 26017KT 9999 SCT010 BKN018 BKN023 13/12 Q1011=
METAR EGFF 271620Z AUTO 26016KT 9999 FEW026 BKN034 OVC048 16/11 Q1011=
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Analysis and Investigation

UKAB Secretariat

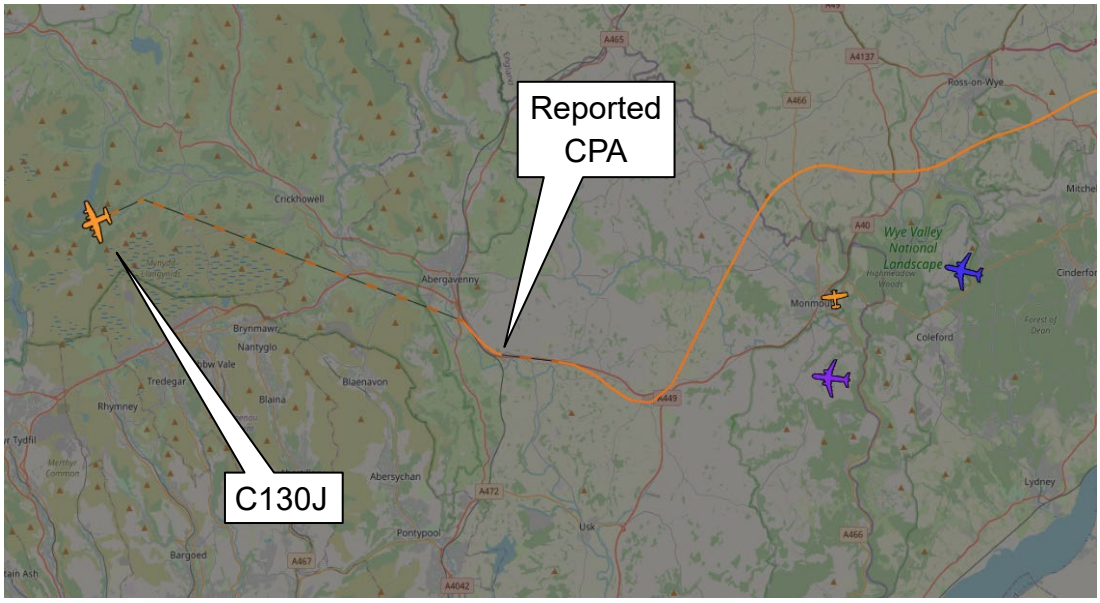

Figure 1: The path of the C130 via an ADS-B tracking tool. The Chinook did not show.

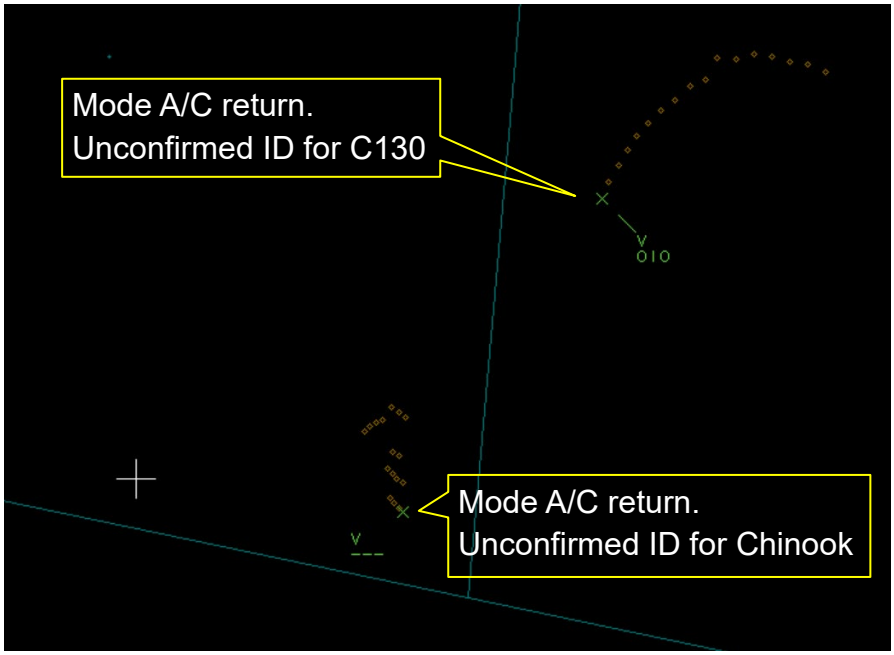

Figure 2: at 1644:51 – the southernmost return disappeared at the next sweep and did not return. The white cross indicates the position of the reported CPA.

Reviewing the radar replay, two aircraft can be seen although they offer no aircraft data. They were operating in line with the report narratives for the C130 and the Chinook with timings, headings, and

speed. Radar coverage in the area of the reported Airprox was not very good with the track believed to be the Chinook disappearing from radar several minutes before the reported incident time. The Airprox position provided by the Chinook pilot does match the position of the C130 on the radar replay and corresponds with the 1647 reported incident time.

The Chinook and C130 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]

Comments

JAC

The Chinook was operating VFR at low-level on a routine day navigation sortie. The rear crewman became aware of the C130 when approximately 3-5 miles away and kept the remainder of the crew updated on its profile. The C130 had been perceived as a high threat when it turned towards them and tracked from their 6 to 12 o'clock. Initially their TAS had not displayed the traffic tag until the C130 turned towards the Chinook. The crew made a dynamic assessment and descended to build in vertical separation. Detail on CADS indicated the C130 as being 33min early and at lower height than submitted. The local investigation has identified that CADS is difficult to accurately reflect exact movement and should only be used as a general SA tool.

USAFE

The crew of the Chinook worked well together in order to make the pilots aware of the inbound C130 and ultimately materially increase separation. CADS is used for pre-flight situational awareness and relies on accurate information. The C130 operator has addressed the issue of timing of routes input to CADS reflecting the actual flight. Both crews attempted to make contact using [the] Low-Level common [frequency] but on this occasion they were unable to do so.

Summary

An Airprox was reported when a Chinook and a C130 flew into proximity at The Bryn, Monmouthshire at around 1647Z on Thursday 27th June 2024. Both pilots were operating under VFR in VMC and neither pilot was in receipt of a Flight Information Service.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, ADS-B data 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.

Members discussed the event as a whole and the actions taken by both the Chinook and C130 pilots. They noted that the flights had been planned and checked for conflictions within the military tool common to both pilots and that the aircraft had been equipped with radio, transponder and traffic alerting systems. Members understood the deconfliction aims of the planning tool but felt that, in this case, the flexibility it allowed for operators had shown that variations in the operational timeline had meant that, where aircraft find themselves overly early or late, the situational awareness that can be gained by route comparison is lost (**CF1**). The Board accepted that although radio calls had been made, both by the Chinook and the C130 crews on the Low-Level Common frequency, the natural limitations of VHF radios in undulating terrain (**CF7**) had meant that messaging had not been uniformly received and had denied an important aspect of the situational awareness barrier. Additionally, as both aircraft had carried compatible traffic alerting systems, and the Chinook pilot had received an information message through theirs (**CF3**), it had unfortunately appeared only after the crew had acquired the C130 visually, and the system carried by the C130 had not reported any electronic emissions from the Chinook (**CF4**). The combination of radio and EC weaknesses in this case had meant that neither pilot had had any

[1] (UK) SERA.3205 Proximity. MAA RA 2307 paragraphs 1 and 2.

situational awareness of the presence or the proximity of the other aircraft (**CF2**). Board members praised the Chinook crew for their positive lookout and crew cooperation in ensuring the decisions made by the pilot had been as a result of the best information available at the point they had become concerned by the C130's proximity (**CF6**). The Board discussed the nature of the sorties flown by both aircraft and queried the apparent lack of full transponder operation registered by both radar and ADS-B tracking tools. They recognised that in some circumstances the nature of a military flight must remain unstated but felt that more could have been done to raise situational awareness for all operators in this area at this time. As the C130 crew had heard only a broken radio call and had received no EC indications from the Chinook, they had had no situational awareness of its presence. The Board also accepted that, from the perspective of the C130 crew, looking from above for a green helicopter over green terrain can be a fruitless task and in this case had resulted in the C130 crew gaining no sight of the Chinook at all (**CF5**).

Concluding the discussion, members considered the early sighting of the C130 by the Chinook crew and the actions taken by the Chinook pilot. Although both pilots had utilised a common military planning tool, the flexibility within that system had allowed both pilots to operate without prior awareness of the other's positioning and, although the exact separation between the Chinook and the C130 could not be determined, members were in agreement that safety had been degraded but there had not been a risk of collision. The Board assigned Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024202			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Tactical Planning and Execution			
1	Organisational	• Flight Planning Information Sources	An event involving incorrect flight planning sources during the preparation for a flight.	
	• 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	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
4	Human Factors	• Response to Warning System	An event involving the incorrect response of flight crew following the operation of an aircraft warning system	CWS misinterpreted, not optimally actioned or CWS alert expected but none reported
	• See and Avoid			
5	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
6	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
	• Any other events			
7		• Any other event	Any other event not listed elsewhere within the event types list.	VHF radio performance at low-level

Degree of Risk: C.

Safety Barrier Assessment[2]

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

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

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the planning system utilised by the C130 pilot did not reasonably reflect the chosen route timings flown at the time.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had any situational awareness of the presence of the other aircraft.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the equipment carried by the C130 did not register electronic emissions from the Chinook and that carried by the Chinook registered the presence of the C130 after the crew had acquired visual contact.