

AIRPROX REPORT No 2023082

Date: 21 May 2023 Time: ~1856Z Position: 5311N 00215W Location: 2NM NW Congleton

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Paramotor	H500
Operator	Civ Hang	Civ Helo
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Traffic
Provider	N/A	Manchester Radar
Altitude/FL	NK	1300ft
Transponder	Not fitted	A, C, S
Reported		
Colours	Multicolour	Red, white, blue
Lighting	None	Strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1500ft	1400ft
Altimeter	QNH (1023hPa)	QNH (NK hPa)
Heading	360°	310°
Speed	25kt	110kt
ACAS/TAS	Not fitted	Not fitted
Separation at CPA		
Reported	100ft V/100ft H	NK V/NK H
Recorded	NK V/NK H	



THE PARAMOTOR PILOT reports that they were flying straight, with a slow descent, and were heading north with their airfield in sight. Conditions were flat calm and a blue sky. They knew about the helicopter because they could hear it, and were frantically looking for it. They could see it passing behind them from right-to-left, and there was nothing they could do. They sat there waiting for the wake to hit them which would have knocked them out of the sky.

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

THE H500 PILOT reports that they were flying to a private site located within the Manchester Low Level Route (LLR). Flying westwards, there was no cloud, CAVOK, >10km [visibility] but they were flying into the sun. They briefed their right-seat passenger to help look out for other aircraft. They took a Traffic Service rather than a Basic Service from East Midlands Radar and then changed to Manchester Radar when approximately between Ashbourne and Leek. They had asked for a Traffic Service as they were flying into the sun. They think they were given a 7350 squawk. They then asked if they could cut the corner of the zone directly to their landing site which the controller approved at not above 1000ft. At no point was any traffic passed to them. Before they entered the Manchester CTR at a position that they now know was 2NM NW of Congleton, their right-seat passenger pointed out a parachute canopy at approximately 1 o'clock, below them and maybe 300-400m distance at first sight. They are not sure of the height or separation. They commented to each other about not seeing it until they were close, saying that, at distance, it didn't stand out from the ground as it was lower, not ahead in their view, and that the colour blended in. They didn't think there was a risk of collision at the time. Reflecting back, they are not sure there had been anything they could have done to have seen it earlier and to have been able to give greater separation. [The H500 pilot reported that they had not taken any avoiding action].

[The H500 pilot commented that] they have been looking at, and trying to decide between, [two popular EC devices] as an aid. In this case, they guess that the [paramotor] pilot had no transponder of any type or Manchester would have seen them and [would have passed] Traffic Information.

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

THE MANCHESTER APPROACH CONTROLLER reports that they have been informed that [the pilot of the H500] had an Airprox with a paramotor 2NM NW of Congleton whilst on their frequency. The traffic was outside CAS at the time and [neither pilot] reported the incident to them.

Factual Background

The weather at Manchester was recorded as follows:

METAR COR EGCC 211850Z AUTO 06005KT 040V100 9999 NCD 18/03 Q1022 NOSIG

Analysis and Investigation

NATS MANCHESTER AIRPORT UNIT

[The pilot of the H500] reported an Airprox 2NM NW of Congleton with a paramotor. [The pilot of the H500] was under a Basic Service, and outside controlled airspace at the time of the event. They did not report the Airprox to the Manchester Approach Radar controller but later submitted an Airprox report to the CAA.

Timeline of the event:

At 1848:56, [the pilot of the H500] contacted Manchester Approach Radar (APS) to request a transit of the CTA routing northbound. Clearance to transit controlled airspace was issued.

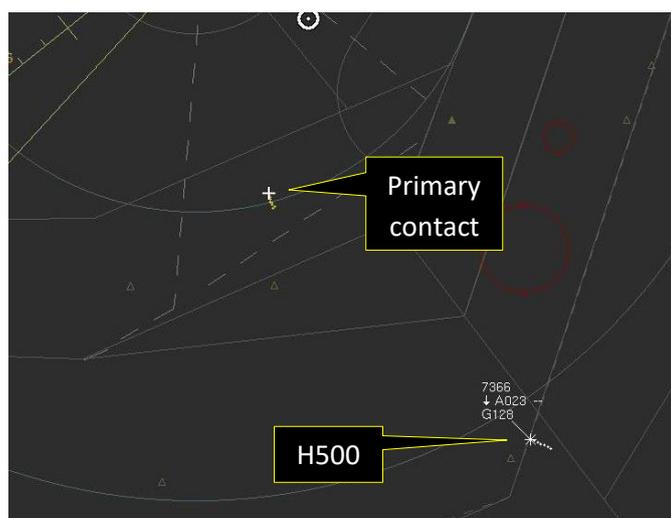


Figure 1 – 1848:56

Two-way contact was made with APS (see Figure 1). A primary radar contact could be seen in the vicinity of Congleton, but no callsign was visible on the raw data. At 1850:00, the contact was still visible on Manchester Approach South radar (see Figure 2).

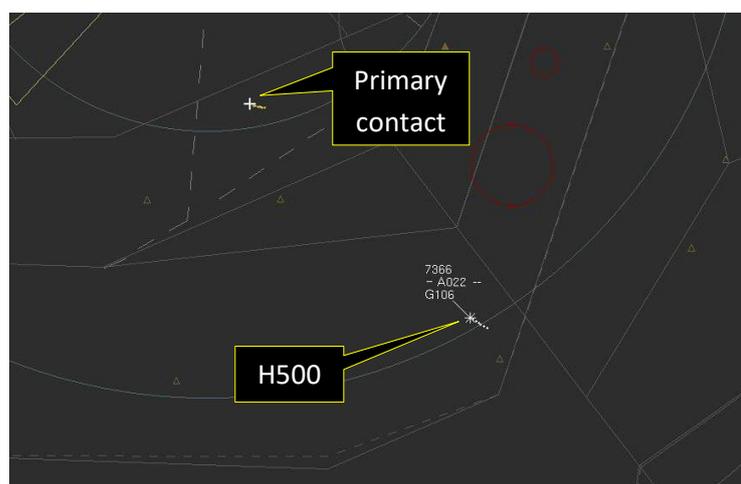


Figure 2 – 1850:00 Manchester Approach South

At 1855:48, [the H500] was 2NM NW of Congleton (see Figure 3), the location of the Airprox in the pilot's report to the CAA. The primary contact was no longer visible. No report was made to ATC of an Airprox.



Figure 3 - 1855:48

Investigation:

CAA informed Manchester Airport that an Airprox report had been filed by the pilot of [the H500]. The radar replay was viewed from the time given in the Airprox report, no report was made to ATC. The Manchester Approach South controller at the time of the event filed a retrospective CA4114. Radar recordings along with R/T were impounded and distributed to the CAA at their request.

Conclusion:

This event involved a paramotor, operating outside controlled airspace, not under any ATC service, and [the pilot of the H500], operating outside controlled airspace, under a Basic Service with Manchester Approach South. The pilot of [the H500] held the opinion that the distance between the aircraft, as well as their relative positions and speed, were such that the safety of the aircraft involved may have been compromised.

CAA ATSI

A review of the Manchester RT recording identified that the pilot of the H500 was being provided with a Traffic Service at the time of the Airprox. The findings within the Unit investigation report have been established with the belief that a Basic Service was being provided. Unfortunately, the very

late arrival of the Unit report resulted in there being insufficient time for a reassessment of the event to be requested.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and the H500 could be positively identified from Mode S data (see Figure 4). The paramotor could not be identified on the NATS radar replay. The exact moment of CPA could not be determined but has been estimated to be the moment that the track of the H500 crossed what would have been a northbound track towards the destination airstrip as reported by the pilot of the paramotor. The separation at CPA could not be determined.

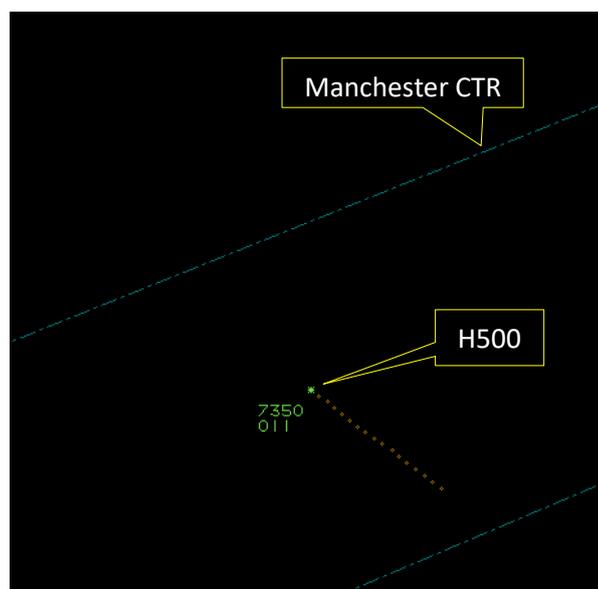


Figure 4 – 1855:58. Estimated time of CPA

The paramotor and H500 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 converging then the H500 pilot was required to give way to the paraglider.² An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation.³

Summary

An Airprox was reported when a paramotor and an H500 flew into proximity 2NM northwest of Congleton at approximately 1856Z on Sunday 21st May 2023. Both pilots were operating under VFR in VMC, the paramotor pilot not in receipt of an ATS and the H500 pilot in receipt of a Traffic Service from Manchester Radar.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the air traffic 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 considered the actions of the pilot of the paramotor. In the absence of radar data or GPS track data showing the exact position of the paramotor, members turned their attention to the pilot's narrative report of the event. It was noted that the pilot of the paramotor had heard an approaching aircraft, and members concluded that this had provided some generic awareness of the

¹ (UK) SERA.3205 Proximity.

² (UK) SERA.3210 Right-of-way (c)(2) Converging.

³ (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.

traffic situation (**CF3**) and had prompted a somewhat anxious lookout. The H500 had been sighted late (**CF4**) and, having agreed that the proximity of the helicopter had caused the paramotor pilot considerable concern (**CF5**), members acknowledged that there had been no time for the pilot of the paramotor to have taken any effective avoiding action.

Members turned their attention to the actions of the pilot of the H500. Noting that they had specifically mentioned to the controller that having the sun in their eyes had been a factor in their request for a Traffic Service, members commended the choice of ATS in this situation. However, the pilot of the H500 had not had situational awareness of the paramotor until it had been visually acquired (**CF3**), and members appreciated that it had been a 'good spot' by their passenger. Nevertheless, members were in agreement that the paramotor was sighted late (**CF4**), given that the pilot of the H500 reported that there had been little that they could have done to have increased the separation.

It was noted by members that neither aircraft was fitted with any additional electronic conspicuity equipment, which on this occasion may have provided some additional information to aid visual acquisition. It was for pilots to decide on their own requirements for additional equipment according to their needs and the Board wished to highlight to pilots that additional funding has been made available for electronic conspicuity devices through the CAA's Electronic Conspicuity Rebate Scheme, which has been extended until 31st March 2024.⁴

Members next considered the actions of the Manchester Approach Radar controller. Examining the timeline of events, members' attention was drawn to the primary-only contact that had been visible on the Manchester Approach Radar controller's screen. It was concluded that this contact had been visible to the controller when the pilot of the H500 had contacted them and, although it had faded for several seconds shortly afterwards, had re-appeared and had persisted for over a minute. The separation between this primary-only contact and the H500 had been approximately 10NM and members discussed whether information on the contact ought to have been passed to the pilot of the H500 under the terms of a Traffic Service. Whilst some members suggested that Traffic Information on a contact that far ahead of their track would not have been particularly useful to the pilot of the H500, other members suggested that it may have aided the pilot's situational awareness and may have prompted further inquiry when they subsequently approached that area. Nevertheless, the pilot of the primary-only contact had not contacted the Manchester Approach Radar controller and had not been identified as 'known traffic'. It was noted that the primary-only contact had faded from the radar screen 5min before CPA, and members were in agreement that the controller would not have been able to have provided updated position information to the pilot of the H500. Notwithstanding that part of the discussion, members pondered the investigation report provided by the Manchester Airport Unit and noted that it had referred to the service being provided to the H500 pilot as a Basic Service. Members wondered whether the controller had believed that they had been providing a Basic Service at the time, or if there had simply been an error in the report. Whichever had been the case, members concluded that the controller had had no situational awareness of the paramotor (**CF1**), and had not (or could not have) detected the conflict between the H500 and the paramotor (**CF2**).

Concluding their deliberations, members were in agreement that safety had been reduced below the norm as neither pilot had sighted the other in time to have taken action to have materially increased the separation. Additionally, neither aircraft had been fitted with an additional electronic conspicuity device which may have aided earlier visual acquisition. However, the reported separation had been such that members were satisfied that there had not been a risk of collision. As such, the Board assigned Risk Category C to this event.

⁴ <https://www.caa.co.uk/general-aviation/aircraft-ownership-and-maintenance/electronic-conspicuity-devices/>

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**Contributory Factors:**

	2023082			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
• Situational Awareness and Action				
1	Human Factors	• Conflict Detection - Not Detected	An event involving Air Navigation Services conflict not being detected.	
2	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
Flight Elements				
• 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
• See and Avoid				
4	Human Factors	• Identification/ Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late 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: C.

Safety Barrier Assessment⁵

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 Conflicting Aircraft and Action were assessed as **ineffective** because the Manchester Approach controller had not detected the conflict between the H500 and the primary-only radar contact.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the pilot of the H500 had not had any situational awareness of the presence of the paramotor until it had been visually acquired.

See and Avoid were assessed as **partially effective** because both pilots had visually acquired the other aircraft late.

⁵ 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: 2023082

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 Conflicition & 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								