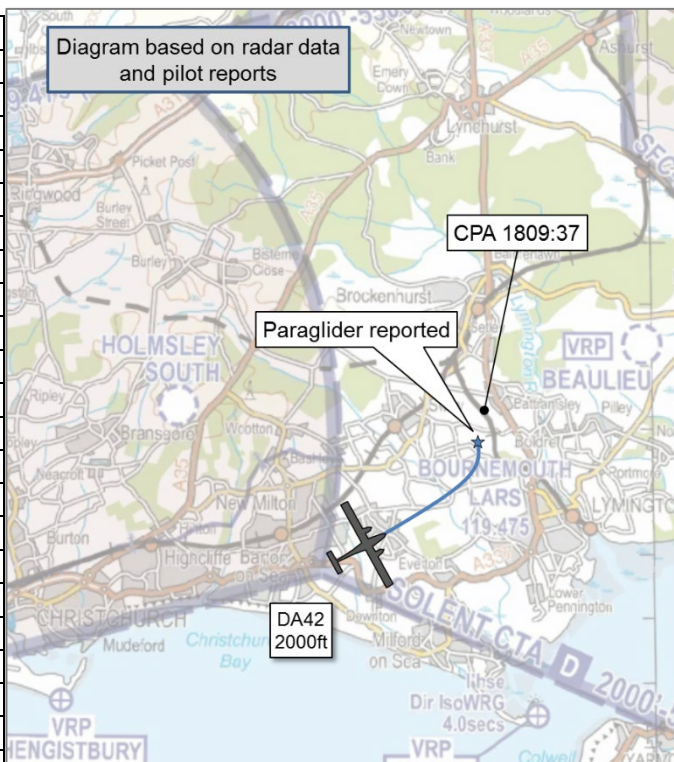


AIRPROX REPORT No 2019159

Date: 24 Jun 2019 Time: 1809Z Position: 5046N 00150W Location: Beaulieu

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DA42	Paramotor
Operator	Civ FW	Unknown
Airspace	Bournemouth CTA	London FIR
Class	D	G
Rules	VFR	
Service	Traffic	
Provider	Bournemouth	
Altitude/FL		
Transponder	A, C, S	
Reported		
Colours	White, Grey	
Lighting	Strobes, Landing	
Conditions	VMC	
Visibility	10km	
Altitude/FL	2000ft	
Altimeter	QNH (1017hPa)	
Heading	350°	
Speed	120kt	
ACAS/TAS	TAS	
Alert	None	
Separation		
Reported	100ft V/150m H	
Recorded	NK	



THE DA42 PILOT reports he was receiving a Traffic Service and being radar vectored from the South for an ILS approach at Bournemouth RW26, at 2000ft. He was the handling pilot undergoing IF training, simulated IMC. Having tracked downwind, ATC vectored him onto the base turn. They were cleared to establish on the localiser from the left and advised to call when established. On tracking towards the localiser, the Captain spotted traffic in the 11 o'clock slightly below heading in the same direction. At this point he looked up to see the traffic approximately 100ft at the 11 o'clock position. The Captain took immediate control of aircraft, turned to the right and once safe separation was established they resumed original heading. There was no TAS read out. He observed the traffic to be a small white microlight [reported as a paraglider on the RT] aircraft. It did not appear to have any navigational lights or strobes. The Captain advised Bournemouth ATC of the situation and details were passed. ATC were not aware of the traffic and the microlight pilot was not speaking to Bournemouth. They continued on the original heading and established on the localiser to make an ILS recovery to Bournemouth.

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

THE PARAMOTOR PILOT could not be traced.

THE BOURNEMOUTH CONTROLLER reports that they were providing an approach radar service to the DA42, vectoring for an ILS approach to RW26. The aircraft was flying at 2000ft on the left base area in a position of approximately 10.2nm on a bearing of 087° from Bournemouth ARP. The base of controlled airspace in this area is 2000ft. At time (1809z) the pilot advised he was turning to avoid a paraglider on his nose approximately 50ft below him. A turn to the right was then observed. The pilot was advised that he could climb if he wished to avoid the paraglider, but he declined. There was nothing painting on the radar to indicate a possible paraglider at any time. Shortly after, the pilot advised that he was clear of the paraglider and was happy to continue with radar vectors.

Factual Background

The weather at Bournemouth was recorded as follows:

METAR EGHH 241750Z 14005KT 9999 FEW048 21/15 Q 1017

Analysis and Investigation

Bournemouth ATC Investigation

A screenshot of the Bournemouth radar, as used by the Bournemouth controller, is at Figure 1. The DA42 can be seen on the radar, indicating 2000ft. The paraglider does not display on the radar.

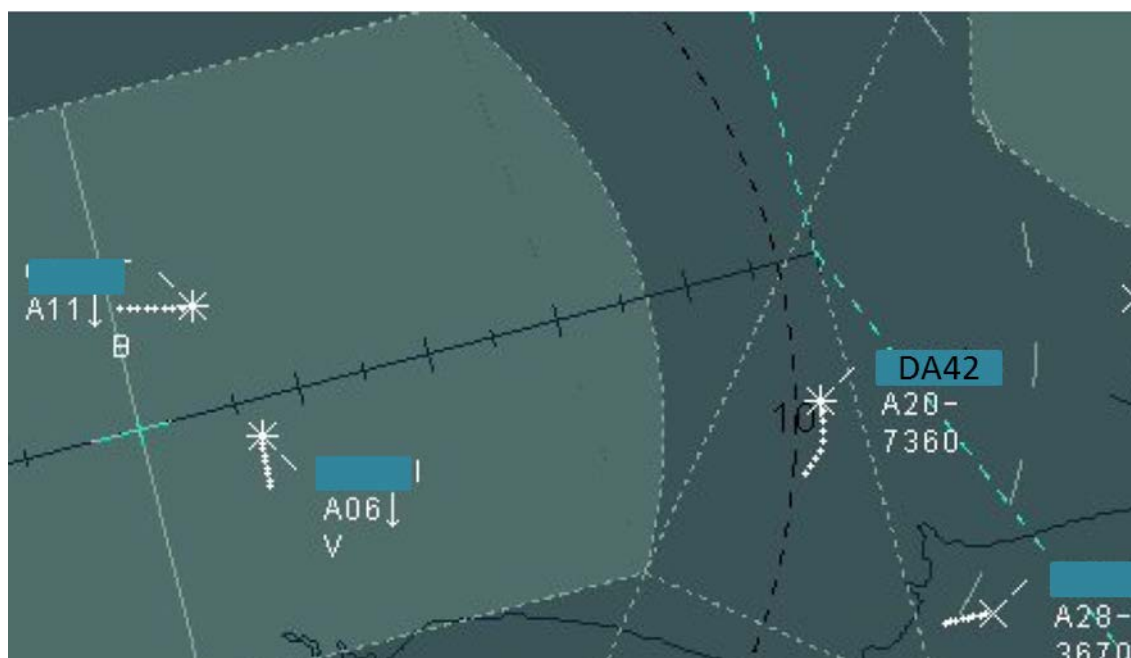


Figure 1

The DA42 was being vectored for an ILS approach for RW26, the aircraft was at 2000ft. 9nm to the southeast of the airfield it was turned onto a heading of 350° base leg and given a range check of 11nm. At 1809, the pilot advised that they were breaking off as they had a paraglider on the nose 50ft below them. The radar replay has no contact visible in the area, which is to be expected given that the conflict aircraft was believed to be a paraglider. The pilot was given the option to climb by the Bournemouth Radar controller but the pilot advised that they were turning away, shortly after that he reported the paraglider was now behind them and they were resuming the original heading.

The base of the airway in the position of the incident is 2000ft and the DA42 was therefore flying at the base level with the paraglider likely flying 50ft outside of controlled airspace. This is a known area of transiting traffic which generally route between Stoney Cross towards Beaulieu or the reverse route. Due to the adjacent Solent airspace, controllers are normally aiming for an 8nm final for RW26 to ensure separation from inbound and outbound Solent traffic, and generally at 2000ft at the base. The descent profile for the ILS commences descent from 2000ft at 6nm or 8nm for 2500ft. Following discussion with Unit Assessors, it is recommended that when vectoring aircraft within Area C and D they should be vectored at 2500ft to ensure that they are 500ft above the base of controlled airspace in accordance with MATS Pt 1Section 1: Chapter 7 para 9:

Except when aircraft are leaving controlled airspace by descent, controllers should not normally allocate a level to an aircraft which provides less than 500ft vertical separation above the base of a control area or airway. this will provide separation from aircraft operating beneath the base of controlled airspace.

UKAB Secretariat

Although the pilot reported the aircraft as a paraglider, the Board considered that a lack of high ground in the area and the weather conditions pertaining at the time were such that this was more likely to be a paramotor.

The DA42 and paramotor 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 overtaking then the paramotor pilot had right of way and the DA42 pilot was required to keep out of the way of the other aircraft by altering course to the right².

Summary

An Airprox was reported when a DA42 and a paramotor flew into proximity in the vicinity of the Beaulieu VRP, at 1809hrs on Monday 24th June 2019. The DA42 pilot was operating under VFR in VMC, and in receipt of a Traffic Service from Bournemouth. The paramotor could not be traced.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of the DA42 aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings and reports from the air traffic controllers involved. 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 heard from the BHPA member who confirmed that it was unlikely to be a paraglider in that area given the conditions at the time. The local paragliding clubs had been asked whether they had any paramotor pilots operating within their clubs, but none did. He noted that the local clubs had a very good relationship with Bournemouth, who allowed them into their CAS at quiet times to allow paragliding along the coast, and the Board was heartened to hear this example of good liaison. The member went on to explain that paramotor pilots probably wouldn't be talking to ATC (and may not even have a radio) and may not have an accurate QNH, meaning that they may not know the exact base of the CAS, so could not be assumed to be operating below the base of CAS.

Turning to the DA42 pilot, the Board noted that he was within CAS and receiving vectors for an approach from ATC. However, the paramotor was not displaying on the radar so the DA42 pilot did not receive any Traffic Information from the controller, nor was the paramotor squawking, preventing the DA42's TAS alerting (**CF3, CF4**) thus denying the DA42 pilot of any prior situational awareness. The incident highlighted the need to remain vigilant, even when under Radar Control; fortuitously, even though it was a late sighting (**CF5**), the Captain saw the paramotor in time to take effective avoiding action and the Board commended him for this.

Finally, the Board looked at the actions of the Bournemouth Controller, he did not have any situational awareness that the paramotor was there because it did not display on his radar screen (**CF2**), so he was not able to provide any Traffic Information. Noting that he was operating at the base of CAS, controlling members opined that it was normal not to use the very base of controlled airspace for the very reason demonstrated here (**CF1**). They were heartened to hear that this practise would cease and the Bournemouth ATC Investigation had recommended that controllers should in future adhere to MATS Part 1 in that they ensure their aircraft remained 500ft above the base whenever possible.

In assessing the risk, some members thought that the danger to the paramotor from the DA42's wake turbulence, together with the proximity of the two aircraft, meant that this incident represented a situation where safety had been much reduced below the norm. Others members noted that the DA42 pilot himself had assessed the risk of collision as low, and that he had conducted effective avoiding action,

¹ SERA.3205 Proximity.

² SERA.3210 Right-of-way (c)(3) Overtaking.

albeit later than desirable. Noting that the paramotor pilot's assessment may have differed if he was indeed aware of the DA42 (which may have been obscured to him by his canopy as the DA42 flew past above), and given that the DA42 Captain's estimate of 50ft vertical separation could not be confirmed, the Board decided to use the DA42 Captain's own assessment of risk as their guide and concluded that, although safety had been degraded, there had probably been no risk of collision. Accordingly, they assessed the risk as Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2019159-Barriers			
CF	Factor	Description	Amplification
Ground Elements			
• Regulations, Processes, Procedures and Compliance			
1	Organisational	• Organisational Documentation and Publications	Inadequate regulations or procedures
• Situational Awareness and Action			
2	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
Flight Elements			
• Situational Awareness of the Conflicting Aircraft and Action			
3	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
• Electronic Warning System Operation and Compliance			
4	Technical	• ACAS/TCAS System Failure	Incompatible CWS equipment
• See and Avoid			
5	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

Degree of Risk: C.

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:

Ground Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the Bournemouth controller was operating at the base of controlled airspace.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the Bournemouth controller could not see the paramotor on the radar and so could not have issued avoiding action.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the DA42 pilot had no prior knowledge of the paramotor before he saw it.

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

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the TAS on the DA42 could not detect the paramotor.

See and Avoid were assessed as **partially effective** because by the time he saw the paramotor, the DA42 pilot was only able to take late avoiding action.

Airprox Barrier Assessment: 2019159		Outside Controlled Airspace					
Barrier	Provision	Application	Effectiveness				
			Barrier Weighting				
			0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	✓	!	[Yellow bar from 0% to 5%]			
	Manning & Equipment	✓	✓	[Green bar from 0% to 5%]			
	Situational Awareness of the Confliction & Action	✗	✗	[Red bar from 0% to 15%]			
	Electronic Warning System Operation and Compliance	○	○	[Grey bar from 0% to 5%]			
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✓	[Green bar from 0% to 10%]			
	Tactical Planning and Execution	✓	✓	[Green bar from 0% to 10%]			
	Situational Awareness of the Conflicting Aircraft & Action	✗	✓	[Red bar from 0% to 20%]			
	Electronic Warning System Operation and Compliance	✗	✗	[Red bar from 0% to 15%]			
	See & Avoid	!	!	[Yellow bar from 0% to 20%]			
Key:							
	<u>Full</u>	<u>Partial</u>	<u>None</u>	<u>Not Present</u>	<u>Not Used</u>		
Provision	✓	!	✗	○	○		
Application	✓	!	✗	○	○		
Effectiveness	Green	Yellow	Red	Grey	White		