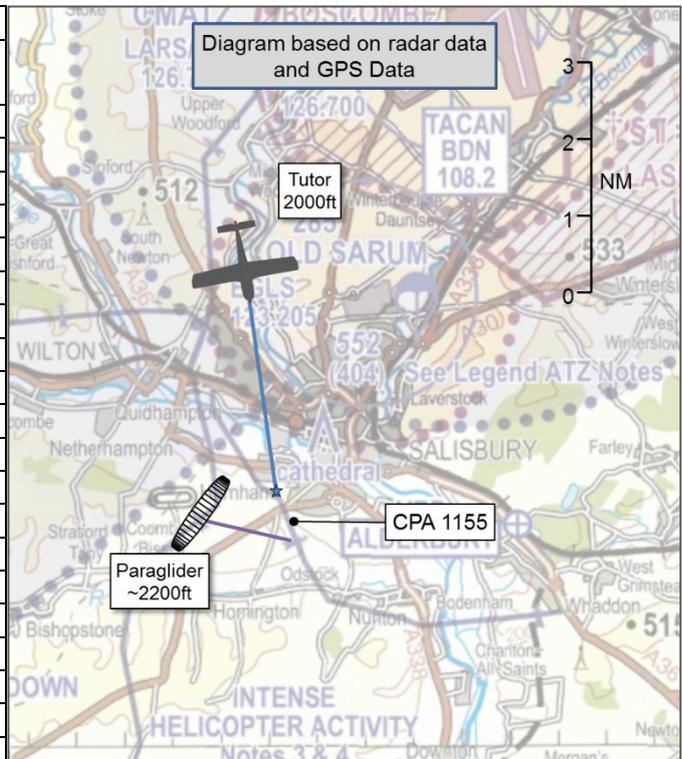


AIRPROX REPORT No 2019241

Date: 13 Aug 2019 Time: 1155Z Position: 5102N 00148W Location: Salisbury

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Tutor	Sigma 10 Paraglider
Operator	HQ Air (Trg)	Civ Gld
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Traffic	None
Provider	Boscombe Down	
Altitude/FL	FL023	NK
Transponder	A, C	Not fitted
Reported		
Colours	White	Red
Lighting	Nav, HISLs	Nil
Conditions	VMC	VMC
Visibility	40km	'Good'
Altitude/FL	2000ft	
Altimeter	QFE (1004hPa)	NK
Heading	180°	NK
Speed	100kt	NK
ACAS/TAS	TAS	Not fitted
Alert	None	N/A
Separation		
Reported	0ft V/0.5nm H	NK
Recorded	NK	



THE TUTOR PILOT reports conducting an instructional sortie, the student’s first GCA. Unusually, Boscombe were using RW35 and so they were positioning for an SRA. On the downwind leg, the QFI took control to avoid a paraglider with a red wing, it was at approximately the same height and within 0.5nm. He turned to port with 45° AOB. There was no indication on radar, TAS or FLARM. The incident was reported to ATC and the SRA continued.

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

THE PARAGLIDER PILOT reports that at around midday he and another paraglider pilot caught a thermal to start cross-country flights. The cloud base was 4000ft and the visibility was good. After around 30 mins both paragliders were southwest of Salisbury when they observed a smart-looking white light-aircraft. At one point it passed by at a distance which seemed much closer than necessary whilst at a similar height. He was concerned that the light-aircraft pilot may have been unaware of the effect that the turbulent wake of his aircraft could have on the slow moving paraglider. Subsequently, the light-aircraft stayed within sight in the general vicinity and performing steep, high-banked turns. It was some tens of minutes before he passed out of the area and could relax that the light-aircraft would not return for another fly by. As far as he can recall, they were the only paragliders to get away from Whitesheet Hill that day.

[UKAB note: The Tutor had been general handing to the west of Boscombe Down in the 30mins prior to the Airprox. It is likely that this is when the paraglider pilot saw it conducting steep turns]

A PARAGLIDER PILOT WITNESS reports that, on the day, there were several pilots attempting to go cross-country from Whitesheet Hill which is approximately 20km west of Salisbury. They were the first to find a thermal and work their way to cloudbase, leaving at least 3 others capable of following. They

both entered the Boscombe Down MATZ stub although he was ahead of the other paraglider at that point. He observed the aircraft to the west but it was closer to the other paraglider than to him. It stood out in the bright sunlight with stubby wings and was performing steeper turns than normally observed. At this stage he was struggling to stay up and decided to land somewhere easy for a retrieve. He packed up his wing in a field next to the hospital and continued to observe the other paraglider who was continuing his flight and patiently working the lift. Unfortunately they did not meet after the flight to discuss the incident and he thought no more of it. He noted that they occasionally attract 'sightseers' during flights but they usually stay well clear and fly in a steady manner.

THE BOSCOMBE CONTROLLER reports that the Tutor was on the downwind leg of the radar training circuit for RW35 and approximately 4nm southeast of Salisbury when the pilot reported turning to avoid a paraglider. It was not displayed on the radar screen, after the pilot had taken the avoiding action a tiny radar return became visible for one radar sweep. The pilot did not report an Airprox at the time and continued with an SRA.

The controller perceived the severity of the incident as 'Medium'.

THE BOSCOMBE SUPERVISOR reports that he did not witness the incident, although he did recall the Tutor conducting the SRA for RW35. Nothing was reported on the frequency at the time and there was no post-flight telephone call to discuss the incident.

Factual Background

The weather at Boscombe was recorded as follows:

METAR EGDM 131220Z 28007KT 9999 SCT045 19/08 Q1018 NOSIG RMK BLU BLU=

The relevant portion of the Boscombe Approach R/T tape transcript is below:

Line No (a)	To (b)	From (c)	Speech Transcription (d)	Time (e)
1	Tutor Callsign	Approach	Tutor Callsign cockpit checks report complete	11:53:55
2	Approach	Tutor Callsign	Standby Tutor Callsign	11:54:00
3	Approach	Tutor Callsign	Tutor Callsign is level at two thousand with cockpit checks complete	11:54:54
4	Tutor Callsign	Approach	Tutor Callsign	11:54:57
5	Approach	Tutor Callsign	Tutor Callsign just avoiding a err paraglider	11:55:22
6	Tutor Callsign	Approach	Tutor Callsign er roger currently nothing seen on my radar	11:55:27
7	Approach	Tutor Callsign	Not your fault but err..... I'll just get back on heading now	11:55:30
8	Tutor Callsign	Approach	Tutor Callsign roger	11:55:34
9	Approach	Tutor Callsign	And Tutor Callsign back on one eight zero two thousand feet	11:55:51
10	Tutor Callsign	Approach	Tutor Callsign roger	11:55:55

Analysis and Investigation

Military ATM

The Tutor was conducting instrument flying training with a Qualified Flying Instructor (QFI) and a student conducting their first ground-controlled approach. The Tutor was in receipt of a Traffic Service from Boscombe Approach and was one of two aircraft on frequency. Whilst on the downwind leg for RW35, the QFI took control of the aircraft and initiated avoiding action against a paraglider approximately ½ nm away at the same level. The QFI reported that no TAS or FLARM alert was received. The Tutor reported avoiding the paraglider to the Boscombe Approach Controller who confirmed that there was nothing showing on the Boscombe Radar.

Analysis of the radar replay by the Radar Analysis Cell indicated that the paraglider was not visible on radar. There was nothing the Boscombe Approach Controller could have done to prevent this incident and therefore the ATS barrier was ineffective in this situation.

UKAB Secretariat

The Tutor and paraglider 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 converging then the Tutor pilot was required to give way to the paraglider². If the incident geometry is considered as overtaking then the paraglider pilot had right of way and the Tutor pilot was required to keep out of the way of the other aircraft by altering course to the right³.

Comments

HQ Air Command

As the paraglider was not equipped with any form of Electronic Conspicuity, CWS or Radio, and did not display on Radar prior to the Airprox, this led to See-and-Avoid being the only available barrier to the avoidance of MAC. The Tutor Pilot (an instructor) was acting as the safety pilot for an SRA being flown by his student. Upon spotting the glider, the instructor took control and carried out a 45° AOB turn to increase separation. As this turn caused the instructor to lose sight of the paraglider, he then reversed his turn to reacquire visual contact and reassess separation. When it was assessed that a risk of collision no longer existed, he regained his former radar heading and continued on the SRA, vacating the area of confliction. He reported back on heading shortly after CPA. Any perceived steep turns at the time of the Airprox were carried out to increase separation and then monitor the situation. Since this Airprox, it has been recommended that Boscombe Down Safety Team review their engagement with local paraglider sites to enhance collective understanding of the use of local airspace.

BHPA

The BHPA recognises that a market absence of suitable lightweight, low-powered, safe, EC devices and antennae suitable for operation by a free-flying pilot makes it difficult for paragliders, hang gliders and paramotorists to be seen by radar and other aircraft. The majority of free-flying pilots realise that their look-out is the chief means of seeing other aircraft in uncontrolled airspace. The paraglider pilot would have been aware that he was transiting a MATZ on a weekday with no radio contact and would have been keeping a wary lookout. Once clear of Boscombe Down's western stub, he probably thought he was in the clear of that area but hadn't taken into account that Boscombe was using RW35 and therefore circuit traffic would be operating outside the marked MATZ. It was fortuitous that the Tutor instructor saw the paraglider in time and avoided it because a paraglider's low airspeed and limited manoeuvrability may have presented its pilot few options.

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

² SERA.3210 Right-of-way (c)(2) Converging. MAA RA 2307 paragraph 12.

³ SERA.3210 Right-of-way (c)(3) Overtaking. MAA RA 2307 paragraph 14.

Summary

An Airprox was reported when a Tutor and a paraglider flew into proximity in the vicinity of Salisbury at 1155hrs on Tuesday 13th August 2019. Both pilots were operating under VFR in VMC, the Tutor pilot in receipt of a Traffic Service from Boscombe Down. The paraglider pilot was not in receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and 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 Tutor pilot. He was receiving a Traffic Service in the radar pattern for an SRA to RW35. His TAS could not detect the paraglider, nor could ATC see it on the radar, so he had no prior situational awareness that the paraglider would be there (**CF3, CF4**). Once the instructor had spotted the paraglider he manoeuvred to keep clear, and then reported back on heading to the controller. Members commended his look-out in spotting the paraglider in time to take timely and effective action whilst monitoring his student's instrument flying (**CF5**).

The Board then discussed the actions of the Paraglider pilot, he reported seeing the Tutor conducting steep, high banked turns, but the radar track and the RT transcript did not match this picture. However, prior to joining the radar pattern, the Tutor pilot had been conducting general handling to the west of Boscombe Down, and members thought it was likely that this was the profile described by the paraglider pilots. Noting that many paraglider pilots did not carry a radio, members discussed whether, knowing that he was going to transit through the Boscombe MATZ, the pilot could have telephoned Boscombe ATC prior to getting airborne (**CF2**). The BHPA member told the Board that although pilots knew the general direction of travel based upon forecast wind, it was almost impossible to know how long a pilot was going to be able to stay airborne (as demonstrated by the witness pilot who had to land much earlier) and so it would be difficult for pilots to telephone all of the ATC agencies that they may or may not get close to in a sortie. Nevertheless, he noted that he had written an educational piece to be published in SkyWings outlining best practise with regard to telephoning ATC units prior to getting airborne and reminding pilots that there was likely to be traffic manoeuvring outside MATZ. In particular, in this Airprox it was noted that it was unusual for Boscombe Down to be using RW35 and therefore the paraglider pilots may have assumed that they would not have encountered traffic to the southwest of Boscombe; without any radio or CWS they had no way of knowing that the Tutor was there (**CF3, CF4**). Certainly, the paraglider pilot would not be able do much in the way of avoiding action to remain clear of the Tutor and would have been concerned about the threat of the wing collapsing due to the wake turbulence (**CF5**).

The Board briefly looked at the actions of ATC but, although they were providing a Traffic Service to the Tutor pilot, they had no knowledge about the paraglider and therefore could not have provided Traffic Information (**CF1**). Military members informed that Board that following this Airprox, the unit was making efforts to engage with the local paragliding clubs in order to improve knowledge on both sides.

In assessing the risk, members quickly agreed that although safety had been degraded, the actions of the Tutor pilot had ensured that there was no risk of collision, risk Category C.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISKContributory Factors:

	2019241		
CF	Factor	Description	Amplification
	Ground Elements		
	• Situational Awareness and Action		
1	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
	Flight Elements		
	• Tactical Planning and Execution		
2	Human Factors	• No Decision/Plan	Inadequate planning
	• 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	Contextual	• Near Airborne Collision with Aircraft, Balloon, Dirigible or Other Piloted Air Vehicle	A conflict in the FIR

Degree of Risk: C.

Safety Barrier Assessment⁴

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 **ineffective** because the controller could not see the paraglider on the radar and so did not know it was there.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had any situational awareness that the other one was there prior to seeing it.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the TAS in the Tutor could not detect the paraglider.

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: 2019241		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							