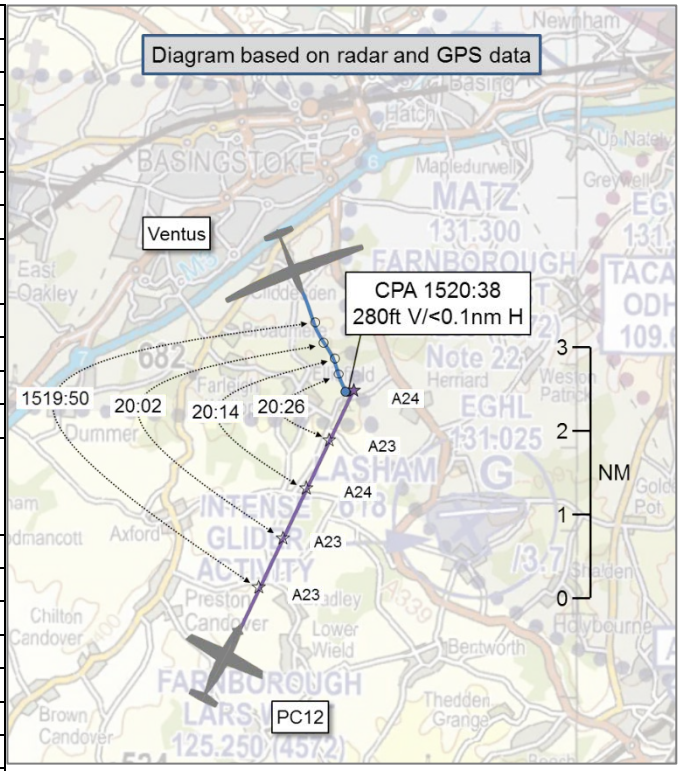
AIRPROX REPORT No 2019197

Date: 18 Jul 2019 Time: 1521Z Position: 5113N 00104W Location: 2nm NW Lasham airfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Ventus	PC12
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Listening Out	None[1]
Provider	Lasham	Farnborough LARS
Altitude/FL	2680ft	2400ft
Transponder	N/A	A,C,S
Reported		
Colours	White	Mainly silver
Lighting	N/A	Strobe, pulsing recognition, beacon, nav
Conditions	VMC	VMC
Visibility	30nm	10km
Altitude/FL	2600ft	2400ft
Altimeter	QNH	QNH (1011hPa)
Heading	100°	030°
Speed	75kt	190kt
ACAS/TAS	FLARM	TCAS II
Alert	None	None
Separation		
Reported	<200ft V/Nil H	100ft V/Nil H
Recorded	<0.1nm H	



THE VENTUS GLIDER PILOT reports that he was returning from a short cross-country flight via Devizes and Newbury. On crossing the M3 motorway, he called Lasham and stated "[glider code] motorway". This call was not normally acknowledged but served to warn other Lasham traffic and the launch-controller of inbound traffic. At about 2nm west of the airfield he made a left turn to approx 100° in order to assess the airfield in preparation for a right-hand circuit onto the grass northside of RW27; he needed to check if any jet movements were imminent by looking for the presence of fire vehicles on the airfield and whether the launch control vehicle had moved off the runway. At this time, he was receiving green (stage 1) proximity warnings of gliders and Lasham tugs from his FLARM system. His moving map displayed the contacts and gave audio warnings. He identified 3 other aircraft on the northside and a similar number on the southside of the airfield. Looking to the south, none of the aircraft he saw appeared to offer any threat and were some distance away. On the northside 1 glider was circling at a similar height and behind him, and another was circling ahead some 500ft below him. Ahead of him and possibly 1000ft above a two-seat training glider was practising spinning. He watched for some seconds because this aircraft had the potential to lose height very rapidly. At 1521, whilst still on a heading of 100°at 2600ft and descending at 340fpm, he became aware of a fast-moving aircraft very close in his 3 o'clock and just below him [first sighting reported as 500ft]. The aircraft passed less than 200ft below him and directly underneath. He raised the nose but could not say if it had any real effect in increasing separation. There was insufficient time for any other action. After it passed he made a left turn and watched the other aircraft flying straight-and-level heading about 030° towards Basingstoke. He estimated his position at this point as 1.5nm northwest of the centre of Lasham RW09/27.

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

[1] The PC12 pilot had just contacted Farnborough LARS but no service had been agreed.

THE PILATUS PC12 PILOT reports he was traveling from Southampton direct to WOD NDB on track for a TMA gap. He had left the Solent CTA and requested a Traffic Service from Farnborough LARS. Passing close to Lasham he always kept a very good lookout and slowed down (180kt IAS) to allow for manoeuvrability in case of a late glider visual acquisition. Farnborough LARS were busy and an extended radio call from another aircraft prevented notification of the glider until it was too late. The glider was slightly above his altitude and virtually head-on which made sighting almost impossible until the aircraft bloomed in the windscreen [first sighting reported as 200m.] The weather was not a factor, clear skies, good visibility and no obstructive cloud. The angle of interception meant that the small forward profile of a high performance glider was minimal and therefore it would have been difficult to pick out even at short range. As soon as the aircraft was spotted, he realised that it was not worth manoeuvring because it was almost on top of his aircraft at this point. All his aircraft lights were on, including pulse recognition lights, so he would hope that the glider pilot had been able to see him before he saw the glider. The glider passed directly over the top of his aircraft and he would guess that it achieved around 100ft vertical separation at the closest point. He acknowledged the call from Farnborough and told the controller he had seen the glider but concentrated on the remainder of the flight in busy VFR airspace rather than clog the frequency up with extraneous chatter thereafter.

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

THE FARNBOROUGH LARS WEST CONTROLLER reports that he had only lately been advised that an Airprox had been filed involving a PC12 which he had been working. He added that no Airprox was filed on his frequency, consequently no report was submitted. He did have a slight recognition that he had been working the PC12. He believed that the pilot free-called after leaving the Solent Zone around the Lasham area. He could not recollect the service agreed but he did remember giving Traffic Information regarding gliders in the area. He could not remember the weather conditions or traffic levels, but he did have a recollection of the PC12's squawk appearing and it being in the middle of a cluster of gliders. He thought that the PC12 pilot reported visual with the gliders.

Factual Background

The weather at Farnborough was recorded as follows:

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METAR EGLF 181520Z AUTO 26008G18KT 220V310 9999 FEW048/// 21/11 Q1010=
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Analysis and Investigation

CAA ATSI

The Glider pilot was returning from a cross-country flight and was positioning for a right-hand circuit onto the grass, north side of RW27 at Lasham. The pilot had made a 'blind' call on the Lasham frequency but was not in receipt of an ATC service. The PC12 pilot was passing west of Lasham Airfield and establishing contact with Farnborough LARS. The timing of the initial R/T call from the pilot to the Farnborough LARS controller was such that there was insufficient time for the PC12 to be identified and an ATC service to be agreed prior to the Airprox occurring.

At 1519:30, the PC12 pilot made initial contact with the Farnborough LARS controller. The frequency was very busy, and the controller asked the pilot just to report their point of departure very quickly. The pilot responded with his routeing details, at 2400ft on QNH1011hPa and were just to the southwest of Lasham. The pilot was instructed to standby.

At 1520:10, the controller apologised to the pilot for the delay, explained that they had been on the landline to Solent, instructed the pilot to squawk 0433, passed the QNH of 1010hPa and asked what type of service the pilot required. At 1520:20 (Figure 1), the pilot readback the squawk and said that if a Traffic Service was available that would be great, otherwise a Basic Service would be fine. The controller then advised the pilot *"multiple gliders ahead of you, with one just a mile ahead of you, left to right and the others surrounding you, no altitude"*.

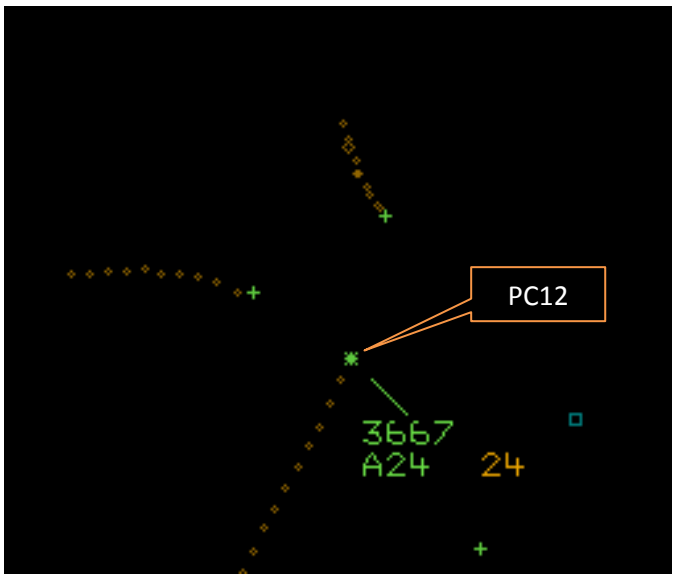

Figure 1 - 1520.20.

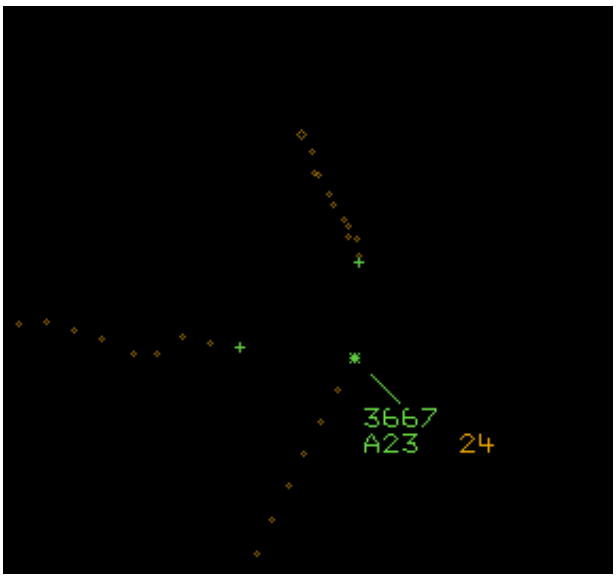

Figure 2 - 1520.30.

At 1520.30 (Figure 2), the pilot responded *"clear of that one, thank you"*.

CPA occurred at 1520.39 (Figure 3), with the aircraft separated by 0.1nm laterally. The vertical separation could not be measured but was reported by both pilots as less than 200ft. [UKAB Note: in fact, the Ventus pilot's IGC file showed that the 2 aircraft were separated vertically by about 280ft].

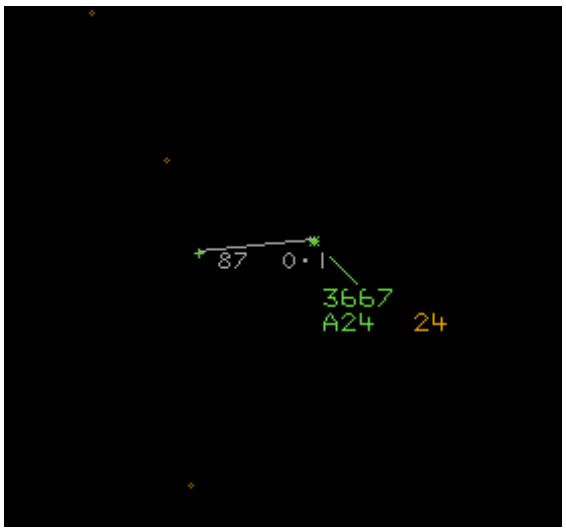

Figure 3 - 1520.39 (CPA).

An Airprox occurred in Class G Airspace between a glider and a PC12. The glider was unknown traffic to the Farnborough controller. The controller was dealing with a landline call at the time of the initial R/T contact from the PC12 pilot. When the landline call was concluded the controller turned their attention to the PC12 and very quickly assimilated that the PC12 was surrounded by gliders. Traffic Information on multiple glider activity was then passed to the pilot, with specific Traffic Information on the glider in their 12 o'clock. The pilot reported clear of this glider. The Airprox occurred before the controller had time to identify the PC12 and agree the type of ATC service to be provided.

UKAB Secretariat

The Ventus and PC12 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard[2]. If the incident geometry is

[2] SERA.3205 Proximity.

considered as converging then the PC12 pilot was required to give way to the Ventus glider[3]. 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[4].

Comments

BGA

Lasham is an extremely busy airfield, with over 60,000 movements per year, including gliders, tugs, light-twins and jets. Whilst commending the PC12 pilot for his awareness of gliders at Lasham, passing within two miles at about 2000' AGL it is highly probable that glider, tug and other traffic will be encountered, possibly in quantity.

Summary

An Airprox was reported when a Ventus glider and a PC12 flew into proximity near Lasham at 1521hrs on Thursday 18th July. Both pilots were operating under VFR in VMC, the PC12 pilot had just contacted Farnborough LARS, but no service had been agreed, and the Ventus pilot was listening out on the Lasham frequency.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available included reports from the pilots, the Farnborough LARS W controller, area radar and RTF recordings 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 PC12 pilot. He had departed from Southampton, enroute to a north London airfield via Woodley. His track took him to the west of Lasham airfield and, at the time of the Airprox, he was 2nm northwest of it at 2400ft. Whilst there were no airspace restrictions in that position, at that altitude, some members wondered if, suspecting that that area would likely have been busy with gliders, it would have been prudent for him to have routed further from the airfield or at a different altitude. A lengthy discussion ensued wherein it was noted that there was no specific range by which pilots should avoid glider sites although it was acknowledged that the nearer one came to gliding sites the more gliders would likely be present.

Noting that the PC12 pilot was direct routing from Southampton to Woodley, members opined that there may have been value in his dog-legging further west, but most members agreed that there was probably no reliable distance to be from Lasham to avoid the possibility of meeting a glider at that altitude. Some members wondered whether a higher altitude would have been appropriate but, again, there would not have been a guarantee that gliders would not have been flying higher than 2400ft and the Board could understand why the PC12 pilot had decided to fly at 2400ft because, after passing Lasham, he would soon be routeing to pass under the London TMA where the base was 2500ft. The Board did commend the PC12 pilot for reducing speed in the Lasham area to enable more time to react to sightings, and some members believed that he would have been using the autopilot at the time which also would have assisted in the pilot having more time to keep a good lookout.

The Board noted that the PC12 pilot had contacted Farnborough LARS after leaving Southampton's airspace, but the pilot was only requested to pass his routeing details initially before being told to standby. At the time, the controller was carrying out a landline operational call (**CF3**) and this delayed the establishment of an ATS (**CF4**); detection of the conflict between the PC12 and the Ventus; and, ultimately, the late passing of Traffic Information (**CF1/2**). About 40 seconds later, the PC12 pilot was issued with a squawk and asked the type of service he required. The pilot replied that he would like a Traffic Service if that was possible. Before agreeing an ATS the controller advised the pilot that there

[3] SERA.3210 Right-of-way (c)(2)
[4] SERA.3225 Operation on and in the Vicinity of an Aerodrome.

were multiple gliders in his vicinity and passed Traffic Information about a glider (the Ventus) 1nm ahead of him, left-to-right, no altitude information. The Board commended the controller for passing the Traffic Information as soon as he could see the confliction and before agreeing a service. In his report the PC12 pilot commented that he first saw the glider at about 200m, slightly above his altitude and directly head-on as it 'bloomed' in his windscreen. There was no time for him to take any avoiding action (**CF5**).

The Ventus pilot reported that he saw the PC12 500ft away and although he took action he did not know if that had increased separation (**CF7**). The Ventus was equipped with FLARM and the PC12 with TCAS II and the Board noted that these systems were incompatible and would not have interacted to have shown the proximity of the other aircraft (**CF6**). Noting that at the speed he was flying a FLARM would have been of reduced value to the PC12 pilot due to likely detection range, had the Ventus been equipped with P-FLARM or a transponder then situational awareness from SSR transmissions would possibly have been available to at least one of the pilots at an earlier stage.

Turning to the risk, it was apparent that the two aircraft had been in very close proximity at the time of the Airprox and the Board debated whether there had been a serious risk of collision (Category A) or whether safety margins had simply been much reduced below the norm (Category B). Although neither pilot had been able to take effective action to control the situation because of very late sightings, the Ventus pilot's IGC file showed that, at CPA, the two aircraft were separated vertically by about 280ft. In view of this the Board decided that an imminent collision had not been likely to occur but that safety margins had been much reduced. Accordingly, the Board assessed the risk as Category B.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2019197		
CF	**Factor**	**Description**	**Amplification**
	Ground Elements		
	• Situational Awareness and Action		
1	Human Factors	• Conflict Detection - Detected Late	
2	Human Factors	• Traffic Management Information Provision	Not provided, inaccurate, inadequate, or late
3	Human Factors	• Distraction - Job Related	
	Flight Elements		
	• Tactical Planning and Execution		
4	Human Factors	• Communications by Flight Crew with ANS	Controller not able to provide requested ATS
	• Situational Awareness of the Conflicting Aircraft and Action		
5	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
	• Electronic Warning System Operation and Compliance		
6	Technical	• ACAS/TCAS System Failure	Incompatible CWS equipment
	• See and Avoid		
7	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots

Degree of Risk: B

Safety Barrier Assessment[5]

[5] 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:

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **partially effective** because the PC12 pilot had only called the Farnborough LARS controller shortly before the Airprox had occurred and, at the time, the controller was distracted by an operational telephone call. Consequently, Traffic Information was issued late, albeit as soon as the controller realised the close proximity of the two aircraft.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the PC12 pilot received late Traffic Information and did not have time to act on it.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the electronic warning systems fitted to the aircraft were incompatible.

See and Avoid were assessed as **ineffective** because both pilots only saw the other aircraft at too late a stage to take effective avoiding action.