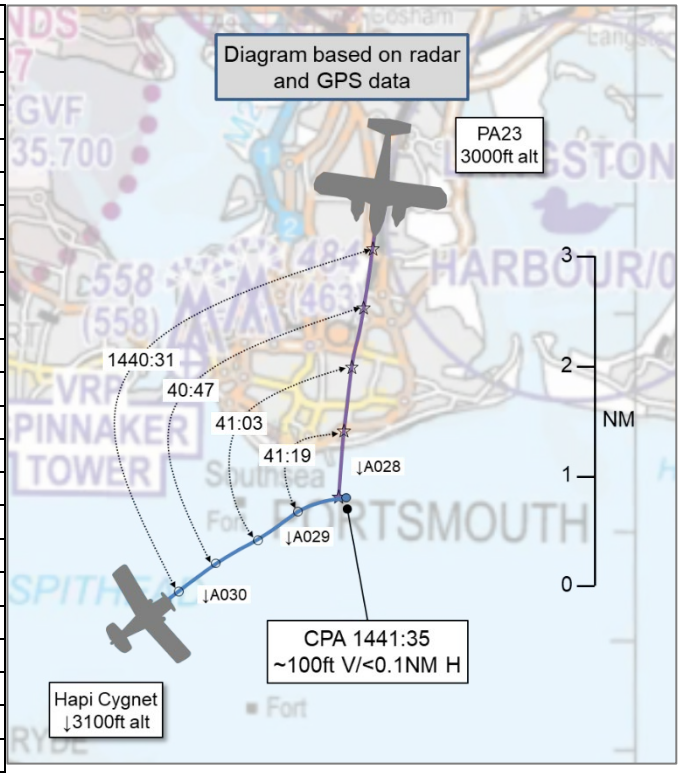
AIRPROX REPORT No 2020117

Date: 13 Sep 2020 Time: 1442Z Position: 5046N 00104W Location: 1NM south of Portsmouth

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Hapi Cygnet SF2A	PA23
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	Basic
Provider	N/A	Farnborough LARS
Altitude/FL	~2900ft	FL025 (2800ft)
Transponder	Not fitted	A, C, S
Reported		
Colours	Red/white	NR
Lighting	Fin strobe	NR
Conditions	VMC	NK
Visibility	>20km	NR
Altitude/FL	3600ft	NR
Altimeter	QNH (1024hPa)	NK
Heading	045°	NR
Speed	90kt	NR
ACAS/TAS	Not fitted	Unknown
Separation		
Reported	50ft V/0m H	NR
Recorded	~100ft V/<0.1NM H	



THE HAPI CYGNET PILOT reports that they were climbing quite high to pass over the Solent and be in gliding distance of a landing site and about to descend again. They suddenly saw an aircraft approaching in their 10 o'clock, slightly lower, which triggered an instinctive response to pull up and right and exclaim. It was close enough to just about see the pilot through its front screen. This was in open airspace not under any control and Sandown had become inaudible, so they were about to change to Goodwood to listen-out during their slow descent to a farm strip 2NM east of Petersfield. They discussed with their passenger as to how they didn't see the other aircraft and both of them agreed it was hard to see against the chequered background of Portsmouth. The other aircraft would have been more into sun and it did not appear to take any evasive action. They weren't sure if it was worth reporting as they couldn't see anyone at fault, but they now feel that it is still worth reporting even for statistical value, especially since the increased overcrowding in this area due to Farnborough's airspace takeover.

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

THE PA23 PILOT did not respond to requests to submit a report.

THE FARNBOROUGH LARS WEST CONTROLLER reports that they were informed retrospectively of an Airprox involving a PA23. They do not recollect the event and do not recall an Airprox being declared on the frequency.

Factual Background

The weather at Southampton Airport was recorded as follows:

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METAR EGHI 131450Z 19007KT 150V220 9999 FEW023 21/13 Q1024=
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Analysis and Investigation

CAA ATSI

An Airprox was reported by the pilot of a Hapi Cygnet with a PA23, whilst the Hapi Cygnet was approaching Portsmouth from the south-west. The Hapi Cygnet pilot was not receiving an Air Traffic Service and was in the process of changing from their departure frequency to monitoring the Goodwood frequency. The PA23 pilot was receiving a Basic Service from Farnborough LARS West. At **1440:30** the PA23 pilot reported approaching the Spinnaker Tower at Portsmouth and ready to change to Bembridge (Figure 1). (The Hapi Cygnet could not be positively identified on the radar replay.)

At the time the PA23 pilot made that transmission, a second aircraft was also transmitting, so neither was fully heard by the Farnborough controller who subsequently responded to the other aircraft's call first. The controller then had to deal with an aircraft which had entered the Farnborough controlled airspace without a clearance, and which was tracking towards the Odiham ATZ which was active with gliders (Figure 2).

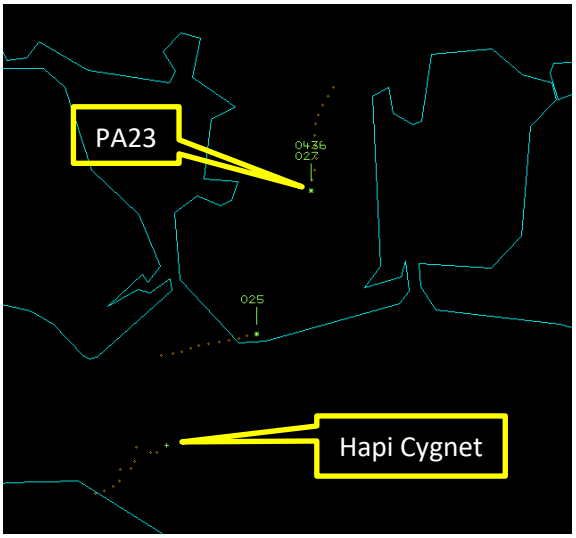

Figure 1 – 1440:30

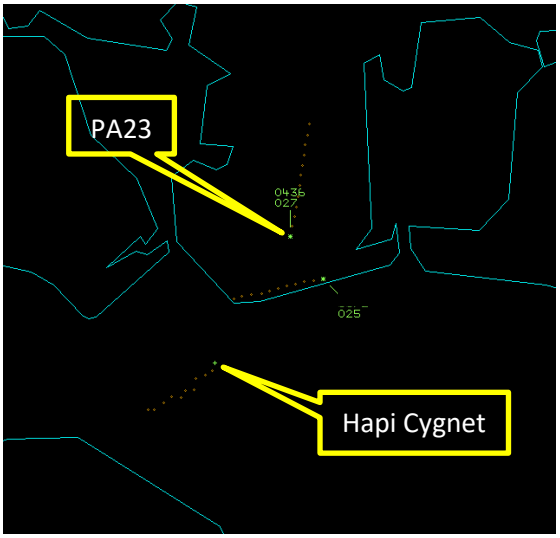

Figure 2 – 1441:00

At **1441:20** the controller called the PA23 pilot and acknowledged their request to leave the frequency. No Traffic Information was passed (Figure 3). CPA took place at **1441:35** (Figure 4).

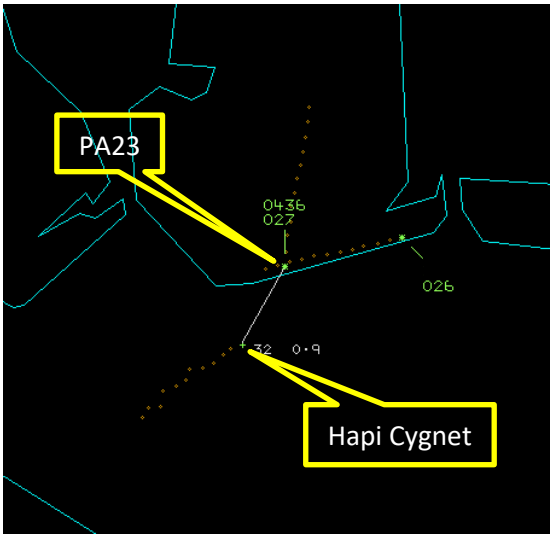

Figure 3 – 1441:20

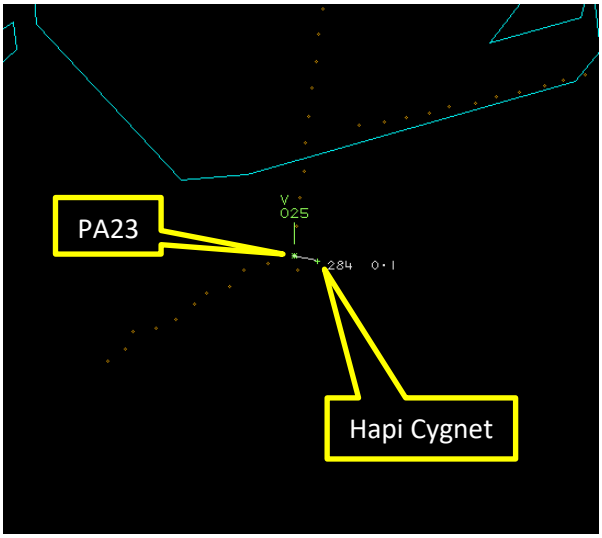

Figure 4 – 1441:34 – CPA

The pilot of the Hapi Cygnet reported seeing the PA23 very late, and that they made an avoiding action climb and turn to the right. No report has been received from the pilot of the PA23.

The Farnborough controller was asked to file a report retrospectively. They were not aware of the incident as nothing was reported at the time, and so had no recollection of the situation. At the time of this report, no unit investigation has been received, although under EU 376/2014, the time period recommended (3 months) to complete that report has not yet expired.

The Airprox took place at the edge of, if not technically outside, Farnborough LARS West's area of responsibility. Farnborough LARS controllers are thorough in their scanning regime and are continuously looking for those aircraft in communications with them, by cross referencing squawks on the radar display with the electronic flight progress strips in front of them. As well as monitoring for potentially imminent airspace infringements, they are also watching for aircraft approaching the edge of their area of responsibility so that they may be transferred to a more appropriate frequency or cleared en-route. There is a risk of losing two-way communications with aircraft if they continue beyond these points.

On this occasion, when the PA23 was leaving the LARS area, the controller was dealing with an aircraft close-in to Farnborough which had entered Farnborough controlled airspace without a clearance and which was tracking towards the Odiham ATZ at a time when gliding activity was taking place at the airfield.

ATSI also noted that there was very little time for the controller to pass any Traffic Information (to any aircraft) during this period, as they were fully occupied with just dealing with the sheer volume of initial calls being made by pilots. For example, during the period 1426-1430, the RTF was continuous.

Although the radar sources used by ATSI in this report are also available to Farnborough controllers, the graphics taken from the radar replay in this report do not necessarily represent the picture displayed to the Farnborough controller, nor the orientation/range of their display, at the time.

ATSI wondered if it would have been more appropriate for the Hapi Cygnet pilot to have been monitoring the Farnborough LARS West frequency during their transit between Sandown and the final destination, rather than (or, if suitably equipped, in addition to) the Goodwood airfield's frequency. This would have possibly contributed to their situational awareness and, on this occasion, would have possibly warned them of the PA23 whose pilot had reported approaching the Spinnaker Tower a minute prior to CPA.

The Airprox took place in Class G airspace where ultimately, regardless of the ATS being provided, the pilots are responsible for collision avoidance.

UKAB Secretariat

The Hapi Cygnet pilot furnished the UKAB with the GPS log file from their flight, thus permitting CPA to be measured using the altitude data from the GPS and the altitude and track data from the NATS radar replay. CPA was measured at ~100ft vertical separation (from the 2 different data sources) and <0.1NM horizontal separation (from the NATS radar replay).

The Hapi Cygnet and PA23 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 PA23 pilot was required to give way to the Hapi Cygnet.[2]

[1] SERA.3205 Proximity.
[2] SERA.3210 Right-of-way (c)(2) Converging.

Summary

An Airprox was reported when a Hapi Cygnet SF2A and a PA23 flew into proximity 1NM south of Portsmouth at 1442Z on Sunday 13th September 2020. The Hapi Cygnet pilot was operating under VFR in VMC and not in receipt of an Air Traffic Service; the PA23 pilot was operating under VFR and in receipt of a Basic Service from Farnborough LARS West.

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 controllers 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.

Due to the exceptional circumstances presented by the coronavirus pandemic, this incident was assessed as part of a 'virtual' UK Airprox Board meeting where members provided a combination of written contributions and dial-in/VTC comments.

The Board first considered the actions of the Hapi Cygnet pilot and heard from a GA member that the Cygnet is a very basic GA aircraft and that the forward visibility from this aircraft can be quite limited. Members felt that the pilot may have been better served by listening-out on, or seeking a Service from, Farnborough. Had the pilot been on the same frequency as the PA23 pilot, members opined that this may have given them the opportunity to have at least heard the PA23 pilot's position report of approaching the Spinnaker Tower and then have noted that that placed their aircraft and the PA23 in proximity. That said, the Board acknowledged that this event took place on the very limit of the Farnborough LARS West area of responsibility and, given that the Cygnet pilot's radio had no longer been receiving audible transmissions from Sandown (to which the aircraft had been considerably closer), wondered if the radio that the Cygnet pilot had been using would have received transmissions from Farnborough. Nonetheless, members felt that the Cygnet pilot not being on the Farnborough frequency had contributed to the Airprox (**CF3**) and that this, in turn, had meant that the Cygnet pilot had not had any situational awareness of the presence of the PA23 (**CF4**). This led to the only remaining viable barrier to mid-air collision for the Cygnet pilot being the 'See and Avoid' barrier; the Board considered that, although the pilot had seen the PA23 in close proximity and had instinctively pulled up and right, this had not been in time to materially affect the separation and had effectively been a non-sighting of the PA23 (**CF6**).

Turning to the actions of the PA23 pilot, the Board was disappointed that they had not responded to any of the requests to submit a report. This hindered the Board's understanding of the event; in particular, the assignment of factors that contributed to the Airprox and the assessment of the efficacy of the barriers. Members therefore had to rely on the accounts from the Cygnet pilot and the Farnborough controller; consequently, there are likely to be some contributory factors and influences on barrier performance that the Board was unable to identify. That said, members felt that there had been enough information available to assess it as unlikely that the PA23 had had any situational awareness of the presence of the Hapi Cygnet (**CF4**), nor had they sighted the Cygnet in time to materially increase the separation between the two aircraft (**CF6**).

The Board then considered the actions of the Farnborough controller. Members quickly agreed that they had clearly been very busy with the volume of traffic and tasks of a higher priority to the controller than aircraft under a Basic Service. The Board noted that this Airprox had highlighted the limitations of a Basic Service in that the controller is not obliged to monitor aircraft under the terms of this type of Service (**CF1**) and that this, coupled with the fact that the PA23 had been and the very limits of the Farnborough LARS West area of responsibility and that the controller had been dealing with an airspace incursion (**CF2**), had probably led to the controller not noticing the approaching primary radar track.

Finally, members discussed the risk involved in this Airprox. Once again, without the PA23 pilot's perspective on the event it was impossible for the Board to understand whether or not they had actually sighted the Cygnet and had manoeuvred to increase separation. Members noted that there had been

no discernible change in track or altitude from the SSR trace of the PA23, and so surmised that its pilot had either seen the Cygnet too late to manoeuvre to increase the separation or had not seen the Cygnet at all. Members also considered that the Cygnet pilot, although having sighted the PA23, had not manoeuvred in time to materially affect the separation that had naturally existed. Consequently, the Board decided that safety had been much reduced, a degree of serendipity had contributed to the separation and that there had been a risk of collision between the two aircraft (**CF5**); accordingly, the Board assigned a Risk Category B to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2020117		
CF	**Factor**	**Description**	**Amplification**
	Ground Elements		
	• Situational Awareness and Action		
1	Contextual	• ANS Flight Information Provision	Not required to monitor the aircraft under the agreed service
2	Human Factors	• Distraction - Job Related	Controller engaged in other tasks
	Flight Elements		
	• Tactical Planning and Execution		
3	Human Factors	• Communications by Flight Crew with ANS	Pilot did not communicate with appropriate ATS provider
	• Situational Awareness of the Conflicting Aircraft and Action		
4	Contextual	• Situational Awareness and Sensory Events	Pilot had no, late or only generic, Situational Awareness
	• See and Avoid		
5	Contextual	• Near Airborne Collision with Aircraft, Balloon, Dirigible or Other Piloted Air Vehicle	Piloted air vehicle
6	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[3]

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 **not used** because, although the Farnborough controller was not required to monitor the PA23 under the terms of the agreed Air Traffic Service, they were engaged in higher priority tasks and so could not have noticed the developing proximity of the 2 aircraft.

Electronic Warning System Operation and Compliance were assessed as **not used** because the event occurred outside the normal range of employment of Farnborough's STCA.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the Hapi Cygnet pilot chose not to listen to the Farnborough LARS frequency, which may have permitted them to have heard the PA23 pilot's position report.

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

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the Hapi Cygnet pilot had no prior knowledge of the presence of the PA23 and it is likely that the PA23 pilot had no prior knowledge of the presence of the Hapi Cygnet.

See and Avoid were assessed as **ineffective** because the Hapi Cygnet pilot did not see the PA23 in time to materially increase the separation and it is likely that the PA23 pilot did not see the Hapi Cygnet.