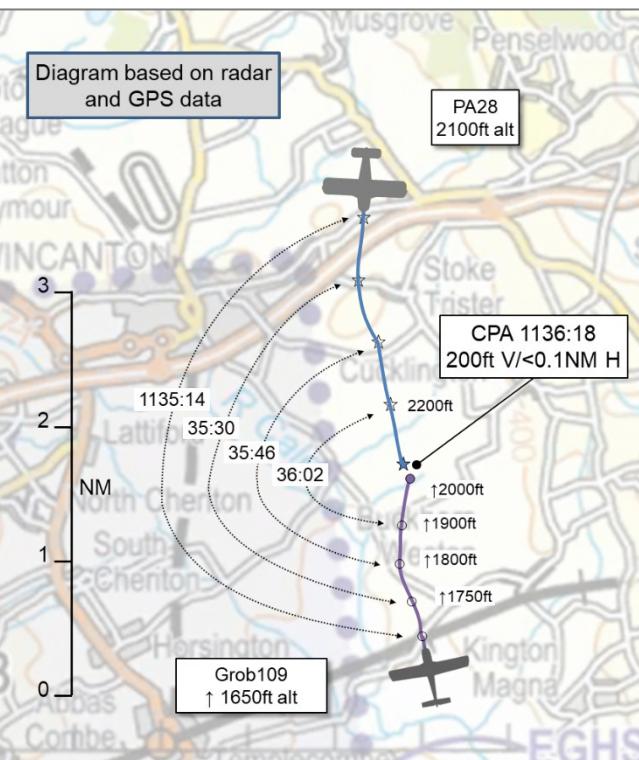


AIRPROX REPORT No 2021169

Date: 04 Sep 2021 Time: 1136Z Position: 5102N 00222W Location: 3NM N Henstridge airfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	Grob 109
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Listening Out
Provider	London Info	Henstridge radio
Altitude/FL	2200ft	2000ft
Transponder	A, C	A, C
Reported		
Colours	Beige	White
Lighting	Anti-cols, Strobes	Strobes
Conditions	VMC	VMC
Visibility	>10km	5-10km
Altitude/FL	3000ft	NR
Altimeter	RPS (NK hPa)	QNH (NK hPa)
Heading	150°	005°
Speed	105kt	70kt
ACAS/TAS	Not fitted	FLARM
Alert	N/A	Unknown
Separation at CPA		
Reported	100ft V/150m H	Not Seen
Recorded	200ft V/<0.1NM H	



THE PA28 PILOT reports that, on first contact with London information, they saw a motor glider just below them in their 2 o'clock. They immediately turned left, due to the other aircraft [appearing to be] passing left-to-right, on their right hand side.

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

THE GROB 109 PILOT reports that they had their transponder set to 7000 and [the aircraft is also equipped with] ADS-B out as well as a TAS. [The pilot had selected the] strobe lights on, visibility was slightly hazy. They do not recall seeing the other aircraft.

THE LONDON INFORMATION FISO reports that they were informed retrospectively that an aircraft working London Information (PA28 c/s) was involved in an Airprox on 4th September 2021. They were mentoring an U/T FISO who was operating the frequency. [The PA28 pilot] did not mention anything about it on the frequency at the time, and they have no recollection of any pertinent information.

Factual Background

The weather at Yeovilton was recorded as follows:

METAR EGDY 041150Z AUTO 07008KT 9999 FEW031/// 21/13 Q1017
METAR EGDY 041050Z AUTO 07009KT 9999 NCD 20/13 Q1018

Analysis and Investigation

NATS Safety Investigations

The UKAB notified Safety Investigations of an Airprox report filed by the pilot of ([PA28 c/s]) in conflict with an unknown motor glider. The [PA28] pilot report stated that they were receiving a Basic Service from London Information at the time.

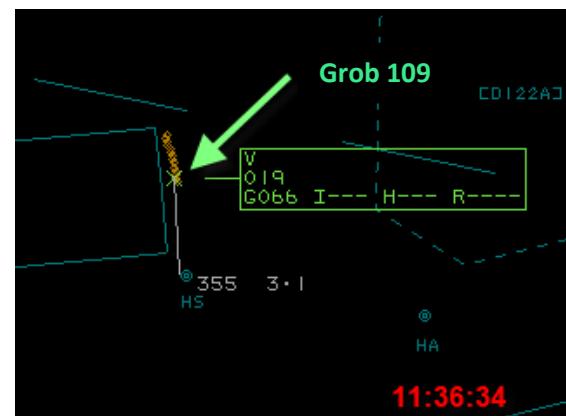
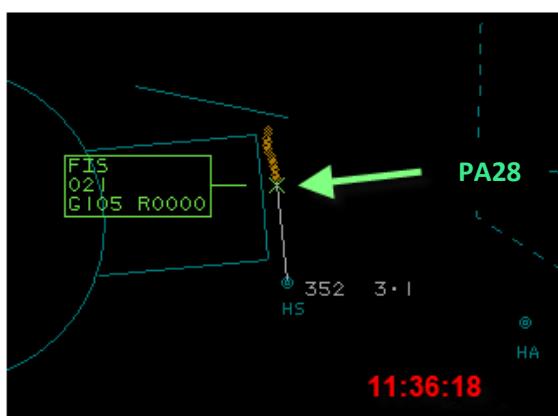
Information available to the investigation included:

- CA4114 from the London Information FISO
- Redacted pilot Airprox report ([PA28])
- Radar and R/T recordings

[The PA28 pilot], according to the pilot's Airprox report, was routeing from [departure airfield] to [destination airfield]. [The same c/s] had also contacted London Information on two other flights [that day]. London Information was being operated in a frequency combined configuration with a FISO under training (UT) with a training instructor (OJTI). The CA4114 from the LFISO OJTI stated that the pilot of [the PA28] did not report a confliction on the RT. [On the flight in question], the pilot of [the PA28] contacted the LFIS frequency at 1119:43 on their routeing from [departure airfield] to [destination airfield].

As [the PA28 pilot] passed 10NM north of Henstridge, on a Southerly track, at 1132:30, no primary or secondary contacts relating to a motor glider were observed. However, as [the PA28] subsequently tracked further south, at approximately 3NM north of Henstridge, a Grob 109 motor glider was observed on an opposite direction track, with a displayed Mode-C altitude of 1900ft.

[The PA28] ceased to display on radar with the last secondary return on radar at 1136:18, with a Mode-C displayed altitude of 2100ft [UKAB note Mode C readout in Flight Levels] (see Figure 1). [The Grob109] commenced displaying on radar at 1136:34. (see Figure 2), overflying the trail history of [the PA28].



As only one secondary surveillance response was visible on radar at any one time, Safety Investigations was unable to provide an accurate lateral and vertical distance parameter between [the PA28] and [the Grob 109]. The Airprox report from the pilot of [the PA28] stated that the aircraft separation was 50ft vertically, and 1NM horizontally. The Airprox report stated that the pilot 'immediately turned left, due to the other aircraft passing left to right on [their] right hand side.' The report also stated that the incident occurred immediately after initiating contact with LFIS, however, this conflict potentially occurred simultaneously with [the PA28 pilot] leaving the LFIS frequency at 1136:25, and was not reported on frequency.

Subsequent notification from the UKAB clarified that the conflict between [the PA28] and [the Grob 109] was the incident referred to in the Airprox report from the pilot of [the PA28], and that the pilot perceived closest point of approach was 50ft vertically, and 150m horizontally.

A report from the pilot of [the Grob 109] was not available to Safety Investigations at the time of this report.

In conclusion, the Airprox occurred when [the PA28 pilot] approached on a southerly track, at a last displayed altitude of 2100ft, and came into conflict with [a Grob 109], on an opposite direction track, climbing underneath [the PA28], 3NM north of Henstridge.

The Closest Point of Approach could not be ascertained as only one secondary surveillance response was visible on radar at any one time. The pilot reported Closest Point of Approach was 50ft vertically, and 150m horizontally.

The incident was resolved by the pilot of [the PA28], according to their report, initiating an avoidance left turn against [the Grob 109] passing on their right-hand side.

UKAB Secretariat

Following conversations with the Grob 109 pilot, the UKAB Secretariat was able to obtain a GPS log of the flight involving the Airprox. This information was cross-referenced and overlaid with the radar data available to enable the construction of the diagram and measurement of the CPA which occurred at 1136:18, the same time at which the PA28 disappeared from the NATS radar. This CPA was measured at 200ft vertically and less than 0.1NM horizontally.

The PA28 and Grob 109 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 head-on or nearly so then both pilots were required to turn to the right.²

Summary

An Airprox was reported when a PA28 and a Grob 109 flew into proximity 3NM north of Henstridge at 1136Z on Saturday 4th September 2021. Both pilots were operating under VFR in VMC, the PA28 pilot in receipt of a Basic Service from London Information, the Grob 109 pilot was not in receipt of an ATS.

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 PA28 pilot and noted that they were in the receipt of a Basic Service from London Information who were not required to monitor the flight (**CF1**). London Information provide a non-surveillance based service and as such is only capable of offering generic Traffic Information on aircraft that it is in contact with. As a result, the FISO would not have been aware of the Grob109. The Board noted that, as it was a weekend, options for LARS were limited because Yeovilton and Boscombe Down were closed. The GA member suggested that in situations where there are limited ATS options, a pilot inbound to an airfield should make contact at least 5NM in advance to afford the them the opportunity to obtain information regarding the local traffic situation (**CF2**). It was also stated that the use of landing lights on an aircraft can aid the visual detection of it, not just in the vicinity of an airfield. Without a surveillance-based ATS or any CWS the PA28 pilot had no prior situational awareness that the Grob 109 was in the vicinity (**CF3**), leaving see-and-avoid as the final remaining barrier. Members next considered operations in the Class G environment and the importance of maintaining a good look out. Noting that the Grob109 was sighted late by the PA28 pilot (**CF5**), a

¹ (UK) SERA.3205 Proximity.

² (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.

discussion followed regarding forward visibility challenges for pilots of single engine aircraft and how occasional “weaving” could help mitigate this.

Next, the Board considered the Grob109 pilot. They reported that they had not seen the PA28 at all (**CF6**) and the Board again restated the importance of maintaining a good look out. Members noted that although the Grob109 had been equipped with a TAS however, this equipment could only detect similarly equipped aircraft and so had been unable to detect the conspicuity equipment carried on the PA28 (**CF4**) and no alert had been generated. As a consequence, the Grob 109 pilot had no situational awareness that the PA28 was there (**CF3**).

Finally, in assessing the risk of collision, the Board discussed that neither pilot had had any awareness of the presence of the other and so both had been relying on their lookout for collision avoidance. Members agreed that, in this case, safety had not been assured and that there had been a risk of collision (**CF7**), but that the action of the PA28 pilot had generated sufficient separation to reduce that risk, although not remove it entirely. Accordingly, the Board assigned a Risk Category B to this Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2021169			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
• Situational Awareness and Action				
1	Contextual	• ANS Flight Information Provision	Provision of ANS flight information	The ATCO/FISO was not required to monitor the flight under a Basic Service
Flight Elements				
• Tactical Planning and Execution				
2	Human Factors	• Communications by Flight Crew with ANS	An event related to the communications between the flight crew and the air navigation service.	Pilot did not request appropriate ATS service or communicate with appropriate provider
• 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 or only generic, Situational Awareness
• Electronic Warning System Operation and Compliance				
4	Technical	• ACAS/TCAS System Failure	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment
• See and Avoid				
5	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
6	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots
• Outcome Events				
7	Contextual	• Near Airborne Collision with Aircraft	An event involving a near collision by an aircraft with an aircraft, balloon, dirigible or other piloted air vehicles	

Degree of Risk:

B

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:

Situational Awareness of the Confliction and Action were assessed as **not used** because under a Basic Service, the FISO was not required to monitor the flight

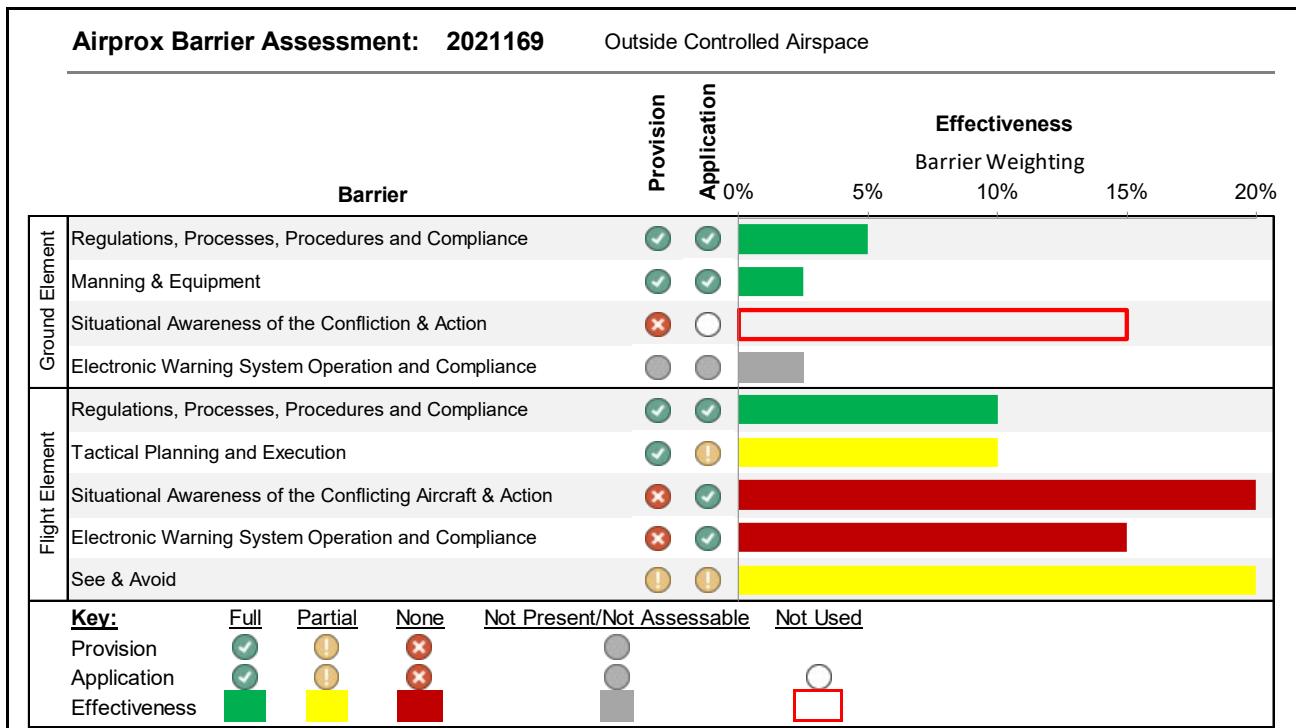
Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had any knowledge regarding the presence of the other aircraft prior to sighting it.

Tactical Planning and Execution was assessed as **partially effective** because there were other Air Traffic Service provision options available to the PA28 pilot which may have been more appropriate given their particular stage of flight.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the equipment carried on the Grob109 was unable to detect the PA28.

See and Avoid were assessed as **partially effective** because the PA28 pilot saw the Grob109 late and only in time to take emergency avoiding action.



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