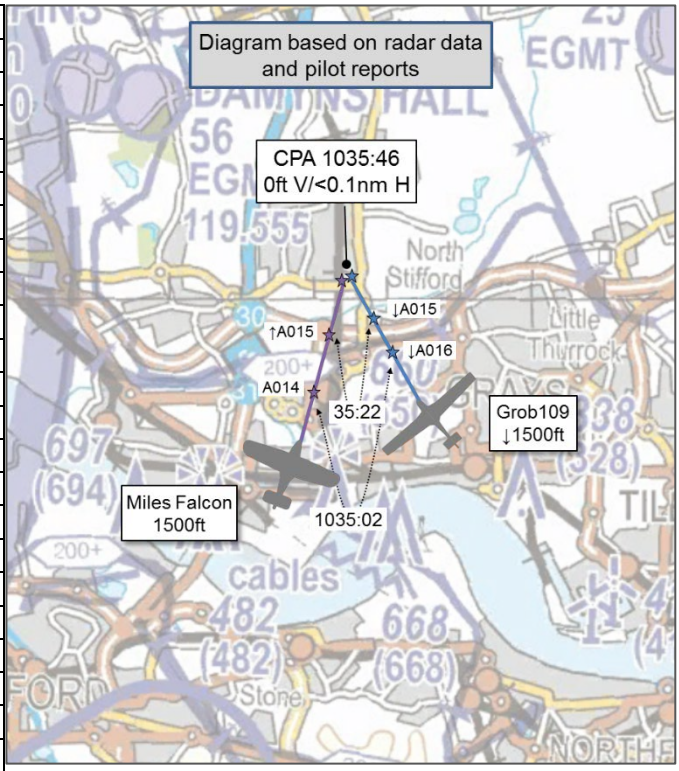
AIRPROX REPORT No 2019175

Date: 02 Jul 2019 Time: 1035Z Position: 5130N 00017E Location: 3nm SE Damyns Hall

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Grob 109	Miles Falcon
Operator	Civ Gld	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	AGCS	Basic
Provider	Damyns Hall	Southend
Altitude/FL	1500ft	1500ft
Transponder	A, C, S	A, C
Reported		
Colours	White, Blue	Blue, Cream
Lighting	Strobe, Nav	NR
Conditions	VMC	VMC
Visibility	>10km	10km
Altitude/FL	1400ft	1500ft
Altimeter	QNH (1022hPa)	QNH
Heading	330°	025°
Speed	70kt	100kt
ACAS/TAS	Unknown	Not fitted
Alert	N/A	N/A
Separation		
Reported	30-50ft V/0m H	Not Seen
Recorded	0ft V/<0.1nm H	



THE GROB 109 PILOT reports that whilst in a gentle descent heading towards Damyns Hall with about 3nm to go, he looked over his shoulder to the left and observed an aircraft approaching his left-rear-quarter. Without any time to consider the appropriate action he immediately executed a sharp climb, then a small turn to the right. The other aircraft continued on its heading and went underneath, departing on the front-right-quarter. He opined that had he continued the descent and not pulled up, he thought there was a real risk of collision. He identified the other aircraft as a Miles. He then changed frequency to Southend and they confirmed that they had a Miles aircraft under a Basic Service.

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

THE MILES FALCON PILOT reports that at the time of the incident he was busy checking on the local traffic at Damyns Hall in his 10 o'clock and so failed to see the traffic in his 2 o'clock. The aircraft obviously passed fairly close because he noticed the light in the cockpit reduce for a very short time, he looked around and behind him but couldn't see the other aircraft. Shortly afterwards, a Grob pilot called on the Southend frequency, declared an Airprox with a Miles and asked for details of his aircraft.

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

THE SOUTHEND CONTROLLER reports that the Grob 109 pilot, not previously under a service, called on frequency to advise that his aircraft had passed very close to an aircraft that 'appeared to be a Miles aircraft'. The Miles Falcon was on frequency and receiving a Basic Service.

Factual Background

The weather at London City was recorded as follows:

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METAR EGLC 021020Z AUTO VRB06KT 9999 SCT032 SCT040 19/10 Q1025=
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Analysis and Investigation

CAA ATSI

The Grob 109 pilot had commenced a gentle descent into Damyns Hall at approximately 3nm to run to the airfield and receiving an Air/Ground Service from the Damyns Hall Air Ground operator. The Falcon pilot was approaching Damyns Hall from the southwest, tracking northeast and under a Basic Service with Southend Radar.

The screenshots in this report are taken from the Area Radar and are not necessarily indicative of exactly what was displayed to the Southend Radar Controller at the time of the event. However, it was confirmed via the raw radar data available on the Southend Ricochet recording that both aircraft were displayed, with Mode C information available.

At 1030:50, the Falcon pilot called the Southend Radar controller and advised they were currently at Swanley at 1600ft, and requested a Basic Service. A Basic Service was agreed, and the pilot was instructed to squawk 4575. There was no further communication between the Falcon pilot and the controller until after the Airprox occurred.

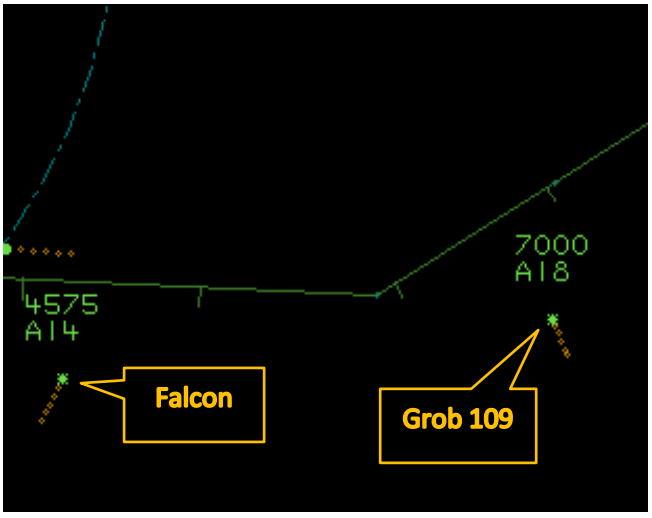


Figure 1 - 10:31.30

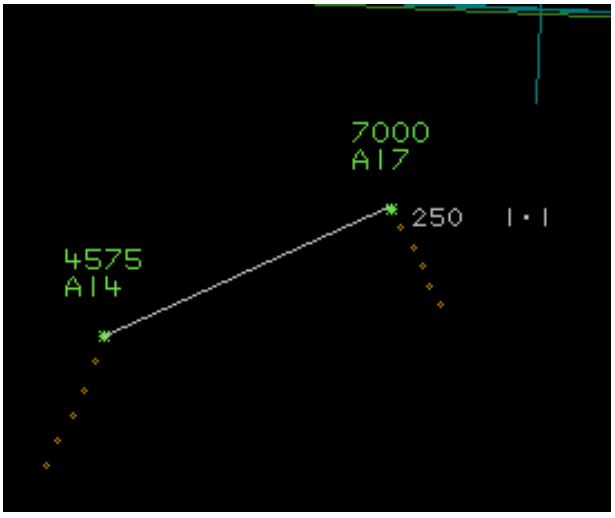


Figure 2 - 10:34.45
(Grob109 pilot commenced descent)

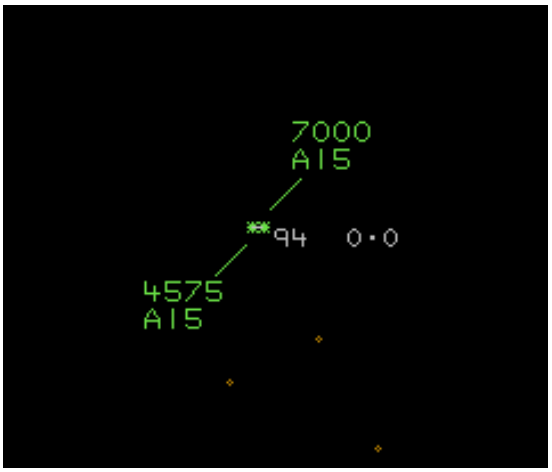


Figure 3- 1035:46 CPA

The Grob 109 pilot made an R/T call to the Southend controller immediately after the Airprox had occurred. They advised the controller that they had just encountered a near miss and asked if the controller was aware of any aircraft in the Damyns Hall area. The controller advised that the Falcon had been in that area and that they were providing the pilot with a Basic Service. The Airprox occurred in Class G airspace with the Falcon pilot in receipt of a Basic Service from Southend Radar. The Grob 109 was not receiving a service from Southend Radar and was displayed to the controller as unknown traffic.

CAP 493 states:

> *Given that the provider of Basic Service is not required to monitor the flight, pilots should not expect any form of traffic information from a controller. The avoidance of other traffic is solely the pilot's responsibility.*
>
> *However, if a controller notices that a definite risk of collision exists, a warning shall be issued to the pilot. ((EU) 923/2012 SERA.9001 and SERA.9005(b)(2))*

In the period leading up to the Airprox there had been an indicated 400ft of vertical separation between the Falcon and the Grob109, with the Mode C on the Grob109 being unverified information. The controller would not have been aware that the Grob109 pilot intended to descend into Damyns Hall Airfield.

At 10:35.15, and just prior to the Airprox occurring, the controller responded to an initial call from an unrelated aircraft. This aircraft was not displaying Mode C information and the R/T exchange was slightly protracted as a result. This may have contributed to the controller not noticing that the Grob109 pilot had commenced descent.

UKAB Secretariat

The Grob 109 and Miles Falcon 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 Miles Falcon pilot was required to give way to the Grob 109[2].

Southend Occurrence Investigation

At 1030:03, the Miles Falcon pilot called Southend for a Basic Service. He was given a squawk and placed under a Basic Service. At 1035:10, just before CPA, another pilot called the Southend controller requesting a Basic Service, this aircraft was 5nm south-east of North Weald and the controller passed a squawk and was then involved in telling him that the aircraft was not displaying Mode C. At 1037:52, the Grob109 called on the frequency to report that he had just had a near miss with a Miles aircraft. The controller confirmed that there was a Miles on frequency and the Grob109 pilot said it was 'a very close near-miss' and he would call later to get more details, he then left the frequency. Figure 4 shows CPA as displayed on the Southend radar.

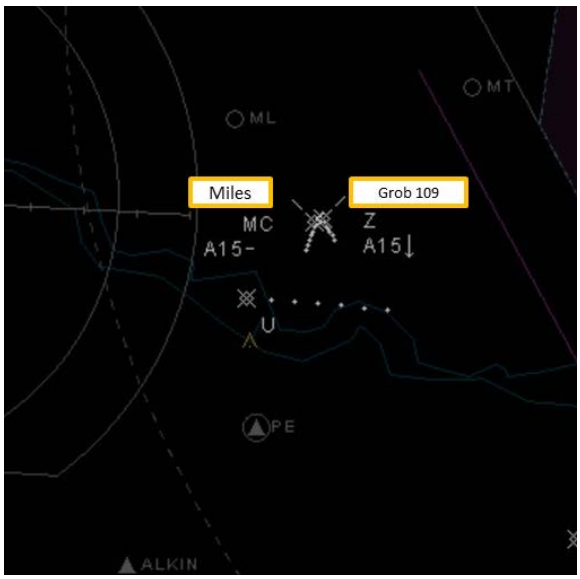


Figure 4: CPA 1035:46

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

Summary

An Airprox was reported when a Grob 109 and a Miles Falcon flew into proximity near Damyns Hall at 1035hrs on Tuesday 2nd July 2019. Both pilots were operating under VFR in VMC, the Grob 109 pilot was not in receipt of an ATS and the Miles pilot in receipt of a Basic Service from Southend.

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 and a report from the Southend air traffic controller. 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 looked at the actions of the Grob 109 pilot. Noting that he was descending inbound to Damyns Hall and did not see the Miles Falcon until he looked left and saw it over his shoulder, members thought that he was probably concentrating on looking ahead to identify his destination, and that this understandable focus of attention may have distracted him from maintaining a robust all-round look-out (**CF4**). The Miles had been slightly behind him to his left and so was not an easy aircraft to see if relying on peripheral vision and this served to highlight the need for a deliberate and prioritised scanning technique even when, understandably, there was a temptation to concentrate in one area whilst conducting a join to an airfield. The Board noted that the Grob pilot had not been in receipt of an ATS, and, although he had rightly selected the Damyns Hall frequency to assess their circuit state as he joined, GA members commented that there may have been value in making a call to a suitable ATCU prior to doing so in order to gain situational awareness of other aircraft that might be in the local area. As it was, without any CWS to assist either, he had no prior situational awareness about the Miles Falcon until he saw it (**CF3**). However, although he saw the other aircraft late (**CF6**), members noted that he had done so with sufficient time to conduct an emergency avoiding climb and turn right.

For his part, the Miles Falcon pilot did not see the Grob 109 at all (**CF5**), and members again wondered whether the pilot had been distracted from maintaining a robust scan by looking left to the Damyns Hall area (**CF4**). Acknowledging that this area was a pinch-point and that it was understandable that he should look for traffic departing from there, members noted that the Grob109 had been on his right (albeit slightly higher) for some time before the Airprox and was there to be seen had he scanned in that direction. Unfortunately, he too had no knowledge of the other aircraft (**CF3**) and a discussion followed about whether the pilot could have called Damyns Hall for information as he flew past. However, it was noted that the frequency wasn't manned by any form of ATC, and members thought that he would have been better placed asking Southend for a Traffic Service because then the controller would have called the Grob to him (**CF2**).

Turning to the Southend controller, the Board noted that, under a Basic Service, he was not required to monitor the Miles Falcon (**CF1**) and, although he could have given Traffic Information if he had seen the incident unfold, with the distraction of the other pilot calling on the frequency in the North Weald area, it was not surprising that he had not noticed the unfolding Airprox on the radar.

The Board then discussed at some length the risk involved in the Airprox. Some members thought that the geometry was such that there had been very serious risk of collision which, although the Grob pilot had manoeuvred, was such that any associated increase in separation was likely to have been minimal (risk category A). Others argued that the Grob pilot likely had managed to take sufficient emergency avoiding action to materially affect the outcome given that he himself had assessed that, having done so, he had averted the collision and was the only witness to the event. The debate ebbed and flowed and, after considerable discussion, the Chairman took a vote; by a slim majority of 8 votes to 7, the Chairman declared that the risk was Category B, safety had not been not assured and was well below the norm.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2019175		
CF	**Factor**	**Description**	**Amplification**
	Ground Elements		
	• Situational Awareness and Action		
1	Contextual	• Situational Awareness and Sensory Events	Not required to monitor the aircraft under the agreed service
	Flight Elements		
	• Tactical Planning and Execution		
2	Human Factors	• Communications by Flight Crew with ANS	Appropriate ATS not requested by pilot
	• Situational Awareness of the Conflicting Aircraft and Action		
3	Contextual	• Situational Awareness and Sensory Events	Generic, late, no or incorrect Situational Awareness
	• See and Avoid		
4	Human Factors	• Distraction - Job Related	Pilot looking elsewhere
5	Human Factors	• Monitoring of Other Aircraft	Non-sighting or effectively a non-sighting by one or both pilots
6	Human Factors	• Monitoring of Other Aircraft	Late-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:

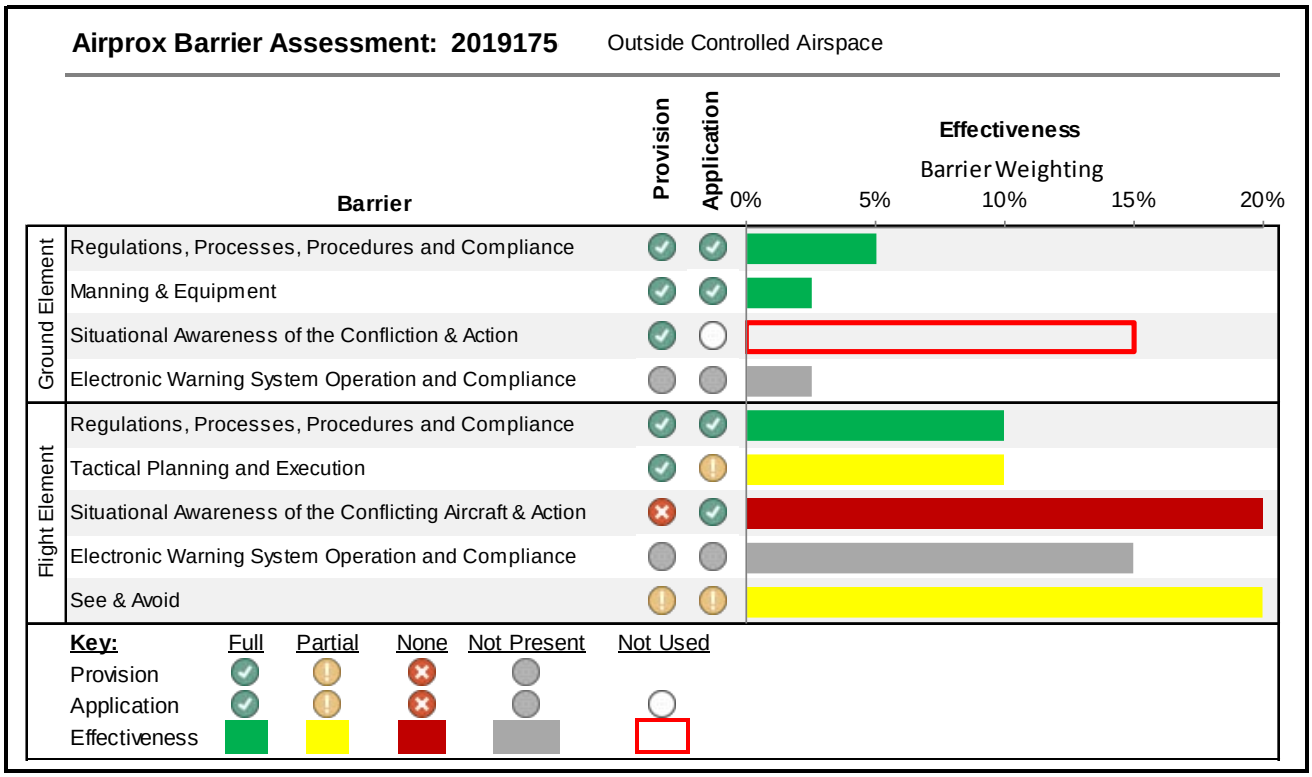
Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because both pilots could have requested a Traffic Service.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot knew about the other aircraft prior to the Airprox.

See and Avoid were assessed as **partially effective** because although the Grob 109 pilot was able to take avoiding action this had been after a late sighting, and the Miles Falcon pilot had not seen the Grob 109 at all.

[3] 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: 2019175
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 Used
Provision
Application
Effectiveness