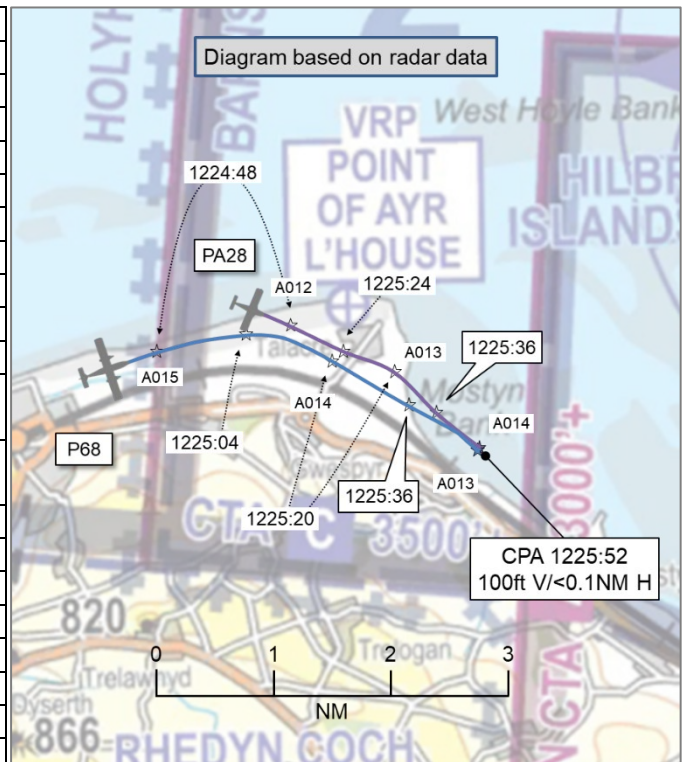


AIRPROX REPORT No 2022231

Date: 25 Sep 2022 Time: 1226Z Position: 5320N 00317W Location: 6.5NM WSW WAL VOR

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	P68	PA28
Operator	Civ Comm	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	Basic
Provider	London Info	Hawarden Radar
Altitude/FL	1300ft	1400ft
Transponder	A, C, S+	A, C, S
Reported		
Colours	White, Blue, Green	White
Lighting	Beacon, Nav, Strobe	Nil
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1500ft	1500ft
Altimeter	QNH (NK hPa)	QNH (1019hPa)
Heading	'Eastbound'	145°
Speed	120kt	95kt
ACAS/TAS	TAS	Not fitted
Alert	None	N/A
Separation at CPA		
Reported	100ft V/100m H	200ft V/300m H
Recorded	100ft V/<0.1NM H	



THE P68 PILOT reports that, after requesting a radio change to Hawarden Radar, London Information reported "no traffic inbound Hawarden reported". After establishing contact with Hawarden Radar and requesting a Traffic Service, the radar controller responded with "no traffic reported". [The PA28] was not seen on their traffic radar, neither was [the PA28 pilot] heard on any ATC unit that they spoke with. [The PA28] was first seen when it was very close (3-4 wingspans). As they disconnected the autopilot and started a descent and right turn, it looked that [the PA28] was also slightly turning right and passed just 100ft above them. This happened at 1500ft and they kept descending to 1000ft. After establishing contact with Hawarden Tower, they were asked [by the controller] if they had seen the PA28 as they [the PA28 pilot] reported them to be very close.

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

THE PA28 PILOT reports that their flight was a dual training exercise, and the Airprox occurred on recovery to Hawarden airfield, approximately 10NM to the northwest of the airfield. They were being overtaken by a twin P68 on their right-hand side. The aircraft passed very close to them overtaking from below (P68 being a high wing aircraft). They requested ATC to relay a message to the pilot of the other aircraft, asking if they had them in sight. The [reply was that the P68 pilot] said that they did, but the [P68] passed so close that they [the PA28 pilot] didn't sight them until they were ahead.

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

THE HAWARDEN CONTROLLER reports that they were informed that [the P68 pilot] had filed an Airprox report at a time when the aircraft's pilot was not yet on frequency. [The P68 pilot] reported that the incident took place at 1220 and they did not come onto the Hawarden Radar frequency until 1226.

When [the P68 pilot did] come on frequency, the pilot requested a Traffic Service which they provided as the APS ATCO, however, the conflicting traffic was no longer a factor.

THE LONDON INFORMATION FISO reports that they are aware that an Airprox was filed by [the P68 pilot]. No reference to the Airprox was made to them on the RTF and they are unable to recollect handling [the P68] or any issues connected with this flight.

Factual Background

The weather at Hawarden was recorded as follows:

METAR EGNR 251220Z 26006KT 230V300 9999 SCT033 SCT042 14/08 Q1019

Analysis and Investigation

Hawarden Unit Investigation

The Airprox is reported to have occurred when the [the P68 pilot] was not on the Hawarden frequency. Whilst [the PA28 pilot] was indeed receiving a Basic Service from Hawarden Radar, there is no requirement for the aircraft to be continuously monitored. All this happened in quite a short time period and with the primary contact being intermittent, coupled with no secondary return initially – this makes it extremely difficult, if not impossible, for radar controllers to notice any potential conflicts. Once the aircraft's pilot had called Hawarden Radar and was identified there was no conflict.

[Hawarden ATSU personnel are] fully aware of the requirements of Duty of Care however, given the time, the level of service being provided and the radar performance on the day, [the investigator] does not believe that the controller would have been expected to do anything else.

NATS Safety Investigations

The UKAB notified Safety Investigations of an Airprox report submitted by the pilot of [the P68]. The report stated that [the P68 pilot] was receiving a Basic Service from London Information at the time of the confliction with [the PA28], prior to transfer to Hawarden. The pilot did not report the confliction on the London Information frequency.

Information available to the investigation included:

- [A report] from The London Information FISO (LFISO).
- Airprox report from the pilot of [the P68].
- Radar and R/T recordings.

London Information was operating in a split configuration with the LFIS North frequency (125.475MHz) separate from the East and West frequencies. Multiple aircraft were previously on standby to check-in on frequency, therefore suggesting traffic levels were high.

[The P68 was] inbound to Hawarden. The pilot had previously contacted the London Information (LFIS) frequency and the aircraft first appeared on NODE Radar at 1210:06, in the vicinity of Caernarvon/Anglesey at FL018. [The P68] was observed to continue on a north-easterly track at FL018 with a Mode-S Selected Flight Level (SFL) of FL020.

At approximately 1224:20, [the P68] commenced descent, with a Mode S SFL of FL015, whilst [the PA28] appeared to be enacting general handling manoeuvres in the vicinity, on a Hawarden conspicuity squawk of 0430 (see Figure 1).

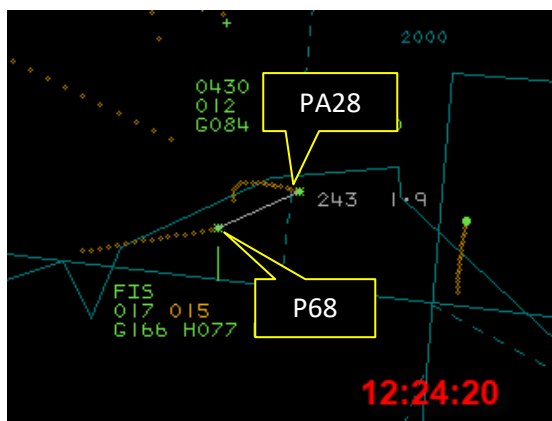


Figure 1.

At 1225:08, abeam Prestatyn on the North Wales coast, [the P68] was observed to change track onto a subsequent track of 120°, at FL013, following a similar track to [the PA28] that was ahead by 0.8NM and also at a Mode C displayed FL013 (see Figure 2).

NOTE: The Airprox report from the pilot of [the P68] reported that visibility was greater than 10km (VMC).

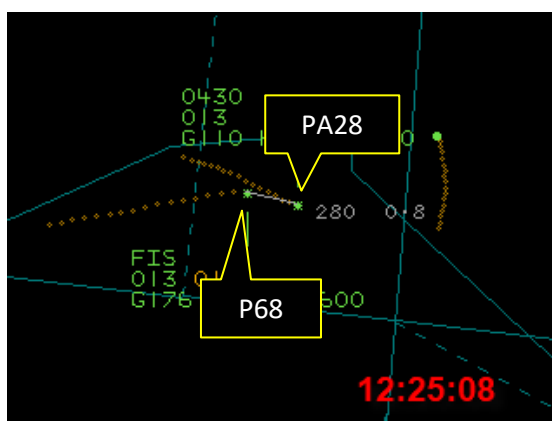


Figure 2.

[The P68] displayed a groundspeed 66kt faster than [the PA28] and subsequently passed underneath [the PA28], 100ft below, due to the speed differential.

The Closest Point of Approach between [the P68] and [the PA28] occurred at 1225:48 and was recorded on Multi-Track Radar as 0.0NM and 100ft (see Figure 3).



Figure 3.

After the two aircraft had passed their Closest Point of Approach, [the P68] subsequently descended to a Mode C indicated FL010. The Airprox report from the pilot of [the P68] stated they initiated avoiding action by a 'descending right turn to 1000ft.' The radar did not display any previous avoidance manoeuvres by either aircraft, although [the PA28] Mode C displayed a climb of 100ft to FL014 immediately prior to the Closest Point of Approach, on the same track.

The pilot of [the P68 pilot] did not report a conflict on the LFIS frequency.

Analysis of the RT recording showed that [the P68 pilot] informed LFIS, at 1226:24, that they were transferring to Hawarden. The Airprox report from the pilot of [the P68] stated 'London Information reported "No traffic inbound Hawarden reported"'. This statement was not observed on the [recording of the LFIS] frequency. London Information operates a non-radar derived Basic Service, and no other aircraft were observed on radar ([displaying the LFIS squawk of] 1177) or on frequency within the vicinity of Hawarden. LFIS FISOs can only provide Traffic Information to pilots that have reported positions on their frequency and are receiving a Basic Service.

Conclusion

The Airprox occurred when [the P68 pilot] initiated their descent and subsequent turn to approach Hawarden whilst outside controlled airspace. [The PA28] was on a similar track, maintaining the same height ahead of [the P68] when, due to aircraft performance, [the P68] passed underneath [the PA28] by 100ft.

Closest Point of Approach occurred at 1225:48 and was recorded on Multi-Track Radar as 0.0NM and 100ft.

The incident was resolved by the pilot of [the P68] continuing their descent to 1000ft in the turn below [the PA28], which had climbed to a Mode C displayed FL014.

The radar recordings and the pilot report did not detail critical action to prevent a collision.

CAA ATSI

This event was reviewed by CAA ATSI which has nothing further to add.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft were detected and identified using Mode S data. The minimum measured separation between the aircraft occurred on consecutive radar sweeps at 1225:48 (Figure 4), which NATS Safety Investigations has taken to be CPA, and at 1225:52 (Figure 5), when, although the measured separation is the same, the radar returns appear to be visually closer, and so this is the CPA upon which the diagram has been based.

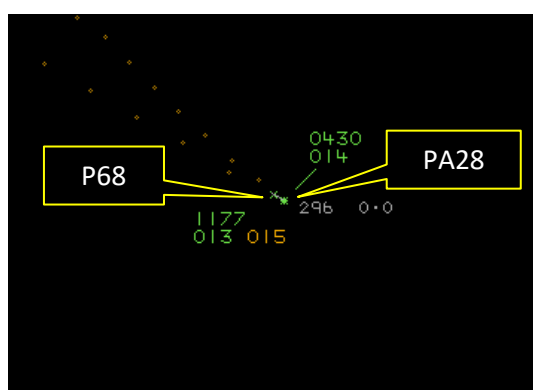


Figure 4 - 1225:48

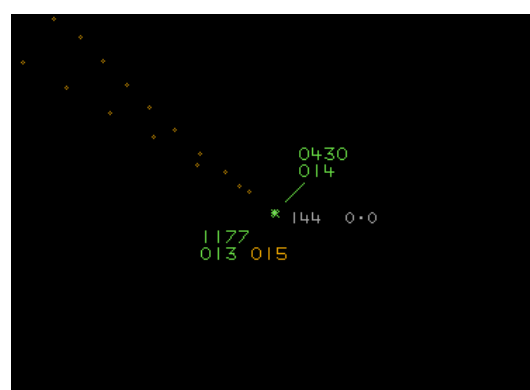


Figure 5 – 1225:52

The P68 and PA28 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 overtaking then the PA28 pilot had right of way and the P68 pilot was required to keep out of the way of the other aircraft by altering course to the right.²

Summary

An Airprox was reported when a P68 and a PA28 flew into proximity 6.5NM west-southwest of WAL VOR at 1226Z on Sunday 25th September 2022. Both pilots were operating under VFR in VMC, the PA28 pilot in receipt of a Basic Service from Hawarden Radar and the P68 pilot in receipt of a Basic Service from London Information.

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.

The Board first considered the actions of the P68 pilot, noting that they had been in receipt of a Basic Service. A discussion followed regarding the suitability of a Basic Service to aircraft engaged in commercial operations, as the pilot's workload could be higher than that of a recreational pilot. A GA pilot member highlighted that there are a number of options for a surveillance-based service in the area of the event, including Hawarden, although they are not a notified LARS provider, leading the Board to agree that it would have been appropriate for the P68 pilot to have sought such a service (**CF2**). Members were encouraged that the P68 pilot had a TAS available, however noted that, although it would have been expected to have issued an alert, no alert had been reported (**CF4**). The Board considered whether the P68 pilot had had any prior awareness of the presence of the PA28 and, noting that they had not received any alert from their EC equipment, nor had they received any Traffic Information via the radio, members agreed that the P68 pilot had not had any awareness of the PA28 prior to sighting it (**CF3**), and that the visual acquisition of the PA28 had been at a late stage (**CF5**).

Next, members discussed the actions of the PA28 pilot and, considering the geometry of the event, quickly agreed that, because the P68 had been approaching the PA28 from behind, it would have been obscured from the pilot's view by the aircraft structure (**CF7**) and, as such, when the PA28 pilot did visually acquire it, it had been at a point too late for them to have been able to take any effective avoiding action (**CF6**). The Board agreed that, had the PA28 pilot been equipped with EC equipment compatible with that of the P68, they may have been alerted to the presence of the P68, however, without it, and in the absence of Traffic Information via the RT, the PA28 pilot had not had any prior awareness of the presence of the P68 (**CF3**).

The Board then turned its attention to the ground elements involved. Members noted that, although using different service providers, both the P68 and PA28 pilots had been in receipt of a Basic Service, under which neither the Hawarden Radar controller, nor the London Information FISO, had been required to monitor the flight (**CF1**).

Finally, in assessing the risk of collision, the Board commented that the pilot of the P68 had not received an alert from their EC equipment and that neither the P68 pilot, nor the PA28 pilot, had had any prior awareness of the presence of the other aircraft. Members agreed that the P68 pilot had become visual with the PA28 and had taken avoiding action, but that this had been at a later than optimum time and, although the PA28 pilot had seen the P68, it had been at a point too late to have allowed them to have taken avoiding action. Members agreed that, in this case, safety had not been assured and that there had been a risk of collision (**CF8**). Accordingly, the Board assigned a Risk Category B to this Airprox.

¹ (UK) SERA.3205 Proximity.

² (UK) SERA.3210 Right-of-way (c)(3) Overtaking.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**Contributory Factors:**

	2022231			
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, inaccurate or only generic, Situational Awareness
• Electronic Warning System Operation and Compliance				
4	Human Factors	• Response to Warning System	An event involving the incorrect response of flight crew following the operation of an aircraft warning system	CWS misinterpreted, not optimally actioned or CWS alert expected but none reported
• 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
7	Contextual	• Visual Impairment	Events involving impairment due to an inability to see properly	One or both aircraft were obscured from the other
• Outcome Events				
8	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 the pilots of both aircraft had been in receipt of a Basic Service, under which there is no requirement for the controller or FISO to monitor the flight.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the P68 pilot had been in receipt of a Basic Service however, it may have been more beneficial to the pilot to have obtained a surveillance-based air Traffic Service.

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 neither pilot had had any awareness of the presence of the other aircraft prior to sighting it.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the EC equipment on board the P68 would have been expected to have alerted to the presence of the PA28, however the pilot reported that no alert was received.

See and Avoid were assessed as **partially effective** because, although both pilots had become visual with the other aircraft, for the P68 pilot, this had been at a later than optimum point and, for the PA28 pilot, it had been at a point too late for them to have been able to take any effective avoiding action.

Airprox Barrier Assessment: 2022231		Outside Controlled Airspace		Effectiveness					
Barrier		Provision	Application	0%	5%	10%	15%	20%	
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✓	[Green bar to 5%]					
	Manning & Equipment	✓	✓	[Green bar to 2.5%]					
	Situational Awareness of the Conflicting Aircraft & Action	⚠	○	[Red bar to 15%]					
	Electronic Warning System Operation and Compliance	⊘	⊘	[Grey bar to 2.5%]					
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✓	[Green bar to 10%]					
	Tactical Planning and Execution	✓	⚠	[Yellow bar to 10%]					
	Situational Awareness of the Conflicting Aircraft & Action	✗	✓	[Red bar to 20%]					
	Electronic Warning System Operation and Compliance	⚠	✗	[Red bar to 15%]					
	See & Avoid	⚠	⚠	[Yellow bar to 20%]					
Key:		Full	Partial	None	Not Present/Not Assessable	Not Used			
Provision	✓	⚠	✗	⊘					
Application	✓	⚠	✗	⊘		○			
Effectiveness	[Green]	[Yellow]	[Red]	[Grey]	[Red box]				