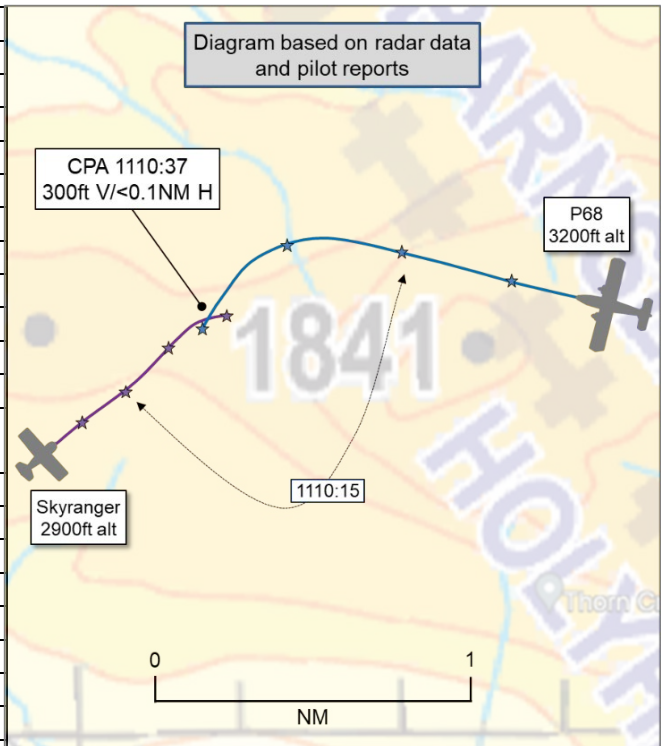


AIRPROX REPORT No 2023138

Date: 13 May 2023 Time: 1111Z Position: 5401N 00239W Location: Forest of Bowland

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	P68	Skyranger
Operator	Civ Comm	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	None
Provider	London Info	N/A
Altitude/FL	3200ft alt	2900ft alt
Transponder	A, C, S+	A, C, S
Reported		
Colours	White and Blue	Red and White
Lighting	Strobe, Beacon, Navigation, Lndg	Tail, Strobe, Landing
Conditions	VMC	VMC
Visibility	>10km	5-10km
Altitude/FL	2500ft	NR
Altimeter	QNH (1029hPa)	NK
Heading	160°	NR
Speed	120kt	NR
ACAS/TAS	Other	Not fitted
Alert	None	N/A
Separation at CPA		
Reported	100ft V/0.0NM H	200-250ft V/100m H
Recorded	300ft V/<0.1NM H	



THE P68 PILOT reports that the [other] aircraft had been spotted directly underneath them on the left-hand side by the PIC. It had been moving away from them, on an approximate bearing of 320° [they recall] from their own heading. The PIC estimated the vertical distance to have been about 100ft.

The pilot assessed the risk of collision as ‘Low’.

THE SKYRANGER PILOT reports that they had been heading in an east-northeasterly direction at approximately 70mph on a level course from [departure airfield] heading to the Yorkshire 3 Peaks area intending to overfly the Ribbleshead viaduct and then to [destination airfield] in the Lake District via Penrith. When they had still been west of the 3 peaks area, the pilot had suddenly become aware of an aircraft heading in their general direction. The other aircraft had been larger than theirs and estimated it to have been faster too. The other aircraft had been, as they recall, above their altitude and to their left. As soon as the pilot saw the other aircraft they immediately performed a sharp turn to their right. Whilst they have described this as a sharp turn, this had been very much an instinctive manoeuvre and not one they performed out of any belief that a collision had been imminent nor likely. The pilot’s belief had been that this is good practice because, whilst they had no doubt that a collision would not have taken place, certainly the separation had been less than ought to have been the case. The pilot did not recall seeing the other aircraft take any avoiding action. They did recall mentioning to [their passenger] immediately afterwards that they believed the other pilot had not seen them, given the apparent lack of avoiding action. The pilot postulated that, on reflection, perhaps they ought to have reported the Airprox themselves but had no details of the other aircraft so had been unsure what benefit there would have been in doing so. The pilot noted that they have tried to provide as much detail as they can recall, but the passage of more than 7 weeks had dulled some of the detail.

The pilot assessed the risk of collision as ‘Low’.

THE LONDON FISO did not submit an independent report to the UKAB Secretariat but did contribute to the NATS Safety investigation (see below).

Factual Background

The weather at Blackpool was recorded as follows:

METAR EGNH 131050Z 11006KT 060V190 CAVOK 14/08 Q1028=

Analysis and Investigation

NATS Safety Investigations

[The P68 pilot] had been in receipt of a Basic Service from London FIS and had reported an Airprox to the UK Airprox Board. NATS was notified of the event on 5th December 2023. There was no observed confliction within the radar replay of the event.

The UK Airprox Board notified NATS on 5th December 2023 of an Airprox involving [aircraft callsign], a P68 from [departure airfield] to [destination airfield]. Post initial notification, the pilot of the P68 subsequently notified the UK Airprox Board that they had been in receipt of a Basic Service with London Information at the time of the event and had been displaying Mode-A code 1177 and had been over the Forest of Bowland at 2500ft. Given the time passed since the event, in excess of the parameters detailed within CAP670, radio recordings were not available to assist with the investigation.

Safety Investigations had been able to review the held LTC radar replay relating to this event. An aircraft was observed in the vicinity of the reported Airprox at the time, identified by Mode-S as [the P68], as reported by the pilot. However, the associated callsign displayed by Mode-S for this aircraft was [...], contrary to that reported. Given the time and location of the aircraft observed on the radar replay, and the use of the Mode-A code 1177, it was thought likely to have been the reporting aircraft, [P68 callsign]. The aircraft was operating outside controlled airspace and the code 1177 indicated the aircraft was in receipt of a Basic Service from London FIS. The LTC Radar replay did not display any conflicting aircraft below the subject aircraft that corresponded with the pilot report with no observed primary radar returns in the vicinity. It was therefore not possible to find any further information relating to the pilot report.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft were visible throughout via Mode-S tracking. The altitude of either aircraft does not change until after the incident, leading to an estimated CPA of 300ft vertically and <0.1NM horizontally at time 1110:37. Although the P68 pilot was the Airprox reporter, only the Skyranger pilot declared having taken (late) avoiding action.

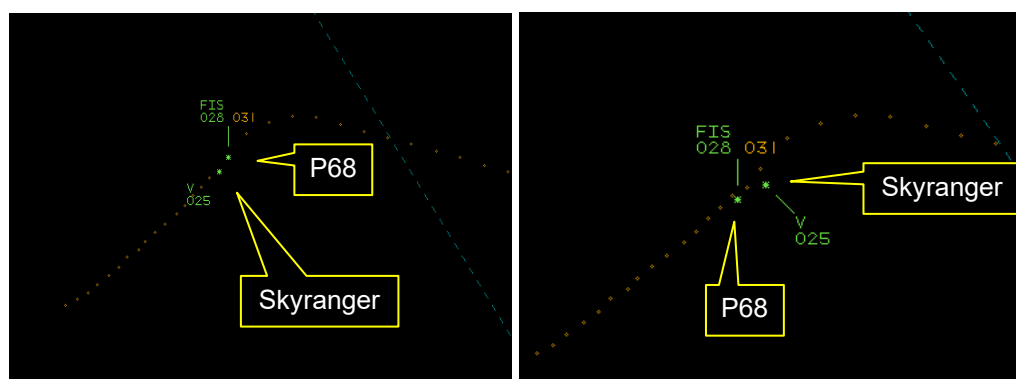


Figure 1: CPA minus 2sec

Figure 2: CPA plus 2sec

The P68 and Skyranger 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 P68 and a Skyranger flew into proximity near the Forest of Bowland at 1111Z on Saturday 13th May 2023. Both pilots were operating under VFR in VMC, the P68 pilot in receipt of a Basic Service from London Information and the Skyranger pilot not in receipt of an Air Traffic Service.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots and radar photographs/video recordings. 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.

Board members discussed the action of both aircraft pilots, noting the altitude flown, clearance from terrain obscuration and the good weather. They opined that the two aircraft closed on a relatively constant bearing, making a visual pick-up more difficult, although, with the larger of the 2 aircraft (the P68) above the level of the Skyranger, there may have been an opportunity for the aircraft to have been sky-lined but this had not been reported as such. Rather, the Skyranger pilot had achieved only a late sighting of the P68 (**CF4**) and the P68 pilot had effectively had a non-sighting of the Skyranger (**CF5**), sighting the Skyranger at or around CPA.

Members praised the selection of a Basic Service by the P68 pilot (in the absence of the availability of a surveillance-based ATS), accepting the limitations of such a service particularly at lower level and with no requirement for the FISO to have monitored the flight (**CF1**). It was noted that, although the P68 had carried ADS-B based TAS equipment, the Skyranger had not been equipped with anything that could have detected those ADS-B signals (**CF3**), adding to the lack of situational awareness of the other aircraft for both pilots (**CF2**). Members highlighted again the value of operating with electronic conspicuity equipment in both position transmission and receipt and display for others operating nearby; they recorded that this would likely have aided earlier visual acquisition in this case. The Board also wished to highlight that, whilst it was for pilots to decide on their own requirements for additional equipment according to their needs, additional funding has been made available for electronic conspicuity devices through the CAA's Electronic Conspicuity Rebate Scheme,³ which has been extended until 31st March 2024, when the scheme closes to new applications.

When determining the risk of collision, the Board agreed that, although safety had been degraded, there had not on this occasion been a risk of collision due to the degree of vertical separation between the P68 and the Skyranger. As such, the Board assigned a Risk Category C to this Airprox.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

2023138				
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				

¹ (UK) SERA.3205 Proximity.

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

³ <https://www.caa.co.uk/general-aviation/aircraft-ownership-and-maintenance/electronic-conspicuity-devices/>

• Situational Awareness of the Conflicting Aircraft and Action				
2	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				
3	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				
4	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
5	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

Degree of Risk: C.

Safety Barrier Assessment⁴

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 FISO is not required to monitor the flight under a Basic Service.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had situational awareness of the presence of the other aircraft.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the onboard conspicuity equipment for the P68 was unable to detect any signal from the non-ADS-B-equipped Skyraanger.

See and Avoid were assessed as **partially effective** because the Skyraanger pilot achieved only a very late sighting of the P68 and the P68 pilot only saw the Skyraanger at or around CPA.

⁴ 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: 2023138		Outside Controlled Airspace					
Barrier	Provision	Application	Effectiveness				
			Barrier Weighting				
			0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✓	[Green bar: 0% to 5%]			
	Manning & Equipment	✓	✓	[Green bar: 0% to 2.5%]			
	Situational Awareness of the Confliction & Action	✗	○	[Red bar: 0% to 15%]			
	Electronic Warning System Operation and Compliance	●	●	[Grey bar: 0% to 2.5%]			
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✓	[Green bar: 0% to 10%]			
	Tactical Planning and Execution	✓	✓	[Green bar: 0% to 10%]			
	Situational Awareness of the Conflicting Aircraft & Action	✗	✓	[Red bar: 0% to 20%]			
	Electronic Warning System Operation and Compliance	✗	✓	[Red bar: 0% to 15%]			
	See & Avoid	!	!	[Yellow bar: 0% to 20%]			
Key:		Full	Partial	None	Not Present/Not Assessable	Not Used	
Provision	✓	!	✗	●			
Application	✓	!	✗	●	○		
Effectiveness	[Green]	[Yellow]	[Red]	[Grey]	[Red box]		