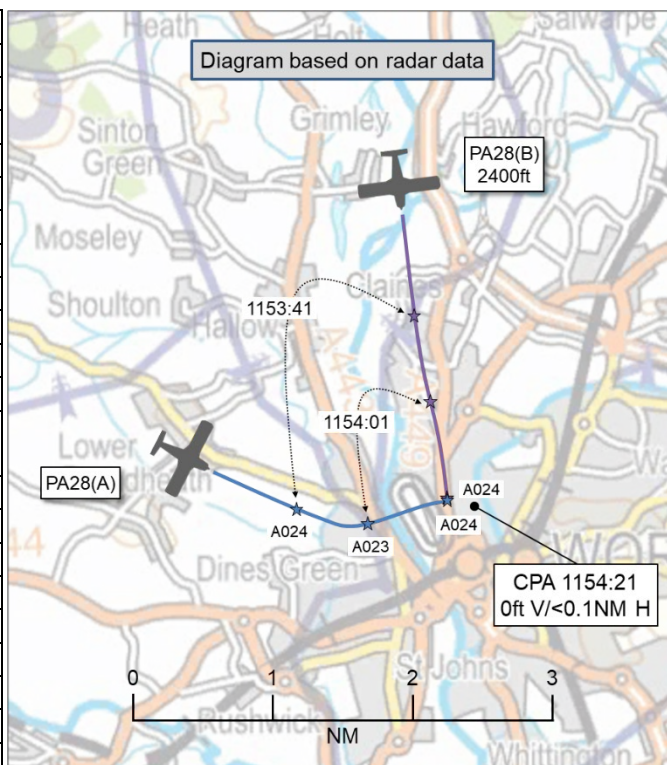


**AIRPROX REPORT No 2024080**

Date: 07 May 2024 Time: 1154Z Position: 5212N 00214W Location: Worcester

**PART A: SUMMARY OF INFORMATION REPORTED TO UKAB**

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28(A)	PA28(B)
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	Basic	NK
Provider	London Information	NK
Altitude/FL	2400ft	2400ft
Transponder	A, C, S	A, C, S
Reported		
Colours	Blue, white	Red, white
Lighting	Strobes, nav, landing	NR
Conditions	VMC	VMC
Visibility	5-10km	NR
Altitude/FL	2300ft	NR
Altimeter	QNH (1024hPa)	NR
Heading	110°	NR
Speed	90kt	NR
ACAS/TAS	Not fitted	NR
Separation at CPA		
Reported	50ft V/100ft H	NR
Recorded	0ft V/<0.1NM H	



**THE PA28(A) PILOT** reports that they were flying on a heading of 110° maintaining 2300ft with a student conducting a mock test on their navigation leg. A conflicting aircraft was spotted late in their left 9 o'clock position in a blind-spot behind their student and the window frame. The aircraft appeared at the same level, heading directly towards them on a southerly track. A sharp right turn and pitch down avoidance manoeuvre was made; the conflicting aircraft made a left turn. It was a hazy day with the cloudbase approximately 3000ft and visibility around 7000m. In their opinion, the weather did contribute to the late sighting.

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

**THE PA28(B) PILOT** did not respond to requests for an Airprox report.

**THE LONDON FLIGHT INFORMATION SERVICE OFFICER** reports that [the pilot of PA28(A)] had been on a 'navex' from [take-off airfield] and reported at 1156 that they had just taken an avoidance manoeuvre against another aircraft above Worcester at 1154 at 2300ft.

The pilot described the other aircraft as a red and white PA28. The other aircraft was not on the London Information frequency.

**THE GLOUCESTERSHIRE AIRPORT ATS MANAGER** reports that [the pilot of PA28(B)] had not been in receipt of a service from Gloucestershire Airport [at the time of the Airprox].

**Factual Background**

The weather at Gloucestershire was recorded as follows:

METAR EGBJ 071150Z 04004KT 350V080 9999 FEW040 19/11 Q1023

## Analysis and Investigation

### NATS Safety Investigations

[The pilot of the PA28(A)] had been operating from [take-off airfield] under a Basic Service from London Information when the pilot reported to the London Flight Information Officer that they had taken an avoidance manoeuvre against another aircraft above Worcester at 2300ft. The other aircraft was identified on radar as [PA28(B) callsign].

Information available to the investigation included: CA4114 from the London Flight Information Service Officer and radar and RT recordings. The London QNH was 1022hPa.

[The PA28(A)] was displaying Mode A 1177 (FIS), tracking south-east bound and, at 1151:47, indicated FL021 (equivalent to approximately 2300ft based on the London QNH). See Figure 1 for a screenshot from the LTC NODE system. [PA28(B)] was displaying Mode A 4531 (Gloucestershire Airport Conspicuity), tracking southbound, indicating FL020 and was not established on the London Information frequency.

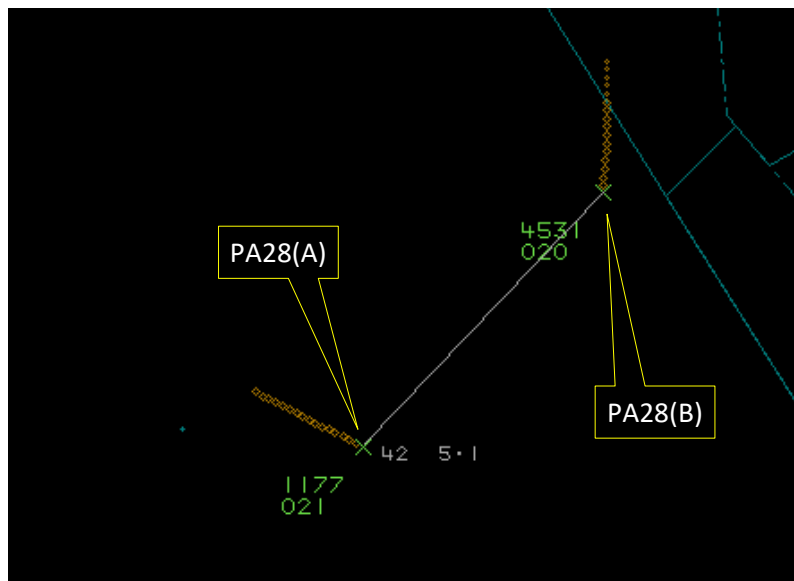


Figure 1 – Aircraft positions at 1151:47

CAP774 (UK Flight Information Services) prescribes:

'Basic Service relies on the pilot avoiding other traffic, unaided by controllers/ FISOs. It is essential that a pilot receiving this ATS remains alert to the fact that, unlike a Traffic Service and a Deconfliction Service, the provider of a Basic Service is not required to monitor the flight'.

At 1154:21, the Closest Point of Approach between [PA28(A)] and [PA28(B)] was recorded on Multi-Track Radar as 0NM and 0ft (Figure 2). Both aircraft indicated FL021 which was the equivalent of 2300ft QNH.

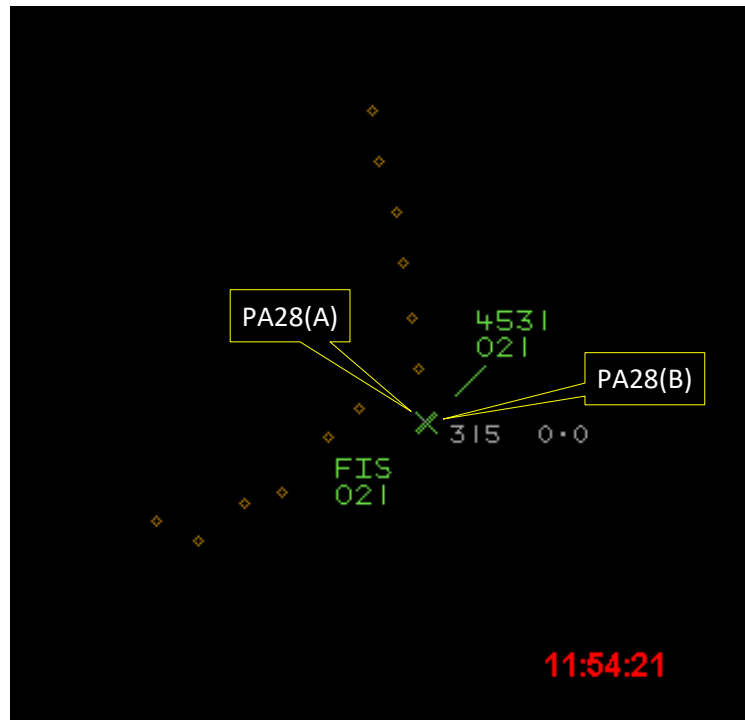


Figure 2 – CPA at 1154:21

At 1156:09 the pilot of [PA28(A)] informed the London FISO “*we just had erm to err do an avoidance manoeuvre for an aircraft that came up from behind us on the left-hand side*”. The pilot queried whether the FISO had any other aircraft on frequency overhead the middle of Worcester at 2300ft and the FISO confirmed that they hadn’t. The pilot of [PA28(A)] subsequently confirmed that they took the avoidance manoeuvre overhead Worcester at 2300ft at “*minute five-four*”. The FISO requested the pilot to provide a description of the other aircraft and the pilot detailed they believed it was a PA28 which was red and white in colour.

The Airprox occurred when [the pilot of PA28(A)] and [the pilot of PA28(B)] routed into conflict with each other when flying outside controlled airspace at approximately the same altitude of 2300ft. [The pilot of PA28(A)] was in receipt of a Basic Service from London Information. The Closest Point of Approach occurred at 1154:21 and was recorded on Multi-Track radar as 0.0NM and 0ft. The incident was resolved by the pilot of [PA28(A)] initiating an avoidance manoeuvre from [PA28(B)]. Radar indicated that the pilot of [PA28(B)] appeared to also take an avoidance manoeuvre from [PA28(A)].

### UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft could be positively identified from Mode S data. The pilot of PA28(A) kindly supplied GPS track data for their flight. It was by combining the data sources that the diagram was constructed and the separation at CPA determined.

By reference to MLAT and ADS-B data, it was apparent that both pilots had made avoiding manoeuvres (Figures 3 and 4).

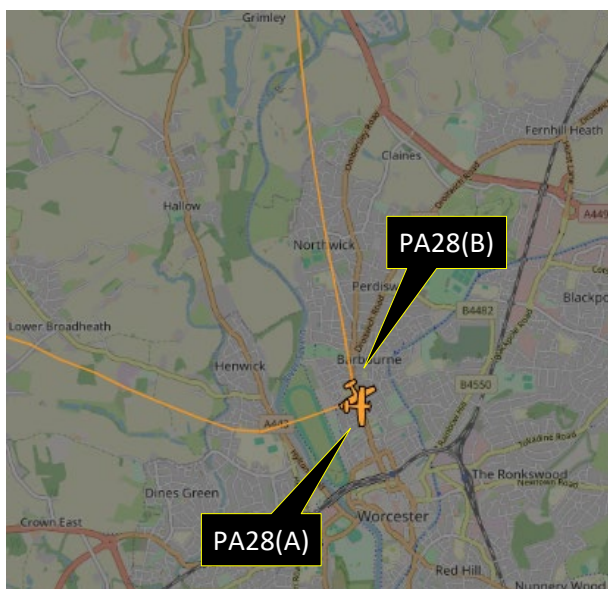


Figure 3 – 1154:20 (1sec before CPA)  
(MLAT and ADS-B data)



Figure 4 – 1154:30 (9sec after CPA)  
(MLAT and ADS-B data)

The PA28(A) and PA28(B) pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.<sup>1</sup> If the incident geometry is considered as converging then the PA28(B) pilot was required to give way to the PA28(A).<sup>2</sup>

## Summary

An Airprox was reported when PA28(A) and PA28(B) flew into proximity overhead Worcester at 1154Z on Tuesday 7<sup>th</sup> May 2024. The PA28(A) pilot was operating under VFR in VMC in receipt of a Basic Service from London Information. The PA28(B) pilot had most likely been operating under VFR, and likely not in receipt of an ATS.

## PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of a report from the pilot of the PA28(A), radar photographs/video recordings, GPS track data, a report from the air traffic controller and FISO involved and a report from the appropriate operating authority. 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 pilot of the PA28(A) and noted that they had been in receipt of a Basic Service from London Information. Members pondered the provision of Air Traffic Services at the Airprox location and agreed that, having been near the edge of the coverage for Brize Radar, and similarly for Shawbury Radar, the pilot of the PA28(A) may have been better served if they had contacted the Birmingham Radar controller and to have requested the highest level of service that they could have provided (**CF2**).

Members appreciated that the pilot of the PA28(A) had reflected on the encounter and had considered that the hazy conditions had contributed to the late acquisition of PA28(B). Additionally, members noted that the PA28(B) had approached from their left, possibly partially obscured by the cockpit window frame. Members were keen to highlight the importance of a very thorough and effective lookout, particularly in busy Class G airspace and when operating without the benefit of additional EC equipment to alert to the presence of other aircraft in the vicinity. Members encouraged the fitment of additional EC equipment and pointed out that it would have been especially prudent in the case of aircraft operated

<sup>1</sup> (UK) SERA.3205 Proximity.

<sup>2</sup> (UK) SERA.3210 Right-of-way (c)(2) Converging.

by a training organisation. Further, members commented that an additional EC device may have alerted to the presence of the PA28(B) and have afforded the pilot of the PA28(A) more time to have considered the safest course of action. However, members agreed that, in this encounter, the pilot of PA28(A) had not had situational awareness of PA28(B) (**CF3**) until it had been visually acquired. In consideration of the timing of the sighting of PA28(B), members agreed that it had been visually acquired late (**CF4**) and applauded their quick reaction to have taken emergency avoiding action.

Members next considered the actions of the pilot of the PA28(B). Agreeing that it was unfortunate that it had not been possible to contact them, members pondered the available information. Noting that the pilot of the PA28(B) had selected the Gloucestershire Airport Conspicuity transponder code, members surmised that they would have tuned their radio to the Gloster Approach frequency and, as such, would likely not have had situational awareness of the presence of the PA28(A) in the vicinity.

Turning their attention to the actions of the London FISO, members agreed that it had not been their responsibility to have monitored the flight of the PA28(A) under the terms of a Basic Service (**CF1**). Some members pointed out that, as the pilot of the PA28(A) had not been in receipt of a radar-surveillance-based service, and that the PA28(B) had not been 'known traffic' to the London FISO, there had been little else that the London FISO could have done to have assisted matters.

Summarising their discussion, members were in agreement that the pilot of the PA28(A) had not had situational awareness of the presence of PA28(B) and, in all likelihood, the pilot of PA28(B) had not had situational awareness of the presence of PA28(A). Members agreed that safety margins had been reduced much below the norm and that there had been a risk of collision (**CF5**). Members further agreed that it had been the last-minute emergency action, apparently taken by both pilots, that had increased the separation between the aircraft such that a collision had been avoided. Accordingly, the Board assigned Risk Category B to this event.

## **PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK**

### Contributory Factors:

2024080				
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
<b>Ground Elements</b>				
• 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
<b>Flight Elements</b>				
• 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
• 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
• Outcome Events				
5	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 Assessment<sup>3</sup>**

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 London Flight Information Service Officer had not been required to have monitored the flight under the terms of a Basic Service.

**Flight Elements:**

**Tactical Planning and Execution** was assessed as **partially effective** because it may have been prudent for each pilot to have been in receipt of the highest level of ATS that had been available.

**Situational Awareness of the Conflicting Aircraft and Action** were assessed as **ineffective** because the pilot of PA28(A) had not had situational awareness of the presence of PA28(B) until it had been visually acquired.

**See and Avoid** were assessed as **partially effective** because the pilot of PA28(A) had visually acquired the PA28(B) late.

Airprox Barrier Assessment: 2024080		Outside Controlled Airspace					
Barrier	Provision	Application	Effectiveness				
			Barrier Weighting				
			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 Confliction & 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	●	●	[Grey bar to 15%]			
	See & Avoid	⚠	⚠	[Yellow bar to 20%]			
<b>Key:</b>			Full	Partial	None	Not Present/Not Assessable	Not Used
Provision	✓	⚠	✗	●			
Application	✓	⚠	✗	●		○	
Effectiveness	[Green]	[Yellow]	[Red]	[Grey]		[Red box]	

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