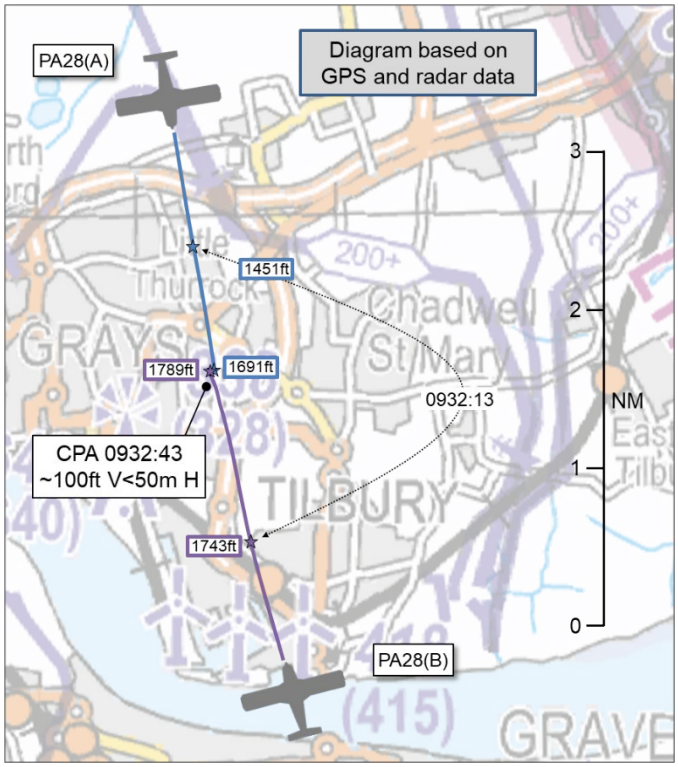
AIRPROX REPORT No 2024264

Date: 27 Oct 2024 Time: 0933Z Position: 5129N 00020E Location: Grays

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	Establishing contact	Listening Out
Provider	London Information	Stansted Radar
Altitude/FL	1691ft	1789ft
Transponder	None[1]	A, C, S
Reported		
Colours	White, blue	White, blue
Lighting	Strobes	Nav, strobe
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2200ft	1800ft
Altimeter	QNH (1022hPa)	QNH (1022hPa)
Heading	170°	345°
Speed	120kt	120kt
ACAS/TAS	PilotAware	SkyEcho
Alert	None	None
Separation at CPA		
Reported	50ft V/0m H	300ft V/1NM H
Recorded	~100ft V/<50m H	



THE PA28(A) PILOT reports that they had crossed the river Thames and headed towards Horsmonden. The sun was in their eyes and they were in a climb from about 1800ft over the Thames up to 2200ft. They are not sure exactly where it happened, but having initiated a call to London Information on 124.600MHz to open their flightplan and request a Basic Service, they looked up from their knee-board to see an aircraft head-on, 50-100ft above and thought they were going to collide. They instinctively pushed forwards with some force to avoid the other aircraft, resulting in unsecured items in the cockpit getting thrown around. The other aircraft passed overhead a few seconds later, filling the windscreen. They had not seen the aircraft approaching.

Immediately after the incident, when they went back to resuming their own navigation and setting the London squawk of 1177, they noticed that their transponder was set to 'Standby', not 'Alt'. They do not know if they missed setting 'Alt' for take-off or if they had pressed the 'Standby' button inadvertently during or after the incident.

They were using [an EC device] and SkyDemon, with audible alerts through their headset but do not recall seeing or hearing any alerts related to this aircraft. The audible alerts can be missed when the radio is active, as the radio takes priority in the headset. [The pilot of the PA28] attributes the non-sighting of the other aircraft due to an inadequate lookout whilst checking the details of their flightplan on their pilot log for details such as the expected time for the zone crossing, along with having the sun in their eyes and that they had been in a climb (although they can't remember if they had levelled-off just before the incident).

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

[1] The PA28(A) was observed on the NATS radar replay as a primary-only contact at, and before, CPA. Approximately 5min after CPA, the PA28(A) was observed on the radar replay to have been transponding Modes A, C and S.

THE PA28(B) PILOT reports that they had started heading towards Chipping Ongar and began preparing for a Stansted CTR transit. They started listening to 120.625MHz and had been squawking 0013 [they recall] in preparation for the zone transit. About 10-15min into the flight, after crossing the Thames, they noticed another PA28-style aircraft heading southbound, almost directly opposite, but visibly below. They hadn't seen any traffic on SkyDemon or [navigation device] prior to first noticing that aircraft on the horizon. They made a slight left turn and climbed approximately 200ft to create space and continued tracking roughly northbound. Shortly afterwards, they contacted Stansted Radar, requested a transit and continued their flight.

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

THE LONDON INFORMATION FISO reports that [the pilot of PA28(A)] was in receipt of a Basic Service from London Information in the vicinity of Gravesend and Kings Hill. [The pilot] later reported that they had experienced an Airprox at 0936 but did not report this to London Information whilst on frequency. Due to the delay in reporting this event, [the London Information FISO] has no memory of the flight and can unfortunately add no further information to the investigation.

Factual Background

The weather at London City was recorded as follows:

```
METAR EGLC 270920Z AUTO VRB01KT 9999 NCD 11/07 Q1023
METAR EGLC 270950Z AUTO VRB02KT 9999 NCD 12/07 Q1023
```

Analysis and Investigation

CAA ATSI

The pilot of [PA28(A)] reported having only just called London Information for a Basic Service, and the pilot of [PA28(B)] reported as not being in receipt of an ATS. London FIS is a non-surveillance-based service and the FISO would not have been aware of the presence of [PA28(B)].

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and the PA28(B) was positively identified from Mode S data. PA28(A) was initially observed on the radar replay as a primary-only contact until 0938 (approximately 5min after CPA) when it could be positively identified from Mode S data. The pilots of both aircraft kindly supplied GPS track data for their respective flights.

The PA28(A) first appeared on the radar replay at 0931:26 at a range of 4.8NM from PA28(B) (Figure 1).

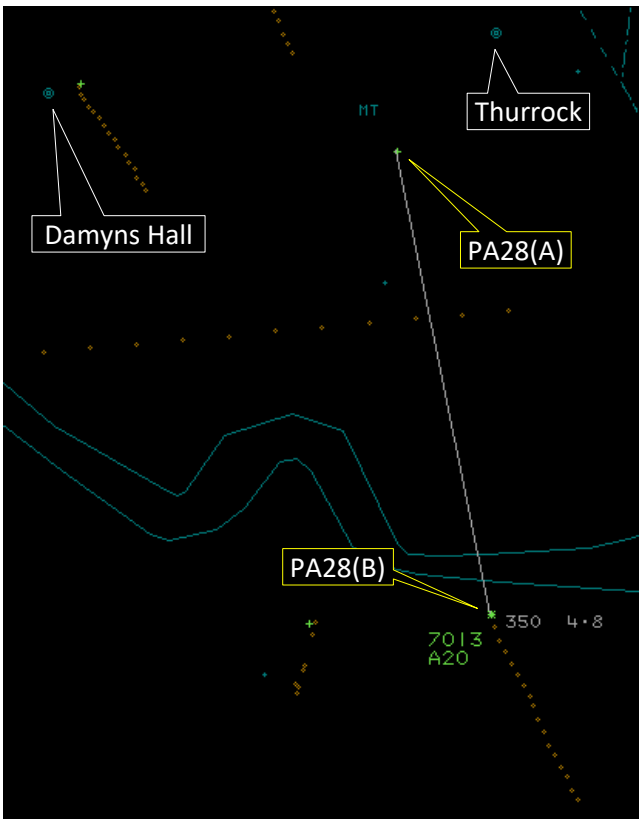


Figure 1 – 0931:26 (77sec before CPA)

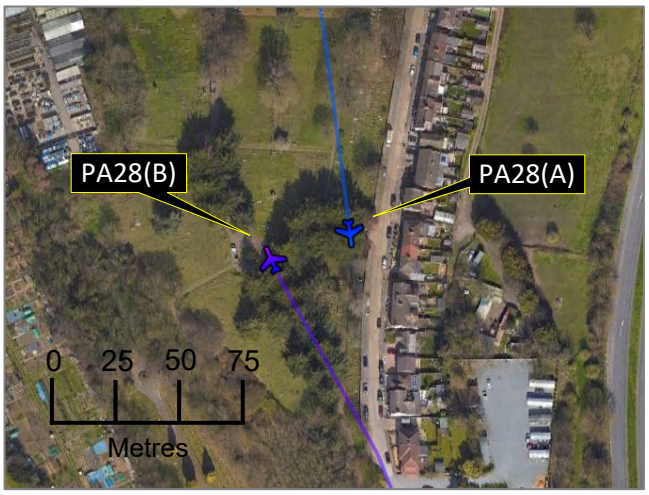


Figure 2 – CPA at 0932:43 (GPS data)

It was by combining the data sources that the diagram was constructed and the separation at CPA determined.

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.[2] If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right.[3] When an aircraft carries a serviceable SSR transponder, the pilot shall operate the transponder at all times during flight, regardless of whether the aircraft is within or outside airspace where SSR is used for ATS purposes.[4]

[2] (UK) SERA.3205 Proximity.
[3] (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.
[4] (UK) SERA.13001 Operation of an SSR transponder (a).

Summary

An Airprox was reported when PA28(A) and PA28(B) flew into proximity at Grays at 0933Z on Sunday 27th October 2024. The PA28(A) pilot was operating under VFR in VMC, establishing contact with London Information. The PA28(B) pilot was operating under VFR in VMC, listening-out on the Stansted Radar frequency.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, a report from the FISO involved and GPS track data for the flights of both aircraft. 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 PA28(A). Members reviewed the NATS radar replay and observed that their aircraft had appeared initially as a primary-only contact and noted that the pilot of PA28(A) believed that they had not operated the transponder. It was noted that several minutes had elapsed during their flight until returns from the transponder were observed on the radar replay. Members wondered whether the pilot of PA28(A) had attended to their pre-flight checks adequately.

Members next pondered the action of activating a flightplan once airborne and recalled the guidance provided in CAP 694, Ch.1 10.4 reproduced below:

> Normally the ATSU at the departure aerodrome is responsible for ensuring that a departure message is passed so that the flight plan can be activated and to enable the departure message to be sent to the appropriate addresses. However, if the FPL has been filed for a departure from an aerodrome without an ATSU or where the departure is outside the normal hours of operation of the ATSU, it is the responsibility of the pilot/operator to ensure that a departure message is passed. This may require arrangements being made for a 'responsible person' on the ground to telephone the departure time to the Helpdesk. Exceptionally, the Flight Information Service (FIS) Officer at the first ACC contacted will accept departure times on RTF from pilots who have departed from aerodromes that do not have an ATSU or it is outside the hours of operation. In this case the pilot is to request the FIS to pass the departure time to the AFPEx Helpdesk.

Members acknowledged that the pilot of PA28(A) had departed from an airfield without an ATSU and had intended to rely upon the London Information FISO passing their departure time to AFPEx in order to activate their flightplan. Members noted that the guidance indicated that such an arrangement was 'exceptional'.

Members acknowledged that it had, perhaps, been a case of unfortunate timing that, moments before CPA, the pilot of PA28(A) had been establishing contact with London Information and had not been in receipt of a service. Nevertheless, members wished to point out that, when transiting an area of particularly busy Class G airspace, a Basic Service from London Information would not have been the most prudent choice and that a surveillance-based service from Southend LARS (for example) may have provided far more pertinent information regarding the traffic situation (**CF1**).

Members agreed that the pilot of PA28(A) had been distracted by the information on their kneeboard (**CF5**) and had not noticed PA28(B) ahead of them. Members were in agreement that the EC equipment fitted to PA28(A) would have been expected to have detected the presence of PA28(B) but no alert had been reported (**CF4**). Some members wondered whether the focus on the activation of their flightplan had been to the detriment of the assimilation of information from their EC device. Notwithstanding, it was agreed that the pilot of PA28(A) had not had situational awareness of PA28(B) until it had been visually acquired (**CF2**). Members noted the urgency of the avoiding action taken by the pilot of PA28(A) and determined that PA28(B) had been sighted late (**CF6**).

Members turned their attention to the action of the pilot of PA28(B) and noted that they had been maintaining a listening-watch on the Stansted frequency. Members reiterated their earlier thoughts on the selection of a radio frequency and FIS, specifically that the pilot of PA28(B) may have been far

better served if they had been in receipt of a surveillance-based service (**CF1**) from a provider whose area of responsibility had been the area through which they had been in transit.

Members agreed that the pilot of PA28(B) had not had situational awareness of the presence of PA28(A) (**CF2**) until they had visually acquired a "PA28-style" aircraft to their north. Members noted that they had considered that it had been "visibly below" and, although the pilot of PA28(B) had initiated a gentle climb, they had not considered PA28(A) to have been an immediate concern. However, members agreed that the pilot of PA28(B) had not recognised that PA28(A) had been in a climb towards them. Members noted that the pilot of PA28(B) had reported that the minimum separation from PA28(A) had been 300ft vertically and 1NM horizontally. Therefore, members agreed that the pilot of PA28(B) had not maintained an awareness of the position of PA28(A) and had not sighted it when it had passed approximately 100ft below them and less than 50m horizontally (**CF7**).

Members had agreed earlier in the discussion that the transponder fitted to PA28(A) had not been operated until minutes after CPA. However, once operated, it was noted that the transponder had not transmitted an ADS-B signal. Consequently, even if the transponder had been operated before CPA, the EC device fitted to PA28(B) would not have been expected to have detected the presence of PA28(A) (**CF3**). Therefore, members concluded that non-operation of their transponder had not been a contributory factor with respect to the Airprox but agreed that it would have reduced the information available to a nearby ATSU (such as Southend LARS) in their provision of radar-based services to other pilots.

Concluding their discussion, members summarised their thoughts. It was agreed that the pilot of PA28(A) had not had situational awareness of PA28(B) and had not sighted it until moments before CPA. The pilot of PA28(B) had not had situational awareness of PA28(A) and, although had sighted it at distance, had not monitored its position and had not noticed that it had been in a climb towards them. In consideration of risk, some members felt that safety had been very much reduced and that there had been a risk of collision. Other members felt that the avoiding action taken by the pilot of PA28(A), albeit late, had increased separation sufficiently to have averted the risk of collision. A vote was conducted and the latter view prevailed. It was agreed that safety had been degraded and the separation between the aircraft had been particularly uncomfortable but, ultimately, the risk of collision had been averted. The Board assigned Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024264			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Tactical Planning and Execution			
1	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			
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
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	• Distraction - Job Related	Events where flight crew are distracted for job related reasons	

6	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
7	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 Assessment[5]

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

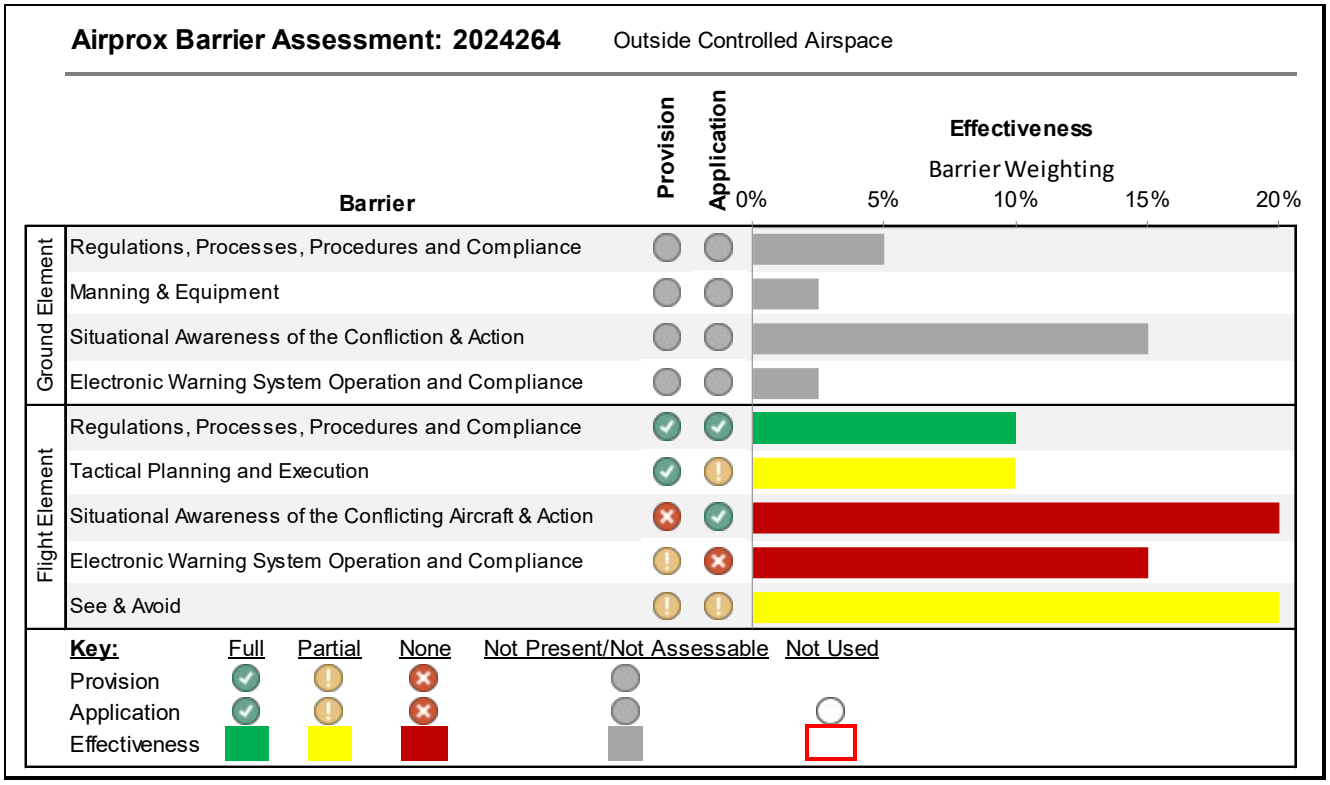
Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because it may have been prudent for each pilot to have been in receipt of a surveillance-based service.

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 until visually acquired.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the EC equipment fitted to PA28(A) would have been expected to have detected the presence of PA28(B) but no alert was reported.

See and Avoid were assessed as **partially effective** because, although the pilot of PA28(A) had sighted PA28(B) late, they had taken action at the last minute to increase the separation.



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