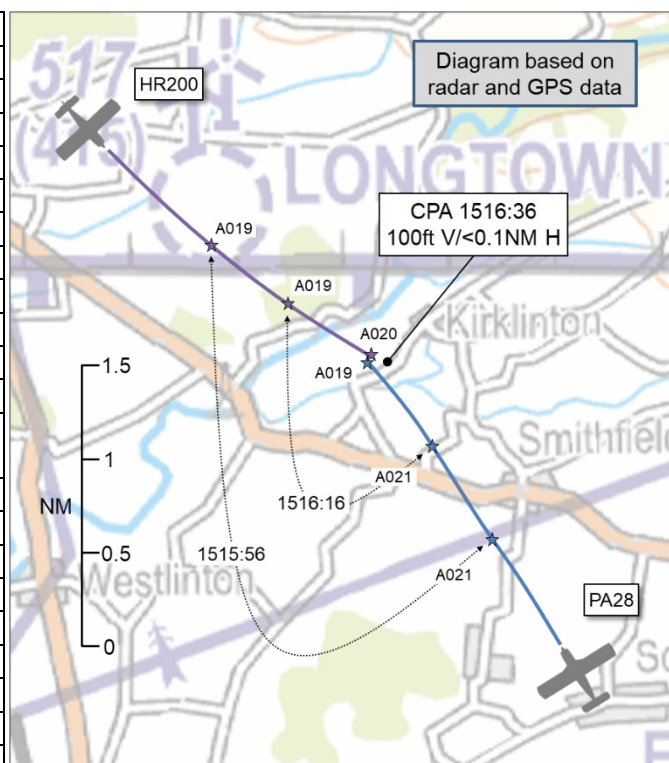


AIRPROX REPORT No 2025021

Date: 28 Feb 2025 Time: 1517Z Position: 5500N 00254W Location: 4.5NM NW Carlisle Airport

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	HR200
Operator	Civ FW	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VFR	VFR
Service	None	AGCS
Provider	N/A	Carlisle Radio
Altitude/FL	1900ft	2000ft
Transponder	A, C, S	A, C, S
Reported		
Colours	White	Blue, white
Lighting	Beacon, landing, strobe, nav	Landing, taxi, beacon
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2000ft	NR
Altimeter	QNH (1028hPa)	NR
Heading	320°	NR
Speed	100kt	NR
ACAS/TAS	SkyEcho	Not fitted
Alert	None	N/A
Separation at CPA		
Reported	25ft V/25m H	"not seen"
Recorded	100ft V/<0.1NM H	



THE PA28 PILOT reports that they had just departed Carlisle from RW24 and made a right turn onto a heading of 320° to depart the 'zone' to the north. Carlisle Radio had previously let them know that there was no known traffic to affect their departure. Just before reaching the 'zone boundary', in the climb at approximately 1800ft, they called Carlisle Radio for a frequency change to Scottish Information 119.875MHz. Carlisle Radio let them know that their details had been passed on. At that point they had just exited the northern boundary of the ATZ¹ and had levelled off at altitude 2000ft. They scanned outside for traffic, however, none could be seen. Their vision was obscured by a low sun in their 10 o'clock position and a large build-up of dark cloud around 15NM ahead. They then changed frequency and conducted their top-of-climb checks (cruise power, fuel pump off, landing light off etc.). Their head was inside the cockpit for no longer than 6sec when they were alerted by their passenger of another aircraft. They looked up and saw a fast moving aircraft, at the same level and opposite direction. They managed to roll the aircraft slightly to the right and [the other aircraft] passed slightly below and left of their wing [they recall]. The other aircraft was white with a coloured livery, and a similar shape to a Vans RV. [The pilot of the PA28] then contacted Scottish Information and reported the Airprox. [The] Scottish Information [FISO] did not know about the traffic and neither did [the] Carlisle [AGO]. The aircraft also did not show up on ADS-B. Due to the aircraft's heading and altitude, the aircraft would have penetrated the Carlisle 'ATZ' [they opined].

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

THE HR200 PILOT reports that they were conducting a local training flight. As this was the student's first flight, the air exercise was to teach the primary effects of controls and allow the student to practice. The importance of lookout was emphasised before manoeuvring the aircraft during the flight. The local area and RT was a little busier than normal and several other aircraft were seen during the flight. Whilst

¹ The ATZ at Carlisle was disestablished in 2018.

listening-out on frequency, an aircraft was heard departing to Scotland routeing via Kirkcudbright. They thought this may be relevant traffic as they were operating to the north of Carlisle Airport but did not see it. They are not sure if this was the other aircraft involved. A visual lookout was maintained and enhanced by [an App linked to SkyDemon displaying nearby traffic].

[The pilot of the HR200 commented that,] as it appears they had passed in close proximity to another aircraft, they can only thank the other crew for seeing them and taking appropriate avoiding action.

[In consideration of their pre-flight planning, the pilot of the HR200 commented that,] before flight, the student was briefed about assisting with a lookout and, in response to a question about an ATC radar-based service after takeoff, it was reiterated that [the pilots] were responsible for aircraft separation using the rules of the air as no radar-based service would be available at their location. They were not expecting a student on their first flight to maintain an effective lookout, but they hoped that it would act as a prompt for them to maintain a lookout. Although a visual lookout is their primary method for ensuring traffic separation, they use [an App that displays nearby traffic] as a tool to enhance traffic detection which also gives audio warnings in their headset. However, the system cannot be fully relied upon to 'see' all traffic.

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

THE SCOTTISH INFORMATION FISO reports that [the PA28] had been pre-noted to them by Carlisle Airport approximately 5-10min before the aircraft called on frequency at 1517, 6NM north-west of Carlisle Airport. [The pilot of the PA28] mentioned in the initial call that they wanted to report an Airprox and asked if [the Scottish Information FISO] had been working traffic in the area. [The Scottish Information FISO] advised that there was no other known traffic. [The pilot of the PA28] advised that they thought the other aircraft to have been between 50-100ft away from them and said something akin to 'it was pretty close'. The pilot also confirmed that they would submit paperwork regarding the Airprox.

Once they had the [PA28 pilot] on a 7401 squawk and in receipt of a Basic Service, they utilised the FID (from a situational awareness perspective) to see if there had been traffic in that area. They thought it could potentially have been [the HR200] based on Mode S returns, and called Carlisle Airport to ask if they were working that traffic. Carlisle Airport confirmed that the pilot of that aircraft was on frequency with them. They asked that Carlisle Airport speak to the pilot only once they had landed to advise them of the other aircraft reporting an Airprox and that the pilot and/or Carlisle Airport may want to submit paperwork from their side. They did not want Carlisle Airport to mention it to the pilot whilst still in the air as that may have been detrimental to their flight safety. They asked the FISO who took over from them to advise [the pilot of the PA28] that Scottish Information would submit a report from their side, but no specifics about the other aircraft were transmitted at any point.

THE CARLISLE SENIOR AIR/GROUND RADIO OPERATOR reports that the [pilot of the PA28] departed from RW24 at 1510 with a right turn to the north. Once [the pilot of the PA28] had completed their right turn, [the Carlisle Senior AGO] rang Scottish Information and passed [the PA28 pilot's] details. They are sure that they informed [the pilot of the PA28] that Danger Areas D510A/B were deactivated in case they wanted to fly a more direct route back to [their destination].

About 5min after [the pilot of the PA28] had departed, they advised them to contact Scottish Information.

Shortly after [the pilot of the PA28] had left the frequency, [the pilot of the HR200] called to join RH downwind for RW24 from the north-west. One to two minutes passed when the Scottish Information FISO rang them and asked if they were talking to [the pilot of the HR200], to which they replied "yes". The Scottish Information FISO then informed them that [the pilot of the PA28] would be filing an Airprox concerning [the HR200].

[The Carlisle Senior AGO commented that,] when Carlisle lost ATC during the pandemic in 2020, the airfield continued with an Air/Ground Service. They lost the ability to use the squawk code 4677 (Carlisle conspicuity) because there were no ATCO's to issue it. Having talked to the CAA Inspectors about being able to continue to use the squawk, they were told that they couldn't because it would involve giving a positive instruction to pilots. However, they are allowed to relay a clearance on behalf of the

Tay/Talla Sector controllers and this had always included passing pilots a squawk using the phraseology "*Scottish Control request you squawk 1234*".

[The Carlisle Senior AGO opined that,] if they were to use simplified phraseology, i.e: "*..request you squawk 1234*", there would be no positive control or instruction involved. Scottish FIR, Talla and Tay, Spadeadam D510 and local aviators are [reportedly] all in favour of reviving the Carlisle conspicuity code for safety. Not every aircraft carries a transponder, but most do and, if it makes the skies safer for pilots in this area, surely only good can come from it?

Factual Background

The weather at Newcastle was recorded as follows:

METAR EGNT 281520Z 29004KT 9999 FEW027 10/02 Q1028

Analysis and Investigation

NATS Safety Investigations

Summary:

When the pilot of [the PA28] checked-in with the Scottish Information FISO and prior to a service being agreed, they reported an Airprox concerning an aircraft which was between 50 and 100ft away from them. No further specifics were provided by the pilot with regard to the other aircraft. Shortly before the pilot had checked in, they had overflown [the HR200] by 100ft in the opposite direction, north-west of Carlisle. The FISO used their FID to identify this, and other possible aircraft, and asked Carlisle to relay to the pilot (once they had landed) that they may have been involved in an Airprox.

Investigation:

Information available to the investigation included: CA4114 from the Scottish Flight Information Service Officer, radar and RT recordings.

At 1513:14, the Carlisle AFISO telephoned the Scottish Flight Information Services Officer (FISO) to pre-note a VFR flight, [PA28 C/S]. The FISO duly took details and passed the appropriate FIS frequency.

[The PA28] was visible on NODE Multi-Radar Tracking ('radar') departing Carlisle at 1513:24, squawking 7000. After departure, the pilot turned onto a northerly heading and commenced climbing.

[The HR200] was, at that time, 8.4NM north-west of [the PA28], also squawking 7000, at 1300ft and also not on the [Scottish Information] frequency. The relative locations of these aircraft at that time are shown in Figure 1.



Figure 1

The vertical and lateral trajectories of each aircraft continued to close until, at 1516:36, the radar recorded a distance between the two, at their Closest Point of Approach (CPA), at 4.5NM bearing 317° from Carlisle Airport, of 0NM and 100ft, as shown in Figure 2.

[The HR200], indicating 1500ft, appeared to pass to the west of [the PA28], indicating 1600ft, and the radar indicated that neither pilot had made a significant avoidance manoeuvre prior to, or following, the CPA.

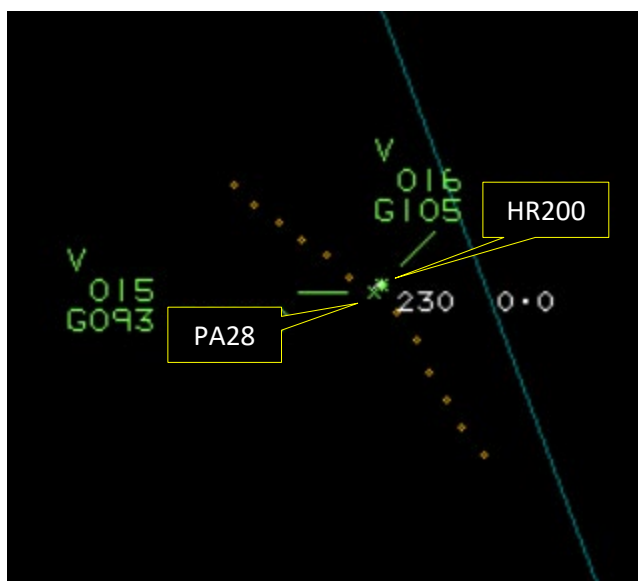


Figure 2 – CPA at 1516:36

The pilot of [the PA28] reported onto the [Scottish Information] frequency at 1517:08 and requested a Basic Service. The pilot reported that they were 6NM north-west of Carlisle at 2000ft on QNH 1028hPa and added, *"...and also we've just had an Airprox with another aircraft, maybe about a hundred feet, fifty feet, close. We were wondering if they are on frequency?"*. The [Scottish Information] FISO informed the pilot that they had no known traffic in that area on frequency, but they would contact Carlisle to see if they were working any traffic that may have been involved.

The [Scottish Information] FISO then issued the Scottish FIS squawk (7401) and agreed a Basic Service with the pilot. The [Scottish Information] FISO checked if the pilot would be submitting a formal Airprox report when they landed and the pilot responded, *"Yeah most likely, it was quite a close one"*. In their CA4114, the [Scottish Information] FISO reported, *"Once I had the aircraft on*

#7401, and a Basic Service, I utilised the FID from a situational awareness perspective to see if there was traffic in that area. I thought it could potentially have been [the HR200] based on Mode S".

When the [Scottish Information] FISO telephoned [the Carlisle AFISO], they enquired if they were working [the HR200] and the Carlisle AFISO replied in the affirmative. The [Scottish Information] FISO asked if, when the pilot of [the HR200] landed, they would inform them that they may have been involved in an Airprox.

The [Scottish Information] FISO subsequently informed the pilot that they too would be filing an Airprox report. The pilot of [the PA28] did not provide any further details relating to the incident on the [Scottish Information] frequency.

Conclusion:

The Airprox occurred when the pilot of [the PA28] departed Carlisle Airport and climbed into conflict with [the HR200], 4.5NM north-west of Carlisle Airport. Both pilots were operating VFR in Class G airspace at the time of the conflict, and neither were on the Scottish FISO's frequency in receipt of a Service.

Closest Point of Approach occurred at 1536:36 and was recorded on Multi-Track Radar as 0.0NM and 100ft. The incident was resolved by each aircraft continuing on their existing trajectory.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft could be positively identified from Mode S data. The diagram was constructed and the separation at CPA determined from the radar data. Neither aircraft was observed by reference to ADS-B data sources.

The PA28 and HR200 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

Summary

An Airprox was reported when a PA28 and an HR200 flew into proximity 4.5NM north-west of Carlisle Airport at 1517Z on Friday 28th February 2025. The PA28 pilot was operating under VFR in VMC, not in receipt of a FIS. The HR200 pilot was operating under VFR in VMC, in receipt of an AGCS from Carlisle Radio.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, reports from the Carlisle AGO and Scottish Information FISO 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. Members noted that, having left Carlisle airfield to the north, their details had been passed to the Scottish Information FISO but they had not yet made contact on the frequency. Members noted that the EC device fitted to the PA28 would not have been expected to have detected the HR200 (**CF2**) and agreed that, until their passenger had visually acquired it, and had alerted them to it, they had not had situational awareness of the presence of the HR200 (**CF1**). Members noted that the pilot of the PA28 had taken avoiding action and reported that

² (UK) SERA.3205 Proximity.

³ (UK) SERA.3210 Right-of-way (c)(1) Approaching head-on.

they believed the separation had been 25ft vertically and 25m horizontally. Members concluded that the HR200 had been sighted late (**CF3**).

Members next turned their attention to the actions of the pilot of the HR200. It was noted that they had briefed their student appropriately on the requirement to maintain a thorough and effective lookout, particularly as a surveillance-based service had not been available at their location. Members agreed that the traffic awareness device carried by the HR200 pilot may have provided some information on the presence of the PA28 but, unfortunately, this had not been the case in this instance. Members noted that, although the pilot of the HR200 had heard a call believed to have been from a pilot heading to Scotland (which may have been the PA28 pilot), this had not amounted to having gleaned situational awareness of the PA28 in the area (**CF1**). Members were also in agreement that the PA28 had not been sighted (**CF4**).

Turning their attention to the actions of the Carlisle AGO, members agreed that they had not been responsible to have provided Traffic Information and it was clear that the safe conduct of the flights had remained the pilots' responsibility. During their departure from Carlisle, the pilot of the PA28 had been passed a message that 'there was no known traffic to affect'. Members wondered whether the timing had been such that, when the HR200 pilot had called on the Carlisle frequency to rejoin, there had been an opportunity for the Carlisle AGO to have mentioned the PA28 that had recently departed. Nevertheless, members agreed that there had been nothing further that the AGO could have done to have assisted matters.

The Carlisle AGO's opinion regarding the revival of a Carlisle conspicuity code was noted with interest and some members suggested that the idea did carry some merit.

Members next considered the actions of the Scottish Information FISO and noted that, upon first contact with the pilot of the HR200, they had accepted details of the Airprox encounter. Members agreed that the Scottish Information FISO had not had responsibility to have monitored the flights of either pilot and could not have influenced the events leading up to the Airprox.

Members concluded their discussion and turned to the consideration of the risk of collision. It was agreed that neither pilot had situational awareness of the presence of the other aircraft and that the pilot of the HR200 had not sighted the PA28 during the encounter. Whilst the separation indicated by the radar replay suggested that the aircraft had been uncomfortably close, members noted that the reported separation had been significantly closer. Although the pilot of the PA28 had taken action to have increased the separation at the last minute, members agreed that safety margins had been reduced below the norm and that there had been a risk of collision (**CF5**). The Board assigned Risk Category B to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Flight Elements				
• Situational Awareness of the Conflicting Aircraft and Action				
1	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				
2	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				
3	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
4	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

• 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 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 Carlisle AGO had not been required to monitor the flight of the HR200 under the terms of an AGCS.

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 EC device fitted to the PA28 would not have been expected to have detected the presence of the HR200.

See and Avoid were assessed as **partially effective** because the pilot of the PA28 had sighted the HR200 late.

Airprox Barrier Assessment: 2025021				Outside Controlled Airspace		
Barrier		Provision	Application	Effectiveness		
				Barrier Weighting		
		0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance			<div><div></div></div>		
	Manning & Equipment			<div><div></div></div>		
	Situational Awareness of the Confliction & Action			<div><div></div></div>		
	Electronic Warning System Operation and Compliance			<div><div></div></div>		
Flight Element	Regulations, Processes, Procedures and Compliance			<div><div></div></div>		
	Tactical Planning and Execution			<div><div></div></div>		
	Situational Awareness of the Conflicting Aircraft & Action			<div><div></div></div>		
	Electronic Warning System Operation and Compliance			<div><div></div></div>		
	See & Avoid			<div><div></div></div>		
Key:						
Provision						
Application						
Effectiveness						

⁴ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).