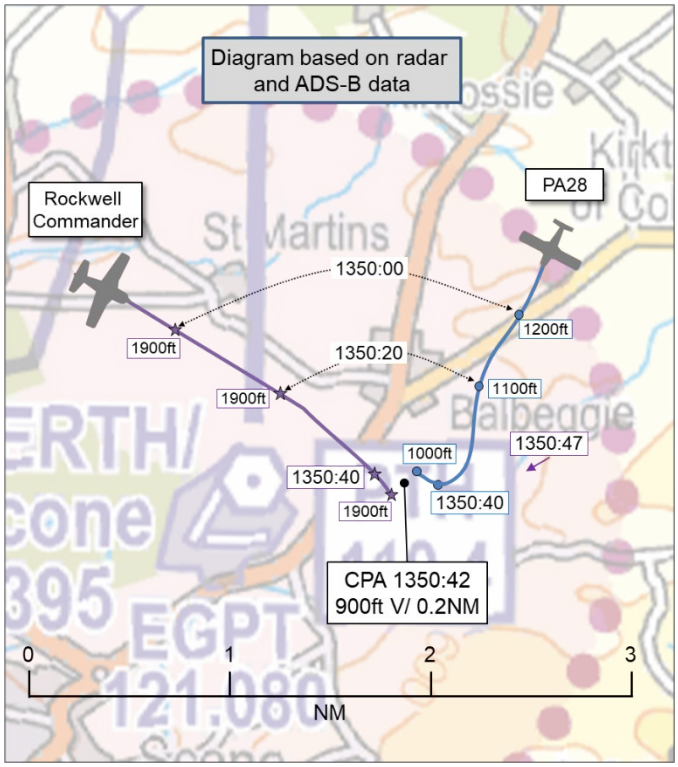
AIRPROX REPORT No 2024233

Date: 13 Sep 2024 Time:1351Z Position: 5626N 00321W Location: Perth Airport

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	PA28	Rockwell Commander
Operator	Civ FW	Civ FW
Airspace	Perth ATZ	Perth ATZ
Class	G	G
Rules	VFR	VFR
Service	AGCS	AGCS
Provider	Perth Radio	Perth Radio
Altitude/FL	1000ft	1900ft
Transponder	A, C, S	A, C, S+
Reported		
Colours	Blue/white	White/grey
Lighting	Nav, strobes and landing.	Landing and strobes.
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	2200ft	NK
Altimeter	QNH (1025hPa)	QNH
Heading	250°	210°
Speed	95kt	80kt
ACAS/TAS	Not fitted	PilotAware
Alert	N/A	None
Separation at CPA		
Reported	200ft V/0.5NM H	Not seen
Recorded	900ft V/0.2NM H	



THE PA28 PILOT reports that as they were inbound to Perth, they joined the deadside for RW21 (right-hand circuit) from the southeast [they recall] and began their descent on the deadside to join crosswind. As they began their descent, a Commander joined the deadside from the overhead and simply began a descent down through the PA28's track and descent to overtake despite being higher than themselves. They had to execute a steep left turn [they recall] and leave the immediate circuit area to avoid a collision and allow the Commander room, despite them being the lower aircraft.

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

THE ROCKWELL COMMANDER PILOT reports that they had checked the timings and also with Perth Tower and were not really sure what to report. They landed at 1355 and were on blocks at 1357 so [they deduced that] this incident must have been when they were on final. They did not recall anything reportable.

THE PERTH AIR/GROUND OPERATOR reports they recalled the weather conditions as clear skies with calm winds and, at the time of report, the runway in use was 21 right-hand. There was no mention from the pilot of [either the PA28 or Commander] of an Airprox at all. If they remembered correctly, they had one aircraft reported in the RW21 right-hand circuit at the time with one aircraft ready for departure on the ground from RW21. They believed [the PA28 and Commander pilots] both reported they would be conducting a standard overhead join for RW21 right-hand circuit. They believed [the PA28 pilot] was the first to report *'deadside descending'* to join crosswind for RW21 right-hand, shortly followed by [the Rockwell Commander pilot] who reported *'deadside descending'*. They remembered the pilot of [the PA28] reporting they were visual with [the Commander] and would orbit, they could only assume [the Commander] must have been ahead or above [the PA28]. Due to the radio operations desk facing the live side, viewing over all runways at Perth, the view over to the deadside of the circuit is to the rear of the operator's seating position and only visible from the rear facing window of the tower and, at the time

of the report, they were looking after another aircraft in the 21 right-hand circuit and another aircraft on the ground. From their flight progress strips, which they use to record every arrival and departure at Perth, [the PA28] landed at 1412 after commencing 2 'touch and goes' and [the Commander] landed at 1345 [they recalled]. They mentioned, due to both parties not informing the Tower on the 13th about an Airprox, they did not have exact memory recall of the incident, otherwise they would have collected as much detail as possible at that time.

Factual Background

The weather at Edinburgh Airport was recorded as follows:

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METAR EGPH 131350Z 23012KT 9999 FEW032 BKN049 13/06 Q1026
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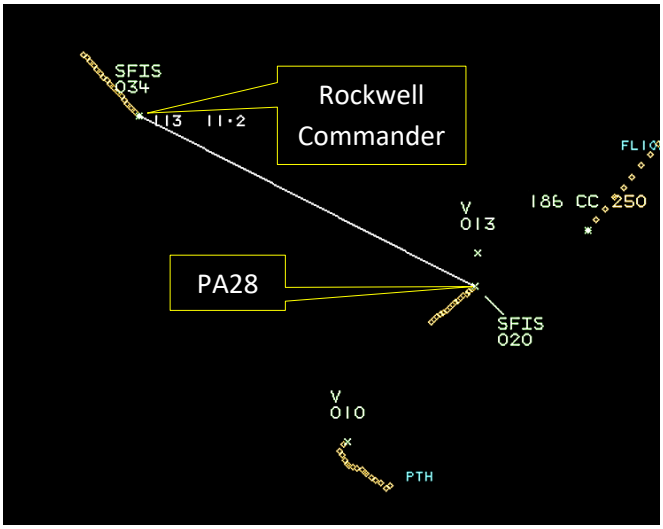
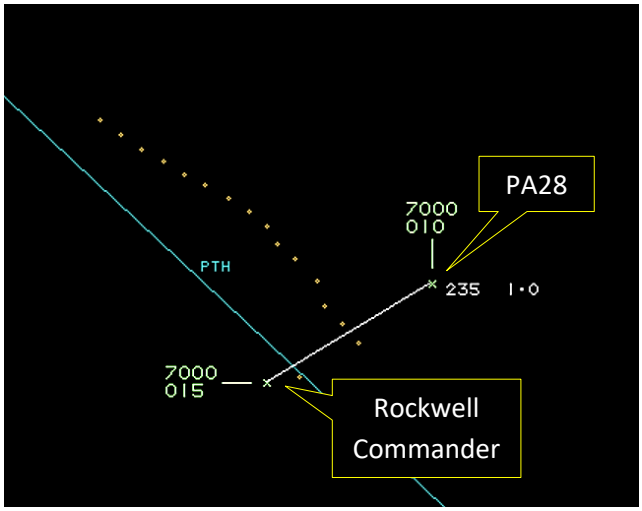
Analysis and Investigation

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft were positively identified using Mode S data, although the returns for the PA28 were intermittent (Figures 1 and 2).



1344:23 PA28 last seen on radar.



1351:07 after CPA the PA28 reappeared diverging from the Rockwell's track

The pilot of the Rockwell Commander provided GPS data which matched ADS-B and radar tracks and the PA28 was also recorded on ADS-B data. At 1351:07, when the PA28 re-appeared on radar (Figure 2), the tracks between the two aircraft were diverging with the PA28 heading approximately

northeast and the Rockwell Commander heading approximately 250°. CPA was assessed to have occurred at 1350:42 with a vertical separation of 900ft and lateral separation of 0.2NM, based on radar and ADS-B data.

The PA28 and Rockwell Commander 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] An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation.[2]

Summary

An Airprox was reported when a PA28 and a Rockwell Commander flew into proximity at Perth Airport at 1351Z on Friday 13th September 2024. Both pilots were operating under VFR in VMC, and both pilots were in receipt of an Air/Ground Communication Service from Perth Radio.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, GPS navigation data from the Rockwell Commander pilot, and a report from the Air/Ground Operator involved. 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 looked at the actions of the PA28 pilot and noted that the pilot had descended towards the deadside of the active runway directly from the northeast, and members wondered why the pilot had not positioned themselves to the north of the airfield and made a standard overhead join. The discussion led to the Board noting that Perth's website pilot briefing states *'The preferred circuit join procedure is a standard UK overhead join as per the Skyway Code'* and this information, along with some other pertinent warnings, was not included in the entry in the UK AIP for Perth Airport. Members were heartened that the PA28 pilot had elected to manoeuvre away from the airfield on recognising that there had been a Rockwell Commander above them that had approached the deadside from the northwest. The Board agreed that, despite the PA28 pilot's remark that they had been the *'lower aircraft'*, their position had not given them any right-of-way over the approaching Rockwell Commander.[3] The Board agreed that PA28 pilot had not, therefore, conformed with the pattern of traffic already formed (**CF1**) and members mentioned in discussion that if a pilot is unsure of the circuit pattern, then they could request clarification on the radio. The Board felt that the PA28 pilot should have had some awareness of other approaching aircraft from the RTF, but agreed that they had had no situational awareness of the presence or position of the Rockwell Commander in relation to their own aircraft (**CF2**) and that, on sighting it, had become concerned by the aircraft's proximity (**CF5**). The Board acknowledged that the PA28 had had no additional electronic conspicuity devices installed and members wondered when a standard form of electronic conspicuity would be brought into UK Regulation.[4]

Turning their attention to the actions of the Rockwell Commander pilot, the Board first noted that, although the pilot had performed an overhead join in the style of a standard overhead join, the pilot had made the initial part of the join slightly wide rather than directly overhead the upwind end of the runway. The Board then discussed the merits of the Standard Overhead Join (SOJ)[5] and agreed that although both the PA28 and Rockwell Commander pilots' individual joins would have worked if there had been no other traffic in the vicinity, neither were standard and that it was incumbent on both of them to integrate with each other. Therefore the Board agreed that the Rockwell Commander pilot had also not conformed with the pattern of traffic already formed by the joining PA28 (**CF1**).The Board further agreed that the Rockwell Commander pilot had had no situational awareness of the presence or position of the PA28 (**CF2**) despite the PA28's *'descending deadside'* radio call believed to have been made (there

[1] (UK) SERA.3205 Proximity.
[2] (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.
[3] (UK) SERA.3210 Right-of-way (4)(i) refers to the final stages of the approach.
[4] UK CAA Guidance on devices for electronic identification of light aircraft.
[5] Skyway Code Standard Overhead Join p104.

were no RT recordings available to the Board) prior to the Rockwell Commander pilot's own *'descending deadside'* call. On considering how the Rockwell Commander pilot could have been better served, the Board wondered if the Perth Air/Ground Operator could have passed Traffic Information to the pilot regarding the PA28, but acknowledged that the operator's view of the aircraft's position had been poor. Members also noted that the electronic conspicuity equipment installed in the Rockwell Commander had not alerted to the presence of the PA28 as would have been expected (**CF3**) and had therefore not contributed to the pilot's situational awareness. Possibly as a consequence of poor situational awareness, members agreed that the Rockwell Commander pilot had remained unsighted on the PA28 (**CF4**).

In concluding their discussions, the Board wanted to reiterate that looking and listening were vital to the situational awareness of both pilots. In this case, members agreed that safety had been degraded, and acknowledged that the PA28 pilot had been concerned by the proximity of the Rockwell Commander above them, which had likely caused a startle factor. The Board agreed that the PA28 pilot had taken timely and effective avoiding action to prevent their aircraft and the Rockwell Commander from coming into close proximity, and that there had been no risk of collision. As such the Board assigned a risk category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024233			
CF	**Factor**	**Description**	**ECCAIRS Amplification**	**UKAB Amplification**
	Flight Elements			
	• Tactical Planning and Execution			
1	Human Factors	• Monitoring of Environment	Events involving flight crew not to appropriately monitoring the environment	Did not avoid/conform with the pattern of traffic already formed
	• 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	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			
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
5	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft

Degree of Risk: C.

Safety Barrier Assessment[6]

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 was assessed as **not used** because the Perth AGO had not been required to have sequenced the traffic in the circuit.

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

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because neither the pilot of the PA28 nor the Rockwell Commander pilot had integrated with each other during the join to the airfield.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither the PA28 nor the Rockwell Commander pilots had situational awareness of the presence or position of the other's aircraft.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the Rockwell Commander's electronic conspicuity equipment had not alerted as expected.