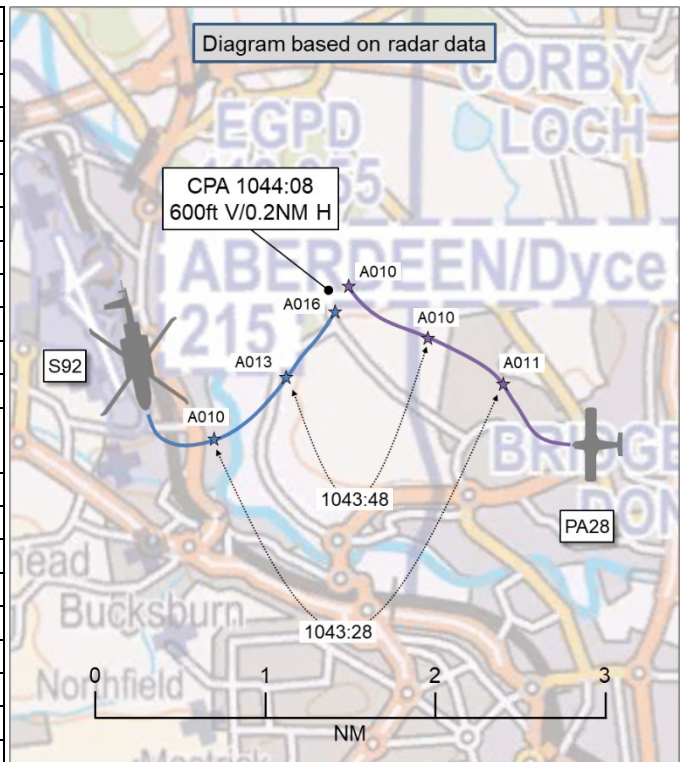


AIRPROX REPORT No 2024048

Date: 08 Apr 2024 Time: 1044Z Position: 5712N 00209W Location: Aberdeen

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	S92	PA28
Operator	Civ Comm	Civ FW
Airspace	Aberdeen CTR	Aberdeen CTR
Class	D	D
Rules	IFR	VFR
Service	ACS	ACS
Provider	Aberdeen Tower	Aberdeen Tower
Altitude/FL	1600ft	1000ft
Transponder	A, C, S+	A, C, S
Reported		
Colours	Blue, white	White, blue
Lighting	Position, anti-col, HISL, landing	Nav, strobe, beacon
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	1300ft	1200ft
Altimeter	QNH (1000hPa)	QNH
Heading	040°	360°
Speed	80kt	90kt
ACAS/TAS	TCAS II	Not fitted
Alert	RA	N/A
Separation at CPA		
Reported	250ft V/0m H	100ft V/0.5NM H
Recorded	600ft V/0.2NM H	



THE S92 PILOT reports that there had been strong upper-winds from the southwest and [that they had received an] IFR departure clearance, track X-Ray (first point ADN VOR) and a climb to 3000ft. This usually had a right turn-out. They taxied for line-up onto RW16, and a clearance from Tower was given to depart on heading 040° with a left turn-out. Traffic Information was passed "traffic is a Cherokee, routing up the coast, approaching Bridge of Don, not above 2000ft VFR". [The pilot of the S92] responded to Tower during the line-up and acknowledged the traffic with a readback. Departure clearance in controlled airspace followed with the aircraft climbing on 040° to 3000ft.

At around 1300ft, Tower informed [the pilot of the S92] of traffic to the east at 1NM. They became visual with the traffic and increased their climb but received a TCAS 'Traffic' warning, followed by TCAS RA with 1500ft rate-of-climb. The traffic was observed passing below the nose of the [S92] (whilst in the climb for the RA), from right-to-left. ATC was not informed immediately of the TCAS RA due to other RT at the time, crew workload and because they were already in a climb. When reaching the assigned altitude in the cruise, ATC was informed of the RA and resolution.

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

THE PA28 PILOT reports that they were conducting an instructional trial-flight, the student's first flight. On the Stonehaven VFR lane, on reaching the harbour, they were instructed to proceed to the Bridge of Don. On reaching the Bridge of Don, there was other traffic, the departing S92 and an inbound helicopter from Balmedie to the north. One, if not both of the [helicopter pilots], were informed of the PA28 inbound from the Bridge of Don. [The pilot of the PA28] had half-expected to orbit at the Bridge of Don, and had been about to do so as they had been unable to get a clearance from the Tower, when the Tower called them to join and report downwind LH for RW16. They also informed them of the inbound traffic and requested [that they report when the traffic was] in sight.

On becoming visual with the inbound [helicopter], they reported visual and were cleared to join downwind to pass behind. They turned right to join downwind, passing well behind. At that time, they were approximately 1200ft on the QNH. On rolling level, the student, in the left-hand seat, spotted the S92 and brought it to [the PA28 pilot's] attention, as was part of their pre-flight briefing. At that point, the S92 was above and passing behind by a safe distance. The S92 pilot informed the Tower a short time later that they had had an RA and that it was resolved.

The S92 may have been in front and below [of the PA28] initially with [the PA28 pilot's] attention drawn to looking for the inbound traffic off to their right. During the turn, the S92 may have been about the same level as, and obscured by, the port wing when turning right to join the downwind leg.

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

THE ABERDEEN TOWER CONTROLLER reports that the S92 helicopter was departing on a radar heading of 040° under IFR. The PA28 was inbound via the Stonehaven lane, not above 2000ft.

Traffic Information was passed to [the pilot of the S92] on [the PA28] which had been passing the Bridge of Don inbound, and was then given a take-off clearance.

As the [S92] was climbing-out, [the Aberdeen Tower controller] updated them on the traffic and they responded that they were not visual with it. As they got slightly closer, about 1NM apart, [the Aberdeen Tower controller] updated the [S92 pilot] again and viewed them from the window conducting an expedited climb.

As they transferred the [S92 pilot] to Radar, the pilot advised that they had had a TCAS RA but were now clear of traffic. This was acknowledged. Both aircraft were visual from the Tower at all times.

Factual Background

The weather at Aberdeen was recorded as follows:

METAR COR EGPD 081050Z AUTO 19017KT 9999 NCD 12/04 Q1000 NOSIG

Analysis and Investigation

NATS UNIT INVESTIGATION

Radar and RT recordings were reviewed, and the pilots and ATCO were interviewed by third parties. The events described have not been checked for accuracy against the appropriate radar and/or RT recordings.

Timeline:

1040:50

ATC passed Traffic Information to the pilot of the S92 on a "*Cherokee routing up the coast, routing Bridge Of Don this time, not above 2000ft*".

1041:30

ATC to the pilot of the PA28: "*join left-hand downwind RW16. You're running no.2 behind an EC75 helicopter just passing Balmedie*" and requested that they "*pass behind that traffic, they're inbound for Runway 23, advise on getting them in sight*".

The pilot of the PA28 missed the message and asked for clarification.

1041.45

ATC to the pilot of the PA28: "*Affirm. Join downwind left RW16, traffic you're looking for is a helicopter just about to cross through your 12 o'clock round about 5 miles, advise when you get them in sight*".

ATC to the pilot of the PA28: "*they are joining straight in Runway 23, when you do get them visual, pass behind. Recommended distance is 4 miles*".

1043:25

ATC to the pilot of the S92: *“Previously mentioned Cherokee now east of you by about 1.5 miles, same level”*

[S92 pilot]: *“Still looking”*.

1043:40

ATC to the pilot of the S92: *“about your half past 12, you are about 300ft above, 1 mile”*.

The pilot of the S92 reported being *“Visual with that traffic”*.

At the point of sighting of the [PA28] by [the pilot of the S92], on the radar recording, the distance between the returns was 1.08NM and 100ft.

NATS TCAS Performance Assessment

Summary

[The pilot of the S92] was awaiting departure from Aberdeen and was instructed to take a left turn on departure from RW16 for a heading of 040°, IFR. At that time, they were also given Traffic Information regarding [the PA28] which was southeast of the airfield, travelling north along the coast inbound to Aberdeen for a left-base approach to RW16, VFR. After departure, the crew of [the S92] were unable to get [the PA28] in sight. The Aerodrome controller updated [the pilot of the S92] with the location of [the PA28] at 1.5NM separation and again at 1NM separation. [The pilot of the S92] then reported visual and was seen by the Aerodrome controller making an expedited climb. When the Aerodrome controller initiated their transfer to Aberdeen Radar, the pilot of [the S92] reported that they had received a TCAS RA which had been resolved.

UKAB Secretariat

An analysis of the NATS radar replay was undertaken and both aircraft could be positively identified from Mode S data. The S92 first appeared on the radar replay at 1043:04 (Figure 1).

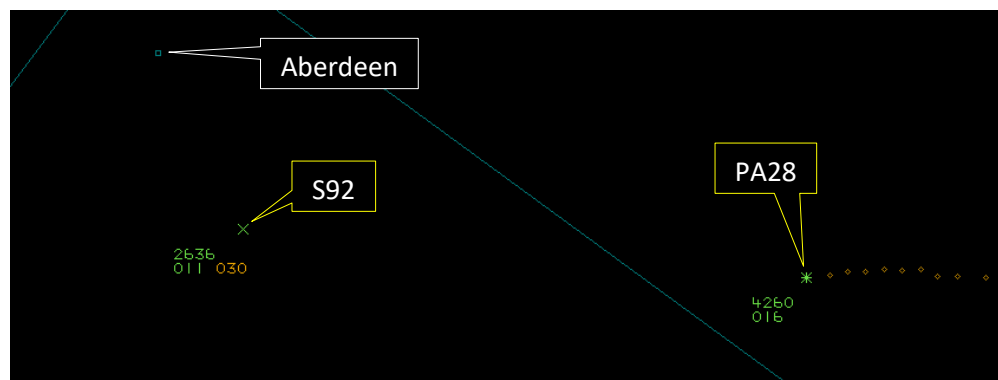


Figure 1 – Aircraft positions at 1043:04

The diagram was constructed and the separation at CPA determined from the radar data (Figure 2).

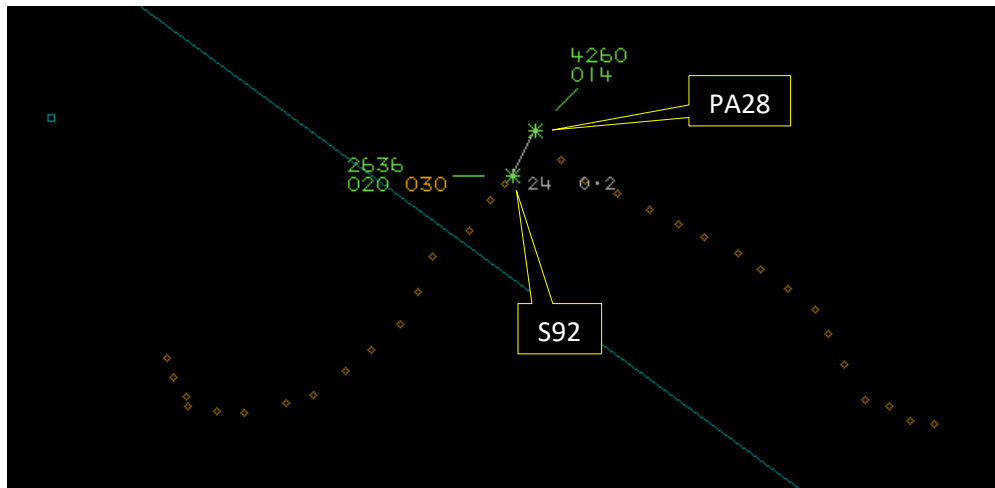


Figure 2 – CPA at 1044:08

The S92 and PA28 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

Summary

An Airprox was reported when an S92 and a PA28 flew into proximity in the vicinity of Aberdeen at 1044Z on Monday 8th April 2024. The S92 pilot had been operating under IFR and the PA28 pilot under VFR, both in receipt of an Aerodrome Control Service from Aberdeen Tower.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings, a transcript of the RT, a report from the air traffic controller 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 S92. Members noted that they had been passed Traffic Information on the PA28 (which had been to their southeast) whilst they had been on the ground, and had subsequently been cleared for departure to the northeast. From their analysis of the RT transcript and radar data, members noted that further Traffic Information on the PA28 had been passed by the Aberdeen controller when it had been at a range of approximately 1.5NM to the east of the S92. The pilot of the S92 had visually acquired the PA28 a few seconds later. Members agreed that the pilot of the S92 had received a TCAS RA (**CF6**) at approximately the same time and had expedited their climb in response.

Turning their attention to the actions of the pilot of the PA28, members noted that they had tracked towards Bridge of Don and had been passed Traffic Information on an inbound helicopter that was to cross from right-to-left in front of them. They had been cleared to pass behind that helicopter and to join for RW16. Members noted that the pilot of the PA28 had heard the pilot of another helicopter (which, unbeknownst to them had been the S92) had been passed Traffic Information on the PA28. However, members wondered why reciprocal Traffic Information on the S92 had not been passed to the pilot of the PA28. Nevertheless, members agreed that the pilot of the PA28 had had a responsibility to have avoided other traffic and surmised that their situational awareness of the inbound helicopter had prompted a visual scan that had, perhaps, been more focussed to their right. Members agreed that the pilot of the PA28 had not had specific, but only generic, situational awareness of the position of the S92 (**CF5**) and had not known that it had been on a converging track from their left. Members noted that the pilot of the PA28 had not visually acquired the S92 until after the moment of CPA and agreed that that, effectively, constituted a non-sighting (**CF7**). Notwithstanding, members wished to applaud the 'good

¹ (UK) SERA.3205 Proximity.

spot' by the passenger in the PA28 and commended the pilot of the PA28 for having briefed their passenger thoroughly before their flight.

Members next turned their attention to the actions of the Aberdeen controller. It was agreed by members that separation standards are not prescribed for application by ATC between VFR and IFR flights in Class D airspace. Nevertheless, members agreed that the Aberdeen controller had had a responsibility to prevent a collision between known flights and that, for them to have discharged that responsibility, the passage of sufficient Traffic Information to the pilot of the PA28 had been required. Members agreed that, although the pilot of the PA28 had received Traffic Information regarding the inbound helicopter, Traffic Information had not been passed on the S92 (CF2). It was therefore agreed by members that the Aberdeen controller had not fully complied with the regulation pertaining to the control of VFR flights in Class D airspace (CF1).

Members next pondered the instruction passed for a left turn after departure from RW16 rather than a right turn as had been expected by the pilot of the S92. Although the reason for a left turn after departure was not available for members to have assessed, it was agreed that the instruction passed by the Aberdeen controller to the pilot of the S92 to turn onto a track of 040°, in conjunction with the instruction to the pilot of the PA28 to pass behind the inbound helicopter, had brought the S92 and PA28 into conflict. Members therefore concluded that the instructions passed by the Aberdeen controller had contributed to the Airprox (CF4). Further, members agreed that the Aberdeen controller had made an incorrect assumption that the flight profiles would not have conflicted (CF3).

Concluding the discussion, members were in agreement that the instructions passed by the Aberdeen controller had placed the S92 and PA28 onto converging tracks. It was agreed that, although safety margins had been reduced, other safety barriers had prevented a more serious outcome. It was agreed that the pilot of the S92 had been alerted to the presence of the PA28 and it had been visually acquired in time for the safest course of action to have been taken. Members agreed that there had not been a risk of collision during the encounter and assigned Risk Category C to this event.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2024048			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
• Regulations, Processes, Procedures and Compliance				
1	Human Factors	• ATM Regulatory Deviation	An event involving a deviation from an Air Traffic Management Regulation.	Regulations and/or procedures not fully complied with
• Situational Awareness and Action				
2	Human Factors	• ANS Traffic Information Provision	Provision of ANS traffic information	TI not provided, inaccurate, inadequate, or late
3	Human Factors	• Expectation/ Assumption	Events involving an individual or a crew/ team acting on the basis of expectation or assumptions of a situation that is different from the reality	
4	Human Factors	• Traffic Management Information Provision	An event involving traffic management information provision	The ANS instructions contributed to the Airprox
Flight Elements				
• Situational Awareness of the Conflicting Aircraft and Action				
5	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				
6	Contextual	• ACAS/TCAS RA	An event involving a genuine airborne collision avoidance system/traffic alert and collision avoidance system resolution advisory warning triggered	
• See and Avoid				

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
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Degree of Risk: C.

Safety Barrier Assessment²

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

Ground Elements:

Regulations, Processes, Procedures and Compliance were assessed as **partially effective** because the Aberdeen Tower controller had not complied with the requirement to have passed Traffic Information on the S92 to the pilot of the PA28.

Situational Awareness of the Confliction and Action were assessed as **partially effective** because the instructions passed by the Aberdeen Tower controller had contributed to the reduction in the separation between the S92 and PA28.

Flight Elements:

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the pilot of the PA28 had only generic situational awareness of the presence of the S92.

		Airprox Barrier Assessment: 2024048		Outside Controlled Airspace					
		Barrier	Provision	Application	Effectiveness Barrier Weighting				
					0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	✓	⚠						
	Manning & Equipment	✓	✓						
	Situational Awareness of the Confliction & Action	✓	⚠						
	Electronic Warning System Operation and Compliance	⊘	⊘						
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✓						
	Tactical Planning and Execution	✓	✓						
	Situational Awareness of the Conflicting Aircraft & Action	⚠	✓						
	Electronic Warning System Operation and Compliance	⚠	✓						
	See & Avoid	✓	✓						
Key:		Full	Partial	None	Not Present/Not Assessable	Not Used			
Provision	✓	⚠	✗	⊘					
Application	✓	⚠	✗	⊘					
Effectiveness									

² The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).