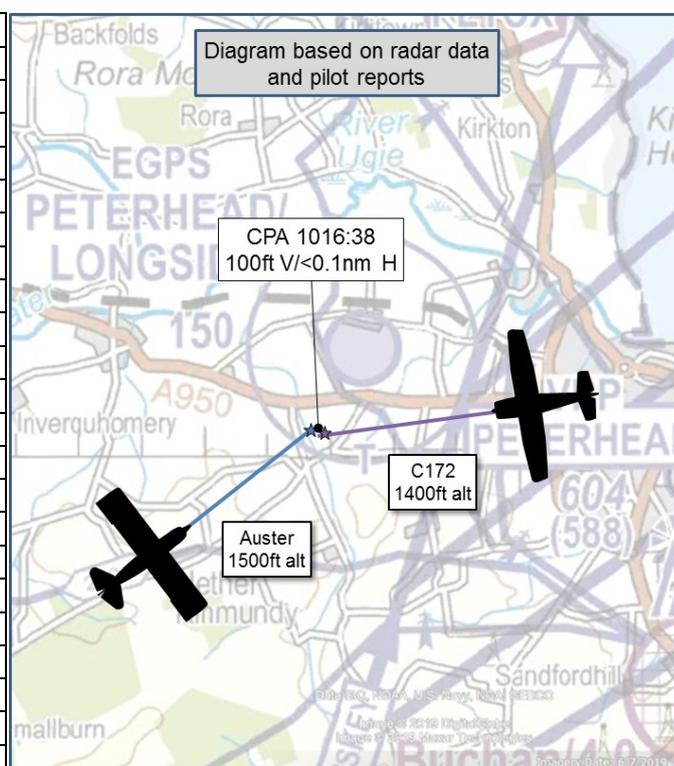


AIRPROX REPORT No 2019102

Date: 15 May 2019 Time: 1016Z Position: 5730N 00153W Location: Peterhead/Longside Airfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Auster	C172
Operator	Civ FW	Civ FW
Airspace	Scottish FIR	Scottish FIR
Class	G	G
Rules	VFR	VFR
Service	None	Basic
Provider	Safety Com	Aberdeen
Altitude/FL	1500ft	1400ft
Transponder	A, C	A, C
Reported		
Colours	White, Silver	White, Blue
Lighting	Not reported	Anti-Coll
Conditions	VMC	VMC
Visibility	>10km	10km
Altitude/FL	1800ft	1750ft
Altimeter	NK (1027hPa)	QNH
Heading	040°	261°
Speed	80kt	95kt
ACAS/TAS	Sky Echo II ¹	Not fitted
Alert	None	N/A
Separation		
Reported	150ft V/50m H	200ft V/250m H
Recorded	100ft V/<0.1nm H	



THE AUSTER PILOT reports that he was in contact with Aberdeen Radar initially when clearing the Aberdeen Zone. He was under a Basic Service outside controlled airspace. Aberdeen Radar passed details of a C172 transiting up the coast. When about 7nm from Longside, he was transferred to Aberdeen offshore to enable him to receive an update on the previously reported traffic if he required it; he briefly contacted them for a Basic Service prior to switching to Safety Com. He was passed details of the C172 heading north just passing Cruden from Aberdeen Offshore, he thinks but it may have been from Aberdeen Radar prior to handover. Just prior to joining the circuit, he climbed from 1600ft to 1800ft in preparation for joining overhead; the Longside circuit is 1500ft for an overhead join, which he was not aware of until after he had landed. About 0.5nm south of Longside he made a very late sighting of a high-wing single-engine Cessna in his 2 o'clock less than 100m away, it passed about 150ft or less directly below him. He pulled up instinctively. He passed overhead Longside and made a call to Aberdeen Offshore to report the Airprox. Aberdeen Offshore contacted the C172 pilot who said he had been visual with the traffic. He landed at Longside and phoned Aberdeen Air Traffic and discussed the Airprox with the watch supervisor.

He assessed the risk of collision as 'High'.

THE C172 PILOT reports that he was on a westerly track from Peterhead, his turning point. The Aberdeen ATCO asked if he was happy to operate below 2,000ft. He advised the controller of the planned routing, Peterhead to Huntly, then turning left to go south and keeping clear of controlled airspace. He was flying VFR with 10km+ visibility, no significant cloud, some haze and thermal activity. No traffic conflict was observed. He was en-route to his next turning point and under a high workload whilst setting the aircraft on course, concentrating on maintaining altitude at below 2,000 feet and managing the aircraft (including keeping outside the Aberdeen CTA, general navigation and managing

¹ Sky Echo II ADS-B In/Out with output to Skydemon.

the aircraft systems). Longside did not appear to have any activity and the decision was made early on to maintain contact with the Aberdeen Radar Controller for safer operation of the flight. He was undertaking a cruise (FREDA) check including checking DI alignment. The passenger spotted another aircraft ahead, high and to the left of the top of the windscreen mounted compass and alerted him. The control column was momentarily nudged forward to slightly increase separation. He considered that the pre-action separation was sufficient despite the control column being nudged forward to increase separation further. It is estimated that the other aircraft was 100-200 feet above. At all times he was in contact with Aberdeen Radar operating under a Basic Service and does not recall any traffic report immediately prior to the Airprox. Just prior to the Airprox he was discussing aircraft navigational matters relating to synchronisation of the DI to the compass with the passenger.

He assessed the risk of collision as 'Medium'.

THE ABERDEEN CONTROLLER reports that the Airprox was about two weeks ago and he compiled the report from memory whilst on leave, hence without any details for time on sector or some of the actual callsigns involved. The Auster was handed over to HELS from INT from the Whiterashes direction inbound to Longside (northeast bound). The C172 arrived on frequency from INT at about Hackley northbound soon after. INT had previously told him that the C172 was routeing round the coast anti-clockwise, destination unknown and was faster than the Auster. Both were identified and had received traffic from INT and he believes he gave both aircraft the QNH and a Basic Service as requested. The C172 pilot said something about needing to climb later when he approached higher ground southbound again but was happy at 2000ft. The Auster requested descent to Longside and, because the C172 was NE of him and heading North, he had no reason to stop the Auster pilot descending and changing frequency, so he terminated the service. He believes he then gave an inbound helicopter pilot from the NNE traffic information on the C172 as they were relatively opposite direction even though the helicopter was just over the sea en-route to HAK for a VFR entry into the CTR and gave reciprocal information to the C172 pilot even though he was on a Basic Service. He is not sure whether he received a readback from either aircraft. At about that time another helicopter, 70nms SE of ABZ, requested a return to Aberdeen as his destination rig was below weather minima. The reroute and descent was provided and the EFPS strip updated. He is not sure what the elapsed time was for this. Then the Auster pilot called unexpectedly again on frequency saying somebody had just flown behind and underneath him by a 100ft. When he looked back in that area, remembering that the Auster pilot was inbound to Longside, he could see the C172 was no longer NE of Longside heading north, but was actually just west of the Auster and continuing in a westerly direction. He believes he apologised to the Auster pilot, even though he wasn't providing him a service, and asked the C172 pilot if he had seen the Auster, the C172 pilot said yes, he had changed his routeing, which he is entitled to do on a Basic Service and may even have tried to inform him but couldn't get in on the frequency. He handed the C172 back to INT as he was leaving his area of responsibility with a warning that he may be shaken from the event and he would probably need to climb for terrain. He handed over the HELS position soon after and discussed the event with his Watch Manager and assessors. CISM was offered but declined two days later.

Factual Background

The weather at Aberdeen was recorded as follows:

METAR COR EGPD 151020Z AUTO 12009KT 090V160 9999 NCD 17/09 Q1027 NOSIG

Analysis and Investigation

NATS Investigation

0941:06 – The C172 pilot made his first call to INT, 5nm south of Montrose and passed the following information on their intended route: “from Glenrothes, returning to Glenrothes via Peterhead, requesting transit of your zone, Stonehaven Lane via BALIS and out to the north-east.”

0949:33 – INT confirmed the Zone clearance for the C172 pilot as “Cleared to transit the Zone routing via the Stonehaven then Peterhead lanes, it’s pretty much up the coast. Once inside the Zone operate Not Above Altitude 2000ft VFR.

0958:45 – INT asked the C172 pilot whether they were landing at Longside or just overflying the town of Peterhead. He replied “Overflying and returning to Glenrothes”.

1005:30 – The Auster pilot called INT, airborne from Whiterashes. INT clears him to operate Not Above Altitude 2000ft and, after confirming that he is routing to Longside, clears him to route direct.

1009:39 – The C172 had just left the Zone at HAK and INT transferred him to HELS.

1010:55 – The C172 pilot made his first call to HELS, passing east-abeam Hatton Airfield on the coast. He reported to HELS that their intended routing was “Peterhead, Huntly, Perth” and requested a Basic Service. HELS confirmed Basic Service and advised that they were identified. HELS asked whether they could accept an operating restriction of Not Above altitude 2000ft, to which the C172 pilot replied that they could but after Huntly would need to climb to avoid terrain. At this time their Mode C was indicating A017.

1011:53 – The Auster left the CTA, approximately 3nm NW of Hatton, indicating A020, tracking towards Longside. They are still with INT at this time.

1012:36 – INT passed traffic information to the Auster pilot on the C172: “Cessna 172 northbound up the coast, just north of Cruden at the moment, going to pass about 1nm east of Longside at similar time you get there”. The Auster pilot replied “copied”. INT then instructed the Auster that “for an update on that traffic contact HELS now on 134.1”. At this time the two aircraft were 6nm apart, converging towards the Longside-Peterhead area. The Auster was indicating A021 and the C172 indicating A019.

1013:20 – HELS passed traffic information to a helicopter pilot routing inbound to Aberdeen via HAK on the C172 and advised the C172 pilot about the helicopter.

1014:00 – The Auster made their first call to HELS. When asked what service they required, they replied Basic Service but also said they were ready to transfer to Longside. HELS said that in that case “nothing known to affect your descent to Longside, contact them now.” At this time the Auster was about 5nm WSW of the C172.

1015:00 – The C172 reached PHD and commenced a left turn to track west towards Longside.

1015:06 - A helicopter called HELS to report that they would need to return to Aberdeen. They were outbound at 70nm. HELS instructed them to route back to GSE and descend to 2000ft. While this was happening, The C172 pilot had established on a westerly track which would take them just to the south of Longside airfield, indicating A017. The Auster was now on a reciprocal track in their 12 o'clock, range of less than 1nm.

1016:32 – The radar returns of the Auster and the C172 were about to merge; the Auster was indicating A019 and the C172 A018.

1016:45 – As the radar returns merged, the C172 indicated a descent to A016 and the Auster now indicated A020. At this time HELS was responding to another helicopter requesting descent to the Captain Field. HELS had 7 helicopters and the two GA aircraft on frequency at this time.

1018:30 – The Auster pilot called HELS and reported that he had passed within 100ft of the C172, 0.5nm south of Longside a couple of minutes earlier. HELS apologised, saying that he had expected the C172 to be routing round the coast. The pilot of the Auster said he was a bit shaken but did not say he was going to file an Airprox at this time.

1018:52 – HELS asked the C172 whether they had seen the traffic inbound to Longside. They responded “Affirm, we were visual with the traffic.”

Both aircraft continued without further incident.

Contributory factors:

1. The zone from the south, which suppresses the transfer of a strip to HELS if the flight is passing through the zone rather than landing at Aberdeen.
2. The INT controller said that he had definitely believed the C172 was routing all the way round the coast rather than turning inland at Peterhead. He thought he remembered them mentioning Banff or Lossiemouth. He had verbally briefed this to HELS, who also then thought this to be the case.
3. Both controllers explained that this was why they did not believe the Auster and the C172 would come into conflict with each other. HELS said that although the C172 was on a Basic Service, had he realised that they were going to turn west at Peterhead, he would have at least advised them that Longside circuit was active, and he would not have advised the Auster that there was nothing known to affect their descent to Longside; instead he would have mentioned the C172.
4. The INT controller did not know where he got this information from, and the HELS controller did not remember the C172 telling him on first contact that he would be routing Peterhead-Huntly-Perth.
5. This mis-understanding of the C172’s intended route was key to the HELS controller’s lack of awareness that they might come into conflict with the Auster. However, the C172 was on a Basic Service only, and the Auster had chosen to leave the frequency early and was therefore not on a service at all at the time of the reported Airprox.

UKAB Secretariat

The Auster and C172 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard². If the incident geometry is considered as converging then the Auster pilot was required to give way to the C172³. 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 operation⁴.

Summary

An Airprox was reported when an Auster and a C172 flew into proximity at Peterhead/Longside airfield at 1016hrs on Wednesday the 15th of May 2019. Both pilots were operating under VFR in VMC, the Auster pilot not in receipt of a service and the C172 pilot in receipt of a Basic Service from Aberdeen.

PART B: SUMMARY OF THE BOARD’S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings and reports from the air traffic controller 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 began by discussing the Peterhead/Longside frequency. Members noted that there was no contact frequency on the aviation maps and, although Pooleys gives Safety Comm as the frequency

² SERA.3205 Proximity.

³ SERA.3210 Right-of-way (c)(2) Converging.

⁴ SERA.3225 Operation on and in the Vicinity of an Aerodrome.

for use, the Buchan Aero Club website says that the AGCS frequency is 118.280MHz, when this Airprox took place Safety Comm was the in-use frequency. Notwithstanding that the C172 pilot had consciously decided to remain with Aberdeen and not to give Longside a call as he flew past, the Board agreed that in different circumstances there was potential for aircraft operating in the vicinity of Longside to be on different frequencies; Longside/Buchan Aero Club should ensure that the ICF is concurrent across all official documentation and other media (including ensuring it is printed on the VFR chart).

The Board then turned to the actions of the C172 pilot. Some members thought that he should have talked to Longside, which would have increased both his and the Auster pilot's situational awareness **(CF5)**. Other members opined that because Aberdeen had asked him to operate below 2000ft it had been a rational decision to remain on their frequency in the hope of gaining further Traffic Information; however, if that was his rationale, they agreed that the C172 pilot would have been better served requesting a Traffic Service from Aberdeen because receipt of such information could not be relied upon under a Basic Service. Either way, the Board agreed that the C172 pilot would have been better served by avoiding Longside, marked as a busy training airfield on the charts, by a greater margin than he did **(CF4)**. In discussing this, members also agreed that, as he approached close to Longside, it was incumbent upon the C172 pilot to increase his lookout and adjust his course to ensure he remained clear of any aircraft operating at or joining the Longside circuit. Finally, the Board noted that it was his passenger that first saw the Auster and, although the C172 pilot says he then nudged the control column down, it appeared to have been the Auster pilot's actions that had already increased the separation by the time the C172 pilot saw the Auster.

The Board then moved onto the actions of the Aberdeen controller. They agreed that, even though both aircraft were being provided with only a Basic Service **(CF1)**, the controller had initially passed relevant Traffic Information to the Auster on the C172 despite not being required to do so. However, even though the C172 pilot's call explaining his routing had been fairly clear, because the controller had mistakenly believed that the C172 pilot was routing up the coast past Peterhead, the subsequent Traffic Information to the Auster pilot had been misleading and, for the same reason, he had understandably also not thought it necessary to pass Traffic Information to the C172 pilot on the Auster **(CF2, 3 & 6)**. At the point at which the Auster pilot left the Aberdeen controllers frequency, the aircraft had been about 5nm apart and tracking in a similar direction with no risk of a conflict. Ultimately, because the controller had not assimilated the C172 pilot's call that he was intending to turn at Peterhead, the opportunity had unfortunately been missed to inform both of the impending potential conflict at Longside.

Next, the Board discussed the actions of the Auster pilot. He had been informed about the C172 tracking up the coast, and that the C172 would pass about 1nm east of Longside at a similar time to the Auster arriving at Longside. Some Board members felt that he may have been lulled into a false sense of security in that he had been told that there was nothing to affect his descent into Longside as he left the Aberdeen frequency, other members believed that this was not the case; all members agreed that it may have influenced the Auster pilot's situational awareness of the position of the C172 **(CF7)**. Regardless, it was fortunate that he had then climbed for his overhead join as the 2 aircraft converged. Only sighting the C172 at relatively close range thereafter, the Board commented that this again highlighted the need to maintain a robust lookout at all times, even when pre-occupied with setting up for a join to an unfamiliar airfield. The Board also noted that the Auster was fitted with Sky Echo II which, although useful in many respects, can only detect other aircraft that are outputting ADS-B signals (accepting that there is also a FLARM adaptor available). As such, it could not detect the transponder of the C172 **(CF8)**.

The Board then turned to the risk. They noted that both pilots had seen the other aircraft late and had carried out avoiding action to increase separation. In the Auster pilot's case this had been more urgent than the C172 pilot's, who had assessed that the Auster pilot had already achieved sufficient separation by the time he sighted the aircraft, albeit he could not have known what the Auster pilot might have done next. Noting that the achieved separation even after the instinctive climb by the Auster pilot was only in the order of 100ft vertically, the Board agreed therefore that safety had been much reduced below the norm, and they accordingly assessed the risk as Category B.

PART C: ASSESSMENT OF CAUSE AND RISK**Contributory Factors:**

2019102			
CF	Factor	Description	Amplification
Ground Elements			
• Situational Awareness and Action			
1	Contextual	• Situational Awareness and Sensory Events	Not required to monitor the aircraft under the agreed service
2	Contextual	• Situational Awareness and Sensory Events	Only generic, late or no Situational Awareness
3	Human Factors	• Traffic Management Information Provision	Not provided, inaccurate, inadequate, or late
Flight Elements			
• Tactical Planning and Execution			
4	Human Factors	• No Decision/Plan	Inadequate planning
5	Human Factors	• Communications by Flight Crew with ANS	Pilot did not communicate with appropriate controlling authority
• Situational Awareness of the Conflicting Aircraft and Action			
6	Contextual	• Situational Awareness and Sensory Events	Pilot had no, only generic, or late Situational Awareness
7	Human Factors	• Understanding/Comprehension	Pilot did not assimilate conflict information
• Electronic Warning System Operation and Compliance			
8	Technical	• ACAS/TCAS System Failure	Incompatible CWS equipment
• See and Avoid			
9	Human Factors	• Monitoring of Other Aircraft	Late-sighting by one or both pilots

Degree of Risk: B.

Safety Barrier Assessment⁵

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 **ineffective** because the conflict was not detected even though the information was available, although the controller was not required to monitor the aircraft.

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the C172 pilot could have avoided Longside by a greater margin.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because neither pilot had any current situational awareness of the other aircraft.

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

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the Auster was fitted with Sky Echo II which was unable to detect the C172 SSR.

See and Avoid were assessed as **partially effective** because both pilots saw the other aircraft late.

