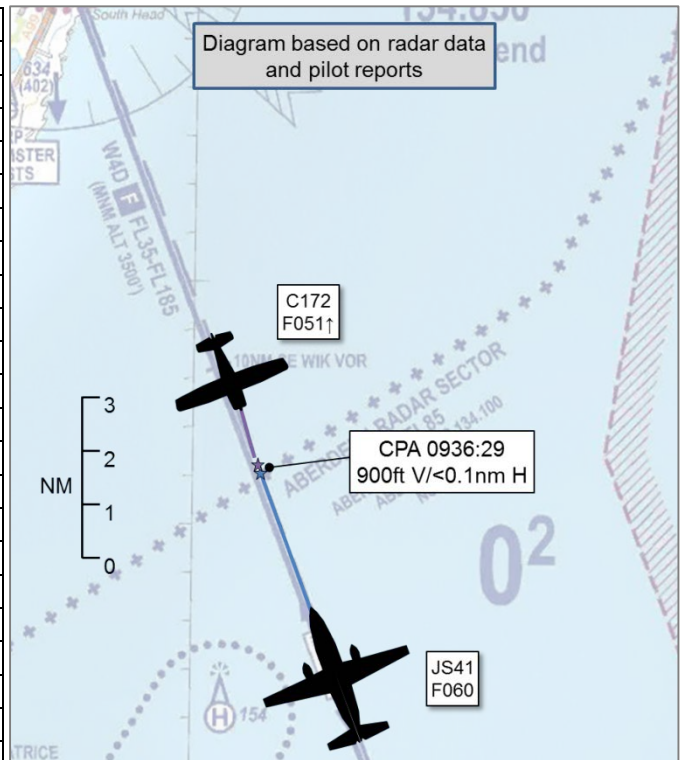


AIRPROX REPORT No 2015197

Date: 27 Oct 2015 Time: 0936Z Position: 5815N 00257W Location: 15nm SSE Wick

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	JS41	C172
Operator	CAT	Civ Pte
Airspace	Scottish FIR	Scottish FIR
Class	G	G
Rules	IFR	IFR
Service	Procedural	Procedural
Provider	Wick	Wick
Altitude/FL	FL060	FL051
Transponder	A, C, S	A, C
Reported		
Colours	NK	NK
Lighting	NK	Strobe, Nav
Conditions	VMC	IMC
Visibility	10KM	NK
Altitude/FL	FL060	NK
Altimeter	QNH (1013hPa)	NK
Heading	NK	NK
Speed	210kt	NK
ACAS/TAS	TCAS II	Unknown
Alert	Proximate	Unknown
Separation		
Reported	NK	NK
Recorded	900ft V/<0.1nm H	



THE WICK CONTROLLER reports that he was an OJTI instructing with a student ATCO controlling. The C172 was routing on track ADN on the 162 radial from Wick, SE-bound, climbing to FL70. The JS41 was pre-noted for an ETA 16min after the C172 departed; inbound to Wick on the 162R. The C172 was instructed to climb FL50 and later told to report maintaining FL50, both transmissions were acknowledged. The JS41 was given a descent to FL60 to effect a procedural separation against the C172, and Traffic Information was given to each ac on the other. The C172 was asked to report his position, at which point he gave his range as 12DME outbound and also, fortunately, gave his level information as passing 5200ft. The OJTI stepped in and instructed the ac to "descend to FL50, altitude five thousand feet QNH1013" and essential Traffic Information was passed to the JS41 who reported at range 15DME inbound. The JS41 reported on the ground that no TCAS event had occurred and the C172 did not come closer than 900ft vertically.

THE JS41 PILOT reports that he was routing as standard on the Y904, 162 radial towards WIK. Scottish requested the crew to advise ETA at WIC, which was passed. The crew anticipated potential traffic at WIC as a threat and discussed accordingly. Prior to descent, Scottish handed them over to Wick Approach who advised them of departing traffic and cleared them to descend to FL060. The crew included the threat of climbing traffic in their brief, increased TCAS range and mode, and commenced descent to FL060 on radial 162 from WIK VOR. The crew were aware from ATC transmissions of a departing aircraft from WIC that was cleared to FL50, and that this aircraft was routing on the Y904 in the opposite direction. The crew subsequently raised their monitoring awareness and noticed the traffic on their TCAS display. The crew understood that Wick ATC was procedurally separating both aircraft with an intended vertical separation of 1000ft; their approximate DME from WIC at this time was 18nm and they were now level at FL60. Whilst monitoring the TCAS, the crew noticed that the contact, whilst indicating 1000' below, still had an upward trend arrow and the subsequently became proximate with a vertical TCAS readout of -09 and an 'up' arrow. The Captain raised the possibility of a TCAS event and the crew prepared accordingly. Wick ATC

requested the other aircraft to report their position, at which point the pilot reported his range as 12DME WIK and an altitude of 5,200ft. Overhearing this transmission, the JS41 crew discussed the possibility that the other pilot had lost situational awareness. Shortly afterwards, the WICK ATC supervisor gave avoiding action to the other aircraft and instructed him to "Descend to FL50, altitude 5 thousand feet QNH 1013". The other pilot acknowledged this transmission and the JS41 crew noticed the TCAS contact was no longer proximate and its trend arrow had been removed. They subsequently received traffic information from Wick ATC and reported their current range of 15DME from WIK. Once clear of the potential conflict they were cleared to descend further and subsequently landed without further incident. He advised Wick ATC that no TCAS event (TA/RA) had occurred and that the intruder traffic had been proximate only.

The JS41 pilot did not make an assessment of risk of collision.

THE C172 PILOT reports that because he was IMC he only realised there had been a reported Airprox following a phone call and email contact. He maintained his level in accordance with ATC instructions. The flight instructor with him did not notice anything.

The C172 pilot assessed the risk of collision as 'None'.

Factual Background

The weather at Wick was recorded as follows:

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METAR EGPC 270850Z 15013KT 9000 FEW007 SCT009 12/11 Q1013
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Analysis and Investigation

CAA ATSI

The Airprox was reported by the Air Traffic Controller at Wick Airport when a Cessna 172 (C172) and a BAe Jetstream 41 (JS41) came into proximity approximately 15nm southeast of Wick. The JS41 pilot was in receipt of a Procedural Control Service from Wick Approach. The C172 pilot was operating under IFR on a flight from Wick, also in receipt of a Procedural Control Service from Wick Approach on the same frequency. CAA ATSI had access to RTF and radar recordings, together with the written reports from the pilots of the aircraft involved, and the Wick controller. The Wick controller was under training, being supervised by an OJTI (who filed the Airprox report).

At 0923:55, the C172 was cleared for take-off from Wick. A clearance had previously been issued to climb to FL70 and establish on track to the ADN VOR. A Procedural Control Service was agreed.

At 0929:35, the C172 was re-cleared to FL50 and requested to report established on track to the ADN. This was correctly read-back by the pilot who also agreed to report level at FL50 as requested.

At 0932:26 the JS41 called the Wick Approach controller. A Procedural Service was agreed, and the JS41 was instructed to descend to FL60 and report passing FL75. The pilot was told to expect a VOR approach to Runway 13 and Traffic Information was passed to the JS41 about the C172.

At 0933:30 Traffic Information about the JS41 was passed to the C172.

At 0936:19 the controller asked the C172 for a position report. The pilot replied at 0936:24 by saying he was 12.5NM from Wick and passing FL52 climbing. (Figure 1). The controller immediately responded with an instruction to maintain FL50 as there was traffic above. CPA occurred at 0936:30 (Figure 2).

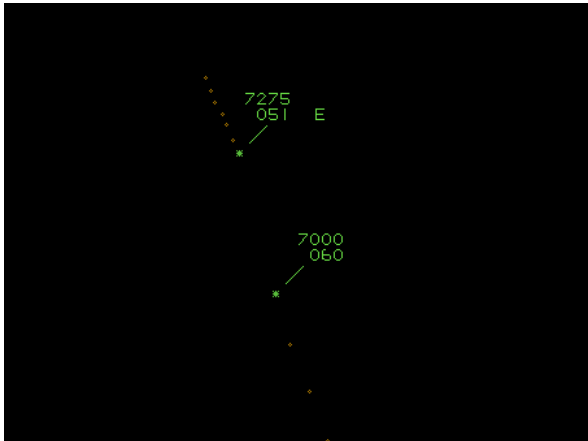


Figure 1: Prestwick Radar at 0936:24

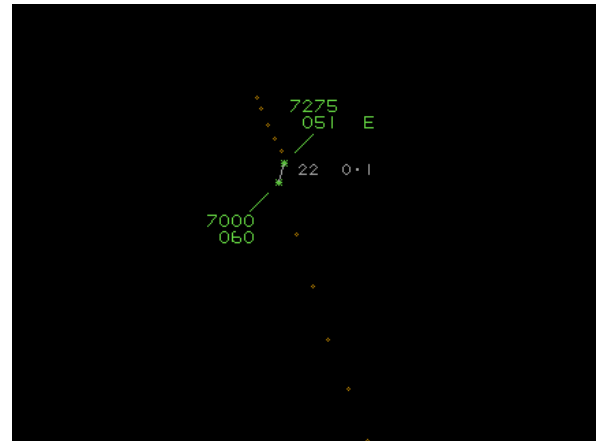


Figure 2: Prestwick Radar at 0936:30

At 0936:38, a different controller instructed the pilot to maintain FL50, referred to the QNH and requested an acknowledgement – which was read back by the pilot.

At 0936:48 the controller confirmed with the pilot of the C172 that he was descending, and the pilot confirmed descending to FL50. The controller then immediately issued essential traffic information to the JS41 about the C172.

Both aircraft were established on the same 162 radial from Wick – on reciprocal tracks. The Wick controller issued a clearance prior to departure which climbed the C172 to FL70. This clearance was amended after the C172 departed to FL50, which the pilot read-back correctly. The inbound JS41 was descended to FL60 once the amendment to the C172 level was read-back by the C172 pilot. As soon as it became apparent from the pilot's report that the C172 had climbed through its cleared level, the trainee controller issued instructions to maintain FL50. The OJTI took over immediately afterwards, emphasising the fact that the C172 should be referring to Flight Level (the C172 had twice referred to 5000ft rather than FL) and confirming that the aircraft was descending to the cleared level. Essential traffic information was issued as soon as possible to the JS41. However, the aircraft had passed each other by this time, a fact the controller would not have been aware of.

The standard vertical separation under a Procedural Service is 1000ft between participating IFR aircraft.

UKAB Secretariat

The JS41 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 hazard¹. If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right².

Summary

An Airprox was reported when a JS41 and a C172 flew into proximity at 0936 on Monday 27th October 2015. The JS41 pilot was operating under IFR in VMC and the C172 pilot was operating under IFR in IMC, both pilots were in receipt of a Procedural Service from Wick Approach.

¹ SERA.3205 Proximity.

² SERA.3210 Right-of-way (c) (1) Approaching head-on.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, radar photographs/video recordings, a report from the air traffic controller involved and a report from the appropriate ATC authority.

The Board first discussed the actions of the C172 pilot and noted that he had flown through his cleared level and therefore into conflict with the JS41. Whether this had been because he had mistakenly reverted to his previous clearance of FL70 or had simply forgotten to level off at FL50 was not clear to the Board. Members noted that it had been entirely fortuitous that Wick ATC had asked for a position report when they had, and that the C172 pilot had included his altitude when he did. It seemed to the Board that the C172 pilot had been unaware of the JS41's routing, altitude and proximity, and they wondered how familiar the C172 pilot was with UK FIS procedures, and how much he was monitoring the RTF in what was an entirely procedural situation that relied on pilots obeying instructions and maintaining situational awareness.

Turning to the JS41 crew and Wick ATC, the Board commended the JS41 crew for their excellent situational awareness, their prior planning and Threat and Error Management that had led them to recognise at an early stage the potential for a loss of separation, not only with the aircraft in question but generally with departing traffic as they approached Wick procedurally. Members also praised the Wick Approach controllers for their swift action in stopping the C172's climb and descending it once it had become clear that the C172 pilot had exceeded his cleared level. Their prompt actions in quickly resolving the conflict had meant that standard separation was quickly re-established and safety maintained, albeit with the barrier of TCAS TA/RA in the JS41 remaining.

The Board then discussed the practice of departing an aircraft on a reciprocal radial in opposition to an inbound aircraft. Pilot members felt that this practice was not fail-safe because it had the potential to create conflict with 2 aircraft as had happened in this incident. In contrast, ATC members highlighted the usefulness of doing so because it allowed a controlled level-change between descending and climbing aircraft by using DME ranges as outlined in MATS Part 1³. The debate continued, with the controllers pointing out that pilot compliance with separation of 1000ft is assumed, and that this procedure is sometimes the only way to maintain a safe and expeditious flow of traffic under procedural control. The pilots were not convinced, and offered this incident as evidence of where the lack of a fail-safe had nearly ended in conflict; they felt that if the aircraft were given different radials to fly then this would have built in lateral separation as an insurance in case of a level bust.

Turning to the cause and risk, the Board quickly agreed that the cause of the Airprox was that the C172 pilot had climbed through his cleared level and into conflict with the JS41. The Board then discussed the risk, and determined that effective and timely action had been taken by Wick ATC to resolve the situation; therefore, the risk was assessed as Category C.

PART C: ASSESSMENT OF CAUSE AND RISK

Cause: The C172 pilot climbed through his cleared level and flew into conflict with the JS41.

Degree of Risk: C.

³ CAP493, Section 1, Chapter 3: Separation Standards