



LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number	CA18/3/2/1506						
Classification	Serious Incident		Date	25 September 2025		Time	1123Z
Type of Operation	Commercial (Part 121)						
Location							
Place of Departure	Hoedspruit Eastgate Airport (FAHS), Limpopo Province		Place of Intended Landing	O.R. Tambo International Airport, Gauteng Province			
Place of Occurrence	Taxiway Alpha at Hoedspruit Eastgate Airport, Limpopo Province						
GPS Co-ordinates	Latitude	24°20'25.27"S	Longitude	31°2'37.23" E	Elevation	1 740ft	
Aircraft Information							
Registration	ZS-CMX						
Make; Model; S/N	Bombardier Aerospace; CRJ-700 (Serial Number: 10246)						
Damage to Aircraft	Minor		Total Aircraft Hours	34 951.56			
Pilot-in-command							
Licence Type	Airline Transport Pilot Licence (ATPL)		Gender	Male		Age	41
Licence Valid	Yes	Total Hours	6 747.4		Total Hours on Type	108.8	
Total Hours 30 Days	35		Total Flying on Type Past 90 Days	90.6			
People On-board	2 + 2 + 45	Injuries	0	Fatalities	0	Other (on ground)	0
What Happened							
<p>On Thursday, 25 September 2025, a flight deck crew comprising two pilots and two cabin crew members, as well as 45 passengers on-board a Bombardier CRJ-700 aircraft with registration ZS-CMX, operating as KEM981, were scheduled to take-off on a commercial flight from Hoedspruit Eastgate Airport (FAHS) in Limpopo province to O.R. Tambo International Airport (FAOR) in Gauteng province when the serious incident occurred. A flight plan was filed with Johannesburg (JHB) briefing, and the flight was intended to be conducted under instrument flight rules (IFR) by day and under the provisions of Part 121 of the Civil Aviation Regulations (CAR) 2011, as amended.</p> <p>The operator’s representative stated that the captain (Cpt) who was seated on the left seat was the pilot flying (PF), and the first officer (FO) who was seated on the right seat was the pilot monitoring (PM). According to the audio recording from the air traffic control (ATC) personnel at FAHS, the FO was heard requesting taxi clearance on tower frequency 119.6-Megahertz (MHz). The call was acknowledged by the ATC officer (ATCO) who then cleared ZS-CMX to taxi on taxiway Alpha (A) and to turn right into Delta (D) intersection for Runway 18 threshold. The ATCO issued squawk code 7463 to ZS-CMX for this flight.</p>							

The crew was also issued clearance to take-off after reaching Runway 18. They were provided with the weather update; at the time, the surface wind direction was 180 degrees at a speed of 20 knots (kts). *Post-serious incident, the pilot questionnaire (Form Number: CA 12-03) that was completed and signed by the flight crew members revealed that visibility was greater than 10 kilometres (km).* The original threshold of Runway 18 through taxiway Charlie (C) intersection was moved and could only be reached through D intersection. The flight crew used iPads to reference the airport layout; they had also been briefed about the taxi route. *The FAHS layout presented in the Aeronautical Information Publication (AIP) indicated the intersections marked in reverse from where the crew had started taxiing.* The Cpt started taxiing the aircraft from Eastgate terminal area to taxiway A; the aircraft passed both D and C intersections. Later, the ATCO called the flight crew to inform them that she had no visual of their aircraft; she also reminded the FO that D intersection, which leads to the threshold of Runway 18, is the second one from the tower. The FO thanked the ATCO and informed her that they were unsure about D intersection.

Later, the Cpt brought the aircraft to a halt. The FO called the ATCO informing her that the aircraft bunkers were ahead of them and requested her to confirm if C intersection was still ahead. The ATCO informed the FO that they were supposed to turn right at D intersection.

The Cpt informed the ATCO that they will execute a 180-degree turn. However, the ATCO stated to the flight crew that she was unsure about clearing them for the turn because she had no visual of the aircraft from the tower. She further informed the Cpt that it was his prerogative if he was able to execute a safe 180-degree turn from their position.

Therefore, the Cpt taxied/manoeuvred the aircraft in the direction of the bunkers during which the aircraft struck some trees with its left-wing tip. One of the passengers witnessed the occurrence and informed the cabin crew members who reported it to the flight crew. Later, the Cpt turned the aircraft slightly to the right and brought it to a stop next to the bunkers. The flight crew followed the engine shutdown procedure as stipulated in the aircraft flight manual (AFM). The ATCO was notified about the occurrence and she instantly dispatched a fire truck to the site; therefore, the departure clearance for ZS-CMX was cancelled. The FO disembarked from the aircraft through the airstair to inspect it; he noted minor damage on the left-wing navigation light. The navigation light glass cover was broken and the strobe light was damaged. The passengers disembarked from the aircraft and were transported by bus to FAHS terminal area. No person was injured. The occurrence was reported to the operator's operational control centre (OCC) at FAOR.

A team of aircraft maintenance engineers (AMEs) rated on the aircraft model were flown from FAOR to FAHS; they had the required spares with them. Upon their arrival at FAHS, they replaced both the damaged strobe light and the navigation light glass cover, and the aircraft was returned to service (the defect was captured in the flight folio page serial number 22828). The aircraft was taxied back to FAHS terminal. Later the same evening, passengers checked in and boarded the aircraft. Around 1604Z, the aircraft departed from FAHS; it later landed safely at FAOR.

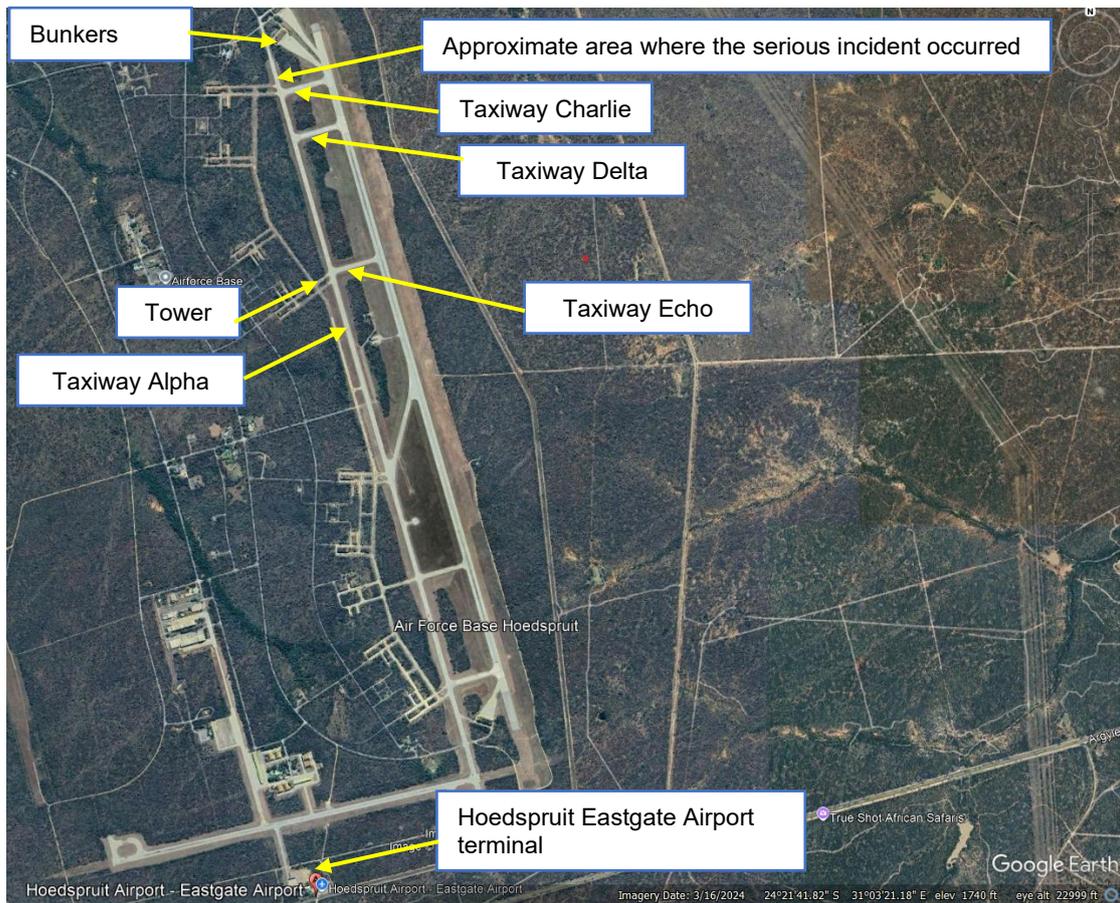


Figure 1: An aerial view of Hoedspruit Eastgate Airport (FAHS) terminal area; taxiways Alpha, Delta, Charlie and the approximate area where the serious incident occurred. (Source: Google Earth)



Figure 2: The aircraft facing the bunkers. The inset shows the damaged left wing navigation light.



Figure 3: The left-wing navigation light showing the damaged glass cover (left red arrow) and strobe light.

On Monday morning, 29 September 2025, the investigating team travelled to FAHS to examine the runway and taxiways. Taxiway A was in good condition; however, no information/guidance boards were erected for intersections D and C. Immediately after the D intersection, five (5) yellow lines were painted across the tarmac taxiway surface indicating a non-movement area (Figure 4); the area is not controlled by tower (ATC). *The taxiway from C intersection gets narrow with trees lining it on the sides.* Evidence at the site showed that the aircraft travelled approximately 19 metres (m), striking tall trees on the left side of the taxiway. The ATCO had no visual of the position of the aircraft from the tower after the Cpt had informed her that he would make a 180-degree turn.



Figure 4: The five yellow lines across the taxiway (red arrows) indicating a non-movement area (uncontrolled), as well as the direction of travel and the end of the taxiway A (yellow arrows).



Figure 5: One of the trees struck by the aircraft's left-wing tip during taxi (red line).

The cockpit voice recorder (CVR) data was overwritten; therefore, no information was available to the investigating team. As a result, the investigating team had to rely exclusively on the ATC recordings and the flight crew's recollection of events. The CVR would have likely provided additional details about the content and timing of crew communication; shed a light on the crew's minute-by-minute focus of attention; and revealed any unreported, non-pertinent conversations. The operator representative reported that according to their records, the flight crew had flown to FAHS in the past. The flight crew had iPads in the cockpit as electronic flight bags (EFBs) which they used for reference purposes because they displayed the needed departure airport (FAHS) chart/information.

The investigating team noted that the flight crew had the airport layout on their iPads, they taxied the aircraft past D intersection, likely due to distraction in the cockpit which resulted in them omitting to count the unmarked intersections during taxi on taxiway A. The aircraft continued to taxi past C intersection and crossed the five yellow lines leading to the non-movement area. *From intersection C and after passing the five yellow lines, the taxiway becomes narrow.* The flight crew should have stopped the aircraft on the five yellow lines and requested assistance from the tower/ATCO. The investigation concluded that the serious incident was likely caused by the flight crew's distraction in the cockpit which resulted in them (flight crew) losing situational awareness whilst taxiing the aircraft on taxiway A.

The safety officer at FAHS was briefed about the findings of the on-site investigation and he committed to erecting signs/guide boards that will show all intersections, as well as a no entry board after the C intersection in addition to the five yellow lines painted across the taxiway (see Figure 4).

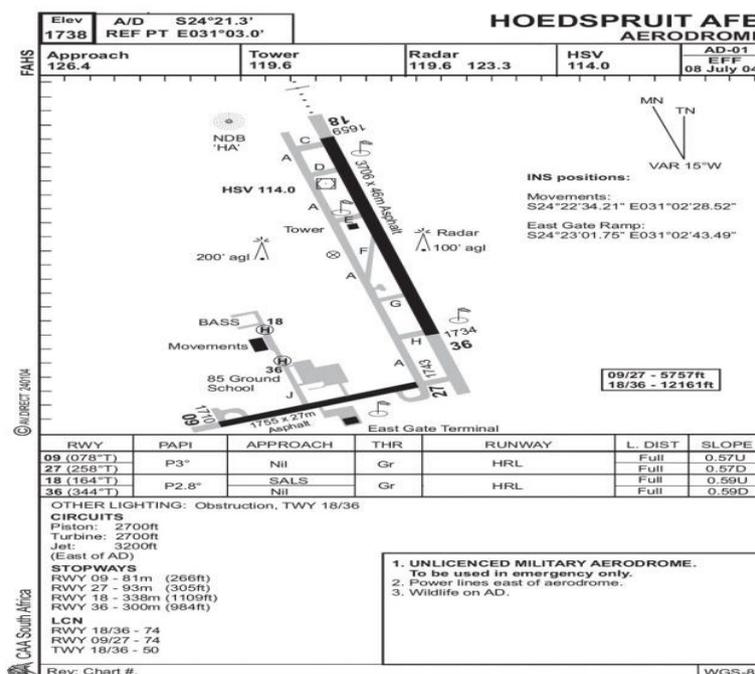


Figure 6: Hoedspruit East Gate Airport layout. (Source: Aeronautical Information Publication [AIP])

Transcript of ZS-CMX (KEM 981) and Hoedspruit Tower (FAHS AFB) on frequency 119.6 MHz.

Date: 25 September 2025

Time: 1123Z

Time	From	To	Message
00:00	KEM 981	Tower	Cemair 981 request taxi...
00:06	Tower	KEM 981	Cemair 981 enter, backtrack runway 27, taxi Alpha, Delta for the hold runway 18...
00:12	KEM 981	Tower	Backtrack 27, Alpha, Delta for the hold runway 18, Cemair 981...
00:19	KEM981	Tower	Ready for ATC when you are...
00:29	Tower	KEM 981	I will give it to you (ATC) shortly...
00:37	Tower	KEM 981	Cemair 981, after departure runway 18, right turn routing NISEK, climb to flight level 180 squawk seven four six three (7463) ...
00:53	KEM 981	Tower	After departure... (interruption frequency from Link 873 which is inbound from FAOR)
01:45	Tower	KEM 981	Cemair 981 will you be ready for routing?
01:46	KEM 981	Tower	Affirm Cemair 981...
01:49	Tower	KEM 981	Thank you, Cemair 981. On reaching cleared for take-off, surface wind is 180 at 20 knots...
01:54	KEM 981	Tower	On reaching cleared for take-off, runway 18 Cemair 981...
02:06	KEM 981	Tower	Charlie is ahead of us?
02:09	Tower	KEM 981	I can't see you. Delta is second one from the Tower to the right...
02:15	KEM 981	Tower	Thank you...
02:23	KEM 981	Tower	From Cemair 981 we're unsure about this taxi...
02:37	KEM 981	Tower	Golf 3 bunker is ahead of us...confirm Charlie is ahead of us?
02:40	Tower	KEM 981	Golf is behind Charlie...
02:41	Tower	KEM 981	Negative, Golf is behind Charlie. You have to take Delta.
02:51	KEM 981	Tower	Will we be able to do a 180 (turn)...
03:02	KEM 981	Tower	It looks tight for 180, if we could do it at the entrance of the bunker. We could do a 180 there...
03:14	Tower	KEM 981	I'm a bit scared for this one, like I said I can't see you. Your choice if you're able to do a turnaround...
03:21	KEM 981	Tower	Okay we can do it a further forward, thanks...
03:30	Tower	LNK 875	Link 875 how far do you think you have until 3000 feet (Link said they are on 3000 feet, and they were given a landing clearance)
04:58	Tower	KEM 981	Cemair 981 I am sending a fire vehicle to see what's happening with you, just take note that your departure clearance has been cancelled.
05:10	KEM 981	Tower	Departure clearance has been cancelled. Just confirm, the plate shows that Charlie be ahead of us...sorry about that...
05:17	Tower	KEM 981	I never used Charlie; I did say Delta. Charlie is closed.
05:20	KEM 981	Tower	Apologies it's our fault...
END			

Findings

1.1 Personnel

1.1.1 The captain (Cpt) had an Airline Transport Pilot Licence (ATPL) that was initially issued by the Regulator (SACAA) on 3 February 2012. The ATPL was reissued on 8 April 2025 with an expiry date of 31 March 2026.

1.1.2 The Cpt had a Class 1 medical certificate that was issued on 19 March 2025 with an expiry date of 31 March 2026.

1.1.3 The Cpt accumulated a total of 6 747.4 flying hours of which 108.8 hours were on the aircraft type.

1.1.4 The Cpt had the aircraft type endorsed on his licence.

1.1.5 The Cpt's last proficiency check on Bombardier CRJ-700, which was provided by the operator, was conducted on 25 September 2025; the Cpt was assessed as competent in all aspects.

1.1.6 The Cpt's latest crew resource management (CRM) training provided by the operator was conducted on 25 September 2025.

1.1.7 The first officer (FO) had an ATPL that was issued by the Regulator on 3 September 2025 with an expiry date of 31 August 2026.

1.1.8 The FO had a Class 1 medical certificate that was issued on 16 September 2025 with an expiry date of 30 September 2026.

1.1.9 The FO accumulated a total of 1860.1 flying hours of which 5.0 hours were on the aircraft type.

1.1.10 The FO had the aircraft type endorsed on his licence.

1.1.11 The FO's last proficiency check on Bombardier CRJ-700, provided by the operator, was conducted on 18 April 2025; the FO was assessed as competent in all aspects.

1.1.12 The FO's latest crew resource management (CRM) training, provided by the operator, was conducted on 22 September 2025.

Aircraft

1.1.13 The last 800-hour flight check of the aircraft was conducted on 6 August 2025 at 34 883.84 hours. The Certificate of Release to Service (CRS) was issued on 6 August 2025 at 34 883.84

airframe hours with an expiry date of 6 August 2027 or at 35 683.84 airframe hours, whichever comes first.

1.1.14 The aircraft maintenance organisation (AMO) which performed the last inspection of the aircraft had an AMO Certificate that was issued on 24 March 2025 with an expiry date of 31 March 2026.

1.1.15 The AMO had A, B, C, W and X ratings endorsed on their certificate.

1.1.16 The aircraft had a valid Certificate of Airworthiness (C of A) that was issued by the Regulator on 27 August 2025 with an expiry date of 26 August 2026.

1.1.17 The Certificate of Registration (C of R) was issued to the present owner on 27 May 2025.

1.1.18 Examination of the aircraft maintenance records indicated that all applicable Service Letters (SL), Airworthiness Directives (AD) and Service Bulletins (SB) were complied with during the maintenance activities.

1.1.19 The operator had the Air Operator Certificate (AOC) that was issued by the Regulator on 19 November 2024 with an expiry date of 30 November 2025.

1.1.20 The operator had the Operating Specifications Certificate that was issued by the Regulator on 5 September 2025. The aircraft (ZS-CMX) was listed on the operator's Operating Specifications Certificate.

Probable Cause(s)

The flight crew missed the Delta intersection during taxi on their way to Runway 18 holding point and proceeded to the prohibited area during which the aircraft struck some trees with the left-wing tip. The aircraft sustained minor damage to the navigation light.

Contributing Factor(s)

It is likely that the flight crew was distracted whilst taxiing on taxiway Alpha.

Safety Action(s)

Intersection sign/guidance boards for taxiways Delta and Charlie to be erected and a no entry board to be erected after Charlie intersection before the five yellow lines painted across taxiway Alpha.

Safety Message and/or Safety Recommendation/s

It is recommended that the operator uses its safety management system to detect flight crew surface navigation errors due to performance of concurrent tasks during taxi, as well as use scientific knowledge from the field of human factors to develop and implement effective risk mitigation strategies.

About this Report

The decision to conduct a limited investigation is based on factors including whether the cause is known and the evidence supporting the cause is clear, the level of safety benefit likely to be obtained from an investigation

and that will determine the scope of an investigation. For this occurrence, a limited investigation has been conducted, and the Accident and Incident Investigations Division (AIID) has relied on the information submitted by the affected person/s and organisation/s to compile this limited report. The report has been compiled using information supplied in the initial notification, as well as from follow-up desk top enquiries to bring awareness of potential safety issues to the industry in respect of this occurrence, as well as possible safety action/s that the industry might want to consider in preventing a recurrence of a similar occurrence.

All times given in this report are Co-ordinated Universal Time (UTC) and will be denoted by (Z). South African Standard Time is UTC plus 2 hours.

Purpose

In terms of Regulation 12.03.1 of the Civil Aviation Regulations (CAR) 2011 and ICAO Annex 13, this report was compiled in the interest of the promotion of aviation safety and the reduction of the risk of aviation accidents or incidents and not to apportion blame or liability.

Disclaimer

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This report is issued by:

**Accident and Incident Investigations Division
South African Civil Aviation Authority
Republic of South Africa**