

PRELIMINARY SERIOUS INCIDENT REPORT

Accident and Incident Investigations Division

Serious Incident
- Preliminary Report -
AIID Ref No: CA18/3/2/1468



Figure 1: The file picture of the ZS-SSP aircraft. (Source: jetphotos.com)

Description:

On Friday, 24 January 2025 at 1348Z, a pilot, co-pilot and three passengers on-board a Beechcraft King Air B200 aircraft registered ZS-SSP took off on a charter flight from Winterveldt Mine Airport (FAWT) in Mpumalanga province to Pilanesberg International Airport (FAPN) in North West province. The flight was conducted in instrument flight rules (IFR) under visual meteorological conditions (VMC). The provisions of Part 135 of the Civil Aviation Regulations 2011 as amended were followed for this flight.

Approximately 38 minutes into the flight at flight level (FL) 220 and 40 nautical miles (nm) east of FAPN, the aircraft's door opened and the cabin decompressed rapidly. The crew descended to FL090 and diverted to Lanseria International Airport (FALA) where the aircraft landed safely. The aircraft sustained minor damage during the serious incident. None of the occupants on-board was injured.

Occurrence Details

Reference Number : CA18/3/2/1468
Occurrence Category : Serious Incident (Category 2)
Type of Operation : Commercial (Part 135)
Name of Operator : MCC Aviation
Aircraft Registration : ZS-SSP
Aircraft Make and Model : Beechcraft King Air B200
Nationality : South African
Registration Marks : ZS-SSP
Place : 40nm east of Pilanesberg International Airport
Date and Time : 24 January 2024 at 1425Z
Injuries : None
Damage : Minor

Purpose of the Investigation

In terms of Regulation 12.03.1 of the Civil Aviation Regulations (CAR) 2011, 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.

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.

Investigation Process

The Accident and Incident Investigations Division (AIID) of the South African Civil Aviation Authority (SACAA) was notified of the occurrence involving a Beechcraft King Air B200 aircraft which occurred 40nm east of FAPN in North West province on 24 January 2025 at 1425Z. The occurrence was classified as a serious incident according to the CAR 2011 Part 12 and the International Civil Aviation Organisation (ICAO) STD Annex 13 definitions.

The AIID has appointed an investigator-in-charge to conduct a full investigation. The investigator did not dispatch to the serious incident site. Notifications were sent to the State of Registry, Operator, Design and Manufacturer in accordance with the CAR 2011 Part 12 and the ICAO Annex 13 Chapter 4. The State appointed a non-travelling accredited representative and advisor. The AIID will lead the investigation and issue the final report of this serious incident in accordance with the CAR 2011 Part 12 and the ICAO Annex 13.

The information contained in this preliminary report is derived from the information gathered during the on-going investigation into the occurrence. Later, an interim report or the final report may contain altered information in case new evidence is found during the on-going investigation that requires changes to the information depicted in this report.

The AIID reports are made available to the public at:

<https://www.caa.co.za/industry-information/accidents-and-incidents/>

Notes:

- Whenever the following words are mentioned in this report, they shall mean the following:
Serious Incident — this investigated serious incident
Aircraft — the Beechcraft King Air B200 involved in this serious incident
Investigation — the investigation into the circumstances of this serious incident
Pilot — the pilot involved in this serious incident
Report — this serious incident report*

2. *Photos and figures used in this report were taken from different sources and may have been adjusted from the original for the sole purpose of improving clarity of the report. Modifications to images used in this report were limited to cropping, magnification, file compression; or enhancement of colour, brightness, contrast; or addition of text boxes, arrows, or lines.*

Disclaimer

This report is produced without prejudice to the rights of the SACAA, which are reserved.

Table of Contents

| | |
|--|----|
| Occurrence Details | 2 |
| Investigation Process..... | 2 |
| Disclaimer | 3 |
| Contents Page | 4 |
| Abbreviations | 5 |
| 1. FACTUAL INFORMATION | 6 |
| 1.1. History of Flight..... | 6 |
| 1.2. Injuries to Persons | 8 |
| 1.3. Damage to Aircraft..... | 8 |
| 1.4. Other Damage | 8 |
| 1.5. Personnel Information..... | 9 |
| 1.6. Aircraft Information | 10 |
| 1.7. Meteorological Information | 11 |
| 1.8. Aids to Navigation..... | 11 |
| 1.9. Communication | 11 |
| 1.10. Aerodrome Information | 12 |
| 1.11. Flight Recorders | 12 |
| 1.12. Wreckage and Impact Information..... | 12 |
| 1.13. Medical and Pathological Information..... | 12 |
| 1.14. Fire..... | 12 |
| 1.15. Survival Aspects | 12 |
| 1.16. Tests and Research..... | 12 |
| 1.17. Organisational and Management Information | 12 |
| 1.18. Additional Information | 13 |
| 1.19. Useful or Effective Investigation Techniques | 13 |
| 2. FINDINGS | 13 |
| 3. ON-GOING INVESTIGATION..... | 14 |
| 4. SAFETY RECOMMENDATIONS..... | 14 |
| 5. APPENDICES | 15 |

| Abbreviation | Description |
|---------------------|--|
| ° | Degrees |
| °C | Degrees Celsius |
| AMO | Aircraft Maintenance Organisation |
| CAR | Civil Aviation Regulations |
| CAVOK | Ceiling and Visibility OK (for VFR flight) |
| C of A | Certificate of Airworthiness |
| C of R | Certificate of Registration |
| CPL | Commercial Pilot Licence |
| CRS | Certificate of Release to Service |
| CVR | Cockpit Voice Recorder |
| ELT | Emergency Locator Transmitter |
| FAPS | Potchefstroom Aerodrome |
| FDR | Flight Data Recorder |
| ft | Feet |
| GPS | Global Positioning System |
| hPa | Hectopascal |
| hp | Horsepower |
| IIC | Investigator-in-charge |
| kg | kilogram(s) |
| Kt | Knots |
| m | Metres |
| METAR | Meteorological Aerodrome Report |
| MTOW | Maximum Take-off Weight |
| PIC | Pilot-in-command |
| PPL | Private Pilot Licence |
| QNH | Barometric Pressure Adjusted to Sea Level |
| SACAA | South African Civil Aviation Authority |
| SAWS | South African Weather Service |
| TBA | To be advised |
| TBO | Time Between Overhauls |
| UTC | Universal Co-ordinated Time |
| VFR | Visual Flight Rules |
| VMC | Visual Meteorological Conditions |
| Z | Zulu (Term for Universal Co-ordinated Time - Zero Hours Greenwich) |

1. FACTUAL INFORMATION

1.1. History of Flight

- 1.1.1. On Friday, 24 January 2025 at 1348Z, a pilot, co-pilot and three passengers on-board a Beechcraft King Air B200 aircraft registered ZS-SSP took off on a charter flight from Winterveldt Mine Airport (FAWT) in Mpumalanga province to Pilanesberg International Airport (FAPN) in North West province. The flight was conducted in instrument flight rules (IFR). Visual meteorological conditions (VMC) prevailed at the time of the flight which was conducted under the provisions of Part 135 of the Civil Aviation Regulations (CAR) 2011 as amended.
- 1.1.2. The pilot reported that approximately 38 minutes into the flight whilst en route to FAPN at flight level (FL) 220, the aircraft's door unlocked and opened fully, and the cabin decompressed rapidly. The pilots declared an emergency by broadcasting a PAN PAN PAN on frequency 126.7-Megahertz (MHz). The pilot followed the emergency procedure and descended to FL090. The crew was not sure if the door was still attached to the fuselage; therefore, they decided to divert to Lanseria International Airport (FALA), the operator's home base. The air traffic control (ATC) officer at FALA alerted the fire and rescue services to be on standby when ZS-SSP was landing. The aircraft landed without further incident at 1451Z. There was no need for assistance from the fire and rescue service.
- 1.1.3. None of the occupants was injured; the aircraft sustained damage to the aircraft door and one of the rear right-side windows which was damaged by the staircase handrail chain strap when the door opened in-flight
- 1.1.4. The serious incident occurred during daylight, 40nm east of FALA at Global Positioning System (GPS) co-ordinates determined to be 25°20'30.49" South 027°34'01.52" East, at an elevation of 3 280 feet (ft).



Figure 2: The aircraft after it had landed. (Source: Operator)



Figure 3: The damaged door. (Source: Operator)



Figure 4: The damaged window.

1.2. Injuries to Persons

| Injuries | Pilot | Crew | Pass. | Total On-board | Other |
|--------------|----------|----------|----------|----------------|----------|
| Fatal | - | - | - | - | - |
| Serious | - | - | - | - | - |
| Minor | - | - | - | - | - |
| None | 2 | - | 3 | 5 | - |
| Total | 2 | - | 3 | 5 | - |

Note: Other means people on the ground.

1.3. Damage to Aircraft

1.3.1. The aircraft sustained minor damage.

1.4. Other Damage

1.4.1. None.

1.5. Personnel Information

Pilot (Captain):

| | | | | | |
|---------------------|--------------------------------|---------------|------|-----|----|
| Nationality | South African | Gender | Male | Age | 38 |
| Licence Type | Commercial Pilot Licence (CPL) | | | | |
| Licence Valid | Yes | Type Endorsed | Yes | | |
| Ratings | Instrument | | | | |
| Medical Expiry Date | 30 June 2025 | | | | |
| Restrictions | None | | | | |
| Previous Incidents | None | | | | |

Note: Previous incidents refer to past serious incidents the pilot was involved in, when relevant to this serious incident.

Flying Experience:

| | |
|----------------------------|-------|
| Total Hours | 2 159 |
| Total Past 24 Hours | 2.6 |
| Total Past 7 Days | 6.2 |
| Total Past 90 Days | 31 |
| Total on Type Past 90 Days | 2 |
| Total on Type | 399 |

- 1.5.1 The captain had a Commercial Pilot Licence (CPL) that was initially issued by the Regulator on 3 June 2015. The CPL was reissued on 5 August 2024 with an expiry date of 31 July 2025. The aircraft type was endorsed on the pilot's licence.

The captain was issued a Class 1 aviation medical certificate on 12 June 2024 with an expiry date of 30 June 2025.

Co-pilot:

| | | | | | |
|---------------------|--------------------------|---------------|------|-----|----|
| Nationality | South African | Gender | Male | Age | 25 |
| Licence Type | Commercial Pilot Licence | | | | |
| Licence Valid | Yes | Type Endorsed | Yes | | |
| Ratings | Instrument | | | | |
| Medical Expiry Date | 30 November 2025 | | | | |
| Restrictions | None | | | | |
| Previous Incidents | None | | | | |

Note: Previous incidents refer to past serious incidents the pilot was involved in, when relevant to this serious incident.

Flying Experience:

| | |
|---------------------|---------|
| Total Hours | 1 406.3 |
| Total Past 24 Hours | 3.7 |
| Total Past 7 Days | 5.8 |
| Total Past 90 Days | 112 |

| | |
|----------------------------|-------|
| Total on Type Past 90 Days | 49 |
| Total on Type | 272.2 |

1.5.2 The co-pilot had a CPL that was initially issued on 1 December 2021 by the Regulator. The licence was reissued on 15 January 2025 with an expiry date of 30 November 2025. The aircraft type was endorsed on the co-pilot's licence.

The co-pilot was issued a Class 1 aviation medical certificate on 26 November 2024 with an expiry date of 30 November 2025.

1.6. Aircraft Information

1.6.1 Super Beechcraft King Air B200 (Source: <https://beechcraft.txtav.com/>)

The Super Beechcraft King Air B200 and B200 are all metal aeroplanes employing a fully cantilevered, low-wing design. Powered by two Pratt and Whitney turboprop engines, and a T-tail empennage.

Airframe:

| | | |
|--|--------------------------|------------------|
| Manufacturer/Model | Beechcraft King Air B200 | |
| Serial Number | BB643 | |
| Year of Manufacture | 1980 | |
| Total Airframe Hours (At Time of Serious incident) | 17 727.9 | |
| Last Inspection (Date & Hours) | 8 August 2024 | 17 674.9 |
| Hours Since Last MPI | 53 | |
| CRS Issue Date | 8 August 2024 | |
| C of A (Issue Date & Expiry Date) | 12 December 2014 | 31 December 2025 |
| C of R (Issue Date) (Present Owner) | 21 August 2023 | |
| Type of Fuel Used | Jet A1 | |
| Operating Category | Part 135 | |
| Previous Incidents | None | |

Note: Previous incidents refer to past serious incidents the pilot was involved in, when relevant to this serious incident.

Engine: 1

| | |
|----------------------|-------------------------|
| Manufacturer/Model | Pratt & Whitney PT6A-41 |
| Serial Number | PCE-81812 |
| Part Number | 3021442 |
| Hours Since New | 12 818.1 |
| Hours Since Overhaul | 2 669.6 |

Engine: 2

| | |
|----------------------|-------------------------|
| Manufacturer/Model | Pratt & Whitney PT6A-41 |
| Serial Number | PCE-85347 |
| Part Number | 3021442 |
| Hours Since New | 10 011.5 |
| Hours Since Overhaul | 7 274.0 |

Propeller: 1

| | |
|----------------------|--------------------|
| Manufacturer/Model | Hartzell HC-D4N-3A |
| Serial Number | FY 1721 |
| Part Number | 101-590010-19 |
| Hours Since New | 11 354.9 |
| Hours Since Overhaul | 484.3 |

Propeller:2

| | |
|----------------------|--------------------|
| Manufacturer/Model | Hartzell HC-D4N-3A |
| Serial Number | FY 2215 |
| Part Number | 101-590010-19 |
| Hours Since New | Unknown |
| Hours Since Overhaul | 142.6 |

1.7. Meteorological Information

1.7.1. The weather information below was obtained from the co-pilot's questionnaire, which was recorded at FL220, 40nm east of FAPN on 24 January 2025 at 1400Z.

| | | | | | |
|----------------|---------|-------------|---------|------------|-------|
| Wind Direction | 158° | Wind Speed | 28kt | Visibility | >10km |
| Temperature | 12°C | Cloud Cover | Clear | Cloud Base | None |
| Dew Point | Unknown | QNH | Unknown | | |

1.8. Aids to Navigation

1.8.1. The aircraft was equipped with standard navigational equipment as approved by the Regulator (SACAA). There were no records indicating that the navigational equipment was unserviceable prior to the flight.

1.9. Communication

1.9.1. The aircraft was equipped with a standard communication system as approved by the Regulator. There were no recorded defects with the communication system prior to the flight.

1.9.2. The crew was communicating with Johannesburg Area North ATC on the very high frequency (VHF) 126.70 MHz and FALA ATC on 124.0 MHz.

1.10. Aerodrome Information

1.10.1. The serious incident did not occur at an aerodrome, it occurred 40nm east of FAPN at FL220.

1.11. Flight Recorders

1.11.1. The aircraft was neither equipped with a flight data recorder (FDR) or a cockpit voice recorder (CVR), nor was it required by regulation to be fitted to the aircraft type.

1.12. Wreckage and Impact Information

1.12.1. The aircraft (open) door impacted the runway during touchdown. The aircraft was taxied with the door open.

1.13. Medical and Pathological Information

1.13.1. None of the occupants was injured.

1.14. Fire

1.14.1. There was no evidence of fire.

1.15. Survival Aspects

1.15.1. The serious incident was considered survivable as all the occupants were strapped to their seats with safety harnesses during the flight.

1.16. Tests and Research

1.16.1. To be discussed in the final report.

1.17. Organisational and Management Information

1.17.1. The aircraft was engaged in a charter flight which was conducted under the provisions of Part 135 of the CAR 2011 as amended.

1.17.2. The aircraft maintenance organisation (AMO) that conducted the last mandatory periodic inspection (MPI) had an AMO Certificate that was issued by the Regulator on 19 November 2024 with an expiry date of 31 November 2025.

1.18. Additional Information

1.18.1. None.

1.19. Useful or Effective Investigation Techniques

1.19.1 To be discussed in the final report.

2. FINDINGS

2.1. General

From the available evidence, the following preliminary findings were made with respect to this serious incident. These shall not be read as apportioning blame or liability to any organisation or individual.

To serve the objective of this investigation, the following sections are included in the conclusions heading:

- **Findings** — are statements of all significant conditions, events, or circumstances in this serious incident. The findings are significant steps in this serious incident sequence, but they are not always causal or indicate deficiencies.

2.2. Findings

Pilots

2.2.1. The pilot had a Commercial Pilot Licence (CPL) that was initially issued by the Regulator on 3 June 2015. The CPL was reissued on 5 August 2024 with an expiry date of 31 July 2025. The aircraft type was endorsed on the pilot's licence.

2.2.2. The pilot was issued a Class 1 aviation medical certificate on 12 June 2024 with an expiry date of 30 June 2025.

2.2.3. The co-pilot had a CPL that was initially issued on 1 December 2021 by the Regulator. The licence was reissued on 15 January 2025 with an expiry date of 30 November 2025. The aircraft type was endorsed on the co-pilot's licence.

2.2.4. The co-pilot was issued a Class 1 aviation medical certificate on 26 November 2024 with an expiry date of 30 November 2025.

Aircraft

2.2.5 The aircraft maintenance organisation (AMO) conducted the last maintenance inspection on 8 August 2024 at 17 674.9 airframe hours. The aircraft had accrued 53 hours since the said inspection.

2.2.6 The aircraft was issued a Certificate of Airworthiness (C of A) on 12 December 2014. The latest C of A had an expiry date of 31 December 2025.

2.2.7 The Certificate of Registration (C of R) was issued to the present owner on 21 August 2023.

2.2.8 The aircraft was issued a Certificate of Release to Service (CRS) on 8 August 2024 with an expiry date of 7 August 2025 or at 17 774.9 airframe hours, whichever comes first.

2.2.9 The aircraft door unlocked and opened fully approximately 40nm east of FAPN at FL220 and the cabin decompressed rapidly. The crew descended to FL090 and diverted to FALA. The aircraft landed without further incident.

Environment

2.2.10 Weather conditions indicated good visibility at the time of the serious incident. The prevailing wind was 158° at 28 knots at FL220.

3. ON-GOING INVESTIGATION

3.1 The AIID investigation is on-going and the investigator will look into other aspects of this occurrence which may or may not have safety implications.

4. SAFETY RECOMMENDATIONS

4.1. General

The safety recommendations listed in this report are proposed according to paragraph 6.8 of Annex 13 to the Convention on International Civil Aviation and are based on the conclusions listed in heading 3 of this report. The AIID expects that all safety issues identified by the investigation are addressed by the receiving States and organisations.

4.2. Safety Recommendation/s

4.2.1. None.

5. APPENDICES

5.1 None.

**This report is issued by:
Accident and Incident Investigations Division
South African Civil Aviation Authority
Republic of South Africa**