

FORM -PRL-100

REPUBLIC OF NAMIBIA
MINISTRY OF WORKS AND TRANSPORT

**Directorate of Aircraft Accident and Incident
Investigations**

Accident Reference: ACCID/05032024-01-01

Reims Cessna 406 aircraft: V5-ASB

**Aircraft Accident Investigation Preliminary
Report**

RELEASE DATE:

Aircraft Accident Preliminary Report

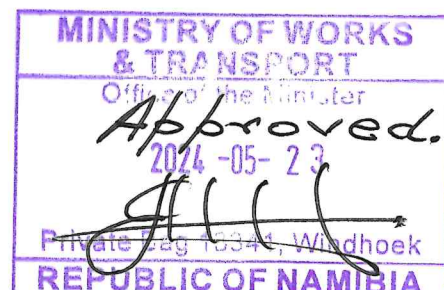


DESCRIPTION OF OCCURRENCE: Cessna 406 crashed after take-off

Reference number : ACCID/05032024-01-01
Name of the owner : Eros Turboprop Leasing (PTY) Ltd
Operator : West Air Wings
Type of operation : Post Maintenance Test Flight
Manufacturer : Reims Aviation
Model : F406
Nationality : Namibian
Registration marking : V5-ASB
Place : Windhoek City, Khomas
Region, Namibia
Date : 03 May 2024
Time : 15H08 UTC



Figure 1: The Reims Cessna 406 aircraft V5-ASB accident aircraft (source: Operator)



Occurrence Details



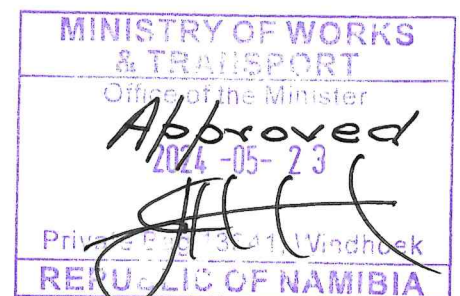
Introduction

The information contained in this Preliminary Accident Report is published to inform the aviation industry and the public of the general circumstances of the accident that occurred on the 03 May 2024.

The purpose of the Directorate of Aircraft Accidents and Incident investigations (DAAII) is to promote aviation safety through the conduct of independent investigations without prejudice to any judicial or administrative authority consistent with provisions of Namibian Civil Aviation Act, Act 6, of 2016. Which is in-line with ICAO's Annex 13 paragraph 7.1 and 7.2.

The Directorate of Aircraft Accident and Incident Investigations (DAAII) as the authority in charge of the investigations will work in close corporation with state of aircraft and engine manufacture when needed.

Note: The information provided herein is of a preliminary nature. Readers are cautioned that there is the possibility that new information may become available that alters this Preliminary Accident Report prior to the availability of the Final Accident Report. Any person who has information concerning this accident should contact the Directorate of Aircraft Accident and Incident Investigation (DAAII) on daaii@mwat.gov.na





Investigation process:

The Directorate of Aircraft Accident and Incident Investigation (DAAIL) was informed of the accident on the 03 May 2024 at 15:08 UTC of a Reims Cessna 406 that crashed in Windhoek City, Pioneerspark Residential Area. DAAIL appointed an Investigator in charge and a Co-investigator that will lead the investigation and issue the final report. The DAAIL reports are made available to the public at www.mwt.gov.na

1. FACTUAL INFORMATION

1.1 History of the flight

- 1.1.1 On Friday Afternoon, 03 May 2024, a Cessna F406 aircraft with registration V5-ASB departed from Windhoek Eros (FYWE) on a post maintenance test flight at time 15H06 UTC (17H06 Local Time). The intention was to test the aircraft after the right engine was replaced and once done, they would land back at Eros Airport. On board the aircraft were 2 pilots and an engineer. The crew informed the Air Traffic Controller (ATC) that they would like to do a test flight over the Goreangab dam area at 8000 feet AMSL. The ATC approved the request and cleared the Aircraft for take-off.
- 1.1.2 The Pilot in Command (PIC) then commenced with the take-off. After rolling for some distance, she commenced with the lift-off. The ATC watched the departure closely and noticed that before the aircraft crossed over the end of the Runway it was banking sharply to left; thereafter it rolled further to the left. He soon realized that the aircraft was out of control and crashing, he pressed the crash alarm to alert the Airport Rescue and Fire Fighting Services (ARFFS). The ARFFS informed the ATC that they could see smoke to the west of the airfield and responded immediately to the crash site. As per the ARFFS protocol (off airport crash) they also informed the City of Windhoek Fire Services.
- 1.1.3. After take-off, according to CCTV camera footage, a cloud of smoke could be observed consistent with a malfunction in the left engine. As soon as the smoke around the left engine was observed, the aircraft banked sharply to the left and crashed.



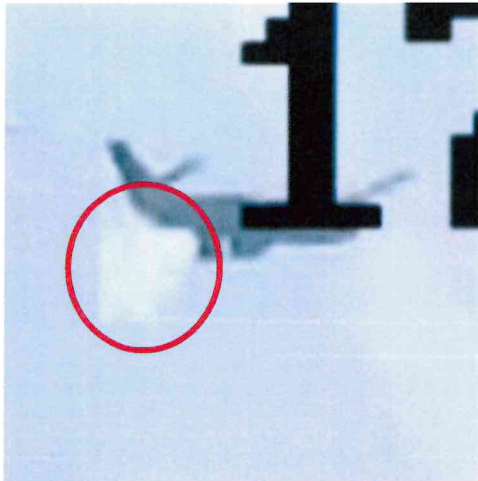
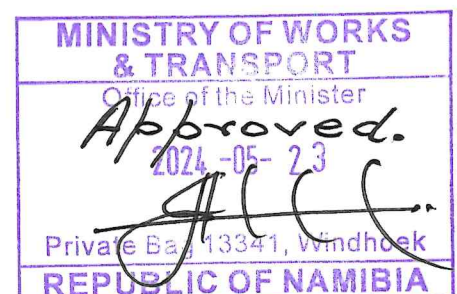
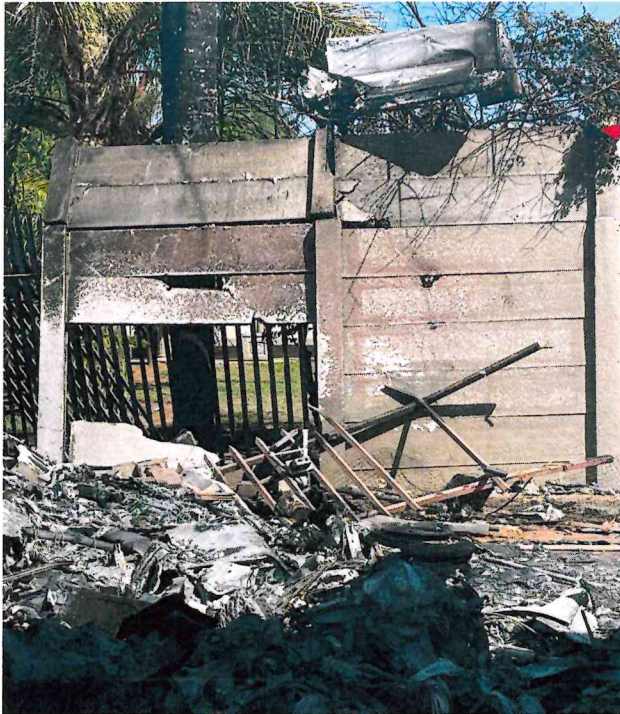


Figure 2: Image shows a cloud of smoke observed around the left engine. (CCTV Footage courtesy of the Operator)

- 1.1.4. Eyewitnesses that was close to where the aircraft crashed said they could hear that one of the engines was making stuttering or back firing sounds before it crashed. The left wing of the aircraft was pointing 90 degrees downwards and nose down, before it crashed into the yards of residential houses.
- 1.1.5. The left wing impacted the ground first followed the left engine and the nose section of the aircraft, hitting trees in the first yard. The impact caused the aircraft to flip over sideways breaking through 2 precast fences and small wall and came to rest in the corner of the second yard with the right horizontal stabilizer and elevator ended up on top of the precast fence. The impact also caused fuel to squirt from the left wing onto the street. One of the left propeller blades was thrown approximately 200 meters away and landed in another yard. As soon as the aircraft broke through the first precast fence it burst into flames.





Horizontal stabilizer and elevator



Figure 3: Picture showing where the left horizontal stabilizer and elevator ended up.





Figure 4: Picture showing where the Aircraft crashed (Image: Google Earth).

- 1.1.6 Eyewitnesses and members of the neighborhood watch who saw the crash, rushed to the crash site, but were met with raging fuel feed fire. The AFRS also rushed to the scene and was on site within 7 minutes and quickly put out the raging fire. They were later joined by City of Windhoek fire brigade who assisted, but sadly, all 3 occupants on board were fatally injured.
- 1.1.7 The Directorate of Aircraft Accident and Incident Investigations was immediately informed by ATC and a full Investigation was launched.

1.2 Injuries to Persons

| Injuries | Pilot | Crew | Pass. | Other |
|----------|-------|------|-------|-------|
| Fatal | 2 | 1 | 0 | 0 |
| Serious | 0 | 0 | 0 | 0 |
| Minor | 0 | 0 | 0 | 0 |
| None | 0 | 0 | 0 | 0 |

1.3 Damage to Aircraft

1.3.1 The aircraft was destroyed.

1.4 Other Damage

Three houses were damaged; the damage was mostly to the precast fences and trees as well as 5 cars. 2 of five cars were burned as they caught fire. One of vehicles was completely destroyed.

1.5 Personnel Information

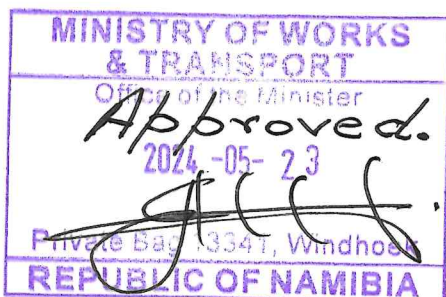
1.5.1 Pilot-in-in command

| | | | | | |
|---------------------|---------|--|---------------|-----|----|
| Nationality | | South African | | | |
| Licence No | CA73068 | Gender | Female | Age | 33 |
| Licence valid | | Yes | Type Endorsed | Yes | |
| Ratings | | C172,P28A,SLG2,C210,PA30,PNR3,SR22,C310,F406,C425,B350,B1900 | | | |
| Medical Expiry Date | | 31/ 03/ 2025 | | | |
| Restrictions | | VDL Correction for defective distant vision | | | |
| Previous Accidents | | Unknown | | | |

The pilot was a holder of a valid Namibian Commercial Pilot License issued according to the Namibian Civil Aviation Regulation (2001) part 61.01.10 Instrument rating valid from 10 October 2023 until 16 October 2024.

Flying Experience:

| | |
|----------------------------|--------|
| Total Hours | 4450.4 |
| Total Past 90 Days | 138.8 |
| Total on Type Past 90 Days | 117.2 |



| | |
|---------------|--------|
| Total on Type | 2448.1 |
|---------------|--------|

*as at 03/05/2024

Co-Pilot

| | | | | | |
|---------------------|---------|--|---------------|-----|----|
| Nationality | | South African | | | |
| Licence No | CA73689 | Gender | Male | Age | 24 |
| Licence valid | | Yes | Type Endorsed | Yes | |
| Ratings | | C172,SR20,JAB2,JAB4,SLG2,SLG4,PA34,SR22,C208,F406,C425 | | | |
| Medical Expiry Date | | 30/ 11/ 2024 | | | |
| Restrictions | | None | | | |
| Previous Accidents | | Unknown | | | |

The pilot was a holder of a valid Namibian Commercial Pilot License issued according to the Namibian Civil Aviation Regulation (2001) part 61.01.10 Instrument rating valid from 02 February 2024 until 02 February 2025.

Flying Experience:

| | |
|----------------------------|-------|
| Total Hours | 345.4 |
| Total Past 90 Days | 90.6 |
| Total on Type Past 90 Days | 68.5 |
| Total on Type | 72 |

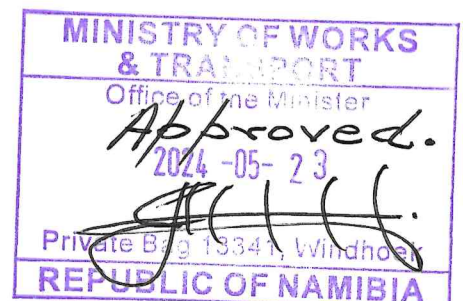
*as at 03/05/2024



1.6 Aircraft Information

1.6.1 Aircraft description

The F406 Caravan II is a twin turboprop engine, fourteen-seat low-wing monoplane of conventional aluminium (airframe) and steel (engine internal parts, exhaust, landing gear) construction. It is a development of the Cessna 404 Titan with two Pratt & Whitney PT6A turboprop engines. Reims Aviation produced the aircraft. The F406 is aimed at passenger and small cargo transport as well as civilian and military surveillance.



Airframe:

| | | |
|--|---------------------------------------|--|
| Type | Reims F406 | |
| Serial No. | 406-0031 | |
| Manufacture | Reims Aviation | |
| Year of Manufacture | 1989 | |
| Total Airframe Hours (At time of Accident) | 10878.7 | |
| Last MPI (Date & Hours) | 31 March 2024, airframe hours 10789.4 | |
| Hours since Last MPI | 89.3 hours | |
| C of A (Issue Date) | 30 January 2024 | |
| C of R (Issue Date) Present owner | 30 January 2024 | |
| Type of fuel used | JET A1 | |
| Operating Categories | Standard A,B,C,D,E,F | |

Engine 1 (Left):

| | |
|----------------------|--------------------------|
| Type | Pratt & Whitney PT6A-112 |
| Serial No. | PCE-12639 |
| Hours since New | 18153.3 |
| Hours since Overhaul | 761.1 |

Engine 2 (Right):

| | |
|----------------------|--------------------------|
| Type | Pratt & Whitney PT6A-112 |
| Serial No. | PCE-12192 |
| Hours since New | 3622.4 |
| Hours since Overhaul | N/A |



Propeller 1 (Left)

| | |
|----------------------|------------------------------|
| Type | McCauley 3GFR34C701 |
| S/N | 891951 |
| Blade S/N | AQF30066, AQF30067, AQF30071 |
| Hours since new | 15297.0 |
| Hours since overhaul | 798.7 |

Propeller 1 (Right)

| | |
|----------------------|------------------------------|
| Type | McCauley 3GFR34C701 |
| S/N | 950389 |
| Blade S/N | ABB30092, ABH30044, ABH30059 |
| Hours since new | 16641.6 |
| Hours since overhaul | 3434.5 |

1.6.2 Weight and Balance

This information will be made available in the final report.

1.7 Meteorological Information

| | | | | | |
|----------------|-------|-------------|----------|------------|------|
| Wind direction | 360° | Wind speed | 06G16Kts | Visibility | Good |
| Temperature | 27° C | Cloud cover | Clear | Cloud base | N/A |
| Dew point | -02°C | | | | |

1.8 Aids to Navigation

Eros Airport, where the aircraft took off from is not equipped with any Navigation aids nor was it required by any Regulations.

1.9 Communication

The aircraft was equipped with standard communication equipment as approved for the type by the Regulator (NCAA). The aircraft communication system was serviceable prior to the accident the aircraft was in communication with Eros ATC on 118.7 MHz.



1.10 Aerodrome Information

- 1.10.1 The Eros aerodrome that was utilized for the accident flight has 2 cross-runways. The runway designators are 01/19, the main runway, and 09/27, secondary runway, the aerodrome is located in Windhoek City.

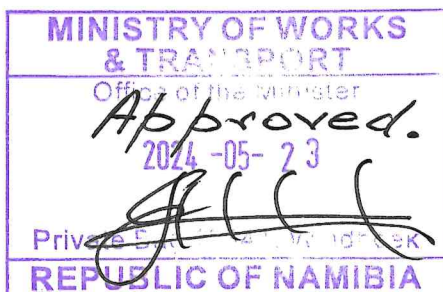
| | | |
|----------------------------|--|-----------|
| Aerodrome Location | Eros Aerodrome, Windhoek City, Namibia | |
| Aerodrome GPS coordinates | 22°36'27" S 17°04'45" E | |
| Aerodrome Elevation (Feet) | 5575 | |
| Runway Designators | 01/19 | 09/27 |
| Runway Dimensions (Meters) | 1983 × 30 | 1005 × 30 |
| Runway surface | Asphalt | Asphalt |
| Runway used | 01 | |
| Aids to Navigation | None | |

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 in accordance with the regulations.

1.12 Wreckage and Impact Information

- 1.12.1 The left wing of the aircraft impacted the ground first followed the left engine and the nose section of the aircraft, hitting trees in the first yard. The impact caused the aircraft to flip over sideways breaking through 2 precast fences and a small wall and came to rest in the corner of the second yard with the right horizontal stabilizer and elevator ended up on top of the precast fence. The impact also caused fuel to squirt from the left wing onto the street. One of the left propeller blades was thrown approximately 200 meters away and landed in another yard. As soon as the aircraft broke through the first precast fence it burst into flames.



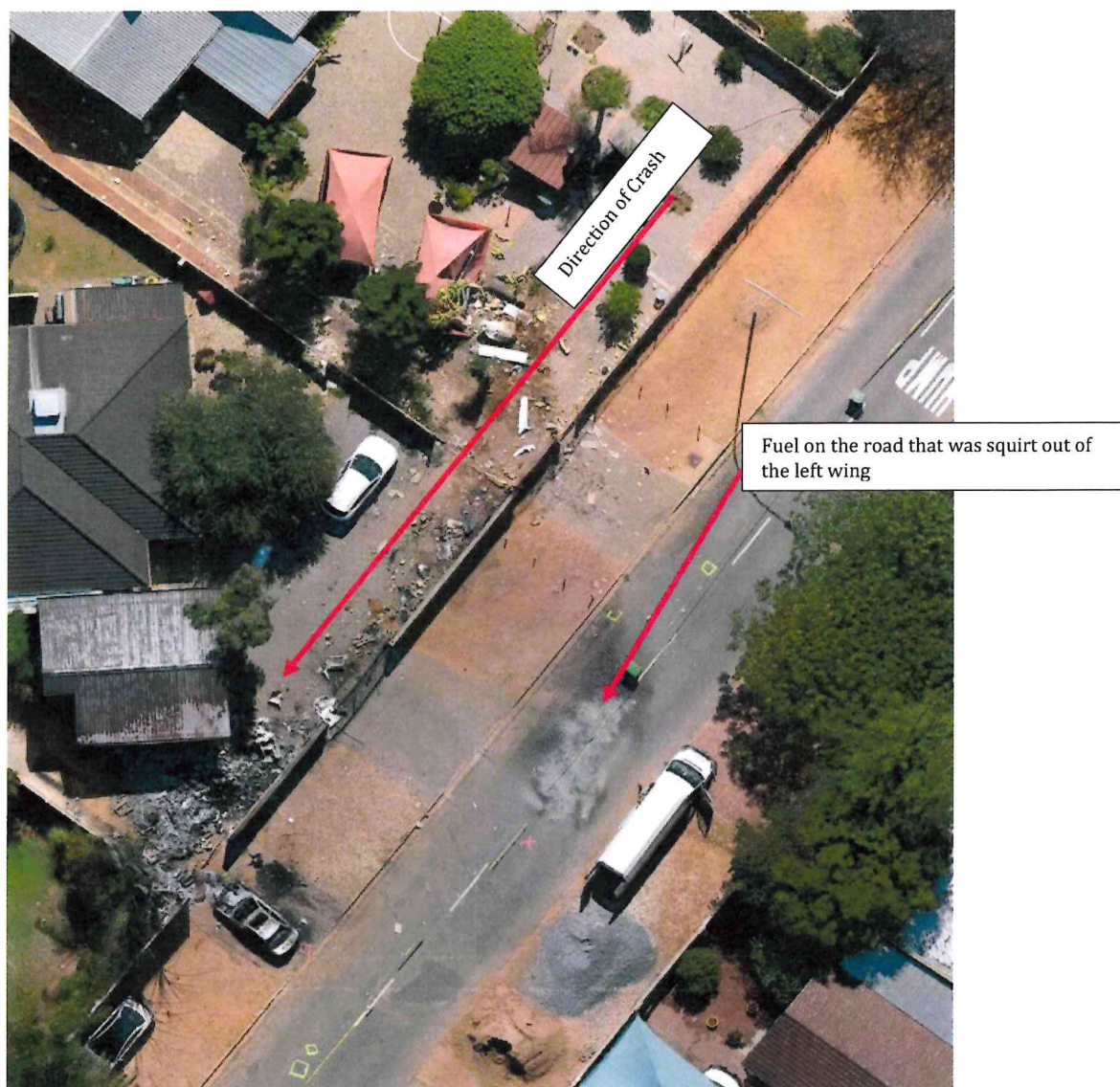


Figure 8: Picture showing the impact sequence.

1.13 Medical and Pathological information

1.13.1 This information will be made available in the final report.

1.14 Fire

1.14.1 The aircraft was consumed by post crash fire.

1.15 Survival Aspects

1.15.1 The accident was not survivable, because the impact forces exceeded the human body tolerance and the aircraft was consumed by post crash fire. More details will be discussed in the final report.

1.16 Tests and Research

- 1.16.1 The engines will be subjected to a tear down. The outcome of the tear down will be discussed in the final report.

1.17 Organizational and Management Information

- 1.17.1 To be discussed in the final report

1.18 Additional Information

- 1.18.1 To be discussed in the final report

1.19 Useful or Effective Investigation Techniques.

- 1.19.1 To be discussed in the final report.

2. Analysis

- 2.1 To be discussed in the final report

3. Conclusions

3.1 Findings

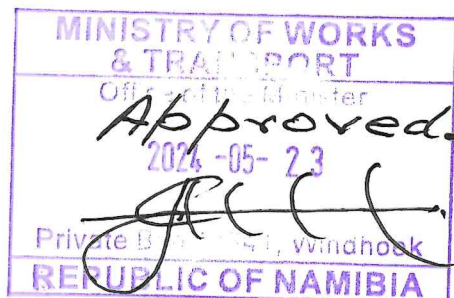
Although the investigation is on-going, the following provisional findings were made:

Pilot-in-Command

- 3.1.1 The pilot had a valid Commercial Pilot Licence (CPL). According to the logbook the pilot had flown a total of 4450.4 hours, of which 2448.1 hours were on the aircraft type at the time of accident.
- 3.1.2 The Pilot had a valid class 1 and 2 aviation medical certificate. The Class 1 aviation medical certificate was issued on 05 March 2023 with an expiry date of 31 March 2025. The Class 2 aviation medical certificate was also issued on 05 March 2023 with an expiry date of 31 March 2029.

Co-Pilot

- 3.1.3 The Co-Pilot had a valid Commercial Pilot Licence (CPL). According to the logbook the pilot had flown a total of 345.4 hours, of which 72.0 hours were on the aircraft type at the time of accident.
- 3.1.4 The Co-Pilot had a valid class 1 and 2 aviation medical certificate. The Class 1 aviation medical certificate was issued on 22 November 2023 with an expiry date of 22 November 2024. The Class 2 aviation medical certificate was also issued on 22 November 2023 with an expiry date of 22 November 2028.



The Aircraft

- 3.1.5 Aircraft was on a post maintenance test flight after the right engine was replaced.
- 3.1.6 The aircraft was scheduled for a cargo flight to Johannesburg the next day.
- 3.1.7 More information about the aircraft will be made available in the final report

3.2 On- going investigation

- 3.2.1 The DAAII investigation is on-going and will include all other aspects of this accident which may or may not have safety implications.

4. Safety Recommendations

- 4.1 None

Compiled by:


Ben C. A. Engelbrecht
Investigator-in-charge
DAAII

Date: 22 May 2024


Hafeni Mweshixwa
Co-Investigator
DAAII

Date: 22 May 2024

Released by:


Hon. John Mutorwa, MP
MINISTER: MINISTRY OF WORKS AND TRANSPORT

Date: 24 MAY 2024

