



**REPUBLIC OF NAMIBIA
MINISTRY OF WORKS AND TRANSPORT**

**Directorate of Aircraft Accident and Incidents
Investigations**

Accident Reference: ACCID/071620/01-02

**Aircraft Accident Investigation Interim
Report**

16th July 2020
Mc. Donnell Douglas, 1997 MD 600N Helicopter
V5-HVD
near Heja lodge, Windhoek NAMIBIA

RELEASE DATE: 12 AUGUST 2021

Introduction

In view of the sustained interest within the aviation industry, and amongst the travelling public, it is considered appropriate to publish an update on the continuing investigation into this accident. This report is in addition to the Preliminary Report, released on 4th August 2020.

The information contained in this Interim Accident Report is published to inform the aviation industry and the public of the general circumstances of the accident that occurred near Heja Lodge, Windhoek. On the 16th July 2020.

Readers are cautioned that there is the possibility that new information may become available that alters this Interim Accident Report prior to the availability of the Final Accident Report.

The Directorate of Aircraft Accident and Incident Investigations (DAAII) as the authority in charge of the investigations is working in close corporation with Accredited Representatives from the state of design and manufacture (USA) and their advisors.

In accordance with policies of DAAII which are in line with Annex 13 to the Convention of International Civil Aviation the sole objective of the investigation is to determine the probable cause of the accident and to make safety recommendations intended to prevent a reoccurrence.

It is not the purpose of this activity to apportion blame or determine liability.

Status : Interim
Date : 16th June 2020
Time : 08:33UTC (10:33 local time)
Aircraft Type : Mc Donnell Douglas, 1997 MD 600N
Registration : V5-HVD
Serial number : RN 005
Engine s/no. : CAE 847820
Year built : 1997
Occupants : Crew: 1/ Passengers: 3
Total fatalities : Fatalities: 0 Injuries: 4
Airplane damage : Aircraft destroyed
Location : GPS 22 32'43.3" S 17 09'23.9 E, near Heja lodge - Namibia
Phase : Approach
Nature : Private
Departure airport : Grootfontein
Destination airport : Eros Airport

Factual Information

History of the Flight

On the 16th July 2020, at around 09H00 local time a privately owned, Namibian registered helicopter got airborne from Grootfontein for a private flight to Eros Airport. On-Board were the pilot and three passengers.

The flight was uneventful for most of the journey. During the approach into Windhoek, along the mountain ridges at Heja Lodge, about 6.6 miles from Eros Airport, the pilot who was in communication with Eros tower and was cleared for runway 01, just a few seconds later the pilot declared a mayday and thereafter all communication ceased. The helicopter experienced a sudden and immediate power loss accompanied by a loss in height.

The pilot searched for an area to quickly land using the auto-rotation procedure. He veered between some hills and found a relatively level area while trying to avoid high voltage power lines straight ahead. He lost control and hit the ground at a shallow angle, the aircraft hit the ground and tumbled down a ravine and came to rest halfway the cliff.

The helicopter was destroyed. The pilot and one passenger were seriously injured, the other two passengers sustained minor injuries.



Figure 1. Photo depicting the final resting position with visible high voltage power lines ahead.

PERSONNEL INFORMATION

The pilot was 47 years old Namibian national with a valid Namibian license for the helicopter. The pilot had a first-class medical certificate with no limitations, valid till 31/08/2020. The pilot had 538.6 hours of experience. He had logged 280.5 hours on type.

AIRCRAFT INFORMATION

The MD 600N is a single-engine, rotary-wing aircraft. The fuselage is a teardrop-shaped semi-monocoque construction and is manufactured primarily of aluminium alloy. It has no tail rotor rather an advanced NOTAR anti-torque system. The subject aircraft, V5-HVD, was manufactured in the USA in 1997. The NCAA issued a Certificate of registration on 17th Jan 2017.

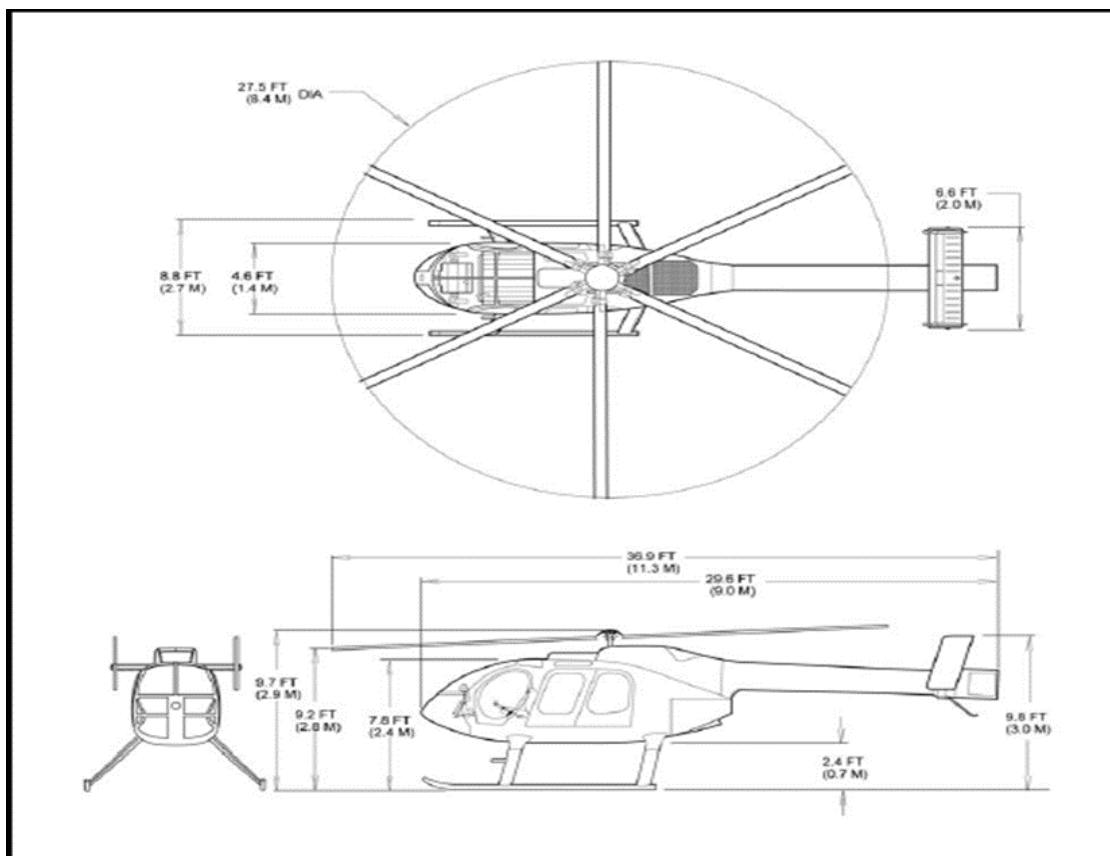


Figure 2. Helicopter description (Source: MD Helicopters. Technical description)

According to the maintenance records of the aeroplane, the last annual inspection was certified on 12th December 2019 at 1874.5 airframe hours. At the time of the accident, the aircraft had accumulated a further 55 hours since the last MPI was certified.

The seats in the cockpit and cabin were equipped with abdominal belts and shoulder harnesses.

Meteorological Information

According to the statement of the Flugleiter, at Arnsberg-Menden Airfield visual meteorological conditions with the following observations prevailed:

Wind: 080°, 4 kt

Clouds: CAVOK

Visibility: More than 10 km

Temperature: 9°C

Dewpoint: -5°C

QNH: 1037 hPa

Tests and Research.

The engine was extensively damaged and could not be function tested. However several components were inspected and tests are ongoing. It was important to establish if fuel was being delivered to the engine. The ECU unit was dismantled from the wreckage and sent for download in a facility approved by the Manufacturer in South Africa under the supervision of the South African Civil Aviation Authority's Accident and Incident Investigation Division (SACAA AIID).

The investigator also retrieved Garmin Aera 795. Global Positioning System (GPS) and sent it for NTSB recorder facility in the USA. Raw data were retrieved which was used to reconstruct the final flight path and display track, Groundspeed, GPS altitude etc.

ATC recordings were sent to the National Transportation Safety Board (NTSB). The ATC audio recordings of the communications between the aircraft and ATC will enable the NTSB Lab to determine rotor speed, engine speed, and main rotor transmission speed during the various transmissions. This information may provide insight as to the failure mechanism if any.



Figure 3. Electronic Control Unit

Safety Recommendations

There were no safety recommendations issued at the time of releasing the interim statement.

Conclusion

Due to the pandemic, there were delays in getting the engine and airframe manufacturer who are experts sent on behalf of the state of manufacture to examine the wreckage as per international protocols. The experts only arrive in Namibia, in July 2021. Several components including

Generator Control Unit (GCU) Quad Digital Indicator

Dual Analog Indicator

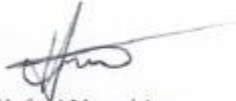
Electronic Control Unit (ECU)

Permanent Magnetic Alternator (PMA)

Were shipped to the manufacturer's laboratories for further examination.

This Interim Accident Report has been made available as an update on the progress of this investigation

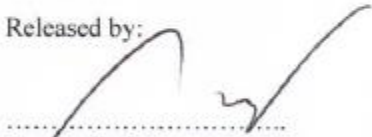
The DAAII will provide updates on the investigation and safety recommendations as they become available until completion of the final report, this is in line with DAAII policies and procedures which are in accordance with the provisions of ICAO Annex 13.



Hafeni Mweshixwa

Investigator-in-Charge

Released by:



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Hon Calle Schlettwein, MP

ACTING MINISTER: MINISTRY OF WORKS AND TRANSPORT

Date: 12.08.2021