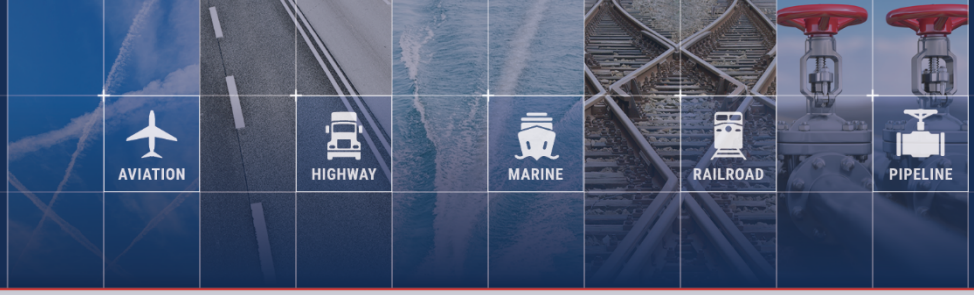

Aviation Investigation Final Report

Location:	Maybee, Michigan	**Accident Number:**	CEN24LA249
Date & Time:	July 4, 2024, 10:43 Local	**Registration:**	N426DM
Aircraft:	Rotorway 162 F	**Aircraft Damage:**	Substantial
Defining Event:	Unknown or undetermined	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that his preflight inspection of the experimental helicopter revealed no anomalies. About one hour into the flight, the engine and rotor rpm started to drop. When the pilot adjusted the collective and throttle, rotor rpm surged, and engine rpm began to fluctuate. The pilot selected a field and performed a precautionary autorotation. During the touch down, the helicopter's skids dug into the soft soil and the helicopter spun, which resulted in substantial damage to the main rotor blades, fuselage, and the tail boom. The pilot and the passenger exited the helicopter uninjured.

A postaccident examination of the helicopter revealed that fuel remained in the fuel tanks. Examination of the fuel-injected engine did not detect any anomalies that would have precluded normal operation. A roll of blue masking tape was found in the engine cooling shroud, but not in an area that would have interfered with engine operation. Given the lack of anomalies found during the postaccident examination, the reason for the partial loss of engine power could not be determined.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

A partial loss of engine power for undetermined reasons.

Findings

Aircraft	(general) - Unknown/Not determined
Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Landing-flare/touchdown	Off-field or emergency landing
Landing-flare/touchdown	Loss of control on ground
Enroute-cruise	Unknown or undetermined (Defining event)

On July 4, 2024, about 1043 eastern daylight time, an experimental Rotorway 162 F helicopter, N426DM, sustained substantial damage when it was involved in an accident near Maybee, Michigan. The pilot and passenger were not injured. The helicopter was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that he conducted a preflight inspection of the helicopter, added fuel, and sumped the fuel tanks. No problems were noted on the preflight. The pilot brought the helicopter into a hover for takeoff, and all the systems checked normal. The pilot took off, climbed the helicopter to about 1,800 ft, and flew locally for about one hour with no problems. Nearing the end of the flight, the pilot noticed that the engine and rotor rpm started to drop. After he adjusted the collective and throttle, the rotor rpm surged, and engine rpm fluctuated.

The pilot decided to perform a precautionary autorotation to a field. As the helicopter descended toward the field, the pilot adjusted the cyclic and collective to keep the airspeed at 70 knots, and rotor rpm about 100%. As the helicopter approached the field, the pilot flared the helicopter to arrest the forward momentum. The helicopter contacted the ground with some forward momentum, and the skids dug into soft soil. The tail boom contacted the ground, the helicopter nosed forward, spun about 120°, and came to rest upright, which resulted in substantial damage to the main rotor blades, fuselage, and the tail boom. The pilot and the passenger exited the helicopter uninjured.

An examination of the fuel-injected engine was conducted by a certificated mechanic with oversight from the FAA. No anomalies were detected with the engine that would have precluded normal engine operation. Fuel was found in the fuel tanks. A roll of blue masking tape was found in the engine cooling shroud, but not in an area that would result in a loss of engine or rotor rpm.

Pilot Information

Certificate:	Private	**Age:**	51,Male
Airplane Rating(s):	None	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	4-point
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	September 15, 2022
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	June 24, 2023
Flight Time:	123 hours (Total, all aircraft), 29 hours (Total, this make and model), 64 hours (Pilot In Command, all aircraft), 5 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Rotorway	**Registration:**	N426DM
Model/Series:	162 F	**Aircraft Category:**	Helicopter
Year of Manufacture:	2010	**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental light sport (Special)	**Serial Number:**	6355
Landing Gear Type:	Skid	**Seats:**	2
Date/Type of Last Inspection:	December 4, 2023 Condition	**Certified Max Gross Wt.:**	1500 lbs
Time Since Last Inspection:	6 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	160 Hrs at time of accident	**Engine Manufacturer:**	Rotorway
ELT:	Not installed	**Engine Model/Series:**	162F
Registered Owner:	MARCHEL CHRISTOPHER M	**Rated Power:**	180 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KTTF,612 ft msl	**Distance from Accident Site:**	5 Nautical Miles
Observation Time:	10:35 Local	**Direction from Accident Site:**	137°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:		**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	29.95 inches Hg	**Temperature/Dew Point:**	27°C / 14°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Belleville, MI (YIP)	**Type of Flight Plan Filed:**	None
Destination:	Belleville, MI (YIP)	**Type of Clearance:**	None
Departure Time:	09:57 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Willow Run YIP	**Runway Surface Type:**	
Airport Elevation:	714 ft msl	**Runway Surface Condition:**	Dry
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	42.0039,-83.5155(est)

Administrative Information

Investigator In Charge (IIC):	Lemishko, Alexander
Additional Participating Persons:	Zachary Ortiz; FAA FSDO; East Michigan, MI
Original Publish Date:	May 13, 2026
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=194624