



Aviation Investigation Final Report

Location:	Plymouth, Indiana	Accident Number:	CEN15CA155
Date & Time:	February 26, 2015, 18:04 Local	Registration:	N123XZ
Aircraft:	GADDIS MICHAEL EXEC 162 F	Aircraft Damage:	Substantial
Defining Event:	Powerplant sys/comp malf/fail	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that while in cruise flight the engine RPM of the helicopter suddenly increased to the point where the rev limiter activated. At this point the helicopter was about 700 ft above ground level and the pilot performed an autorotation to a baseball field. During the forced landing, the helicopter sustained substantial damage to its fuselage. Subsequent examination of the helicopter revealed that the main drive belt that transmitted engine power to the rotor system had failed.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of the helicopter's main drive belt resulting in the pilot performing a forced landing, during which the helicopter's fuselage was substantially damage.

Findings

Aircraft	Engine/transmission coupling - Failure
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Factual Information

History of Flight

Enroute-cruise	Powerplant sys/comp malf/fail (Defining event)
Autorotation	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Private	Age:	46
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:	No
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	January 9, 2014
Occupational Pilot:	No	Last Flight Review or Equivalent:	December 4, 2014
Flight Time:	169.3 hours (Total, all aircraft), 58.2 hours (Total, this make and model), 124 hours (Pilot In Command, all aircraft), 15.6 hours (Last 90 days, all aircraft), 3.2 hours (Last 30 days, all aircraft), 0.4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	GADDIS MICHAEL	Registration:	N123XZ
Model/Series:	EXEC 162 F NO SERIES	Aircraft Category:	Helicopter
Year of Manufacture:	1998	Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	6377
Landing Gear Type:	Skid	Seats:	2
Date/Type of Last Inspection:	July 14, 2014 Condition	Certified Max Gross Wt.:	
Time Since Last Inspection:	8.5 Hrs	Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Rotorway
ELT:	Not installed	Engine Model/Series:	162f
Registered Owner:	On file	Rated Power:	150 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:	OXI	Distance from Accident Site:	17 Nautical Miles
Observation Time:	23:55 Local	Direction from Accident Site:	270°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.29 inches Hg	Temperature/Dew Point:	-12°C / -21°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Plymouth, IN	Type of Flight Plan Filed:	None
Destination:	Plymouth, IN (C65)	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	41.365001,-86.300277

Administrative Information

Investigator In Charge (IIC):	Brannen, John
Additional Participating Persons:	Daniel Sedberry; FAA - South Bend; South Bend, IN
Original Publish Date:	September 11, 2015
Last Revision Date:	
Investigation Class:	Class
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=90790

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).