



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

# Aviation Investigation Final Report

<b>Location:</b>	Mesa, Arizona	<b>Accident Number:</b>	WPR24LA028
<b>Date &amp; Time:</b>	November 6, 2023, 10:00 Local	<b>Registration:</b>	N369FF
<b>Aircraft:</b>	MD HELICOPTERS INC 369FF	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Abnormal runway contact	<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Other work use		

## Analysis

During a proficiency flight, the pilot was demonstrating an autorotation, and the nonflying pilot was following on the flight controls. While holding the flare to land, an excessive amount of aft cyclic was abruptly applied, and the tailskid and tail rotor contacted the ground. The pilot leveled the helicopter and completed the autorotation. The helicopter spun about 90° to the right before it came to a stop. The tail rotor assembly, tail boom, horizontal and vertical stabilizers, and tail rotor drive shaft couplings sustained substantial damage.

The operator reported that there were no preaccident mechanical malfunctions or failures with the helicopter that would have precluded normal operation.

## Probable Cause and Findings

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

The pilot's failure to maintain a proper autorotation profile during deceleration that resulted in the tail rotor assembly impacting the ground.

## Findings

<b>Aircraft</b>	Landing flare - Not attained/maintained
<b>Personnel issues</b>	Incorrect action performance - Pilot
<b>Personnel issues</b>	Aircraft control - Pilot

## Factual Information

### History of Flight

<b>Autorotation</b>	Abrupt maneuver
<b>Landing</b>	Abnormal runway contact (Defining event)

### Pilot Information

<b>Certificate:</b>	Airline transport; Flight instructor	<b>Age:</b>	63, Male
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	4-point
<b>Instrument Rating(s):</b>	Helicopter	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Helicopter; Instrument helicopter	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 2 With waivers/limitations	<b>Last FAA Medical Exam:</b>	November 2, 2023
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	September 27, 2022
<b>Flight Time:</b>	10642 hours (Total, all aircraft), 1197 hours (Total, this make and model), 9145 hours (Pilot In Command, all aircraft), 20 hours (Last 90 days, all aircraft), 7 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

### Pilot Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	29, Male
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	4-point
<b>Instrument Rating(s):</b>	Helicopter	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Helicopter; Instrument helicopter	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 2 With waivers/limitations	<b>Last FAA Medical Exam:</b>	October 20, 2023
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	May 19, 2023
<b>Flight Time:</b>	895 hours (Total, all aircraft), 100 hours (Total, this make and model), 823 hours (Pilot In Command, all aircraft), 24 hours (Last 90 days, all aircraft), 12 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	MD HELICOPTERS INC	<b>Registration:</b>	N369FF
<b>Model/Series:</b>	369FF	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>	2009	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Experimental (Special)	<b>Serial Number:</b>	0709FF
<b>Landing Gear Type:</b>	None; Skid	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	Continuous airworthiness	<b>Certified Max Gross Wt.:</b>	3350 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Turbo shaft
<b>Airframe Total Time:</b>	12950.8 Hrs at time of accident	<b>Engine Manufacturer:</b>	ROLLS-ROYCE
<b>ELT:</b>	C91 installed, not activated	<b>Engine Model/Series:</b>	250-C30
<b>Registered Owner:</b>	BANK OF UTAH TRUSTEE	<b>Rated Power:</b>	650 Horsepower
<b>Operator:</b>	MD Helicopters	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	KFFZ, 1389 ft msl	<b>Distance from Accident Site:</b>	0 Nautical Miles
<b>Observation Time:</b>	09:54 Local	<b>Direction from Accident Site:</b>	50°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	None / None
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	N/A / N/A
<b>Altimeter Setting:</b>	29.98 inches Hg	<b>Temperature/Dew Point:</b>	26°C / 1°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Mesa, AZ	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Mesa, AZ	<b>Type of Clearance:</b>	VFR
<b>Departure Time:</b>		<b>Type of Airspace:</b>	Class D

## Airport Information

<b>Airport:</b>	FALCON FLD FFZ	<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>	1394 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>		<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	Simulated forced landing;Traffic pattern

## Wreckage and Impact Information

<b>Crew Injuries:</b>	2 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	N/A	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>		<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 None	<b>Latitude, Longitude:</b>	33.460841,-111.72832(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Cornejo, Tealeye
<b>Additional Participating Persons:</b>	Ty Tennison; Federal Aviation Administration; Scottsdale, AZ
<b>Original Publish Date:</b>	June 6, 2024
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 4</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=193356">https://data.ntsb.gov/Docket?ProjectID=193356</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).