



# Aviation Investigation Final Report

<b>Location:</b>	Liberty Hill, Texas	<b>Accident Number:</b>	CEN23LA389
<b>Date &amp; Time:</b>	August 31, 2023, 08:05 Local	<b>Registration:</b>	N530JR
<b>Aircraft:</b>	MCDONNELL DOUGLAS HELI CO 530FF	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Hard landing	<b>Injuries:</b>	3 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Instructional		

## Analysis

During an instructional flight, the instructor reported that they were practicing simulated engine failures and power recovery autorotations. During the fourth practice autorotation, the pilot receiving instruction attempted to terminate the maneuver with power to a 5 ft above ground level hover. The pilot did not move the twistgrip throttle from idle power back to full open and began raising the collective. The helicopter “fell through” and experienced a hard landing onto a field. The helicopter bounced, touched down hard again and spun about 150° resulting in substantial damage to the tail boom and empennage. The instructor reported that there were no mechanical malfunctions or failures that contributed to the accident.

## Probable Cause and Findings

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

The pilot’s improper recovery from a practice autorotation resulting in a hard landing.  
Contributing to the accident was the instructor’s inadequate supervision of the pilot receiving instruction.

## Findings

<b>Aircraft</b>	Prop/rotor parameters - Not attained/maintained
<b>Personnel issues</b>	Monitoring other person - Instructor/check pilot

## Factual Information

### History of Flight

<b>Autorotation</b>	Hard landing (Defining event)
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### Pilot Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	61, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	4-point
<b>Instrument Rating(s):</b>	Airplane; Helicopter	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane single-engine; Helicopter; Instrument airplane; Instrument helicopter	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 2 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	December 29, 2022
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	April 29, 2022
<b>Flight Time:</b>	4000 hours (Total, all aircraft), 400 hours (Total, this make and model)		

### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	59, 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>	None	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 2 With waivers/limitations	<b>Last FAA Medical Exam:</b>	May 1, 2023
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	1900 hours (Total, all aircraft), 19.1 hours (Total, this make and model), 682 hours (Pilot In Command, all aircraft), 6.9 hours (Last 90 days, all aircraft), 6.9 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	MCDONNELL DOUGLAS HELI CO	<b>Registration:</b>	N530JR
<b>Model/Series:</b>	530FF	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>	2012	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	0711FF
<b>Landing Gear Type:</b>	High skid	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	August 21, 2023 Annual	<b>Certified Max Gross Wt.:</b>	3100 lbs
<b>Time Since Last Inspection:</b>	12.3 Hrs	<b>Engines:</b>	1 Turbo shaft
<b>Airframe Total Time:</b>	760.3 Hrs at time of accident	<b>Engine Manufacturer:</b>	Rolls Royce
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	250-C30
<b>Registered Owner:</b>	FREE THE OPPRESSED	<b>Rated Power:</b>	447 Horsepower
<b>Operator:</b>	On file	<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>	KGTU, 787 ft msl	<b>Distance from Accident Site:</b>	14 Nautical Miles
<b>Observation Time:</b>	07:56 Local	<b>Direction from Accident Site:</b>	87°
<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>	/
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29.92 inches Hg	<b>Temperature/Dew Point:</b>	23°C / 14°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Georgetown, TX (KGTU)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Georgetown, TX (KGTU)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	07:15 Local	<b>Type of Airspace:</b>	Class G

## Wreckage and Impact Information

<b>Crew Injuries:</b>	2 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	1 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>		<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	3 None	<b>Latitude, Longitude:</b>	30.66232,-97.93462(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Aguilera, Jason
<b>Additional Participating Persons:</b>	Frederick McMilan; FAA FSDO; San Antonio, TX
<b>Original Publish Date:</b>	March 21, 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.nts.gov/Docket?ProjectID=192972">https://data.nts.gov/Docket?ProjectID=192972</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](#).