



National Transportation Safety Board Aviation Accident Data Summary

Location:	Cullman, AL	Accident Number:	GAA16CA363
Date & Time:	07/01/2016, 1510 CDT	Registration:	N9658F
Aircraft:	HUGHES 269C	Injuries:	2 None
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Analysis

The helicopter flight instructor reported that the commercial pilot rated/helicopter flight instructor candidate receiving instruction was practicing autorotations with power recovery to the runway; during a practice 180 degree autorotation, the flight instructor candidate executed the landing flare too low to the ground resulting in a tail rotor strike. The flight instructor further reported that he took the controls and landed the helicopter after it had yawed, un-commanded to the right, about 180 degrees.

The helicopter sustained substantial damage to the vertical stabilizer and tail rotor drive assembly.

The flight instructor reported that there were no preimpact mechanical failures or malfunctions with the airframe or engine that would have precluded normal operation.

The FAA Helicopter Flying Handbook FAA-H-8083-21A (2012) discusses procedures for autorotation and states in part:

Care must be taken in the execution of the flare so that the cyclic control is neither moved rearward so abruptly that it causes the helicopter to climb nor moved so slowly that it does not arrest the descent, which may allow the helicopter to settle so rapidly that the tail rotor strikes the ground... extreme caution should be used to avoid an excessive nose high and tail low attitude below 10 feet. The helicopter must be close to the landing attitude to keep the tail rotor from contacting the surface.

Flight Events

Autorotation - Attempted remediation/recovery

Landing-flare/touchdown - Abnormal runway contact

Autorotation - Loss of control in flight

Autorotation - Hard landing

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The helicopter flight instructor candidate's improper execution of the autorotation, resulting in abnormal ground contact and subsequent damage to the vertical stabilizer and tail rotor drive assembly.

Findings

Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Landing flare-Not attained/maintained - C

Personnel issues-Action/decision-Info processing/decision-Decision making/judgment-Student/instructed pilot - C

Personnel issues-Task performance-Use of equip/info-Aircraft control-Student/instructed pilot - C

Flight Instructor Information

Certificate:	Flight Instructor; Commercial	Age:	52
Airplane Rating(s):	Single-engine Land	Instrument Rating(s):	None
Other Aircraft Rating(s):	Helicopter	Instructor Rating(s):	Helicopter
Flight Time:	(Estimated) 1062 hours (Total, all aircraft), 578 hours (Total, this make and model), 901 hours (Pilot In Command, all aircraft), 46 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Student Pilot Information

Certificate:	Commercial	Age:	34
Airplane Rating(s):	None	Instrument Rating(s):	None
Other Aircraft Rating(s):	Helicopter	Instructor Rating(s):	None
Flight Time:	(Estimated) 240 hours (Total, all aircraft), 215 hours (Total, this make and model), 194 hours (Pilot In Command, all aircraft), 20 hours (Last 90 days, all aircraft), 16 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	HUGHES	Registration:	N9658F
Model/Series:	269C	Engines:	1 Reciprocating
Operator:	WALLACE STATE COLLEGE	Engine Manufacturer:	Lycoming
Air Carrier Operating Certificate:	Pilot School (141)	Engine Model/Series:	HIO-360-D1A
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Meteorological Information and Flight Plan

Observation Facility, Elevation:	KHSV, 624 ft msl	Weather Information Source:	Weather Observation Facility
Conditions at Accident Site:	Visual Conditions	Lowest Ceiling:	
Condition of Light:	Day	Wind Speed/Gusts, Direction:	8 knots, 290°
Temperature:	34° C / 16° C	Visibility	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Cullman, AL (CMD)	Destination:	Cullman, AL (CMD)

Airport Information

Airport:	CULLMAN RGNL-FOLSOM FIELD (CMD)	Runway Surface Type:	Asphalt
Runway Used:	02	Runway Surface Condition:	Dry
Runway Length/Width:	5500 ft / 100 ft		

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None

Administrative Information

Investigator In Charge (IIC):	Kathryn R Benhoff	Adopted Date:	08/03/2016
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=93552		

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