Aviation Investigation Final Report

Location:	Mineral Wells, Texas	**Accident Number:**	DFW07CA050
Date & Time:	December 30, 2006, 12:30 Local	**Registration:**	N9655F
Aircraft:	Hughes 269C	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The 22-hour helicopter student pilot lost control of the single-engine helicopter while performing a hovering maneuver during a solo training flight. The pilot added that while hovering at a skid height of 10-feet above the ground, the helicopter encountered a phenomena known as loss of tail rotor effectiveness (LTE). The helicopter entered an uncontrolled hard spin to the right. The pilot responded by lowering the collective and the helicopter landed hard. The helicopter sustained structural damage to the right strut, the tail rotor drive shafts, and the right horizontal stabilizer. The pilot egressed from the helicopter normally and sustained no injuries. The winds at the time of the mishap were reported from 210 degrees at 6 knots.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The loss of control as result of loss of tail rotor effectiveness.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: HOVER - OUT OF GROUND EFFECT

Findings
1. (C) LOSS OF TAIL ROTOR EFFECTIVENESS - ENCOUNTERED - PILOT IN COMMAND

Occurrence #2: HARD LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
2. TERRAIN CONDITION - GROUND

Factual Information

The 22-hour helicopter student pilot lost control of the single-engine helicopter while performing a hovering maneuver during a solo training flight. The pilot added that while hovering at a skid height of 10-feet above the ground, the helicopter encountered a phenomena known as loss of tail rotor effectiveness (LTE). The helicopter entered an uncontrolled hard spin to the right. The pilot responded by lowering the collective and the helicopter landed hard. The helicopter sustained structural damage to the right strut, the tail rotor drive shafts, and the right horizontal stabilizer. The pilot egressed from the helicopter normally and sustained no injuries. The winds at the time of the mishap were reported from 210 degrees at 6 knots.

Pilot Information

Certificate:	Private	**Age:**	53,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	March 1, 2006
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	180 hours (Total, all aircraft), 22 hours (Total, this make and model), 22 hours (Last 90 days, all aircraft), 22 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Hughes	**Registration:**	N9655F
Model/Series:	269C	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	Unknown
Landing Gear Type:	Skid	**Seats:**	3
Date/Type of Last Inspection:	100 hour	**Certified Max Gross Wt.:**	2050 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	8500 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Not installed	**Engine Model/Series:**	H10 360A
Registered Owner:	Mark and Connie Taylor	**Rated Power:**	
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KMWL	**Distance from Accident Site:**	
Observation Time:	12:30 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	2800 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	Unknown	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots / 0 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	210°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.95 inches Hg	**Temperature/Dew Point:**	16°C / 10°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Mineral Wells, TX (KMWL)	**Type of Flight Plan Filed:**	None
Destination:	Mineral Wells, TX (KMWL)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	

Airport Information

Airport:	Mineral Wells KMWL	**Runway Surface Type:**	
Airport Elevation:	972 ft msl	**Runway Surface Condition:**	
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	Gamble, William
Additional Participating Persons:	Peter W Kwaak; FTW
Original Publish Date:	March 26, 2007
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.ntsb.gov/Docket?ProjectID=65100