



Aviation Investigation Final Report

Location:	Wenatchee, Washington	Accident Number:	WPR11LA325
Date & Time:	July 12, 2011, 09:05 Local	Registration:	N3623Z
Aircraft:	Hughes 269C	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	2 Minor
Flight Conducted Under:	Part 91: General aviation - Other work use		

Analysis

The pilot reported that, during a low altitude and slow airspeed flight to dry cherry trees, the engine lost power, and the helicopter subsequently settled into the trees. However, when the helicopter came to rest, the engine was still operating, and he had shut it down. During postaccident examination of the engine and airframe, no evidence of a mechanical malfunction or failure was found that would have precluded normal operation of the engine or flight controls. It is likely that the pilot did not maintain control of the helicopter while hovering out of ground effect at low altitude and experienced a settling with power event.

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 control while hovering out of ground effect at low altitude, which resulted in the helicopter settling into trees.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	(general) - Not attained/maintained

Factual Information

History of Flight

Maneuvering-low-alt flying	Loss of control in flight (Defining event)
Maneuvering-low-alt flying	Settling with power/vortex ring state
Uncontrolled descent	Collision with terr/obj (non-CFIT)

HISTORY OF FLIGHT

On July 12, 2011, about 0905 Pacific daylight time (PDT), a Hughes 269C, N3623Z, collided with trees near Wenatchee, Washington. Applebee Aviation, Inc., was operating the helicopter under the provisions of 14 Code of Federal Regulations (CFR) Part 91 for the purpose of drying cherry trees. The certificated commercial pilot and one passenger sustained minor injuries. The helicopter sustained substantial damage to the tail boom and to the main rotor blades. The local flight departed Wenatchee about 0845. Visual meteorological conditions prevailed, and no flight plan had been filed.

The pilot reported that he was flying at a low altitude and slow airspeed over cherry trees to dry them when the engine experienced a loss of power. Due to the low altitude, the helicopter settled into the trees. After the accident, the pilot reported that the engine was still operating and he had to shut it down.

During the postaccident examination of the engine and airframe, no evidence of a mechanical malfunction or failure was found that would have precluded normal operation with the engine or flight controls of the helicopter.

ADDITIONAL INFORMATION

Vortex Ring State (Settling With Power)

According to the FAA Rotorcraft Flying Handbook, "Vortex ring state describes an aerodynamic condition where a helicopter may be in a vertical descent with up to maximum power applied, and little or no cyclic authority. The term 'settling with power' comes from the fact that the helicopter keeps settling even though full engine power is applied."

Pilot Information

Certificate:	Commercial	Age:	30, Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Helicopter	Second Pilot Present:	
Instructor Rating(s):	Helicopter	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	June 1, 2011
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	May 9, 2011
Flight Time:	810 hours (Total, all aircraft), 150 hours (Total, this make and model), 650 hours (Pilot In Command, all aircraft), 35 hours (Last 90 days, all aircraft), 35 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Hughes	Registration:	N3623Z
Model/Series:	269C	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	S1166
Landing Gear Type:	Skid	Seats:	3
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	1550 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	6600 Hrs at time of accident	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	HIO-360 SER
Registered Owner:	US HELICOPTER LLC	Rated Power:	205 Horsepower
Operator:	Applebee Aviation Inc	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	EAT,1249 ft msl	Distance from Accident Site:	4 Nautical Miles
Observation Time:	08:55 Local	Direction from Accident Site:	200°
Lowest Cloud Condition:	Scattered / 10000 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	320°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.82 inches Hg	Temperature/Dew Point:	18°C / 10°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Wenatchee, WA (EAT)	Type of Flight Plan Filed:	Unknown
Destination:	Wenatchee, WA (EAT)	Type of Clearance:	None
Departure Time:	08:45 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Minor	Latitude, Longitude:	47.341945,-120.238052(est)

Administrative Information

Investigator In Charge (IIC):	Jones, Patrick
Additional Participating Persons:	James P Black; Federal Aviation Administration; Spokane, WA
Original Publish Date:	November 7, 2012
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=81105

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