



# Aviation Investigation Final Report

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<b>Location:</b>	Darrington, Washington	<b>Accident Number:</b>	WPR14LA340
<b>Date &amp; Time:</b>	August 11, 2014, 11:30 Local	<b>Registration:</b>	N7432F
<b>Aircraft:</b>	Hughes 269C	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of engine power (partial)	<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

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## Analysis

The commercial pilot was conducting a local, personal flight in the rented helicopter. The pilot reported that, while descending the helicopter from 5,000 ft and approaching 4,000 ft, he increased the collective and noticed that the engine was slowing down; he was unable to recover the engine rpm to a normal range. The helicopter continued to descend until the pilot entered an autorotation. The helicopter then impacted a tree and came to rest in a small stream. The pilot stated that he did not believe that the engine ever quit but that it did not produce enough power to continue flight.

Postaccident examination of the helicopter revealed that the throttle mount bracket was hanging by the throttle cable linkage and was not secured to the servo mount studs, which would have led to the loss of throttle movement for acceleration. The operator stated that the engine had been installed in the helicopter 10 flight hours before the accident. It is likely that maintenance personnel did not properly secure the throttle mount bracket during the engine installation, which led to the loss of throttle movement and inability to control engine power.

## Probable Cause and Findings

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

Maintenance personnel's failure to secure the throttle mount bracket during a recent engine installation, which resulted in the loss of throttle movement and an inability to control engine power.

## Findings

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<b>Aircraft</b>	Power lever - Incorrect service/maintenance
<b>Personnel issues</b>	Installation - Maintenance personnel
<b>Environmental issues</b>	Tree(s) - Contributed to outcome
<b>Environmental issues</b>	Water/moisture - Contributed to outcome

## Factual Information

### History of Flight

<b>Enroute-descent</b>	Loss of engine power (partial) (Defining event)
<b>Autorotation</b>	Off-field or emergency landing
<b>Autorotation</b>	Collision with terr/obj (non-CFIT)

On August 11, 2014, about 1130 Pacific daylight time (PDT), a Hughes 269C Helicopter, N7432F, impacted terrain following a partial loss of engine power near Darrington, Washington. The airline transport pilot was not injured; the helicopter sustained substantial damage. Snohomish Flying Service (SFS) was operating the helicopter under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The local personal flight departed Snohomish, Washington, about 0815. Visual meteorological conditions prevailed, and no flight plan had been filed.

The pilot reported that during a flight in the rented helicopter he was descending out of 5,000 ft. As he approached 4,000 ft, he increased collective and noticed that the engine was slowing down; he was unable to recover the engine rpm to a normal range. The helicopter continued to descend until the pilot entered an autorotation. The helicopter impacted a tree about 30 ft high and then came to rest in a small stream.

The pilot stated he did not believe the engine ever quit, but the engine would not produce enough power to continue flight.

The helicopter was recovered on August 12, 2014, by SFS and examined by Federal Aviation Administration inspectors with assistance from SFS personnel. They found that the throttle mount bracket was hanging by the throttle cable linkage and was not secured to the servo mount studs as it should have been. This would prevent the loss of throttle movement for acceleration.

The operator stated that the engine had just been installed into the helicopter 10 flight hours prior to the accident.

## Pilot Information

<b>Certificate:</b>	Airline transport; Commercial; Private	<b>Age:</b>	59, Male
<b>Airplane Rating(s):</b>	Single-engine land; Single-engine sea; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	4-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 With waivers/limitations	<b>Last FAA Medical Exam:</b>	April 21, 2014
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	July 13, 2014
<b>Flight Time:</b>	18000 hours (Total, all aircraft), 80 hours (Total, this make and model), 10000 hours (Pilot In Command, all aircraft), 270 hours (Last 90 days, all aircraft), 90 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Hughes	<b>Registration:</b>	N7432F
<b>Model/Series:</b>	269C	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>	1976	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	160458
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	3
<b>Date/Type of Last Inspection:</b>	August 9, 2014 100 hour	<b>Certified Max Gross Wt.:</b>	2050 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	3015 Hrs at time of accident	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	HIO-360-D1A
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	200 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>	AWO,407 ft msl	<b>Distance from Accident Site:</b>	19 Nautical Miles
<b>Observation Time:</b>	10:35 Local	<b>Direction from Accident Site:</b>	330°
<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>	6 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	300°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29.93 inches Hg	<b>Temperature/Dew Point:</b>	25°C / 16°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	SNOHOMISH, WA (S43)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	SNOHOMISH, WA (S43)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	08:15 Local	<b>Type of Airspace:</b>	

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 None	<b>Latitude, Longitude:</b>	48.270832,-121.208885(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Jones, Patrick
<b>Additional Participating Persons:</b>	Bill Reichart; Federal Aviation Administration; Renton, WA
<b>Original Publish Date:</b>	October 23, 2017
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=89852">https://data.ntsb.gov/Docket?ProjectID=89852</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](#).