



National Transportation Safety Board Aviation Accident Data Summary

Location:	Valdez, AK	Accident Number:	ANC16LA010
Date & Time:	12/16/2015, 0942 AKS	Registration:	N255VS
Aircraft:	ROBINSON HELICOPTER COMPANY R44 II	Injuries:	3 None
Flight Conducted Under:	Part 91: General Aviation - Aerial Observation		

Analysis

The commercial pilot was departing on a power line patrol flight in the helicopter. After liftoff, the pilot hovered the helicopter about 10 ft above ground level (agl) before commencing a left turn, accelerating to about 25 knots, and initiating a climb. As the helicopter climbed through about 20 ft agl, the engine experienced a total loss of power. The pilot performed an autorotation, but the helicopter landed hard, resulting in substantial damage to the fuselage, skids and tail boom.

Review of the accident helicopter's maintenance records revealed that the fuel injection servo had been repaired and reinstalled about 2 hours before the accident flight. During postaccident examination of the fuel injection servo assembly, small amounts of a white, greasy substance were discovered in the servo assembly. The greasy substance, later identified as DuPont Krytox, is a lubricant used in small amounts and specific locations, during reassembly after overhaul or maintenance of the fuel injection servo assembly.

Inspection of a fuel injection servo from a different helicopter that had been overhauled by the same maintenance facility revealed similar contamination. A representative from the maintenance facility stated that about 6 months before the accident, they had begun using Dupont Krytox, an approved lubricant, but did not realize that it was being used in excess and in locations not approved per the maintenance/service manual.

Due to the improper and excessive use of assembly lubricant and the lack of engine anomalies, it is likely that the lubricant contaminated the fuel injection servo, causing a disruption in fuel flow, which resulted in a total loss of engine power.

Flight Events

Initial climb - Loss of engine power (total)

Autorotation - Hard landing

Probable Cause

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

The overhaul facility's improper and excessive use of an approved lubricant during overhaul of the fuel injection servo, which resulted in a disruption of fuel flow and a total loss of engine power.

Findings

Aircraft-Aircraft power plant-Engine fuel and control-Fuel distribution-Incorrect service/maintenance - C
Personnel issues-Task performance-Maintenance-Repair-Maintenance personnel - C
Personnel issues-Experience/knowledge-Knowledge-Knowledge of procedures-Maintenance personnel - C

Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	24
Airplane Rating(s):	None	Instrument Rating(s):	Helicopter
Other Aircraft Rating(s):	Helicopter	Instructor Rating(s):	Helicopter; Instrument Helicopter
Flight Time:	1468 hours (Total, all aircraft), 1020 hours (Total, this make and model), 1394 hours (Pilot In Command, all aircraft), 70 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	ROBINSON HELICOPTER COMPANY	Registration:	N255VS
Model/Series:	R44 II	Engines:	1 Reciprocating
Operator:	VERTICAL SOLUTIONS LLC	Engine Manufacturer:	LYCOMING
Operating Certificate(s) Held:	Certificate of Authorization or Waiver (COA); Rotorcraft External Load (133); On-demand Air Taxi (135)	Engine Model/Series:	IO-540-AE1A5
Flight Conducted Under:	Part 91: General Aviation - Aerial Observation		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	PAVD	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	Broken / 7000 ft agl	Wind Speed/Gusts, Direction:	Calm / ,
Temperature:	-6 °C	Visibility	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Valdez, AK (VDZ)	Destination:	Valdez, AK (VDZ)

Airport Information

Airport:	VALDEZ PIONEER FIELD (VDZ)	Runway Surface Type:	Asphalt
Runway Used:	N/A	Runway Surface Condition:	Ice; Snow
Runway Length/Width:			

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:	61.134167, -146.244722 (est)		

Administrative Information

Investigator In Charge (IIC):	David B Banning	Adopted Date:	03/06/2017
Note:	The NTSB traveled to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=92463		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report.