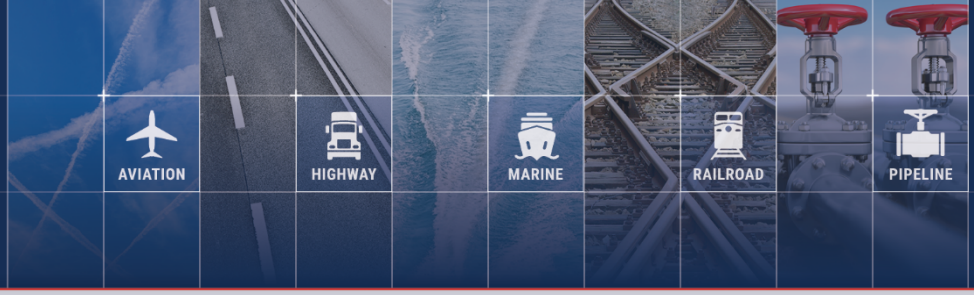

Aviation Investigation Final Report

Location:	Willows, California	**Accident Number:**	WPR14CA363
Date & Time:	September 2, 2014, 13:00 Local	**Registration:**	N516PJ
Aircraft:	Hughes 369D	**Aircraft Damage:**	Substantial
Defining Event:	Miscellaneous/other	**Injuries:**	1 Serious
Flight Conducted Under:	Part 91: General aviation		

Analysis

While in cruise flight an unsecured jacket departed the helicopter through an open window. The tail rotor drive shaft sheared as a result of the jacket's contact with the tail rotors. The pilot subsequently initiated a forced landing to an orchard where during landing, the main rotors struck and separated the tailboom. The pilot reported no preimpact mechanical malfunctions or failures with the helicopter that would have precluded normal operation.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to adequately secure cargo (a jacket), which resulted in the jacket exiting the cabin compartment and colliding with the tail rotor during cruise flight.

Findings

Aircraft	(general) - Incorrect use/operation
Personnel issues	Incomplete action - Pilot
Environmental issues	Tree(s) - Contributed to outcome
Environmental issues	Debris/dirt/foreign object - Effect on equipment

Factual Information

History of Flight

Enroute	Miscellaneous/other (Defining event)
Enroute	Loss of control in flight

Pilot Information

Certificate:	Commercial	**Age:**	67
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane; Helicopter	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane single-engine; Helicopter	**Toxicology Performed:**	No
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	January 1, 2014
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	22100 hours (Total, all aircraft), 6495 hours (Total, this make and model), 19005 hours (Pilot In Command, all aircraft), 140 hours (Last 90 days, all aircraft), 46 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Hughes	**Registration:**	N516PJ
Model/Series:	369D	**Aircraft Category:**	Helicopter
Year of Manufacture:	1982	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	1188D
Landing Gear Type:	High skid	**Seats:**	
Date/Type of Last Inspection:	August 22, 2014 100 hour	**Certified Max Gross Wt.:**	3000 lbs
Time Since Last Inspection:		**Engines:**	1 Turbo shaft
Airframe Total Time:	9258 Hrs at time of accident	**Engine Manufacturer:**	Rolls Royce/Allison
ELT:	C91A installed, not activated	**Engine Model/Series:**	250-C20B
Registered Owner:	PJ HELICOPTERS INC	**Rated Power:**	420 Horsepower
Operator:	PJ HELICOPTERS INC	**Operating Certificate(s) Held:**	Rotorcraft external load (133), On-demand air taxi (135)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KCIC,238 ft msl	**Distance from Accident Site:**	25 Nautical Miles
Observation Time:	19:55 Local	**Direction from Accident Site:**	48°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	10 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	180°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.76 inches Hg	**Temperature/Dew Point:**	33°C / 8°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	WILLOWS, CA (WLW)	**Type of Flight Plan Filed:**	Company VFR
Destination:	WILLOWS, CA (WLW)	**Type of Clearance:**	None
Departure Time:	12:55 Local	**Type of Airspace:**	

Airport Information

Airport:	WILLOWS-GLENN COUNTY WLW	**Runway Surface Type:**	
Airport Elevation:	141 ft msl	**Runway Surface Condition:**	Vegetation
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious	**Latitude, Longitude:**	39.524166,-122.249168(est)

Administrative Information

Investigator In Charge (IIC):	Jones, Patrick
Additional Participating Persons:	Brian L Allen; Federal Aviation Administration; Sacramento, CA
Original Publish Date:	October 27, 2014
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=90007

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.