



# Aviation Investigation Final Report

<b>Location:</b>	SUBLIMITY, Oregon	<b>Accident Number:</b>	SEA94LA039
<b>Date &amp; Time:</b>	December 7, 1993, 13:55 Local	<b>Registration:</b>	N2297W
<b>Aircraft:</b>	HILLER-SOLOY UH-12D	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 133: Rotorcraft ext. load		

## Analysis

THE PILOT SHUT DOWN EXTERNAL LOAD OPERATIONS FOR SERVICING THE AIRCRAFT. WHILE HE WAS GREASING THE AIRCRAFT, HE THOUGHT THAT THE GROUND SERVICE PERSONNEL HAD REFUELED THE AIRCRAFT. HE REINITIATED OPERATIONS AND THE ENGINE FLAMED OUT 36 MINUTES LATER. THE PILOT STATED THAT THE CAUSE OF THE FLAMEOUT WAS FUEL EXHAUSTION. HE ALSO STATED THAT THE PIC MUST PERFORM ADEQUATE PREFLIGHT TO INCLUDE ASSURANCE THAT AIRCRAFT HAD BEEN REFUELED.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: FUEL EXHAUSTION DUE TO INADEQUATE PREFLIGHT AND REFUELING NOT ACOMPLISHED.

## Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL  
Phase of Operation: MANEUVERING

### Findings

1. (C) FLUID,FUEL - EXHAUSTION
  2. (C) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND
  3. (C) REFUELING - NOT PERFORMED - PILOT IN COMMAND
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Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY  
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Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: DESCENT - EMERGENCY

## Factual Information

On December 7, 1993, at approximately 1355 Pacific standard time, a Hiller-Soloy UH-12D helicopter, N2297W, sustained substantial damage when it collided with terrain during an autorotation after the loss of power. The commercial pilot, who had been conducting christmas tree hauling external load operations near Sublimity, Oregon, under 14CFR133, was not injured. No flight plan was filed for the local flight, and weather was reported to be visual meteorological conditions at the time of the accident. There was no ELT installed in the aircraft, and no fire occurred.

The pilot stated that he had shut the aircraft down, and proceeded to grease the aircraft and add engine oil. After greasing, he noticed the fuel truck had been moved and the refueling hose secured. He said he assumed that the helicopter fuel tank had been refilled and did not check. He entered the cockpit and set the timer to 80 minutes and restarted the lifting operation. Thirty-six minutes into the operation cycle, the engine-out warning system activated with subsequent flameout. He released his load and descended to a hard landing. The aircraft bounced on ground contact and rolled to the left.

The pilot stated that the cause of the flameout was fuel exhaustion due to the lack of fuel. He also noted that the pilot should not assume that ground support personnel faithfully perform their functions, and that the PIC must perform adequate preflight to include assurance that his aircraft has been refueled.

FAA inspectors stated that the fuel tanks were bone dry, and when the battery master switch was turned on, the fuel gauge indicated zero.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	52, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane; Helicopter	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Helicopter	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	June 29, 1993
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	8400 hours (Total, all aircraft), 2000 hours (Total, this make and model), 8000 hours (Pilot In Command, all aircraft), 131 hours (Last 90 days, all aircraft), 127 hours (Last 30 days, all aircraft), 11 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	HILLER-SOLOY	<b>Registration:</b>	N2297W
<b>Model/Series:</b>	UH-12D UH-12D	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	1206
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	November 26, 1993 Annual	<b>Certified Max Gross Wt.:</b>	3200 lbs
<b>Time Since Last Inspection:</b>	50 Hrs	<b>Engines:</b>	1 Turbo shaft
<b>Airframe Total Time:</b>	12835 Hrs	<b>Engine Manufacturer:</b>	ALLISON
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	250-C20
<b>Registered Owner:</b>	INDUSTRIAL AVIATION, INC.	<b>Rated Power:</b>	400 Horsepower
<b>Operator:</b>	INDUSTRIAL AVIATION, INC.	<b>Operating Certificate(s) Held:</b>	
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	JYBL

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Unknown / 1000 ft AGL	<b>Visibility</b>	5 miles
<b>Lowest Ceiling:</b>	Overcast / 1000 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	15 knots / 20 knots	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	230°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29 inches Hg	<b>Temperature/Dew Point:</b>	4°C
<b>Precipitation and Obscuration:</b>	Moderate - None - Rain		
<b>Departure Point:</b>		<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	00:00 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>		<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>		<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	Forced landing

## 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>	44.86079,-122.73043(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Stockhill, Michael
<b>Additional Participating Persons:</b>	WILL HICKS; HILLSBORO , OR
<b>Original Publish Date:</b>	September 13, 1994
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=41860">https://data.nts.gov/Docket?ProjectID=41860</a>

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