



# Aviation Investigation Final Report

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<b>Location:</b>	HILO, Hawaii	<b>Accident Number:</b>	LAX92LA014
<b>Date &amp; Time:</b>	October 14, 1991, 10:25 Local	<b>Registration:</b>	N35961
<b>Aircraft:</b>	AEROSPATIALE AS-350D	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	7 None
<b>Flight Conducted Under:</b>	Part 135: Air taxi & commuter - Non-scheduled		

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## Analysis

THE HELICOPTER WAS HOVERING NEAR THE EDGE OF THE VOLCANICALLY ACTIVE CRATER AT 15 TO 20 FEET ABOVE GROUND LEVEL. THE HELICOPTER WAS HOVERING DOWNWIND OF THE VENT. SEVERAL LOUD POPPING SOUNDS WERE HEARD COMING FROM THE ENGINE AND THE PILOT SENSED A LOSS OF POWER. THE PILOT AUTO ROTATED TO A DOWN SLOPE HARD LANDING AND THE MAIN ROTOR CONTACTED THE TAIL BOOM. AFTER RECOVERY FROM THE ACCIDENT SITE, THE ENGINE WAS EXAMINED WHILE STILL IN PLACE IN THE HELICOPTER. FUEL SAMPLES WERE REMOVED FROM THE TANK AND SUMP, AND FOUND TO BE CLEAR. ALL PC AIR LINES WERE PRESSURE CHECKED, WITH A SMALL LEAK DETECTED ON THE INLET SIDE OF THE PC FILTER. THE ENGINE WAS STARTED AND TEST RUN IN THE AIRFRAME UP TO 72% N1, WITH NO ADVERSE FINDINGS. THE ENGINE WAS REMOVED FROM THE HELICOPTER AND SHIPPED TO THE LYCOMING FACTORY WHERE IT WAS INSTALLED IN A TEST CELL. THE ENGINE WAS RUN FOR 50 MINUTES, TO INCLUDE AN ACCELERATION TEST. THE ENGINE DEVELOPED AND SUSTAINED FULL POWER IN ACCORDANCE WITH THE AEROSPATIALE AS-350D AIRFRAME APPLICATION. NO MALFUNCTIONS OR DEFECTS WERE NOTED.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: 1) A LOSS OF ENGINE POWER DUE TO THE INGESTION OF GASSES FROM THE ACTIVE VOLCANO VENT, AND 2) THE PILOTS INFLIGHT DECISION TO HOVER DOWNWIND IN CLOSE PROXIMITY TO THE VENT.

## Findings

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

### Findings

1. (C) WEATHER CONDITION - UNFAVORABLE WIND
2. (C) COMPRESSOR ASSEMBLY - STALL
3. (F) IN-FLIGHT PLANNING/DECISION - POOR - PILOT IN COMMAND

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Occurrence #2: HARD LANDING  
Phase of Operation: DESCENT - EMERGENCY

## Factual Information

### Pilot Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	39, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Airplane single-engine; Helicopter	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical—no waivers/lim.	<b>Last FAA Medical Exam:</b>	August 31, 1991
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	2362 hours (Total, all aircraft), 94 hours (Total, this make and model), 2266 hours (Pilot In Command, all aircraft), 143 hours (Last 90 days, all aircraft), 94 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	AEROSPATIALE	<b>Registration:</b>	N35961
<b>Model/Series:</b>	AS-350D AS-350D	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	1113
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	7
<b>Date/Type of Last Inspection:</b>	September 27, 1991 Continuous airworthiness	<b>Certified Max Gross Wt.:</b>	4300 lbs
<b>Time Since Last Inspection:</b>	57 Hrs	<b>Engines:</b>	1 Turbo shaft
<b>Airframe Total Time:</b>	5292 Hrs	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	LTS-101-600
<b>Registered Owner:</b>	ELLING, HALVORSON	<b>Rated Power:</b>	620 Horsepower
<b>Operator:</b>	PAPILLON HAWALLIAN HEL.	<b>Operating Certificate(s) Held:</b>	On-demand air taxi (135)
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	ILNA

## 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>	Clear	<b>Visibility</b>	15 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	15 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	185°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	23°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	WAIKOLOA , HI (HI07)	<b>Type of Flight Plan Filed:</b>	Company VFR
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	09:40 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>	6 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	7 None	<b>Latitude, Longitude:</b>	19.689092,-155.079833(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Rich, Jeff
<b>Additional Participating Persons:</b>	STEVE DAHLEN; HONOLULU , HI
<b>Original Publish Date:</b>	July 13, 1993
<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=27477">https://data.ntsb.gov/Docket?ProjectID=27477</a>

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