



National Transportation Safety Board Aviation Accident Data Summary

Location:	AVALON, CA	Accident Number:	LAX00FA061
Date & Time:	12/28/1999, 1050 PST	Registration:	N3593S
Aircraft:	Aerospatiale AS-350D	Injuries:	1 Serious, 6 Minor
Flight Conducted Under:	Part 91: General Aviation - Other Work Use - Sightseeing		

Analysis

The helicopter collided with terrain following a loss of engine power while maneuvering at low level on a sightseeing flight. As the helicopter passed about 250 feet above ground level (agl) over a ridgeline, the pilot began a descending and decelerating right turn to observe a herd of buffalo. About midway down the ridge, the low rotor rpm warning horn sounded. The pilot lowered collective and the horn stayed on. He noted the rotor speed was down between 300 and 320 rpm and concluded that he would have to make an immediate landing. The helicopter landed downslope at an estimated 10 to 15 mph, and the tail rotor struck the ground first. The helicopter pitched forward, continued to slide down the hill, collided with trees, and rolled onto its right side. An 80-psi check of the pneumatic system revealed two calibrated leaks and an additional leak. The attachment fitting for the P3 air accumulator on the governor pressure (Pg) line was 3/4 of a turn loose. The engine was removed and shipped to the manufacturer for testing. Several discrepancies due to damaged hardware were corrected during preparation for the test run. The engine was placed in a test stand and started normally. The engine completed a test protocol with no discrepancies noted. The P3 accumulator fitting was loosened and the engine immediately went to flight idle. The engine would not accelerate above idle power with the P3 accumulator fitting loose. Once the fitting was loosened less than finger tight, it continued to loosen to 3/4 to a full turn loose.

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A loose pneumatic fitting caused the engine to go to flight idle power at a low altitude, which resulted in a forced landing in hilly terrain.

Findings

Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - MECH FAILURE/MALF
Phase of Operation: MANEUVERING

Findings

1. (C) PNEUMATIC SYSTEM - LOOSE PART/BOLT/NUT/CLAMP/ETC

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings

2. (F) TERRAIN CONDITION - MOUNTAINOUS/HILLY
3. (F) UNSUITABLE TERRAIN OR TAKEOFF/LANDING/TAXI AREA - ENCOUNTERED - PILOT IN COMMAND
4. (F) ALTITUDE - LOW - PILOT IN COMMAND

Occurrence #3: ROLL OVER
Phase of Operation: EMERGENCY LANDING

Pilot Information

Certificate:	Airline Transport	Age:	55
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Instrument Rating(s):	Airplane; Helicopter
Other Aircraft Rating(s):	Helicopter	Instructor Rating(s):	None
Flight Time:	11122 hours (Total, all aircraft), 3930 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Aerospatiale	Registration:	N3593S
Model/Series:	AS-350D AS350D	Engines:	1 Turbo Shaft
Operator:	ISLAND EXPRESS HELICOPTERS, INC.	Engine Manufacturer:	Lycoming
Operating Certificate(s) Held:	On-demand Air Taxi (135)	Engine Model/Series:	LTS-101-A3A
Flight Conducted Under:	Part 91: General Aviation - Other Work Use - Sightseeing		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	LGB, 58 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	None	Wind Speed/Gusts, Direction:	5 knots / , 300°
Temperature:	23° C	Visibility	10 Miles
Precipitation and Obscuration:			
Departure Point:	AVALON, CA	Destination:	

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Serious, 5 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:	33.416389, -118.465278		

Administrative Information

Investigator In Charge (IIC): HOWARD D PLAGENS

Adopted Date: 10/23/2002

Investigation Docket: NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

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