



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	ARROYO GRANDE, CA	<b>Accident Number:</b>	LAX85LA336
<b>Date &amp; Time:</b>	08/01/1985, 1015 PDT	<b>Registration:</b>	N90328
<b>Aircraft:</b>	BELL 206 B3	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None

**Flight Conducted Under:** Part 133: Rotorcraft Ext. Load

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## Analysis

WHILE HOVERING AND SLINGING AN EXTERNAL LOAD OVER ROUGH TERRAIN THE ENG CHIP LIGHT ILLUMINATED. THE PLT IMMEDIATELY POSITIONED THE ACFT TO RELEASE THE LOAD AND THE ENG BEGAN MAKING A 'WHINING' NOISE. SEVERAL SECONDS LATER ALL ENG POWER WAS LOST. THE PLT AUTOROTATED TO A FIRM LANDING AND UPON TOUCHDOWN THE MAIN ROTOR BLADES FLEXED DOWNWARD AND SEVERED THE TAIL BOOM. EXAM OF THE ENG'S TURBINE COMPONENTS REVEALED THE PRESENCE OF A 'SLUDGE' MATERIAL IN THE SCAVENGE OIL LINE FROM THE NO. 8 BEARING AND ALSO THE PRESENCE OF A HEAVY BUILD UP OF CARBON ON THE ENGINE ROTOR 'PEASHOOTER' DRIVE SHAFT. THE ACCUMULATED MATERIAL CAUSED SHAFT RUB AND FAILURE OF THE POWER TURBINE'S INNER SHAFT. THE OPERATOR REPORTED THAT AN EARLY INSPECTION OF THE N<sub>1</sub>/N<sub>2</sub> DRIVE SHAFT AREA COULD HAVE DETECTED THE PROBLEM AND PREVENTED THE ACCIDENT.

## Probable Cause and Findings

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

## Findings

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

### Findings

1. (F) LUBRICATING SYSTEM,OIL TUBING - BLOCKED(PARTIAL)
  2. (C) MAINTENANCE,SERVICE OF AIRCRAFT/EQUIPMENT - INADEQUATE - COMPANY MAINTENANCE PERSONNEL
  3. (F) TURBINE ASSEMBLY,SHAFT BEARING - BLOCKED(PARTIAL)
  4. (F) TURBINE ASSEMBLY,SHAFT - FAILURE,PARTIAL
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Occurrence #2: FORCED LANDING  
Phase of Operation: DESCENT

### Findings

5. (C) EMERGENCY PROCEDURE - PERFORMED - PILOT IN COMMAND
  6. (C) AUTOROTATION - PERFORMED - PILOT IN COMMAND
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Occurrence #3: HARD LANDING  
Phase of Operation: LANDING - FLARE/TOUCHDOWN

### Findings

7. AIRPORT FACILITIES,RUNWAY/LANDING AREA CONDITION - NONE SUITABLE

## Factual Information

### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	33, 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>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Helicopter	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	04/26/1985
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	5959 hours (Total, all aircraft), 1600 hours (Total, this make and model), 170 hours (Last 90 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	BELL	<b>Registration:</b>	N90328
<b>Model/Series:</b>	206 B3 206 B3	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	1853
<b>Landing Gear Type:</b>	Tailwheel; Tricycle	<b>Seats:</b>	5
<b>Date/Type of Last Inspection:</b>	Unknown	<b>Certified Max Gross Wt.:</b>	3200 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Turbo Shaft
<b>Airframe Total Time:</b>	4096 Hours	<b>Engine Manufacturer:</b>	ALLISON
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	250 SER 400HP
<b>Registered Owner:</b>	GATX LEASING CORP.	<b>Rated Power:</b>	420 hp
<b>Operator:</b>	WESTERN HELICOPTERS	<b>Operating Certificate(s) Held:</b>	

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	, 0 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0000	Direction from Accident Site:	0°
Lowest Cloud Condition:	Clear / 0 ft agl	Visibility	10 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	15 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	225°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	18° C
Precipitation and Obscuration:			
Departure Point:		Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	0955 PDT	Type of Airspace:	Class G

## Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	WAYNE R POLLACK	Report Date:	
Additional Participating Persons:	ROBYN MC DONOUGH; SAN JOSE, CA		
Publish Date:			
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 <a href="mailto:pubinquiry@ntsb.gov">pubinquiry@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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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. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).