



# National Transportation Safety Board Aviation Accident Data Summary

<b>Location:</b>	Panaca, NV	<b>Accident Number:</b>	LAX03TA043
<b>Date &amp; Time:</b>	12/01/2002, 1310 PST	<b>Registration:</b>	N48020
<b>Aircraft:</b>	Bell 47G-3B-1	<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Public Aircraft		

## Analysis

The helicopter experienced a loss of engine power and landed hard during an autorotation, severing the tail boom. The number 6 cylinder's intake valve separated, with the valve's head wedged in the intake valve seat bore. Removal of the rocker box cover on that cylinder revealed that the spring retainer was broken into numerous pieces. The piston head showed over 15 impressions consistent in dimension to that of the valve head. After examining the number 6 cylinder, a metallurgist determined that the valve failed in between the intake valve head and the valve stem.

## Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: separation of the no. 6 cylinder intake valve head from the valve stem, which resulted in a loss of engine power. The mechanism responsible for the valve failure is unknown.

## Findings

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

### Findings

1. (C) ENGINE ASSEMBLY, VALVE, INTAKE - SEPARATION  
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Occurrence #2: FORCED LANDING  
Phase of Operation: EMERGENCY DESCENT/LANDING

### Findings

2. AUTOROTATION - INITIATED - PILOT IN COMMAND  
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Occurrence #3: HARD LANDING  
Phase of Operation: LANDING - FLARE/TOUCHDOWN

### Findings

3. MISC ROTORCRAFT, MAIN ROTOR/TAIL BOOM CONTACT  
4. TERRAIN CONDITION - GROUND

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	59
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Instrument Rating(s):</b>	Airplane; Helicopter
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Instructor Rating(s):</b>	None
<b>Flight Time:</b>	29351 hours (Total, all aircraft), 16120 hours (Total, this make and model), 26934 hours (Pilot In Command, all aircraft), 51 hours (Last 90 days, all aircraft), 17 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Bell	<b>Registration:</b>	N48020
<b>Model/Series:</b>	47G-3B-1	<b>Engines:</b>	1 Reciprocating
<b>Operator:</b>	Bureau of Land Management	<b>Engine Manufacturer:</b>	Lycoming
<b>Operating Certificate(s) Held:</b>	None	<b>Engine Model/Series:</b>	TVO-435-B1A
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Public Aircraft		

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual Conditions	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	CDC, 5622 ft msl	<b>Weather Information Source:</b>	Weather Observation Facility
<b>Lowest Ceiling:</b>	None	<b>Wind Speed/Gusts, Direction:</b>	4 knots / , 340°
<b>Temperature:</b>	7° C	<b>Visibility</b>	10 Miles
<b>Precipitation and Obscuration:</b>			
<b>Departure Point:</b>	Caliente, NV	<b>Destination:</b>	Panaca, NV

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	N/A	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Latitude, Longitude:</b>	37.790278, -114.425000		

## Administrative Information

<b>Investigator In Charge (IIC):</b>	GEORGE E PETERSON	<b>Adopted Date:</b>	12/28/2004
<b>Investigation Docket:</b>	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:pubinq@ntsb.gov">pubinq@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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