



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	MORRISTOWN, AZ	<b>Accident Number:</b>	LAX97LA116
<b>Date &amp; Time:</b>	03/02/1997, 1750 MST	<b>Registration:</b>	N39W
<b>Aircraft:</b>	Beech J35	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	1 Serious, 1 Minor
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

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## Analysis

While in cruise flight the pilot felt a slight vibration and immediately made a power change without affect. After reducing the engine rpm from 2300 to 2100, the airplane vibrated hard for a split second and then smoothed out. At that point, the propeller had separated from the engine with part of the crankshaft. Metallurgical examination of the crankshaft revealed that the fatigue failure occurred inside the crankshaft bore 1.7 inches forward of the crankshaft oil seal. The point of origin was at two corrosion pits.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: failure of the crankshaft due to improper inspection/overhaul procedures.

## Findings

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

Phase of Operation: CRUISE - NORMAL  
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Occurrence #2: FORCED LANDING

Phase of Operation: CRUISE - NORMAL  
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Occurrence #3: NOSE OVER

Phase of Operation: EMERGENCY LANDING

## Factual Information

On March 2, 1997, about 1750 hours mountain standard time, a Beech J35, N39W, was substantially damaged during a forced landing at Morrystown, Arizona. The pilot received minor injuries and the passenger received serious injuries. Visual meteorological conditions prevailed for the personal cross-country flight and no flight plan was filed.

The pilot reported that while in cruise flight he felt a vibration and immediately made a power change without affect. He further reduced the engine rpm from 2,300 to 2,100, the airplane vibrated hard for a split second and then smoothed out. At that point, the propeller separated from the engine with part of the crankshaft. The failure occurred over remote desert terrain and the propeller was not recovered.

### ENGINE INFORMATION

According to the engine logbook, the engine had been overhauled on April 11, 1989, at 1,819 total hours. At the time of the accident, the engine had accumulated about 937 hours since the overhaul.

Postaccident metallurgical examination of the crankshaft revealed that it had failed approximately 1.7 inches forward of the crankshaft oil seal. From this fatigue cracking origin, it propagated at a 45-degree angle to the axis of the crankshaft forward and aft. The origin was located inside the crankshaft bore at two corrosion pits.

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	62, Male
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	09/25/1995
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	392 hours (Total, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N39W
Model/Series:	J35 J35	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	D-5353
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	10/26/1996, Annual	Certified Max Gross Wt.:	2900 lbs
Time Since Last Inspection:	50 Hours	Engines:	1 Reciprocating
Airframe Total Time:	4435 Hours	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	IO-470-C
Registered Owner:	RAFAEL L. VALENZUELA	Rated Power:	260 hp
Operator:	RAFAEL L. VALENZUELA	Operating Certificate(s) Held:	None

## 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:	Scattered / 20000 ft agl	Visibility	50 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	Light and Variable /	Turbulence Type Forecast/Actual:	/
Wind Direction:	260°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	18° C
Precipitation and Obscuration:			
Departure Point:	BULLHEAD CITY, AZ (IFP)	Type of Flight Plan Filed:	None
Destination:	DEER VALLEY, AZ (DVT)	Type of Clearance:	None
Departure Time:	1700 MST	Type of Airspace:	Class E

## Airport Information

Airport:	PRIVATE (NONE)	Runway Surface Type:	Dirt
Airport Elevation:		Runway Surface Condition:	Dry
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced Landing

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Minor	<b>Aircraft Damage:</b>	Destroyed
<b>Passenger Injuries:</b>	1 Serious	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Serious, 1 Minor	<b>Latitude, Longitude:</b>	

## Administrative Information

<b>Investigator In Charge (IIC):</b>	GEORGE E PETERSON	<b>Report Date:</b>	01/07/1998
<b>Additional Participating Persons:</b>	TONY ROMERO; SCOTTSDALE, AZ		
<b>Publish Date:</b>			
<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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