



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	RED BLUFF, CA	<b>Accident Number:</b>	LAX95LA177
<b>Date &amp; Time:</b>	05/02/1995, 1136 PDT	<b>Registration:</b>	N6636R
<b>Aircraft:</b>	BEECH C23	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 Serious
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

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## Analysis

THE PILOT SAID THAT WHEN HE TRIED TO MAKE A THROTTLE ADJUSTMENT IT HAD NO EFFECT ON THE ENGINE RPM. AFTER ENTERING DOWNWIND ABEAM HIS TOUCHDOWN POINT, HE SHUT DOWN THE ENGINE AND ATTEMPTED TO GLIDE THE REMAINDER OF THE DISTANCE. THE AIRCRAFT TOUCHED DOWN SHORT OF THE RUNWAY AND STRUCK AN EMBANKMENT. AN INSPECTION OF THE AIRCRAFT REVEALED THAT THE THROTTLE LINKAGE HAD SEPARATED FROM THE CARBURETOR THROTTLE ARM. THE BOLT, CASTELLATED NUT, AND WASHER WHICH SECURES THE ASSEMBLY TOGETHER WERE NOT PRESENT. THE ENGINE WAS REINSTALLED IN THE AIRCRAFT FOLLOWING A MAJOR OVERHAUL, 1 MONTH AND 2 OPERATING HOURS PRIOR TO THE ACCIDENT. AN ANNUAL INSPECTION WAS ALSO COMPLETED AND SIGNED OFF AT THAT TIME. THE MECHANIC WHO PERFORMED THE ENGINE REINSTALLATION SAID THAT THE BOLT HAD BEEN REINSTALLED AND THAT A COTTER PIN HAD ALSO BEEN INSTALLED IN THE PROCESS. THE MECHANIC WHO PERFORMED THE ANNUAL INSPECTION REPORTED THAT HE HAD NOT LOOKED THAT CLOSELY AT THE ENGINE SINCE IT HAD JUST BEEN INSTALLED AND INSPECTED BY ANOTHER MECHANIC. THE MANUFACTURER REPORTED THAT THE DESIGN OF THE ASSEMBLY DOES NOT PLACE LOADS ON THE BOLT THAT WOULD BE SUFFICIENT TO PRODUCE AN OVERLOAD FAILURE.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the separation of the throttle linkage due to improper installation, and the pilot's misjudgement of the glide path necessary to reach the runway prior to shutting down the engine.

## Findings

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Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: CRUISE - NORMAL

### Findings

1. (C) THROTTLE/POWER LEVER, LINKAGE - DISCONNECTED
2. (C) MAINTENANCE, INSTALLATION - IMPROPER - COMPANY MAINTENANCE PERSONNEL
3. (C) MAINTENANCE, INSPECTION - INADEQUATE - COMPANY MAINTENANCE PERSONNEL

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Occurrence #2: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL

Phase of Operation: APPROACH - VFR PATTERN - DOWNWIND

### Findings

4. ENGINE SHUTDOWN - PERFORMED - PILOT IN COMMAND

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Occurrence #3: FORCED LANDING

Phase of Operation: APPROACH - VFR PATTERN - DOWNWIND

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Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

### Findings

5. TERRAIN CONDITION - BERM
6. (C) DISTANCE/ALTITUDE - MISJUDGED - PILOT IN COMMAND

## Factual Information

On May 2, 1995, at 1136 hours Pacific daylight time, a Beechcraft C23, N6636R, sustained substantial damage during a landing approach at Red Bluff, California. The aircraft was owned and operated by the pilot and was on a cross-country flight. Visual meteorological conditions prevailed at the time, and a VFR flight plan was filed for the operation. The certificated commercial pilot and his pilot-rated passenger both sustained serious injuries. The flight originated from the Half Moon Bay airport in Half Moon Bay, California, at 1000 on the day of the accident.

The pilot reported that when he attempted to make a throttle adjustment, he was able to move the throttle control, however, it had no effect on the engine rpm. He reported that he was about 8 to 10 miles from the Red Bluff airport at the time, and continued on to his destination. After entering downwind for runway 15 and abeam his touchdown point, the pilot shut down the engine and attempted to glide the remainder of the distance on the approach. The aircraft touched down short of the airport boundary and struck an embankment.

A postaccident inspection of the aircraft by a Federal Aviation Administration (FAA) airworthiness inspector revealed that the throttle linkage between the throttle lever and the throttle rod end was separated. The connecting bolt (AN3-6), with a castellated locking nut (M21042L3), and smooth spacer (AN960-10), were all missing.

On April 20, 1995, the engine was reinstalled in the aircraft after a major overhaul. The engine controls were rigged and an operational check of all powerplant systems and controls was performed. According to an entry in the aircraft logbook, the aircraft was test flown and returned to service with total time on the airframe of 2,220 hours, and an engine tachometer reading of 2,220 hours.

On May 1, 1995, the aircraft completed an annual inspection and was found to be airworthy. An airframe and powerplant mechanic with inspection authorization, made an airworthiness entry in the aircraft logbook with total time for the airframe and engine of 2,220 hours.

At the time of the accident, the engine tachometer read 2,223 hours. The mechanic who performed the reinstallation reported to FAA inspectors that the bolt had been reinstalled and that a cotter pin had also been installed in the process. The mechanic who performed the annual inspection reported to FAA inspectors that he had not looked that closely at the engine since it had just been installed and inspected by another mechanic.

The manufacturer reported that the design of the assembly does not place loads on the bolt that would be sufficient to produce an overload failure.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	66, 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, Shoulder harness
<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 2 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	03/21/1995
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	2067 hours (Total, all aircraft), 532 hours (Total, this make and model), 1989 hours (Pilot In Command, all aircraft), 4 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	BEECH	<b>Registration:</b>	N6636R
<b>Model/Series:</b>	C23 C23	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	M1590
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	05/02/1995, Annual	<b>Certified Max Gross Wt.:</b>	2450 lbs
<b>Time Since Last Inspection:</b>	3 Hours	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	2223 Hours	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	O-360--A4J
<b>Registered Owner:</b>	DONALD EUGENE LANDEN	<b>Rated Power:</b>	180 hp
<b>Operator:</b>	DONALD EUGENE LANDEN	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	RBL, 349 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	1140 PDT	Direction from Accident Site:	330°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	30 Miles
Lowest Ceiling:	Broken / 2500 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	160°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	17° C / 11° C
Precipitation and Obscuration:			
Departure Point:	HALF MOON BAY, CA (HAF)	Type of Flight Plan Filed:	VFR
Destination:	, CA (RBL)	Type of Clearance:	None
Departure Time:	1000 PDT	Type of Airspace:	Class E

## Airport Information

Airport:	RED BLUFF (RBL)	Runway Surface Type:	Asphalt
Airport Elevation:	349 ft	Runway Surface Condition:	Dry
Runway Used:	15	IFR Approach:	None
Runway Length/Width:	5984 ft / 150 ft	VFR Approach/Landing:	Forced Landing; Full Stop; Traffic Pattern

## Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	1 Serious	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Serious	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	ROBERT R CRISPIN	Report Date:	09/24/1995
Additional Participating Persons:	DELVINY A PATNO; SACRAMENTO, CA THOMAS R CAMPAGNOLA; WICHITA, KS		
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: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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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](#).