



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	ENGLEWOOD, CO	<b>Accident Number:</b>	DEN88DTE06
<b>Date &amp; Time:</b>	07/01/1988, 1235 MDT	<b>Registration:</b>	N250TH
<b>Aircraft:</b>	HELFRICH-LEONARD BD-5B	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None

**Flight Conducted Under:** Part 91: General Aviation - Personal

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## Analysis

THIS EXPERIMENTAL ACFT IS POWERED BY A MODIFIED HONDA 1250 CC, WATERCOOLED ENG. THE PLT REPORTED THAT AFTER TAKEOFF THE ENG TEMP REACHED THE REDLINE AND THE ENG LOST POWER. DURING THE FORCED LANDING THE MAIN LANDING GEAR COLLAPSED. EXAMINATION OF THE ENG AFTER THE ACFT REVEALED THAT A HOLE WAS BURNED IN THE #4 PISTON AND A PORTION OF THE HEAD GASKET BETWEEN THE #3 AND #4 CYL WAS MISSING. THE OWNER AND TECHNICIANS FAMILIAR WITH THE ENG SUGGEST A LARGER RADIATOR, RETIMING OF THE IGNITION, AND/OR A RICHER MIXTURE MAY PRECLUDE RECURRENCE OF THE PROBLEM.

## 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: TAKEOFF - INITIAL CLIMB

### Findings

1. (C) POWERPLANT - OVERTEMPERATURE
2. (C) ENGINE ASSEMBLY,PISTON - BURNED
3. (C) ACFT/EQUIP,INADEQUATE DESIGN - MANUFACTURER

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

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Occurrence #3: MAIN GEAR COLLAPSED  
Phase of Operation: LANDING - FLARE/TOUCHDOWN

### Findings

4. (F) TERRAIN CONDITION - ROUGH/UNEVEN
5. LANDING GEAR,NOSE GEAR - OVERLOAD
6. LANDING GEAR,NOSE GEAR - COLLAPSED

## Factual Information

### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	39, Male
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Seat Occupied:</b>	Center
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	06/28/1988
<b>Occupational Pilot:</b>	<b>Last Flight Review or Equivalent:</b>		
<b>Flight Time:</b>	1272 hours (Total, all aircraft), 20 hours (Total, this make and model), 1145 hours (Pilot In Command, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	HELFRICH-LEONARD	<b>Registration:</b>	N250TH
<b>Model/Series:</b>	BD-5B BD-5B	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	Yes
<b>Airworthiness Certificate:</b>	Experimental	<b>Serial Number:</b>	1032
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	1
<b>Date/Type of Last Inspection:</b>	Annual	<b>Certified Max Gross Wt.:</b>	1100 lbs
<b>Time Since Last Inspection:</b>	10 Hours	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	311 Hours	<b>Engine Manufacturer:</b>	HONDA
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	1250
<b>Registered Owner:</b>	MARK E. FOSTER	<b>Rated Power:</b>	70 hp
<b>Operator:</b>	FOSTER MARK E.	<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:	APA, 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	50 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	20°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	26 °C
Precipitation and Obscuration:			
Departure Point:	(APA)	Type of Flight Plan Filed:	None
Destination:	(APA)	Type of Clearance:	None
Departure Time:	1225 MDT	Type of Airspace:	Class G

## Airport Information

Airport:	CENTENNIAL (APA)	Runway Surface Type:	Asphalt
Airport Elevation:	5800 ft	Runway Surface Condition:	Dry
Runway Used:	0	IFR Approach:	None
Runway Length/Width:	10000 ft / 100 ft	VFR Approach/Landing:	Forced Landing

## 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):	BENJAMIN J BURTON JR.	Report Date:	07/10/1989
Additional Participating Persons:			
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> .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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](#).