



Aviation Investigation Final Report

Location:	ENGLEWOOD, Colorado	Accident Number:	DEN88DTE06
Date & Time:	July 1, 1988, 12:35 Local	Registration:	N250TH
Aircraft:	HELFRICH-LEONARD 5B	BD-	Aircraft Damage: Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

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

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

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

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

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

Aircraft and Owner/Operator Information

Aircraft Make:	HELFRICH-LEONARD	Registration:	N250TH
Model/Series:	BD-5B BD-5B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	1032
Landing Gear Type:	Retractable - Tricycle	Seats:	1
Date/Type of Last Inspection:	Annual	Certified Max Gross Wt.:	1100 lbs
Time Since Last Inspection:	10 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	311 Hrs	Engine Manufacturer:	HONDA
ELT:	Not installed	Engine Model/Series:	1250
Registered Owner:	MARK E. FOSTER	Rated Power:	70 Horsepower
Operator:	FOSTER MARK E.	Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	APA	Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	50 miles
Lowest Ceiling:	None	Visibility (RVR):	
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:	No Obscuration; No Precipitation		
Departure Point:	(APA)	Type of Flight Plan Filed:	None
Destination:	(APA)	Type of Clearance:	None
Departure Time:	12:25 Local	Type of Airspace:	Class G

Airport Information

Airport:	CENTENNIAL APA	Runway Surface Type:	Asphalt
Airport Elevation:	5800 ft msl	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:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	39.580581,-104.859794(est)

Administrative Information

Investigator In Charge (IIC): Burton jr., Benjamin

Additional Participating Persons:

Original Publish Date: July 10, 1989

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=17330>

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).