



National Transportation Safety Board Aviation Accident Data Summary

Location:	COLUMBUS, MS	Accident Number:	MIA92LA076
Date & Time:	02/01/1992, 1429 CST	Registration:	3500Z
Aircraft:	AERO MERCANTIL S.A. GAVILAN 358 EL-1	Injuries:	1 Minor
Flight Conducted Under:	Part 91: General Aviation - Ferry		

Analysis

WHILE DESCENDING TO LAND, THE ENG QUIT. ATTEMPTS TO RESTART WERE UNSUCCESSFUL. THE ACFT COLLIDED WITH TREES DURING THE LANDING ROLL FOLLOWING THE FORCED LANDING. THE ACFT WAS RECOVERED & TAKEN TO A FACILITY WHERE THE ENG WAS REMOVED FOR EXAMINATION. EXAMINATION OF THE ENGINE REVEALED THAT THE CRANKSHAFT FAILED NEAR THE REAR MAIN BEARING. ALSO, EVIDENCE INDICATES THAT THE REAR MAIN BEARING SPUN IN ITS SUPPORT AND WAS PARTIALLY EXTRUDED INTO THE ACCESSORY SECTION. EXAMINATION OF THE CRANKCASE HALVES ADJACENT TO THE REAR MAIN BEARING INDICATED FRETTING. THE ENG HAD ACCUMULATED 174 HRS SINCE NEW. METALLURGICAL EXAMINATION OF THE CRANKSHAFT REVEALED THAT IT FAILED DUE TO HIGH CYCLE FATIGUE.

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be:
FATIGUE FAILURE OF THE CRANKSHAFT DUE TO IMPROPER ENGINE ASSEMBLY BY THE MANUFACTURER.

Findings

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

Findings

1. (C) ENGINE ASSEMBLY,CRANKSHAFT - FAILURE,TOTAL
2. (C) MAINTENANCE - IMPROPER - MANUFACTURER
3. (C) ENGINE ASSEMBLY,CRANKSHAFT - FATIGUE

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

Occurrence #3: ON GROUND/WATER COLLISION WITH OBJECT
Phase of Operation: LANDING - ROLL

Findings

4. OBJECT - TREE(S)

Pilot Information

Certificate:	Airline Transport; Commercial	Age:	46
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	None
Flight Time:	13000 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	AERO MERCANTIL S.A.	Registration:	3500Z
Model/Series:	GAVILAN 358 EL-1 GAVILAN 35	Engines:	1 Reciprocating
Operator:	AERO MERCANTIL S.A.	Engine Manufacturer:	LYCOMING
Operating Certificate(s) Held:	None	Engine Model/Series:	TIO-540-W2A
Flight Conducted Under:	Part 91: General Aviation - Ferry		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	CBM, 214 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	None / 0 ft agl	Wind Speed/Gusts, Direction:	6 knots / , 350°
Temperature:	16° C	Visibility	10 Miles
Precipitation and Obscuration:			
Departure Point:	LOCK HAVEN, PA (LHV)	Destination:	

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	Timothy W Monville	Adopted Date:	06/30/1993
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 pubin@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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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.