



National Transportation Safety Board Aviation Accident Final Report

Location:	BREWTON, AL	Accident Number:	ATL98LA070
Date & Time:	05/01/1998, 1230 CST	Registration:	N6645V
Aircraft:	Bellanca BL-17-30A	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot experienced a loss of engine power and he made a forced landing in a field. There were no injuries to the pilot, and the aircraft was substantially damaged after colliding with a fence during the landing roll. Examination of the engine revealed that the number 3 main bearing had spun, the crankshaft was broken at the number 3 cheek, and the crankcase exhibited fretting at the case mating surfaces, consistent with improper through-bolt torque. The engine had undergone a top overhaul 197.4 hours prior to the failure of the crankshaft.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Improper maintenance procedures used to overhaul the engine, which led to the crankshaft failure. Contributing to the severity of the accident was the fence.

Findings

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

Findings

1. (C) ENGINE ASSEMBLY, CRANKSHAFT - FAILURE
2. (C) MAINTENANCE, TOP OVERHAUL - IMPROPER - OTHER MAINTENANCE PERSONNEL

Occurrence #2: ON GROUND/WATER COLLISION WITH OBJECT
Phase of Operation: EMERGENCY LANDING

Findings

3. (F) OBJECT - FENCE

Factual Information

On May 1, 1998, about 1230 central standard time a Bellanca BL17-30A, N6645V, collided with a fence during an emergency landing near Gainesville, Florida. The airplane was operated by the pilot under Title 14 CFR Part 91, and visual flight rules. Visual meteorological conditions prevailed and no flight plan was filed. The private pilot and sole occupant was not injured and the airplane sustained substantial damage. The flight originated in Jonesboro, Arkansas, about 1000 central standard time, with an intended destination of Destin, Florida.

According to the pilot, during cruise flight the propeller "quit pulling as if it was disengaged". Repeated attempts to reengage the prop failed. The pilot had contacted Eglin approach on 125.6 a few minutes earlier to obtain clearance through Eglin's airspace. While on that frequency the pilot declared an emergency, and gave the controller his approximate position. He then made a forced landing in a nearby field, and collided with a wire fence.

On May 15, 1998, an engine teardown was conducted at the Bay Minette Airport by Clark Aviation Inc. The teardown was witnessed by the FAA, the airplane owner, and Clark Aviation personnel. The engine oil pan was removed and metal fragments were found. The rod bolts were found loose as evidenced by shifting, and galling of the rod bearings, except for one which was found torqued to 400 ft. lbs., factory manuals recommend 300 ft. lbs. of torque for rod bolts. Additionally, the crankcase had fretting at the mating surfaces. The crankshaft was found broken at the number 3 cheek, and the number 3 main bearing had spun.

The engine's recommended overhaul time was 1700 hours, a top overhaul was accomplished at 1359.7 hours on 08/16/93, and the engine had accumulated 1557.1 hours at the time of the accident.

Pilot Information

Certificate:	Private	Age:	46, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	08/25/1997
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	402 hours (Total, all aircraft), 95 hours (Total, this make and model), 402 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bellanca	Registration:	N6645V
Model/Series:	BL-17-30A BL-17-30A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	30309
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	07/01/1997, Annual	Certified Max Gross Wt.:	3325 lbs
Time Since Last Inspection:	40 Hours	Engines:	1 Reciprocating
Airframe Total Time:	1500 Hours	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	IO-520
Registered Owner:	JOHN S. / MICHELE J ABERNATHY	Rated Power:	300 hp
Operator:	JOHN S. ABERNATHY	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	CEW, 215 ft msl	Distance from Accident Site:	40 Nautical Miles
Observation Time:	1353 CDT	Direction from Accident Site:	310°
Lowest Cloud Condition:	Thin Broken / 6000 ft agl	Visibility	10 Miles
Lowest Ceiling:	Broken / 7000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	11 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	290°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	25°C / 12°C
Precipitation and Obscuration:			
Departure Point:	GROVE HILL, AL (3A0)	Type of Flight Plan Filed:	None
Destination:	DESTIN, FL (DTS)	Type of Clearance:	VFR
Departure Time:	1200 CST	Type of Airspace:	Class E

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): BUTCH WILSON Report Date: 02/11/2000

Additional Participating Persons: HERB DANIALS

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 pubinq@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. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).