Aviation Investigation Final Report

Location:	BIXBY, Oklahoma	**Accident Number:**	FTW97LA146
Date & Time:	March 28, 1997, 09:09 Local	**Registration:**	N166B
Aircraft:	Beech G33	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

According to the pilot, he had just leveled off at 7,500 feet on a cross-country flight to Little Rock, Arkansas, when the engine started to 'shake violently.' The pilot attempted to return to his departure point, but the engine failed totally. The pilot performed a forced landing, but the airplane impacted a wire on final approach, which subsequently delayed the gear extension, causing the airplane to land with its gear in transit. Postcrash examination of the engine revealed that the number two rod bolt head was in 'relatively undamaged condition.' An FAA Inspector assigned to the accident stated that he believed that the rod bolt was 'either over torqued or under torqued during engine assembly which led to the bolt failure and the number two rod failure well before TBO.' According to the airplane's engine logbook and the pilot's flight log book, the engine had run approximately 604 hours, since being overhauled in August of 1991.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: failure of a number two connecting rod bolt, possibly from being either over-torqued or under-torqued during installation, and failure of the pilot to see-and-avoid the transmission line, while performing a forced landing.

Findings

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

Findings
1. (C) ENGINE ASSEMBLY,CONNECTING ROD BOLT - FAILURE,TOTAL

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

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
2. OBJECT - WIRE,TRANSMISSION
3. (C) VISUAL LOOKOUT - INADEQUATE - PILOT IN COMMAND

Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: EMERGENCY LANDING

Findings
4. GEAR EXTENSION - DELAYED

Factual Information

On March 28, 1997, approximately 0909 central standard time, a Beech G33 airplane, N166B, was substantially damaged during a forced landing following a loss of engine power near Bixby, Oklahoma. The commercial pilot and his passenger were not injured. The airplane was owned and operated by the pilot under Title 14 CFR Part 91. Visual meteorological conditions prevailed for the personal cross country flight which originated from Richard Lloyd Jones Jr. Airport in Tulsa, Oklahoma, approximately 15 minutes before the accident. No flight plan had been filed.

The pilot reported to the Investigator-In-Charge (IIC) that he had just leveled off at 7,500 feet when the engine started to "shake violently." The pilot reversed the airplane's course to fly back to the point of departure when the engine "stopped," and oil started to appear on the windshield. A forced landing was performed in an open field. The pilot report to the IIC that on short final, the airplane hit a transmission wire and he subsequently was delayed in lowering the landing gear. The airplane landed with the landing gear in transition. The passenger reported that the airplane's impact with the ground was "severe," and the "pilot did a good job bringing the airplane to a halt." The fuselage, engine mount, and fire wall were twisted; and, the airframe structure around all three landing gear was damaged.

Postcrash examination of the engine revealed a hole in the engine case. Several weeks after the accident, the engine was torn down. The FAA Inspector assigned to this accident reported to the IIC that the rod bolt head to the number two cylinder was found on the bottom of the engine case in "relatively undamaged condition." He further stated that he believed that the rod bolt was "either over torqued or under torqued during engine assembly which led to the bolt failure and the number two rod failure well before TBO." According to the airplane's engine logbook and the pilot's flight logbook, the engine had run approximately 604 hours since being overhauled in August of 1991.

The IIC had three telephone conversations with the pilot who willingly provided information. The pilot stated that he had the NTSB's Pilot/Operator Aircraft Accident Report (6120.1/2) form "right on my desk." He further stated that he would "mail it in a couple of days." The IIC never received the 6120.1/2 from the pilot.

Pilot Information

Certificate:	Commercial	**Age:**	52,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 Unknown	**Last FAA Medical Exam:**	December 11, 1996
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	899 hours (Total, all aircraft), 72 hours (Last 90 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N166B
Model/Series:	G33 G33	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Utility	**Serial Number:**	CD-1293
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	June 27, 1996 Annual	**Certified Max Gross Wt.:**	3400 lbs
Time Since Last Inspection:	72 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	4132 Hrs	**Engine Manufacturer:**	Continental
ELT:	Installed	**Engine Model/Series:**	IO-470
Registered Owner:	ML AIR, INC.	**Rated Power:**	260 Horsepower
Operator:	DAVID H. LAUGHREY	**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:	TUL ,725 ft msl	**Distance from Accident Site:**	10 Nautical Miles
Observation Time:	08:53 Local	**Direction from Accident Site:**	360°
Lowest Cloud Condition:	Scattered / 15000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	14 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	320°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	16°C / 4°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	TULSA , OK (RVS)	**Type of Flight Plan Filed:**	None
Destination:	LITTLE ROCK , AR (LIT)	**Type of Clearance:**	
Departure Time:	08:45 Local	**Type of Airspace:**	Class E

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	35.940845,-95.869659(est)

Administrative Information

Investigator In Charge (IIC):	Struhsaker, James
Additional Participating Persons:	DON M COOK; OKLAHOMA CITY , OK
Original Publish Date:	January 30, 1998
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=20187