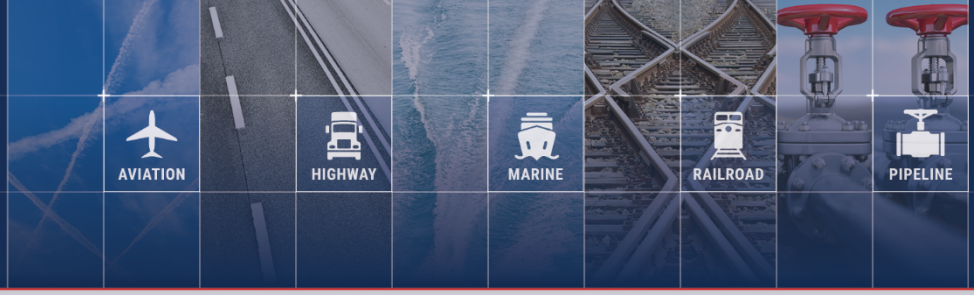

Aviation Investigation Final Report

Location:	POUGHKEEPSIE, New York	**Accident Number:**	BFO94LA025
Date & Time:	January 16, 1994, 09:38 Local	**Registration:**	N930T
Aircraft:	BEECH 33	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

AFTER PRE-HEATING THE AIRPLANE, AND AFTER A PRE-FLIGHT INSPECTION WHICH REVEALED NO DISCREPANCIES OR CONTAMINATED FUEL, THE PILOT TOOK OFF AND CLIMBED TO 2,220 FEET MSL. ABOUT 30 SECONDS AFTER SELECTING CRUISE POWER, THE ENGINE LOST PARTIAL POWER. THE ENGINE WAS 'BARELY KEPT ALIVE' BY USE OF THE AUXILIARY FUEL PUMP, BUT FULL POWER COULD NOT BE REGAINED DESPITE THE COMPLETION OF THE EMERGENCY CHECKLIST. A FORCED LANDING WAS MADE IN A WOODED AREA, AND THE AIRPLANE STRUCK TREES. AN EXAMINATION OF THE AIRFRAME AND ENGINE DID NOT REVEALED ANY PRE-IMPACT DISCREPANCIES WHICH WOULD HAVE LED TO A PARTIAL POWER LOSS. THE TEMPERATURE AT THE TIME OF THE ACCIDENT WAS ZERO DEGREES. FUEL WAS FOUND IN THE GASCOLATOR. ALL OF THE SPARK PLUG LEADS WERE BLACK AND WORN. THE AIRPORT FUEL SUPPLY WAS TESTED WITH NO DISCREPANCIES NOTED. THE ENGINE HAD A HISTORY OF HIGH OIL CONSUMPTION.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE PARTIAL LOSS OF ENGINE POWER DUE TO UNDETERMINED REASONS. RELATED TO THE ACCIDENT WAS THE LACK OF SUITABLE TERRAIN TO COMPLETE A SUCCESSFUL FORCED LANDING.

Findings

Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - NONMECHANICAL
Phase of Operation: CRUISE

Findings
1. (C) REASON FOR OCCURRENCE UNDETERMINED

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

Findings
2. (F) TERRAIN CONDITION - NONE SUITABLE

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

Findings
3. OBJECT - TREE(S)

Factual Information

On January 16, 1994, about 0938 hours eastern standard time, N930T, a Beech BE-33, operated by the owner/pilot, collided with trees and was substantially damaged during a forced landing near Poughkeepsie, New York. The forced landing was precipitated by a loss of engine power. The certificated private pilot, the sole occupant, was not injured. Visual meteorological conditions prevailed and a flight plan was not filed. The personal flight departed from Poughkeepsie about 0900 hours and was destined for West Chester, Pennsylvania. The flight was conducted under 14 CFR 91.

The pilot stated that he had recently purchased the airplane on December 28, 1993. When he took possession of the airplane, the engine required the addition of six quarts of oil. During the flight from Chicago to New Hampshire, an additional seven quarts of oil were needed. One day prior to the accident, the pilot flew the airplane from New Hampshire to the Duchess County Airport in Poughkeepsie. The pilot stated that during the flight, he was unable to lean the fuel mixture below a reading of 8 pounds per square inch (psi). He stated that the "normal" fuel pressure reading should be about 5 psi after leaning. He stated that he was flying at an altitude of 10,500 feet mean sea level (msl) at the time he attempted to lean the mixture.

Upon landing in Poughkeepsie, the airplane was "topped" off with 31 gallons of 100 low lead aviation gasoline. The pilot stayed overnight in Poughkeepsie with plans to depart for West Chester, Pennsylvania, the next morning.

On the morning of the accident, an additional two quarts of oil were added to the engine. The pilot pre-heated the airplane for about 45 minutes, and then pre-flighted the airplane. During the pre-flight inspection, the pilot drained fuel from both wing fuel tanks and did not detect any ice, water, or contamination. He started the engine and ran it up for about 20 minutes with no problems noted. The pilot then took off from runway 24 and climbed to about 2,200 feet msl.

About 30 seconds after selecting cruise power, engine power decreased to idle and the oil pressure dropped. The pilot turned back toward the departure airport and attempted to regain engine power. He stated that he switched from the left fuel tank to the right and activated the electric fuel pump. The engine was "... barely kept alive," despite the completion of the emergency checklist. Realizing he would not make it to the airport with the idling engine, he force landed the airplane in a "hole" surrounded by trees.

According to an FAA aviation safety inspector, the airplane came to rest upright after impacting trees in a wooded area. Both wings were substantially damaged and both fuel tanks were compromised.

A special surface weather observation was recorded at the Duchess County Airport at the time of the accident. The airport is located about one mile from the accident site. The observation reported clear skies, calm winds, and a temperature of zero degrees F.

A sample of fuel from the airport's fuel supply used by the pilot was tested by airport authorities. No contamination was found. Other pilot's operating from the airport on the day of the accident were asked by Air Traffic Control (ATC) tower personnel to report any engine malfunctions. None were reported.

The airplane was removed from the accident site and examined at the Duchess County Airport by the FAA on February 16, 1994. A report of the examination is attached. The engine, a Continental IO-520 was removed from the airframe and examined. Oil was found in the engine. Crankshaft and valve train continuity was verified. According to the FAA report: "Removed all spark plugs, found all carbon black and excessive wear of center electrode. Go/no go gage also indicated that all spark plugs were worn.... Three spark plugs were not threaded all the way and torqued."

On April 29, 1994, a mechanic examined the gascolator on the airframe. Fuel was found in the gascolator and in the fuel lines attached to it. No evidence of water or contamination was found.

The fuel distribution valve was disassembled and examined. There was no evidence of fuel or rust.

An examination of the airframe and engine maintenance logbook (excerpts attached) revealed that the airframe and engine received an annual inspection and a 100-hour inspection on September 3, 1993. No unresolved or open discrepancies were noted. The engine had logged a total of 435 hours since major overhaul, and 12 hours since its last inspection.

Pilot Information

Certificate:	Private	**Age:**	51,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
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 3 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	December 18, 1992
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	340 hours (Total, all aircraft), 180 hours (Total, this make and model), 340 hours (Pilot In Command, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BEECH	**Registration:**	N930T
Model/Series:	33 33	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	CD-136
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	September 3, 1993 Annual	**Certified Max Gross Wt.:**	2900 lbs
Time Since Last Inspection:	12 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2962 Hrs	**Engine Manufacturer:**	CONTINENTAL
ELT:	Installed, activated	**Engine Model/Series:**	IO-470
Registered Owner:	STILLMAN E. BOND	**Rated Power:**	225 Horsepower
Operator:	STILLMAN E. BOND	**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:	POU ,166 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	09:38 Local	**Direction from Accident Site:**	60°
Lowest Cloud Condition:	Clear	**Visibility**	20 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	0°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	-18°C / -18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:		**Type of Flight Plan Filed:**	None
Destination:	WEST CHESTER , PA	**Type of Clearance:**	None
Departure Time:	09:30 Local	**Type of Airspace:**	Class E

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	
Runway Length/Width:		**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:**	41.690956,-73.919692(est)

Administrative Information

Investigator In Charge (IIC):	Guzzetti, Jeffrey
Additional Participating Persons:	DOMINICK DILEO; TETERBORO , NJ
Original Publish Date:	January 26, 1995
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=8878