Aviation Investigation Final Report

Location:	West Bend, Wisconsin	**Accident Number:**	CHI01LA264
Date & Time:	August 5, 2001, 20:39 Local	**Registration:**	N2367J
Aircraft:	Beech 23	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane lost engine power during the takeoff portion of a touch and go and subsequently impacted a tree and the ground before coming to rest. A postaccident examination showed that the left wing fuel tank was compromised and the right wing fuel tank was intact. Fuel could not be seen in the right fuel tank by visual inspection through the fuel filler opening. Fuel was found in the carburetor fuel bowl. The fuel selector valve was found with the selector positioned for the right wing fuel tank. Four gallons of fuel was added to the right wing fuel tank and an engine run performed. The engine was run from idle to 1,500 RPM and no anomalies were noted. No anomalies were found that could be associated with a preexisting condition. The pilot stated that he began the flight with 10 gallons of fuel in each wing tank and he indicated, in his written report, that there were 20 gallons of fuel on board at the last takeoff. The "Pilot's Operating Handbook and FAA Approved Airplane Flight Manual" for the aircraft states, "Do not take off when the Fuel Quantity Gages indicate in the *Yellow Band or with less than 11 gallons in each main tank." It was found during the postaccident examination of the aircraft that the fuel quantity gages were not marked with yellow bands.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot not following the aircraft fuel management procedures. Factors were the fuel starvation, the low altitude, the manufacturers service instruction not complied with, and the tree.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (F) FLUID,FUEL - STARVATION
2. (C) PROCEDURES/DIRECTIVES - NOT FOLLOWED - PILOT IN COMMAND
3. (F) MAINTENANCE,SERVICE BULLETIN/LETTER - NOT COMPLIED WITH
4. (F) ALTITUDE - LOW

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

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

Findings
5. (F) OBJECT - TREE(S)

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

Factual Information

On August 5, 2001, at 2039 central daylight time, a Beech model 23, N2367J, piloted by a private pilot, sustained substantial damage during a forced landing following a loss of engine power during initial climb after takeoff from runway 24 (3,898 feet by 75 feet), at the West Bend Municipal Airport, West Bend, Wisconsin. The 14 CFR Part 91 personal flight was operating in visual meteorological conditions and was not on a flight plan. The pilot and his one passenger received minor injuries. The local flight originated at about 2000.

A postaccident examination of the aircraft was conducted. The left wing fuel tank was compromised. The right wing fuel tank was intact. Fuel could not be seen in the right fuel tank by visual inspection through the fuel filler opening. Fuel was found in the carburetor fuel bowl. The fuel selector valve was found with the selector positioned for the right wing fuel tank. Four gallons of fuel were added to the right wing fuel tank and an engine run performed. The engine was run from idle to 1,500 RPM and no anomalies were noted. No anomalies were found that could be associated with a preexisting condition.

The pilot said, in a written statement, that he was returning from a 30 minute flight and was performing a touch and go. He said that on the takeoff portion of the touch and go, he experienced a complete loss of engine power approximately 200 feet AGL. He said, "There were several popping sounds from the engine before it quit. I tried to restart but had no success. I chose a relatively open spot in front of me and did my best to keep the aircraft under control. At about 10 feet AGL the left wing contacted a tree. This spun the aircraft sharply and the aircraft landed flat."

The pilot stated to a Federal Aviation Administration Inspector that he began the flight with 10 gallons of fuel in each wing tank. In his written report, the pilot indicated that there were 20 gallons of fuel on board at the last takeoff.

The "Pilot's Operating Handbook and FAA Approved Airplane Flight Manual" for the aircraft states in Section II;

> FUEL MANAGEMENT
>
> Do not take off when the Fuel Quantity Gages indicate in the *Yellow Band or with less than 11 gallons in each main tank.
>
> Maximum slip duration: 30 seconds
>
> *Yellow band was installed by BEECHCRAFT S.I. No. 0624-281.

It was found during the postaccident examination of the aircraft that the fuel quantity gages were not marked with yellow bands.

Pilot Information

Certificate:	Private	**Age:**	19,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:**	August 3, 1999
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	July 31, 2000
Flight Time:	130 hours (Total, all aircraft), 120 hours (Total, this make and model), 37 hours (Last 90 days, all aircraft), 18 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N2367J
Model/Series:	23	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Utility	**Serial Number:**	M-325
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	January 18, 2001 Annual	**Certified Max Gross Wt.:**	2300 lbs
Time Since Last Inspection:	53 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2415 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	O-320
Registered Owner:	Donald W. McLean	**Rated Power:**	160 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	ETB,886 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	20:55 Local	**Direction from Accident Site:**	0°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	0 knots / 0 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	0°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.1 inches Hg	**Temperature/Dew Point:**	26°C / 23°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	West Bend, WI (ETB)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	20:00 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	WEST BEND MUNI ETB	**Runway Surface Type:**	Asphalt
Airport Elevation:	886 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	24	**IFR Approach:**	None
Runway Length/Width:	3898 ft / 75 ft	**VFR Approach/Landing:**	Touch and go

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Minor	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Minor	**Latitude, Longitude:**	43.460395,-88.189476(est)

Administrative Information

Investigator In Charge (IIC):	Brannen, John
Additional Participating Persons:	Rexford D White; FAA-Milwaukee, Wisconsin FSDO; Milwaukee, WI
Original Publish Date:	January 2, 2002
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=52975