



National Transportation Safety Board Aviation Accident Final Report

Location:	Poughkeepsie, NY	Accident Number:	IAD05LA029
Date & Time:	01/01/2005, 1745 EST	Registration:	N7180Q
Aircraft:	Cessna 172L	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None

Flight Conducted Under: Part 91: General Aviation - Personal

Analysis

After takeoff, the pilot completed one traffic pattern, performed a touch-and-go landing, and was on climb-out when the engine stopped producing power about 200 feet above ground level. As the pilot maneuvered it back towards the airport, the airplane struck a tree and a fence on the airport perimeter. Post-crash examination revealed that the gascolator drain valve would not actuate, and would not drain fuel. The bowl was removed, and it contained water, rust, and debris, with a thin film of fuel on top. The carburetor was drained, and the mixture collected was about 50 percent fuel, and 50 percent water. The contents of the left fuel tank could not be examined due to impact damage and the disposition of the wreckage. Fuel drained from the right tank contained water. After the airplane was recovered, a can of aviation gasoline was plumbed into the airplane's fuel system. The engine started immediately, and ran continuously without interruption.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate preflight, which resulted in a loss of engine power due to fuel contamination.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (C) FLUID,FUEL - CONTAMINATION,WATER
2. (C) AIRCRAFT PREFLIGHT - INADEQUATE - PILOT IN COMMAND

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

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: MANEUVERING - TURN TO LANDING AREA (EMERGENCY)

Findings

3. OBJECT - FENCE

Factual Information

On January 1, 2005, at 1745 eastern standard time, a Cessna 172L, N7180Q, was substantially damaged during collision with a tree and a fence following a loss of engine power after takeoff from Dutchess County Airport (POU), Poughkeepsie, New York. The certificated private pilot was not injured. Visual meteorological conditions prevailed for the local flight that originated, at 1740. No flight plan was filed for the flight conducted under 14 CFR Part 91.

The pilot was interviewed by telephone and provided a written statement. He explained that the airplane belonged to a friend, and it was housed in his hangar. The purpose of the flight was to check out the airplane for his friend.

The airplane was serviced with fuel about 1 week prior to the accident, and the tanks were filled at that time. After fueling, the pilot "rocked the wings, and held the aircraft tail down" prior to drawing fuel samples. According to the pilot, the samples contained no water. He did not fly the airplane that day due to a scheduling conflict.

During the preflight inspection before the accident flight, the pilot again rocked the wings and lowered the tail prior to sampling the fuel. The pilot drew two samples from each wing, and drained "10-12 ounces" of fuel from the gascolator. According to the pilot, the samples contained no water. After the preflight was completed, the airplane was towed outside.

The pilot stated that after engine start; he completed the before-takeoff checklist five times, and ran the engine for 18-20 minutes prior to the first takeoff.

After takeoff from runway 06, the pilot completed one traffic pattern, performed a touch-and-go landing, and was on climb-out when the engine stopped producing power about 200 feet above ground level.

As the pilot maneuvered it back towards the airport, the airplane struck a tree and a fence on the airport perimeter. The airplane came to rest upright, entangled in the fence.

On January 3, 2005, a Federal Aviation Administration (FAA) aviation safety inspector examined the airplane. In a telephone interview, he said the gascolator drain valve would not actuate, and would not drain fuel. The gascolator bowl could not be removed due to corrosion, and required two hands to "break it free from its mount." The bowl contained water, with a thin film of fuel on top. The bowl also contained rust and debris, and the gascolator plunger gasket/grommet was torn.

The carburetor was drained, and the mixture collected was about 50 percent fuel, and 50 percent water. The carburetor also contained dirt and debris.

The contents of the left fuel tank could not be examined due to impact damage and the disposition of the wreckage. Fuel drained from the right tank contained water.

The auxiliary tank contained about 4 ounces of fluid. The fluid was drained, and the mixture collected was about 70 percent water. The other 30 percent was an unidentified fluid that was yellow in color.

The pilot held a private pilot certificate with a rating for airplane single engine land. He also held a commercial pilot certificate with a rating for rotorcraft helicopter. His most recent FAA second-class medical certificate was issued October 15, 2003.

The pilot reported 3,446 hours of flight experience, of which, 1,869 were in single engine

airplanes. He reported approximately 50 hours of flight experience in make and model.

The tachometer reading at the crash site was 2,083.5 aircraft hours.

The most recent annual inspection was completed October 10, 2004, at 2083.2 aircraft hours.

At 1753, the weather reported at Dutchess County Airport included clear skies with winds from 360 degrees at 8 knots. The temperature was 39 degrees Fahrenheit, and the dewpoint was 27 degrees Fahrenheit.

According to the Cessna Pilot Safety and Warning Supplements, rocking the wings, and lowering of the tail, should only be accomplished after contaminants have been discovered in routine fuel sampling. According to the Supplements, "If contamination is observed, take further samples at all fuel drain points until fuel is clear of contaminants; then, gently rock wings and, if possible, lower the tail to move any additional contaminants to the sampling points. Take repeated samples from all fuel drain points until all contamination has been removed."

On February 1, 2005, an FAA inspector plumbed a can of aviation gasoline into the airplane's fuel system. The engine started immediately, and ran continuously without interruption. According to the inspector, all instrument readings and the magneto checks were "perfect."

Pilot Information

Certificate:	Commercial	Age:	56, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last Medical Exam:	10/15/2003
Occupational Pilot:		Last Flight Review or Equivalent:	10/20/2003
Flight Time:	3446 hours (Total, all aircraft), 504 hours (Total, this make and model), 1000 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Cessna	Registration:	N7180Q
Model/Series:	172L	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	17260480
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	10/10/2004, Annual	Certified Max Gross Wt.:	2300 lbs
Time Since Last Inspection:	1 Hours	Engines:	1 Reciprocating
Airframe Total Time:	2083.5 Hours	Engine Manufacturer:	Textron Lycoming
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	O-360-A4M
Registered Owner:	BROWN AVIATION LLC	Rated Power:	180 hp
Operator:	BROWN AVIATION LLC	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	POU, 165 ft msl	Observation Time:	1753 EST
Distance from Accident Site:	1 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	240°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	4° C / -3° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	8 knots, 360°	Visibility (RVR):	
Altimeter Setting:	30.47 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:			
Departure Point:	POUGHKEEPSIE, NY (POU)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	VFR
Departure Time:	1530 EST	Type of Airspace:	Class D

Airport Information

Airport:	DUTCHESS COUNTY (POU)	Runway Surface Type:	Asphalt
Airport Elevation:	165 ft	Runway Surface Condition:	Dry
Runway Used:	6	IFR Approach:	None
Runway Length/Width:	5001 ft / 100 ft	VFR Approach/Landing:	Forced Landing; Touch and Go

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		

Administrative Information

Investigator In Charge (IIC): Brian C Rayner Adopted Date: 04/28/2005

Additional Participating Persons: Ken Symons; FAA; Teterboro, NJ

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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