Aviation Investigation Final Report

Location:	Bigfork, Montana	**Accident Number:**	SEA04LA084
Date & Time:	May 17, 2004, 19:22 Local	**Registration:**	N37982
Aircraft:	Piper J4/E	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that while returning to land at the departure airport, the engine began to "surge". The pilot continued towards the airport but was not able to maintain altitude or establish visual contact with the airport due to terrain. The pilot further reported that since he was unable to reach the airport, he turned approximately 180-degrees and initiated a forced landing in a field. During the landing roll the pilot, in an attempt to avoid running into trees, applied the brakes "aggressively" which resulted in a nose over. In a telephone conversation and subsequent written statement, the pilot reported, "I am convinced the engine quit running because of fuel starvation." He related that the airplane had been "topped" three days earlier and had been flown two hours previous to the day of the accident. On the day of the accident he flew for about an hour. He further revealed that he was aware that the wing tank was empty because he had observed "bubbles" in the fuel sight gauge, which extends out the bottom of the wing tank. The pilot also reported that the airplane was equipped with one 18-gallon wing tank, and a 7-gallon header tank. Post accident examination of the aircraft by maintenance personnel from Discount Aircraft Salvage, found all engine controls to be functioning properly and approximately one tablespoon of fuel was drained from the fuel gascolator. After adding approximately one gallon of fuel to the header tank, the engine was started and ran smoothly with no malfunction or failures noted.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A loss of engine power due to fuel exhaustion while in cruise flight as a result of inadequate preflight planning / preparation. Factors contributing to the accident were the short landing field and trees.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: CRUISE

Findings
1. (C) FLUID,FUEL - EXHAUSTION
2. (C) IN-FLIGHT PLANNING/DECISION - INADEQUATE - PILOT IN COMMAND

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

Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: EMERGENCY LANDING

Findings
3. (F) TERRAIN CONDITION - SHORT RUNWAY/LANDING AREA
4. (F) OBJECT - TREE(S)

Occurrence #4: NOSE OVER
Phase of Operation: LANDING - ROLL

Factual Information

On May 17, 2004, at about 1922 mountain daylight time, a Piper J4/E, N37982, registered to and being operated by the pilot as a 14 CFR Part 91 personal flight, experienced an un-commanded reduction of engine power. The pilot initiated a forced landing in a field about one-half of a mile north of Ferndale Airfield, Bigfork, Montana. Although the initial landing was uneventful the rollout resulted in a nose over. The aircraft was substantially damaged and the airline transport pilot, the sole occupant, was not injured. Visual meteorological conditions prevailed and no flight plan had been filed. The flight departed Ferndale, Montana, about one hour prior to the accident.

In a telephone conversation and subsequent written statement, the pilot reported that while returning to land at the airport, the engine began to "surge". Carburetor heat was applied with no effect. The pilot continued towards the airport, but was not able to maintain altitude or establish visual contact with the airport due to terrain. The pilot further reported that since he was unable to reach the airport, he turned approximately 180-degrees and initiated a forced landing in a field. During the landing roll the pilot, in an attempt to avoid running into trees, applied the brakes "aggressively" which resulted in a nose over.

During a follow-up telephone conversation the pilot reported, "I am convinced the engine quit running because of fuel starvation." He related that the airplane had been "topped" three days earlier and had been flown two hours previous to the day of the accident. On the day of the accident he flew for about an hour. He further revealed that he was aware that the wing tank was empty because he had observed "bubbles" in the fuel sight gauge, which extends out the bottom of the wing tank. The pilot also reported that the airplane was equipped with one 18-gallon wing tank, and a 7-gallon header tank.

Post accident examination of the aircraft by maintenance personnel from Discount Aircraft Salvage, found all engine controls to be functioning properly and approximately one tablespoon of fuel was drained from the fuel gascolator. After adding approximately one gallon of fuel to the header tank, the engine was started and ran smoothly with no malfunction or failures noted.

Pilot Information

Certificate:	Airline transport; Commercial	**Age:**	71,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 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	July 23, 2003
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	July 8, 2002
Flight Time:	30000 hours (Total, all aircraft), 65 hours (Total, this make and model), 20000 hours (Pilot In Command, all aircraft), 6 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N37982
Model/Series:	J4/E	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	4-1501
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	June 27, 2003 Annual	**Certified Max Gross Wt.:**	1400 lbs
Time Since Last Inspection:	30 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2050 Hrs at time of accident	**Engine Manufacturer:**	Continental
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	C85-12
Registered Owner:	David E Flatter	**Rated Power:**	85 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:		**Distance from Accident Site:**	
Observation Time:		**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	180°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:		**Temperature/Dew Point:**	18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Bigfork, MT (K53U)	**Type of Flight Plan Filed:**	None
Destination:	Bigfork, MT (K53U)	**Type of Clearance:**	None
Departure Time:	18:20 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	FERNDALE AIRFIELD 53U	**Runway Surface Type:**	
Airport Elevation:	3060 ft msl	**Runway Surface Condition:**	Unknown
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

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:**	48.066665,-113.983329

Administrative Information

Investigator In Charge (IIC):	Hogenson, Dennis
Additional Participating Persons:	Lynn Wheeler; FAA - Helena FSDO; Helena, MT
Original Publish Date:	October 28, 2004
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=59231