Aviation Investigation Final Report

Location:	Driggs, Idaho	**Accident Number:**	SEA03LA117
Date & Time:	June 22, 2003, 15:00 Local	**Registration:**	N86182
Aircraft:	Cessna T337D	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot calculated the distance to his destination at 201 nautical miles and estimated that he had 2 hours of fuel in the main tanks at the time of takeoff. Twelve minutes into the flight and leveling off at 13,500 feet MSL, the Global Positioning System was indicating a groundspeed of 190 knots, with the destination airport 59 minutes away. The pilot assumed he had close to 1 3/4 hours of fuel remaining, and elected to proceed directly to his destination rather than to stop and refuel. 80 nautical miles from the destination airport the pilot began a descent out of 8,000 feet MSL, and 60 nautical miles northwest of the airport he mentioned to his passenger that the right main fuel gauge, which feeds the rear engine, seemed to be reading lower than usual. The pilot switched over to the right aux tank, but two to three minutes later the rear engine started to cough. The pilot then switched back to the right main tank. Approximately 20 nautical miles from the destination airport the front engine began to fail from lack of fuel. The pilot attempted to crossfeed the front engine to the right main tank as the engine was starting to quit. Unable to keep the front engine running, the pilot feathered the front propeller. As the pilot was about to make a radio call on the airport's Unicom frequency, the rear engine began to fail from lack of fuel. The pilot feathered the rear propeller, retracted the flaps, reduced airspeed, and began looking for a forced landing site. The right seat passenger began to manually pump the gear down, but deciding that there was no suitable road within gliding range, the pilot elected to make a wheels up landing in a field. Touching down fairly hard and fast, the airplane spun 90 degrees to the left and began sliding sideways before coming to a stop in an upright position. There was no post-impact fire and neither the pilot or passenger sustained injury.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate inflight decision by failing to refuel while en route, resulting in fuel exhaustion and the loss of power. A factor contributing to the accident was the unsuitable terrain for the forced landing.

Findings

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

Findings
1. (C) IN-FLIGHT PLANNING/DECISION - INADEQUATE - PILOT IN COMMAND
2. (C) FLUID,FUEL - EXHAUSTION
3. (C) REFUELING - NOT PERFORMED - PILOT IN COMMAND

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

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

Findings
4. (F) TERRAIN CONDITION - NONE SUITABLE

Factual Information

On June 22, 2003, approximately 1500 mountain daylight time, a Cessna T337D, N86182, was substantially damaged during a forced landing following a total loss of engine power while descending near Driggs, Idaho. The airplane was registered to and operated by the pilot. The private pilot and his sole passenger were not injured. Visual meteorological conditions prevailed for the 14 CFR Part 91 personal cross-country flight, and a flight plan was not filed. The flight originated from the Johnson Creek Airport (3U2), Yellow Pine, Idaho, at 1400, and was en route to the Driggs-Reed Memorial Airport (U59), Driggs, Idaho.

According to the Pilot/Operator Aircraft Accident Report (NTSB Form 6120.1/2), the pilot reported that after departing 3U2 and climbing to 13,500 feet mean sea level (MSL), his intention was to check weather to the east and refuel in either Challis (LLJ) or Salmon (SMN), Idaho. The pilot stated that the distance to his destination, U59, was 201 nautical miles and estimated that he had 2 hours of fuel in the main tanks at the time of takeoff. After approximately .2 hours (12 minutes) the pilot related that the Global Positioning System (GPS) was indicating a groundspeed of 190 knots, with U59 only 59 minutes away. The pilot stated, "Assuming (incorrectly, as it turned out!) that we had near 1 3/4 hours of fuel remaining, I deleted LLJ from our GPS fight plan and decided to proceed direct to Driggs. We continued to achieve groundspeeds of 180 knots to 190 knots throughout the flight. Approximately 80 nautical miles from U59 the pilot began a slow descent to 8,000 feet MSL. Approximately 60 nautical miles northwest of U59, the pilot mentioned to his passenger that the right main fuel gauge seemed to be reading lower than usual. The pilot then switched the rear engine (normally feed off the right main and right aux tanks) over to the right aux tank. Two to three minutes later the engine [rear engine] started to "cough", prompting the pilot to switch it back over to the right main tank. The pilot reported that about 20 nautical miles from U59 the front engine began to fail from lack of fuel. "Knowing there was little fuel in the left aux tank, I tried to crossfeed the front engine to the right main tank while the engine was still coughing. I was unable to keep the engine running, so I feathered the front propeller and proceeded direct to U59 while maintaining 7,500 feet MSL." The pilot said he was about to make a radio call on the airport's Unicom frequency when the rear engine began to fail from lack of fuel. "I feathered the rear engine while there was still oil pressure, retracted the flaps I had put out for the descent, reduced airspeed to about 115 miles per hour, and began looking for a forced landing site. The pilot stated that at 7,000 feet MSL he turned toward the south, into the wind, looking for north/south roadways while the right seat passenger began to manually pump the gear down. With only the gear doors open and deciding that there was no suitable road within gliding range, the pilot elected to make a wheels up landing in a field. The pilot reported the airplane touched down "fairly hard and fast" due to having only 1/3 flaps on. After slowing, the airplane spun 90 degrees to the left and began sliding sideways before coming to a stop in an upright position. Both the pilot and his passenger exited the airplane uninjured. There was no post-impact fire.

An FAA inspector, who traveled to the aircraft recovery site, reported the aircraft had sustained substantial damage to the lower fuselage frame where both wing struts are attached, as well as to the bottom of the fuselage. The right wing tip and the forward wheel well area were also damaged.

In the Recommendation section of the NTSB Form 6120.1/2, the pilot reported, "Accident was caused by faulty fuel planning. Inadequate allowance for fuel consumed during startup, warm-up, taxi, and initial departure. Avoid by dipping tanks prior to every flight."

Pilot Information

Certificate:	Private	**Age:**	48,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 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	June 9, 2003
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	June 11, 2001
Flight Time:	1767 hours (Total, all aircraft), 1032 hours (Total, this make and model), 1590 hours (Pilot In Command, all aircraft), 84 hours (Last 90 days, all aircraft), 33 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N86182
Model/Series:	T337D	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	337-1105
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	March 24, 2003 Annual	**Certified Max Gross Wt.:**	4500 lbs
Time Since Last Inspection:	87 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	4700 Hrs as of last inspection	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	TSIO-360
Registered Owner:	On file	**Rated Power:**	210 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	RXE,4858 ft msl	**Distance from Accident Site:**	36 Nautical Miles
Observation Time:	14:53 Local	**Direction from Accident Site:**	280°
Lowest Cloud Condition:	Few	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	21 knots / 26 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	200°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.85 inches Hg	**Temperature/Dew Point:**	16°C / -1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Yellow Pine, ID (3U2)	**Type of Flight Plan Filed:**	None
Destination:	Driggs, ID (U59)	**Type of Clearance:**	
Departure Time:	14:00 Local	**Type of Airspace:**	Class G

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:**	43.808334,-111.216667

Administrative Information

Investigator In Charge (IIC):	Little, Thomas
Additional Participating Persons:	Lynn S Higgins; Salt Lake City, Utah; Salt Lake City, UT
Original Publish Date:	November 25, 2003
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=57314