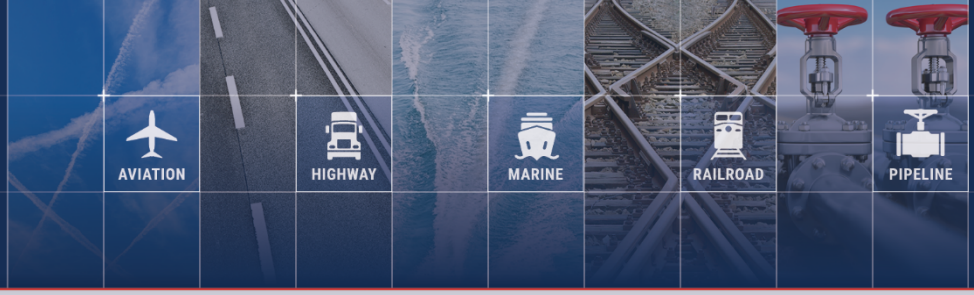

Aviation Investigation Final Report

Location:	St. Cloud, Minnesota	**Accident Number:**	CHI01LA179
Date & Time:	June 19, 2001, 19:50 Local	**Registration:**	N5883M
Aircraft:	Cessna T310P	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot executed a forced landing on a muddy bean field after a total loss of power on both engines during approach to the runway. The left fuel selector valve was in the right main position. The right fuel selector valve was in the right main position. The airplane checklist requires that each fuel selector be posited to its respective main fuel tank. The pilot stated that he did not remember the fuel selector positions. The seriously injured pilot was not wearing the available shoulder harness at his seat during the accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the fuel starvation. Fuel management by the pilot was an additional cause. The muddy terrain was a contributing factor.

Findings

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

Findings
1. (C) FLUID,FUEL - STARVATION
2. (C) FUEL MANAGEMENT - IMPROPER - PILOT IN COMMAND

Occurrence #2: FORCED LANDING

Phase of Operation: APPROACH

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: EMERGENCY LANDING

Findings
3. (F) TERRAIN CONDITION - MUDDY
4. SHOULDER HARNESS - NOT USED - PILOT IN COMMAND

Factual Information

On June 19, 2001, at 1950 central daylight time, a Cessna T310P, N5883M, piloted by a private pilot, was substantially damaged during a forced landing on a bean field. The airplane was on an approach to runway 31 (5,200 feet by 100 feet, asphalt) at the St. Cloud Regional Airport (STC), St. Cloud, Minnesota, when the airplane experienced a total loss of engine power on both engines. Visual meteorological conditions prevailed at the time of the accident. The 14 CFR Part 91 personal flight was not operating on a flight plan. The pilot sustained serious injuries. The flight departed from Ada, Minnesota, at 1645, en route to STC.

The pilot reported the following in a written statement, "Upon 1 mile final, I increased power to maintain blue line (122 mph). No power was present. I determined if I continued straight, I would not make the runway, but would crash into the tree lined banks of the Elk River. I was loosing my remaining altitude and speed fast, so I nosed it down turned about 180 [degrees] to the left and tried to land it in a field without stalling it. The ground was so soft it 'swallowed' the gear causing the airplane to slam forward. I was knocked unconscious for about 0-3 minutes. I woke up and got out of the aircraft. The plane was badly damaged. Departure point: D00 about 7 pm, destination was STC (St. Cloud)."

During a postaccident interview by the Federal Aviation Administration (FAA), the pilot reported that he did not remember the positions of the fuel selectors.

The Cessna T310P fuel system consists of two main fuel tip tanks on each wing with a useable fuel capacity of 50 gallons per tank. The airplane also is equipped with two auxiliary fuel tanks located in each wing with a useable fuel capacity of 20 gallons per tank. The fuel selector positions for the left engine are: left engine off, left main, left auxiliary and right main. The fuel selector positions for the right engine are: right engine off, right main, right auxiliary and left main.

The accident site was 4,050 feet from the approach end of runway 31. Ground scarring was 60 feet in length and oriented on a magnetic heading of 300 degrees. The airframe was upright and oriented on a tail to nose magnetic heading of 080 degrees. The airframe was resting on the right main landing gear with the left main and nose landing gear collapsed. The nose section was crushed inward. The left outer wing exhibited crushing and twisting with its left tip fuel tank broken loose. The right tip fuel tank was also broken loose. The trailing edge flaps were partially extended. Both engines were separated from the airframe.

The left fuel selector handle was between the placarded left main and left engine off positions. The left fuel selector valve was damaged and in the right main position. The right fuel selector handle and valve were both in the right main position. Control continuity of the fuel selectors was confirmed.

Both wing tip fuel tanks were breached and no fuel was noted within these tanks. The left auxiliary fuel tank was breached and the right auxiliary fuel tank was drained of 1/2 ounce of fuel. Fuel was present in fuel selector valve bowls. The left and right fuel selector screens did not exhibit contamination.

The left and right engine driven fuel pumps were rotated and no anomalies were reported. Both fuel pumps contained fuel.

The left engine was rotated by hand and a thumb compression was obtained on all cylinders. The left engine's magnetos were rotated and electrical continuity was confirmed through its top leads. The right engine was rotated by hand and a thumb compression was obtained on all cylinders except that of the number one cylinder. Further inspection of the number one cylinder revealed that the pushrods were bent. The right engine's magnetos were rotated and electrical continuity was confirmed through its top leads.

The airplane was equipped with a Shadin fuel flow indicator which was tested at the manufacture’s facility at St. Louis Park, Minnesota. A download of the nonvolatile memory within the unit indicated a set point of 140.6 gallons; fuel remaining 67.3 gallons and fuel used 73.5 gallons.

The "Before Landing" checklist states that the left engine fuel selector be selected to the left main fuel tank and the right engine fuel selector be selected to the right main fuel tank.

The pilot reported he was wearing a seat belt but not the shoulder harness available at his seat. FAA publication, FAA-P-8740-45, Aircraft Safety Restraints, states, "A properly installed shoulder harness which is worn by an occupant is one of the most important safety devices in an aircraft because it can reduce the chance of injury in an accident. Experts say serious injuries and fatalities can be reduced by more than one third if everyone would wear shoulder harnesses..."

The FAA, Cessna Aircraft Company and Teledyne Continental Motors were parties to the investigation.

Pilot Information

Certificate:	Private	**Age:**	46,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 1, 2000
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	February 7, 2001
Flight Time:	726 hours (Total, all aircraft), 100 hours (Total, this make and model), 576 hours (Pilot In Command, all aircraft), 47 hours (Last 90 days, all aircraft), 27 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N5883M
Model/Series:	T310P	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	310P-0183
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	Annual	**Certified Max Gross Wt.:**	5400 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Continental
ELT:		**Engine Model/Series:**	TSIO-520-B
Registered Owner:	Zepher Winds, LLC	**Rated Power:**	285 Horsepower
Operator:	David Resnick	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	STC,1024 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	19:53 Local	**Direction from Accident Site:**	310°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	300°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.13 inches Hg	**Temperature/Dew Point:**	21°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Ada, MN (D00)	**Type of Flight Plan Filed:**	None
Destination:	Saint Cloud, MN (STC)	**Type of Clearance:**	
Departure Time:	16:45 Local	**Type of Airspace:**	

Airport Information

Airport:	St Cloud Regional Airport STC	**Runway Surface Type:**	Asphalt
Airport Elevation:	1024 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	310	**IFR Approach:**	Unknown
Runway Length/Width:	5200 ft / 100 ft	**VFR Approach/Landing:**	Full stop

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious	**Latitude, Longitude:**	45.530593,-94.060668(est)

Administrative Information

Investigator In Charge (IIC):	Gallo, Mitchell
Additional Participating Persons:	Janice Orr; Federal Aviation Administration; Minneapolis, MN Joseph A Hutterer; Cessna Aircraft Company; Wichita, KS Scott Boyle; Teledyne Continental Motors; Arvada, CO
Original Publish Date:	May 21, 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=52549