



National Transportation Safety Board Aviation Accident Final Report

Location:	Sturgeon Bay, WI	Accident Number:	CEN13LA330
Date & Time:	06/01/2013, 1125 CDT	Registration:	N3350J
Aircraft:	CESSNA TP206B	Aircraft Damage:	Substantial
Defining Event:	Fuel related	Injuries:	1 None
Flight Conducted Under:	Part 91: General Aviation - Skydiving		

Analysis

The airplane experienced a total loss of engine power during a skydiving flight. After the pilot switched the fuel tank selector from the left fuel tank to the right fuel tank position, the engine restarted. The pilot continued the flight. While returning to the departure airport and preparing for landing, the pilot switched the fuel tank selector back to the left fuel tank position because the fuel gauge indicated a greater fuel quantity. About 1 minute later, the engine quit. The pilot landed the airplane left of the intended runway, about 200 feet from its end, and the airplane flipped over and pivoted on its nose. Examination of the airplane revealed that the left fuel tank vent system was obstructed with an unknown substance. It is likely that the obstruction prevented fuel flow to the engine and resulted in a total loss of engine power.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's improper reselection of the left fuel tank, which had an obstructed vent system and resulted in a total loss of engine power during the approach for landing.

Findings

Aircraft	Fuel system - Damaged/degraded (Cause) Fuel - Fluid management (Cause) Descent/approach/glide path - Not attained/maintained
Personnel issues	Incorrect action selection - Pilot (Cause)

Factual Information

On June 1, 2013, about 1125 central daylight time, a Cessna TP206B, N3350J, nosed-over and impacted terrain during a forced landing that was short of runway 20 at Door County Cherryland Airport (SUE), Sturgeon Bay, Wisconsin. The airplane experienced a total loss of engine power. The airplane sustained substantial damage. The commercial pilot was uninjured. The airplane was registered to Out of the Blue Skydiving LLC and operated by Skydive Door County under 14 Code of Federal Regulations Part 91 as a skydiving flight that was not operating on a flight plan. Visual meteorological conditions prevailed for the flight that originated from SUE about 1100.

The pilot stated that he departed for about a 25-minute flight to drop parachute jumpers above SUE. In-flight fuel management was through the use of the airplane fuel selector that drew fuel from either the right or the left fuel tank. He said that he was instructed during his airplane checkout that the fuel tanks cross feed like other high-wing Cessna airplanes that he was familiar with, and he did not recall anything that was contrary to that within the pilot operating handbook. There was about 22 gallons of fuel on board, which would have been enough for the flight. He said that he was advised that the entire flight could be flown from the right fuel tank only due to continuous banking.

The pilot stated that he took off and climbed using the left fuel tank, which had 5 more gallons of fuel than the right fuel tank. About 6,500 feet mean sea level, the engine stopped. While turning back toward SUE, he switched fuel tanks because the right fuel tank indicated a greater fuel quantity. The engine restarted about 20-30 seconds after he switched to the right fuel tank, and the engine continued to operate during the return and climb over the drop zone. After dropping the jumpers, he slowly reduced engine power and spiraled down for landing. He performed a final [gas, undercarriage, mixture, and propeller] check for landing and selected the left fuel tank, which indicated a greater fuel quantity. The engine ran for about 60 seconds after the left fuel tank was selected and then it quit while the airplane was on a base leg about 1-1.5 miles from runway 20 (4,600 feet by 75 feet, asphalt).

The pilot stated that he read the POH [Pilot Operating Handbook], and he did not recall anything about the fuel system being cross-fed. He stated the he may not have read it as detailed, because he was told the fuel system was cross-fed.

The 1967 Cessna Super Skylane Owner's Manual, Fuel System, states, in part:

"Fuel from each wing tank flows through a fuel reservoir tank to the fuel selector valve. Depending upon the setting of the selector valve, fuel from the left or right tank flows through a fuel strainer and by-pass in the electric auxiliary fuel pump (when it is not operating) to the engine-driven fuel pump. From here fuel is distributed to the engine cylinders to the engine cylinders via a fuel control unit and manifold.

"NOTE Fuel cannot be used from both fuel tanks simultaneously."

"Vapor and excess fuel from the engine-driven fuel pump and fuel control unit are returned by way of the selector valve to the reservoir tank of the wing tank system being used."

Figure 2-2 provides a fuel system schematic.

Examination of the airplane by a Federal Aviation Administration inspector from the Milwaukee Flight Standards District Office revealed that the right fuel tank vent system was

unobstructed. The left fuel tank vent system was obstructed with an unknown substance.

History of Flight

Enroute-climb to cruise	Fuel related (Defining event) Loss of engine power (total) Attempted remediation/recovery
Enroute-descent	Fuel starvation
Emergency descent	Loss of engine power (total)
Landing-flare/touchdown	Nose over/nose down Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Commercial	Age:	50
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane Single-engine	Toxicology Performed:	No
Medical Certification:	Class 2 With Waivers/Limitations	Last Medical Exam:	05/20/2013
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	02/04/2013
Flight Time:	1570 hours (Total, all aircraft), 5 hours (Total, this make and model), 1773 hours (Pilot In Command, all aircraft), 52 hours (Last 90 days, all aircraft), 24 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	CESSNA	Registration:	N3350J
Model/Series:	TP206B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal; Utility	Serial Number:	P206-0310
Landing Gear Type:	Tricycle	Seats:	1
Date/Type of Last Inspection:	100 Hour	Certified Max Gross Wt.:	3600 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Continental
ELT:	Not installed	Engine Model/Series:	IO-520
Registered Owner:	Out of the Blue Skydiving LLC	Rated Power:	285 hp
Operator:	Skydive Door County	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	SUE, 724 ft msl	Observation Time:	1155 CDT
Distance from Accident Site:	0 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:		Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Few / 10000 ft agl	Temperature/Dew Point:	23° C / 10° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	13 knots, 160°	Visibility (RVR):	
Altimeter Setting:	29.66 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Sturgeon Bay, WI (SUE)	Type of Flight Plan Filed:	None
Destination:	Sturgeon Bay, WI (SUE)	Type of Clearance:	Traffic Advisory; VFR
Departure Time:	1100 CDT	Type of Airspace:	Class E

Airport Information

Airport:	Door County Cherryland Airport (SUE)	Runway Surface Type:	Asphalt
Airport Elevation:	724 ft	Runway Surface Condition:	Dry
Runway Used:	20	IFR Approach:	None
Runway Length/Width:	4599 ft / 75 ft	VFR Approach/Landing:	Traffic Pattern

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):	Mitchell F Gallo	Adopted Date:	03/24/2014
Additional Participating Persons:	Dennis Grimslid; Federal Aviation Administration; Milwaukee, WI		
Publish Date:	03/24/2014		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=87136		

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