



Aviation Investigation Final Report

Location:	Emporia, Kansas	Accident Number:	DFW08LA133
Date & Time:	May 8, 2008, 15:30 Local	Registration:	N385WR
Aircraft:	Piper PA-32R-300	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (total)	Injuries:	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot was on a 330-nautical-mile cross-country flight in a single-engine airplane. About 30 miles from his destination, and at an altitude of 3,500 feet, he turned on the fuel boost pump and switched fuel tanks. At about 10 miles from his destination airport the "plane got quiet." The pilot cycled the magnetos and fuel tank selector "once or twice." Unable to restart the engine, the pilot then conducted a forced landing in a field. An on-site inspection noted that fuel was present in the airplane's fuel tanks. A follow-on inspection of the airplane found no mechanical or electrical problem with the engine. However, the left inboard fuel tank appeared to have large sections of "sloshing" compound peeling from the tanks walls, blocking the fuel tank outlet. A review of maintenance records revealed that the left inboard fuel tank was treated with (sloshing compound) fuel tank sealer in February 1996. At the time of the application, the procedure was acceptable per the airplane's manufacturers service manual. The review also noted that the manufacturer's service bulletin, dated May 16, 2005, no longer recognized the compound as an approved sealer, and that the sloshing procedure should be removed from all service manuals. Additionally, the service bulletin did not contain additional instructions with regards to tanks that had been previously repaired using the sealer.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A total loss of engine power due to fuel starvation as a result of a blocked fuel outlet caused by the peeling off of a previously approved fuel tank sealer.

Findings

Aircraft

Fuel storage - Damaged/degraded

Factual Information

History of Flight

Enroute-cruise	Fuel contamination
Enroute-cruise	Loss of engine power (total) (Defining event)
Emergency descent	Off-field or emergency landing

On May 8, 2008, approximately 1530 central daylight time, a single-engine, Piper PA-32R-300 airplane, N385WR, was substantially damaged upon impact with terrain following a loss of engine power while in cruise flight near Emporia, Kansas. The private pilot, sole occupant on board, received minor injuries. The airplane was registered to TNJ Trucking, Inc. of Estherville, Iowa and operated by the pilot. Visual meteorological conditions prevailed for the 14 Code of Federal Regulations Part 91 flight.

The flight departed Tradewinds airport (KTDW), Amarillo, Texas about 13:45 for the 330-nautical mile cross country flight. In a written statement, the pilot reported after he passed Cottonwood, Kansas (and less than 30 miles from Emporia) he turned on the fuel boost pump, and switched fuel tanks. About 10 miles from Emporia and at an altitude of 3,500 feet the pilot the "plane got quiet." The pilot cycled the magnetos and fuel tank selector "once or twice." Unable to restart the engine, the pilot conducted a forced landing in a field, about 10 miles west of Emporia.

The Federal Aviation Administration (FAA) inspector, who responded to the accident site, reported that the aircraft received structural damage during the forced landing. The FAA inspector also noted that fuel was present in the airplane's fuel tanks. A follow-on inspection of the airplane found no mechanical or electrical problem with the engine. However, the left inboard fuel tank appeared to have large sections of "sloshing" compound peeling from the tanks walls blocking the fuel tank outlet.

A review of maintenance records revealed that the left inboard fuel tank was treated with Randolph 802 (sloshing compound) sealer in February 1996. At the time of the application, the procedure was acceptable per the Piper Service Manual.

The review also noted that Piper Service Bulletin 251C, dated May 16, 2005, no longer recognizes Randolph 802 as an approved sealer, and that the sloshing procedure should be removed from all Piper Service Manuals. Additionally, the service bulletin did not contain additional instructions with regards to tanks that had been previously repaired using this procedure.

Pilot Information

Certificate:	Private	Age:	44, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	January 10, 2007
Occupational Pilot:	No	Last Flight Review or Equivalent:	October 18, 2007
Flight Time:	112 hours (Total, all aircraft), 56 hours (Total, this make and model), 112 hours (Pilot In Command, all aircraft), 20 hours (Last 90 days, all aircraft), 9 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N385WR
Model/Series:	PA-32R-300	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	32R-7680402
Landing Gear Type:	Retractable - Tricycle	Seats:	7
Date/Type of Last Inspection:	April 1, 2008 Annual	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	4934 Hrs as of last inspection	Engine Manufacturer:	LYCOMING
ELT:	Installed	Engine Model/Series:	T10-540 SER
Registered Owner:	T-N-J TRUCKING INC	Rated Power:	310 Horsepower
Operator:	T-N-J TRUCKING INC	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KEMP	Distance from Accident Site:	
Observation Time:	15:53 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Few / 4500 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	190°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.69 inches Hg	Temperature/Dew Point:	22°C / 11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Tradewinds, TX (KTDW)	Type of Flight Plan Filed:	Unknown
Destination:	Emporia, KS (KEMP)	Type of Clearance:	VFR flight following
Departure Time:	13:45 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	38.409988,-96.189666(est)

Administrative Information

Investigator In Charge (IIC):	Hatch, Craig
Additional Participating Persons:	Bobby Warren; FAA FSDO; Wichita, KS Mike McClure; Piper Aircraft Company; Vero Beach, FL
Original Publish Date:	April 15, 2009
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=67971

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).