National Transportation Safety Board
Aviation Accident Final Report

Location:	CORNING, AR	**Accident Number:**	FTW00LA067
Date & Time:	01/02/2000, 1800 CST	**Registration:**	N87NF
Aircraft:	Piper PA-46-310P	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	5 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The airplane was cruising at flight level 270 (27,000 feet) in dark night IMC, when the pilot heard a 'muffled thump,' from the engine. He observed an 'immediate loss of power (torque 0/ng 20%),' declared an emergency to ATC, and was advised of the nearest airport. He attempted one air restart and two electrical restarts, but was unsuccessful. During the ensuing forced landing, the airplane entered VFR conditions descending through 5,000 feet, and came to rest in a field, in 3-5 feet of standing water, southeast of the airport. A review of the downloaded data from the engine trend monitor and examination of the engine and its components by Pratt and Whitney did not reveal any pre-impact anomalies that would have precluded normal operation prior to the loss of engine power.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The loss of engine power for an undetermined reason. A factor was the dark night light condition.

Findings

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

Findings
1. (C) REASON FOR OCCURRENCE UNDETERMINED

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

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

Findings
2. (F) LIGHT CONDITION - DARK NIGHT

Factual Information

On January 2, 2000, at 1800 central standard time, a Piper PA-46-310P, N87NF, was substantially damaged during a forced landing following a total loss of engine power near Corning, Arkansas. The instrument rated private pilot, who was the registered owner of the airplane, and his four passengers were not injured. Dark night visual meteorological conditions prevailed for the 14 Code of Federal Regulations Part 91 personal flight, and an instrument flight rules flight plan was filed. The flight originated from the Telluride Municipal Airport, Telluride, Colorado, at 1400, and was destined for the Dekalb-Peachtree Airport, Atlanta, Georgia.

According to the pilot, the airplane was level at flight level 270 (27,000 feet), in instrument meteorological conditions, and he was deviating around weather in northern Arkansas when he heard a "muffled thump" from the engine. He observed an "immediate loss of power (torque 0/ng 20%)," declared an emergency to ATC, and was advised that the nearest airport was the Corning Municipal Airport, near Corning, Arkansas. He moved the condition lever aft, turned the igniter ON, and moved the condition lever forward to attempt an air restart. The engine did not restart and the pilot attempted an electric restart, which was also unsuccessful. The airplane then lost electrical power. An electric smell was noted and the pilot turned all switches OFF. He then turned the battery ON and attempted electric restart for the second time, which resulted in a "significant flame from the right side of the nose of the aircraft." Subsequently, he turned the firewall fuel valve to OFF and feathered the propeller. The airplane entered visual conditions while descending through 5,000 feet and a forced landing was executed to a field where the airplane came to rest upright, in approximately 3-5 feet of standing water, 1.5 miles southeast of Corning, Arkansas.

An FAA inspector examined the airplane and reported that the left wing, including the spar, was structurally damaged. The right main landing gear separated from the airframe. Fuel was observed at the accident site. The airplane was equipped with a 760-horsepower Pratt and Whitney (P&W) PT6A-34 turbine engine, that was installed in accordance with the Jetprop DLX conversion and included a Shadin Engine Trend Monitor (part number 913200-X-2). The engine oil filter, engine chip detector, and fuel control unit filter were removed at the accident site and appeared clean and free of debris.

Data from the Shadin engine monitor was downloaded. The data revealed only one flight for January 2, 2000. The data revealed that three hours and one minute had elapsed from the time the engine was started to the time when the engine lost total power. The data contained 12 reports during the flight prior to the report indicating the loss of engine power. Each report indicated that the engine was operating within its limitations. The data also revealed two additional reports following the loss of engine power. The reports indicated that five minutes after the loss of engine power the engine restarted, and 10 seconds later failed due to an ITT temperature of 974 degrees Celcius (limit is 790 degrees Celcius).

The engine (serial number RB0015) was examined at the Pratt and Whitney Canada facility located in Longueuil, Quebec, Canada, under the supervision of a TSB Canada investigator. The engine displayed no evidence of impact damage. The compressor rotated freely by hand, the first stage compressor shroud displayed light circumferential scoring and some organic debris. The compressor turbine shroud displayed circumferential scoring. The combustion chamber displayed no distress and the flame pattern "appeared normal." The accessory

gearbox rotated freely by hand and continuity was confirmed to all accessory drive gears. The ignition leads and plugs were functionally tested and no anomalies were noted. The fuel system components including the heater, pump, control unit, divider, and nozzles were damaged as a result of being immersed in water, which precluded functional testing. Each fuel system component was disassembled, examined, and no anomalies were noted. The engine, controls, and accessories displayed no indications of any pre-impact anomalies or distress that would have precluded normal operation prior to impact.

Pilot Information

Certificate:	Private	**Age:**	48, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Seatbelt, Shoulder harness
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:**	07/06/1998
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	1900 hours (Total, all aircraft), 180 hours (Total, this make and model), 50 hours (Last 90 days, all aircraft), 20 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N87NF
Model/Series:	PA-46-310P PA-46-310P	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	4608099
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	09/01/1999, Annual	**Certified Max Gross Wt.:**	4500 lbs
Time Since Last Inspection:	50 Hours	**Engines:**	1 Turbo Prop
Airframe Total Time:	4300 Hours	**Engine Manufacturer:**	P&W
ELT:	Installed, not activated	**Engine Model/Series:**	PT6A-34
Registered Owner:	JOHN H.CULBERTSON	**Rated Power:**	760 lbs
Operator:	JOHN H.CULBERTSON	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Night/Dark
Observation Facility, Elevation:	ARG, 273 ft msl	**Distance from Accident Site:**	10 Nautical Miles
Observation Time:	1820 CST	**Direction from Accident Site:**	180°
Lowest Cloud Condition:	Scattered / 200 ft agl	**Visibility**	6 Miles
Lowest Ceiling:	Broken / 2700 ft agl	**Visibility (RVR):**	0 ft
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	110°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	15°C / 14°C
Precipitation and Obscuration:			
Departure Point:	TELLURIDE, CO (TEX)	**Type of Flight Plan Filed:**	IFR
Destination:	ATLANTA, GA (PDK)	**Type of Clearance:**	IFR
Departure Time:	1400 CST	**Type of Airspace:**	Class A

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	4 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	5 None	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	JASON A RAGOGNA	**Report Date:**	03/02/2001
Additional Participating Persons:	CALEB RICE; LITTLE ROCK, AR		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at http://dms.ntsb.gov/pubdms/.		

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