National Transportation Safety Board
Aviation Accident Final Report

Location:	Shoshoni, WY	**Accident Number:**	WPR11TA087
Date & Time:	01/02/2011, 1315 MST	**Registration:**	N6774B
Aircraft:	PIPER PA-18-180	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (total)	**Injuries:**	2 None
Flight Conducted Under:	Public Aircraft		

Analysis

According to the pilot, during a wildlife aerial observation flight, the engine suddenly stopped producing power. The pilot checked the fuel selector and magnetos and applied carburetor heat. Because he was unable to get the engine started again, he executed a forced landing on rough/uneven terrain. During the landing roll, the airplane went off a low bank, contacted the terrain at the bottom of the bank, and sustained substantial damage. At the time of the accident, the airplane had about one hour of fuel remaining, and the postaccident inspection, which included a successful engine run, did not find any anomalies that would have contributed to a loss of power. The ambient temperature and dew point were outside of the range at which carburetor icing would be expected to occur.

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 for undetermined reasons.

Findings

Environmental issues	Sloped/uneven terrain - Contributed to outcome Rough terrain - Contributed to outcome
Not determined	Not determined - Unknown/Not determined (Cause)

Factual Information

On January 2, 2011, about 1315 mountain standard time, a Piper PA-18-180, N6774B, experienced a gear collapse during a forced landing about 10 miles southeast of Shoshoni, Wyoming. The commercial pilot and his passenger were not injured, but the airplane, which was owned by STP Aviation LLP, and operated by the United States Department of Agriculture, sustained substantial damage. The local Public Use wildlife aerial observation flight, which departed Riverton Municipal Airport, Riverton, Wyoming, about four hours prior to the accident, was being operated in visual meteorological conditions. No flight plan had been filed.

According to the pilot, during the aerial observation flight, the engine suddenly stopped producing power. He therefore checked the fuel selector, applied carburetor heat, made sure the magneto switch was on both, and tried to restart the engine. Because the engine did not restart, he made the decision to make a forced landing on the rough, brush-covered terrain. Although the touchdown was successful, during the landing roll, the airplane went off a low bank, and upon contacting the terrain at the bottom of the bank, the main landing gear support structure failed allowing both gear struts to fold outward. During the accident sequence, the left wing lift strut was bent to the extent that it had to be replaced.

A postaccident examination of the airplane's fuel system determined that it had more than one hour of fuel remaining (10+ gallons). As part of the examination process, the engine was test run for several minutes with no sign of any anomaly. The investigation also determined that the ambient temperature and dew point (temperature of ten degrees F/dew point of one degree F) were outside the range at which carburetor icing would be expected in maneuvering flight. At the end of the investigation, no other fuel system or engine anomalies had been found, and the reason for the loss of engine power was not able to be determined.

History of Flight

Maneuvering	Loss of engine power (total) (Defining event)
Landing-landing roll	Landing gear collapse

Pilot Information

Certificate:	Commercial	**Age:**	53, Male
Airplane Rating(s):	Single-engine Land	**Seat Occupied:**	Front
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 1 With Waivers/Limitations	**Last Medical Exam:**	07/13/2010
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	02/15/2010
Flight Time:	10500 hours (Total, all aircraft), 10200 hours (Total, this make and model), 10500 hours (Pilot In Command, all aircraft), 150 hours (Last 90 days, all aircraft), 50 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	PIPER	**Registration:**	N6774B
Model/Series:	PA-18-180	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	18-5007
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	08/11/2010, 100 Hour	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	2565 Hours	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	O-360-C4P
Registered Owner:	T and T Aviation	**Rated Power:**	180 hp
Operator:	UNITED STATES DEPARTMENT AGRICULTURE	**Air Carrier Operating Certificate:**	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	KRIW, 5530 ft msl	**Observation Time:**	1253 MST
Distance from Accident Site:	30 Nautical Miles	**Condition of Light:**	Day
Direction from Accident Site:	350°	**Conditions at Accident Site:**	Visual Conditions
Lowest Cloud Condition:	Clear	**Temperature/Dew Point:**	-12°C / -17°C
Lowest Ceiling:	None	**Visibility**	10 Miles
Wind Speed/Gusts, Direction:	Calm	**Visibility (RVR):**	
Altimeter Setting:	29.91 inches Hg	**Visibility (RVV):**	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Riverton, WY (KRIW)	**Type of Flight Plan Filed:**	None
Destination:	Riverton, WY (KRIW)	**Type of Clearance:**	None
Departure Time:	1230 MST	**Type of Airspace:**	

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		

Administrative Information

Investigator In Charge (IIC):	Orrin K Anderson	**Adopted Date:**	11/22/2011
Additional Participating Persons:	Lloyd Burston; United States Department of Agriculture; Casper, WY		
Publish Date:	11/22/2011		
Investigation Docket:	http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=78110		

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