



National Transportation Safety Board Aviation Accident Final Report

Location:	Sparta, MI	Accident Number:	CEN16LA305
Date & Time:	08/04/2016, 1920 EDT	Registration:	N18PG
Aircraft:	GILCHRIST PA14EXP	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (total)	Injuries:	2 Minor
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

Shortly after takeoff, the experimental amateur-built airplane experienced a total loss of engine power, and the private pilot conducted a forced landing to a field. During the landing, the airplane's landing gear impacted a fence, resulting in substantial damage. A postaccident examination and test run of the engine revealed no malfunctions or anomalies that would have precluded normal operation. Although the atmospheric conditions present at the time of the accident were conducive to the formation of moderate carburetor icing at cruise power settings and serious carburetor icing at descent power settings, the airplane was operating at takeoff power; therefore, the investigation could not conclude that the loss of power was the result of carburetor ice accumulation. Based on the available evidence, the reason for the loss of engine power could not be determined.

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 reasons that could not be determined, since postaccident examination revealed no malfunctions or anomalies that would have precluded normal operation.

Findings

Not determined	Not determined - Unknown/Not determined (Cause)
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Factual Information

On August 4, 2016, about 2030 eastern daylight time, an amateur-built PA14EXP airplane, N18PG, sustained substantial damage when it struck a fence and nosed over during a forced landing following a loss of engine power during initial climb after takeoff. The pilot and passenger received minor injuries. The airplane was registered to and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed for the flight, which was not on a flight plan. The local flight was originating the Paul C Miller-Sparta Airport, near Sparta, Michigan, at the time of the accident.

The pilot reported that he performed a pre-flight inspection of the airplane and a run-up prior to takeoff. All checks were normal. He stated that the takeoff was normal until reaching about 300 feet above ground level when the engine lost all power. He stated that the engine was still rotating. He checked the fuel selector, which was on "both", and attempted to pump the throttle which had no effect. He then executed a forced landing to an adjacent field, but stuck a fence with the landing gear. The airplane came to a rest on the ground past the fence.

The airplane was an amateur-built version of a Piper PA-14 airplane. It was powered by a reciprocating carburetor equipped Aerosport O-375 engine bearing serial number 1547-SPE. The engine was rated to produce 205 horsepower. According to the pilot report the engine had accumulated 45.5 hours total time in service at the time of the accident.

The engine was examined by Federal Aviation Administration inspectors while still mounted in the airframe. All engine controls were still attached and functioning normally. The carburetor was broken at the flange mount. All fuel hoses were intact and unrestricted. The fuel strainers and screens were clean. The engine was rotated and compression was noted on all cylinders. Six quarts of oil was present in the engine. The battery was connected and ignition spark was checked. Spark was observed, but the inspector noted that the spark "seemed weak". No anomalies were noted.

Subsequently, the airplane owner had the engine removed and sent to an engine rebuilder where it was placed in an engine test cell and was run for about 5-6 hours. During the testing the engine was run with the electronic magnetos that were installed at the time of the accident, but a surrogate carburetor was used since the one that was installed at the time of the accident had broken during the accident sequence. No anomalies were noted during the engine test run.

At 2053, the weather conditions reported at the Grand Rapids International Airport included a temperature of 28 degrees Celsius and a dew point of 18 degrees Celsius. According to a carburetor icing probability chart, the reported temperature and dew point were in a range for moderate carburetor icing at cruise power settings and serious carburetor icing at descent power settings.

History of Flight

Initial climb	Loss of engine power (total) (Defining event)
Landing	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Private	Age:	52, Male
Airplane Rating(s):	Single-engine Land; Single-engine Sea	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With Waivers/Limitations	Last FAA Medical Exam:	02/14/2014
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	906 hours (Total, all aircraft), 275 hours (Total, this make and model), 90 hours (Last 90 days, all aircraft), 54 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	GILCHRIST	Registration:	N18PG
Model/Series:	PA14EXP	Aircraft Category:	Airplane
Year of Manufacture:	2016	Amateur Built:	Yes
Airworthiness Certificate:	Experimental	Serial Number:	2016-1
Landing Gear Type:	Amphibian; Float	Seats:	4
Date/Type of Last Inspection:	07/10/2016, Condition	Certified Max Gross Wt.:	2500 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	45.5 Hours at time of accident	Engine Manufacturer:	Aero Sport Power
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	O-375-AZA
Registered Owner:	On file	Rated Power:	200
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	GRR, 794 ft msl	Distance from Accident Site:	16 Nautical Miles
Observation Time:	2053 EDT	Direction from Accident Site:	225°
Lowest Cloud Condition:	Few / 22000 ft agl	Visibility	10 Miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	170°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.88 inches Hg	Temperature/Dew Point:	28° C / 18° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Sparta, MI (8D4)	Type of Flight Plan Filed:	None
Destination:	Sparta, MI (8D4)	Type of Clearance:	None
Departure Time:	1920 EDT	Type of Airspace:	Class G

Airport Information

Airport:	PAUL C MILLER-SPARTA (8D4)	Runway Surface Type:	Asphalt
Airport Elevation:	774 ft	Runway Surface Condition:	
Runway Used:	25	IFR Approach:	None
Runway Length/Width:	4032 ft / 75 ft	VFR Approach/Landing:	Forced Landing

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Minor	Latitude, Longitude:	43.127500, -85.679167

Administrative Information

Investigator In Charge (IIC):	John M Brannen	Report Date:	03/06/2017
Additional Participating Persons:	Kenneth Hughes; FAA - Grand Rapids FSDO; Grand Rapids, MI		
Publish Date:	03/06/2017		
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=93765		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).