Aviation Investigation Final Report

Location:	Bruno, Minnesota	**Accident Number:**	CEN14LA417
Date & Time:	July 18, 2014, 15:41 Local	**Registration:**	N9034K
Aircraft:	Stinson 108 1	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (total)	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

According to the private pilot, after about 30 minutes of uneventful cross-country flight in the float-equipped airplane and about 2,000 ft above ground level, the engine sputtered for about 10 seconds and then lost all power. The pilot initiated emergency procedures for a restart and located an off-airport landing site while in an emergency descent. The airplane touched down on its floats in a grassy field. Examination of the airplane revealed structural damage to the fuselage adjacent to the float attachment points.

No obvious anomalies were found with the engine or fuel system on scene. After the airplane wreckage was recovered, maintenance personnel were able to start and run the engine with an external fuel supply. The engine started and ran for about 30 seconds and then stopped. After the run attempt, the fuel gascolator and carburetor intake screen were removed and cleaned. No significant debris was found. After examining the remainder of the engine, the engine was started again, ran for about 1 minute, and stopped again. A replacement carburetor was then installed. The engine was started and ran normally with the replacement carburetor.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The total loss of engine power due to an anomaly with the carburetor system that could not be determined during postaccident examination.

Findings

Aircraft	Fuel control/carburetor - Malfunction

Factual Information

History of Flight

Enroute-cruise	Loss of engine power (total) (Defining event)

On July 18, 2014, about 1541 central standard time, a Stinson 108-1 single engine float equipped airplane, N9034K, registered to Mimus Aero LLC, Minneapolis, Minnesota, and operated by a private individual, was substantially damaged during a forced landing after a loss of engine power near Bruno, Minnesota. The private pilot was not injured. The personal cross country flight was being conducted under the provisions of Federal Code of Regulations Part 91. A flight plan was not filed and visual meteorological condition prevailed throughout the area. The flight originated from the Sky Harbor Airport (DYT), Duluth, Minnesota, about 1510, and was enroute to the Surfside Seaplane Base (BY4), Lino Lakes, Minnesota, when the accident occurred.

According to the pilot, about 30 minutes after departing DYT, at an altitude on 2,000 AGL, the engine sputtered for about 10 seconds and then lost all power. The pilot initiated emergency procedures for a restart and located an off airport landing site while in an emergency descent. The airplane touched down on its floats in a grassy field and sustained substantial damage to the fuselage. The pilot exited the airplane with no injuries.

FAA inspection of the airplane on scene revealed bucking damage of the fuselage just aft of the right cabin door and additional fuselage buckling near the left aft attachment point of the floats. Both float attachment struts were found broken. There was marks found on the aft face of the propeller blades consistent with contact of the walk wire between the floats. The airplane was found resting in a slight right wing low attitude and fuel flowed freely from the engine fuel sump. Fuel was drained from both tanks and the fuel strainer (7 gallons in the left tank and 21 gallons in the right tank). All of the fuel appeared to be clean, not contaminated, and had the appearance of 100LL aviation fuel. The fuel selector valve was in the right tank position and appeared to operate properly within its detents. The top spark plugs were removed and the engine rotated by hand with the propeller in the normal rotation direction. All 6 cylinders appeared to have good compression. Both magneto impulse couplings appeared to snap normally while rotating the engine. All of the spark plugs appeared to be in good condition. The airplane was found resting in a slight right wing low attitude and fuel flowed freely from the engine fuel sump. No obvious anomalies were found with the engine on scene.

After the airplane wreckage was recovered, maintenance personnel were able to start and run the engine with an external fual supply. The engine started and ran for about 30 seconds and then stopped. After the run attempt, the fuel gascolator and carburetor intake screen were removed and cleaned. No significant debris was found. A small amount of debris was found in the carburetor fuel bowl. After inspecting the remainder of the engine, the engine was started again, ran for about 1 minute, and stopped again. A replacement carburetor was then installed. The engine was started and ran normally with the replacement carburetor.

Pilot Information

Certificate:	Private	**Age:**	49,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 Without waivers/limitations	**Last FAA Medical Exam:**	November 17, 2012
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	November 17, 2012
Flight Time:	279 hours (Total, all aircraft), 160 hours (Total, this make and model), 12 hours (Last 90 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Stinson	**Registration:**	N9034K
Model/Series:	108 1 UNDESIGNAT	**Aircraft Category:**	Airplane
Year of Manufacture:	1947	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	108-2034
Landing Gear Type:	N/A; Float	**Seats:**	4
Date/Type of Last Inspection:	August 29, 2013 Annual	**Certified Max Gross Wt.:**	2150 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	2130 Hrs	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	O-470
Registered Owner:	On file	**Rated Power:**	180 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	ANE,889 ft msl	**Distance from Accident Site:**	4 Nautical Miles
Observation Time:	14:45 Local	**Direction from Accident Site:**	270°
Lowest Cloud Condition:	Scattered / 5500 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	Broken / 9000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	14 knots / 18 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	190°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.96 inches Hg	**Temperature/Dew Point:**	26°C / 16°C
Precipitation and Obscuration:			
Departure Point:	Duluth, MN (DYT)	**Type of Flight Plan Filed:**	
Destination:	Lino Lakes, MN (8Y4)	**Type of Clearance:**	None
Departure Time:	15:10 Local	**Type of Airspace:**	Class E

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	46.280654,-92.659355(est)

Administrative Information

Investigator In Charge (IIC):	Lemishko, Alexander
Additional Participating Persons:	David Nelson; FAA FSDO; Minneapolis, MN
Original Publish Date:	September 1, 2016
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=89846