



# Aviation Investigation Final Report

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

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## 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

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**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 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. 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

|                                  |   |  |                   |
|----------------------------------|---|--|-------------------|
| <b>Certificate:</b>              | Private   | <b>Age:</b>                              | 49, Male          |
| <b>Airplane Rating(s):</b>       | Single-engine land  | <b>Seat Occupied:</b>                    | Left              |
| <b>Other Aircraft Rating(s):</b> | None  | <b>Restraint Used:</b>                   |                   |
| <b>Instrument Rating(s):</b>     | None  | <b>Second Pilot Present:</b>             | No                |
| <b>Instructor Rating(s):</b>     | None  | <b>Toxicology Performed:</b>             | No                |
| <b>Medical Certification:</b>    | Class 2 Without<br>waivers/limitations  | <b>Last FAA Medical Exam:</b>            | November 17, 2012 |
| <b>Occupational Pilot:</b>       | No  | <b>Last Flight Review or Equivalent:</b> | November 17, 2012 |
| <b>Flight Time:</b>              | 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

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

## Meteorological Information and Flight Plan

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

## Wreckage and Impact Information

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

## Administrative Information

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

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).