



# National Transportation Safety Board Aviation Accident Data Summary

|                                |                                      |                         |                    |
|--------------------------------|--------------------------------------|-------------------------|--------------------|
| <b>Location:</b>               | Brighton, MI                         | <b>Accident Number:</b> | CEN12FA601         |
| <b>Date &amp; Time:</b>        | 09/01/2012, 0830 EDT                 | <b>Registration:</b>    | N82383             |
| <b>Aircraft:</b>               | AERONCA 7AC                          | <b>Injuries:</b>        | 1 Fatal, 1 Serious |
| <b>Flight Conducted Under:</b> | Part 91: General Aviation - Personal |                         |                    |

## Analysis

Witnesses observed the airplane make a normal engine run-up before takeoff followed by a normal takeoff from the runway. Shortly after takeoff, the engine did not sound like it was developing full power, and the airplane was struggling to climb. Subsequently, the airplane made a 180-degree turn and then descended toward terrain in a nose-down attitude. Postaccident examination of the airplane revealed no evidence of any preimpact mechanical failures or anomalies that would have precluded normal operation. Although the weather conditions at the time of takeoff were conducive to the formation of carburetor ice at glide and cruise power, it could not be determined whether carburetor ice was a factor in the loss of engine power. It is likely that the pilot failed to maintain airspeed during the turn back to the airport, which resulted in a stall.

Postaccident examination of the airframe revealed that the pilot's shoulder harness failed during the accident. Material examination of the shoulder harness webbing and stitching showed that they failed due to an overload event. The occupants' injuries suggest that both occupants were using the four-point shoulder harnesses at the time of the accident and were exposed to strong deceleration forces. If the pilot's shoulder harness had not failed, he likely would not have suffered the brain injury he received, which caused permanent disability. However, it is possible that an intact shoulder harness could have led to more severe chest, abdominal, or cervical injuries. The investigation could not determine whether the pilot would have died or sustained a permanent disability from some other injury if the shoulder harness had remained intact.

## Flight Events

Initial climb - Loss of engine power (partial)

Initial climb - Loss of control in flight

## Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain airspeed following a partial loss of engine power for reasons that could not be determined during postaccident examination, which resulted in an aerodynamic stall and loss of airplane control. Contributing to the severity of the pilot's head injuries was the failure of the shoulder harness assembly.

## Findings

Aircraft-Aircraft power plant-Engine (reciprocating)-(general)-Not specified

Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Airspeed-Not attained/maintained - C

Aircraft-Aircraft oper/perf/capability-Performance/control parameters-(general)-Not

attained/maintained - C

Aircraft-Aircraft systems-Equipment/furnishings-Flight compartment equipment-Failure - F  
Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C

## Pilot Information

|                                  |  |                              |          |
|----------------------------------|--|------------------------------|----------|
| <b>Certificate:</b>              | Private                                      | <b>Age:</b>                  | 79       |
| <b>Airplane Rating(s):</b>       | Multi-engine Land; Single-engine Land        | <b>Instrument Rating(s):</b> | Airplane |
| <b>Other Aircraft Rating(s):</b> | None   | <b>Instructor Rating(s):</b> | None     |
| <b>Flight Time:</b>              | (Estimated) 2686 hours (Total, all aircraft) |                              |          |

## Aircraft and Owner/Operator Information

|   |                                      |                             |                 |
|---|--------------------------------------|-----------------------------|-----------------|
| <b>Aircraft Manufacturer:</b>             | AERONCA                              | <b>Registration:</b>        | N82383          |
| <b>Model/Series:</b>                      | 7AC                                  | <b>Engines:</b>             | 1 Reciprocating |
| <b>Operator:</b>                          | ON FILE                              | <b>Engine Manufacturer:</b> | CONT MOTOR      |
| <b>Air Carrier Operating Certificate:</b> | None                                 | <b>Engine Model/Series:</b> | A&C65 SERIES    |
| <b>Flight Conducted Under:</b>            | Part 91: General Aviation - Personal |                             |                 |

## Meteorological Information and Flight Plan

|   |                    |                                     |                              |
|---|--------------------|-------------------------------------|------------------------------|
| <b>Observation Facility, Elevation:</b> | OZW, 962 ft msl    | <b>Weather Information Source:</b>  | Weather Observation Facility |
| <b>Conditions at Accident Site:</b>     | Visual Conditions  | <b>Lowest Ceiling:</b>              | None                         |
| <b>Condition of Light:</b>              | Day                | <b>Wind Speed/Gusts, Direction:</b> | Calm                         |
| <b>Temperature:</b>                     | 19°C / 13°C        | <b>Visibility</b>                   | 10 Miles                     |
| <b>Precipitation and Obscuration:</b>   | No Precipitation   |                                     |                              |
| <b>Departure Point:</b>                 | Brighton, MI (45G) | <b>Destination:</b>                 | Brighton, MI (45G)           |

## Airport Information

|                             |                        |                                  |  |
|-----------------------------|------------------------|----------------------------------|--|
| <b>Airport:</b>             | Brighton Airport (45G) | <b>Runway Surface Type:</b>      |  |
| <b>Runway Used:</b>         | N/A                    | <b>Runway Surface Condition:</b> |  |
| <b>Runway Length/Width:</b> |                        |                                  |  |

## Wreckage and Impact Information

|                            |           |                            |             |
|----------------------------|-----------|----------------------------|-------------|
| <b>Crew Injuries:</b>      | 1 Serious | <b>Aircraft Damage:</b>    | Substantial |
| <b>Passenger Injuries:</b> | 1 Fatal   | <b>Aircraft Fire:</b>      | None        |
| <b>Ground Injuries:</b>    | N/A       | <b>Aircraft Explosion:</b> | None        |

## Administrative Information

Investigator In Charge (IIC): Aaron M Sauer

Adopted Date: 10/09/2014

Investigation Docket: <http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=84918>

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