



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

# Aviation Investigation Final Report

|                                |                                      |                         |             |
|--------------------------------|--------------------------------------|-------------------------|-------------|
| <b>Location:</b>               | Port Norris, New Jersey              | <b>Accident Number:</b> | ERA23LA333  |
| <b>Date &amp; Time:</b>        | August 11, 2023, 14:10 Local         | <b>Registration:</b>    | N5453K      |
| <b>Aircraft:</b>               | Cessna 172                           | <b>Aircraft Damage:</b> | Substantial |
| <b>Defining Event:</b>         | Fuel starvation                      | <b>Injuries:</b>        | 1 None      |
| <b>Flight Conducted Under:</b> | Part 91: General aviation - Personal |                         |             |

## Analysis

The pilot reported that he departed on the flight with a total of 18 gallons of fuel on board. About one hour into the flight, while over water, the engine lost power. He established best glide configuration and prepared to ditch the airplane. His personal flotation vest became entangled in the seat belt and headset wire and he did not feel that he had sufficient time to refer to the emergency procedures checklist. After attempting restart the engine and declaring an emergency, the engine regained power. After setting up to land at a nearby airport, the engine lost power again, so he performed a forced landing in a farm field. After touchdown, the nose landing gear dug into the soil and the airplane nosed over, coming to rest inverted. The airframe was substantially damaged.

The pilot noted that the fuel selector handle was in the “left tank” position at the time of the accident. An examination of the fuel system revealed there were 1.5 gallons of fuel in the left wing tank, which remained intact, and 10 gallons in the right tank. The standard unusable fuel quantity for each of the airplane’s fuel tanks was 1.5 gallons. Based on the available information, the circumstances of the accident are consistent with a total loss of engine power due to fuel starvation.

## Probable Cause and Findings

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

The pilot's improper fuel management, which resulted in fuel starvation and a total loss of engine power.

## Findings

|                         |                             |
|-------------------------|-----------------------------|
| <b>Aircraft</b>         | Fuel - Fluid management     |
| <b>Personnel issues</b> | Use of equip/system - Pilot |

# Factual Information

## History of Flight

|                   |                                  |
|-------------------|----------------------------------|
| Enroute           | Fuel starvation (Defining event) |
| Emergency descent | Off-field or emergency landing   |
| Landing           | Nose over/nose down              |

On August 11, 2023, about 1410 eastern daylight time, a Cessna 172P airplane, N5453K, was substantially damaged when it was involved in an accident near Port Norris, New Jersey. The commercial pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that he departed on the flight with about 18 gallons of fuel on board. While flying at 3,000 ft mean sea level while over Delaware Bay, the engine lost total power. He established the airplane’s best glide configuration and prepared to ditch in the water. His personal flotation vest became entangled in the seat belt and headset wire and he did not feel that he had sufficient time to refer to the emergency procedures checklist. He attempted to restart the engine, but was unsuccessful. Shortly after declaring an emergency, the engine regained power. He attempted to reach Millville Municipal Airport (MIV), Millville, New Jersey, as he climbed from 1,200 ft. The engine lost power again, so he established best glide speed and performed a forced landing in a farm field. After touchdown, the nose landing gear dug into the soil and the airplane nosed over, coming to rest inverted. The pilot noted that the fuel selector handle was in the “left tank” position.

Postaccident examination of the wreckage revealed that the wings and fuselage were substantially damaged. The wreckage was found inverted; however, the fuel caps were secured and there was no evidence of fuel leakage. The left wing fuel tank was intact and contained about 1.5 gallons of fuel. The right wing tank contained about 10 gallons of fuel. According to the Cessna 172P Pilot’s Operating Handbook, the standard fuel tank configuration includes 1.5 gallons of unusable fuel per tank.

The pilot reported that, after the accident, when he went to check the fuel selector, he found that it was in the “LEFT” tank position. He further stated that he had only been running on one tank.

## Pilot Information

|                                  |   |  |                   |
|----------------------------------|---|--|-------------------|
| <b>Certificate:</b>              | Commercial  | <b>Age:</b>                              | 43,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>                   | 3-point           |
| <b>Instrument Rating(s):</b>     | None  | <b>Second Pilot Present:</b>             | No                |
| <b>Instructor Rating(s):</b>     | None  | <b>Toxicology Performed:</b>             |                   |
| <b>Medical Certification:</b>    | Class 2 Without waivers/limitations   | <b>Last FAA Medical Exam:</b>            | December 29, 2022 |
| <b>Occupational Pilot:</b>       | No  | <b>Last Flight Review or Equivalent:</b> | March 31, 2023    |
| <b>Flight Time:</b>              | 727 hours (Total, all aircraft), 702 hours (Total, this make and model), 680 hours (Pilot In Command, all aircraft), 128 hours (Last 90 days, all aircraft), 63 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft) |  |                   |

## Aircraft and Owner/Operator Information

|                                      |   |                                       |                 |
|--------------------------------------|---|---------------------------------------|-----------------|
| <b>Aircraft Make:</b>                | Cessna  | <b>Registration:</b>                  | N5453K          |
| <b>Model/Series:</b>                 | 172 P   | <b>Aircraft Category:</b>             | Airplane        |
| <b>Year of Manufacture:</b>          | 1980  | <b>Amateur Built:</b>                 |                 |
| <b>Airworthiness Certificate:</b>    | Normal  | <b>Serial Number:</b>                 | 17274119        |
| <b>Landing Gear Type:</b>            | Tricycle  | <b>Seats:</b>                         | 4               |
| <b>Date/Type of Last Inspection:</b> | March 29, 2023 Annual                                       | <b>Certified Max Gross Wt.:</b>       | 2550 lbs        |
| <b>Time Since Last Inspection:</b>   | 130 Hrs   | <b>Engines:</b>                       | 1 Reciprocating |
| <b>Airframe Total Time:</b>          | 13450 Hrs   | <b>Engine Manufacturer:</b>           | Lycoming        |
| <b>ELT:</b>                          | C91A installed, activated, did not aid in locating accident | <b>Engine Model/Series:</b>           | O-360-A4M       |
| <b>Registered Owner:</b>             | On file   | <b>Rated Power:</b>                   | 180             |
| <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> | KMIV, 58 ft msl                  | <b>Distance from Accident Site:</b>         | 7 Nautical Miles |
| <b>Observation Time:</b>                | 13:54 Local                      | <b>Direction from Accident Site:</b>        | 353°             |
| <b>Lowest Cloud Condition:</b>          | Few / 3700 ft AGL                | <b>Visibility</b>                           | 10 miles         |
| <b>Lowest Ceiling:</b>                  |                                  | <b>Visibility (RVR):</b>                    |                  |
| <b>Wind Speed/Gusts:</b>                | 9 knots /                        | <b>Turbulence Type Forecast/Actual:</b>     | None / None      |
| <b>Wind Direction:</b>                  | 260°                             | <b>Turbulence Severity Forecast/Actual:</b> | N/A / N/A        |
| <b>Altimeter Setting:</b>               | 29.84 inches Hg                  | <b>Temperature/Dew Point:</b>               | 29°C / 20°C      |
| <b>Precipitation and Obscuration:</b>   | No Obscuration; No Precipitation |   |                  |
| <b>Departure Point:</b>                 | West Creek, NJ (31E)             | <b>Type of Flight Plan Filed:</b>           | None             |
| <b>Destination:</b>                     | Wildwood, NJ (WWD)               | <b>Type of Clearance:</b>                   | None             |
| <b>Departure Time:</b>                  | 13:00 Local                      | <b>Type of Airspace:</b>                    | Class E          |

## Airport Information

|                             |                         |                                  |                |
|-----------------------------|-------------------------|----------------------------------|----------------|
| <b>Airport:</b>             | Millville Municipal MIV | <b>Runway Surface Type:</b>      |                |
| <b>Airport Elevation:</b>   | 85 ft msl               | <b>Runway Surface Condition:</b> | Unknown        |
| <b>Runway Used:</b>         |                         | <b>IFR Approach:</b>             | None           |
| <b>Runway Length/Width:</b> |                         | <b>VFR Approach/Landing:</b>     | Forced landing |

## 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>    |        | <b>Aircraft Explosion:</b>  | None              |
| <b>Total Injuries:</b>     | 1 None | <b>Latitude, Longitude:</b> | 39.25,-75.06(est) |

## Administrative Information

|  |   |
|--|---|
| <b>Investigator In Charge (IIC):</b>     | Hicks, Ralph  |
| <b>Additional Participating Persons:</b> | Patrick Wilcox; FAA/FSDO; Philadelphia, PA  |
| <b>Original Publish Date:</b>            | June 26, 2024   |
| <b>Last Revision Date:</b>               |   |
| <b>Investigation Class:</b>              | <a href="#">Class 3</a>   |
| <b>Note:</b>                             | The NTSB did not travel to the scene of this accident.  |
| <b>Investigation Docket:</b>             | <a href="https://data.nts.gov/Docket?ProjectID=192851">https://data.nts.gov/Docket?ProjectID=192851</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](#).