

SAFETY GRAM 4.0

March 2019





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Case:

Reference NTSB Aviation Accident Factual Report (3 Pages)

Questions (No right or wrong):

- How closely do you actually look at fuel samples during pre-flight?
- What does water contamination look like?
- What are other contaminants that may be present in fuel?
- What are conditions that create the environment for water to be introduced into an aircraft fuel system?
- Have you reviewed the procedure for engine failure during take-off recently?

Discussion:

Contaminated fuel has the potential to significantly affect engine performance. Refueling occurs with nearly every sortie in aviation. This means that the opportunity for contamination to be introduced into the aircraft fuel system is frequently present when we fly. It is also valuable to consider the conditions of the aircraft before and during refueling. In the NTSB report included in this Safety Gram we can consider the impact of an aircraft sitting, possibly without, full fuel, for long periods of time in the 7 months since the last annual. Take the time to pull a suitably sized fuel sample from each sump and carefully inspect it for water and other contaminants. This could provide the last opportunity to avoid losing engine power at a critical phase of flight!

CONTINUE TO FLY SAFE!

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National Transportation Safety Board Aviation Accident Data Summary

| | | | |
|--------------------------------|--------------------------------------|-------------------------|------------|
| Location: | England, AR | Accident Number: | GAA18CA160 |
| Date & Time: | 03/07/2018, 1700 CST | Registration: | N1889Y |
| Aircraft: | CESSNA 172 | Injuries: | 2 None |
| Flight Conducted Under: | Part 91: General Aviation - Personal | | |

Analysis

The student pilot reported that, during the preflight, he and the pilot-rated passenger, who was not a flight instructor, inspected the fuel sumps on each wing and the engine, "pulling [a] sample on each." He added that, during departure from the airstrip, after they became airborne for about 9 seconds, the engine rpm dropped to idle. The propeller was still rotating, but the airplane's engine was not producing power. Subsequently, the airplane landed in a cotton field, the nose landing gear sheared off, and the airplane came to rest nosed over.

The airplane sustained substantial damage to the tail and fuselage.

The student pilot reported that the airplane had gone through a pre-purchase inspection the previous week, and the airplane had accrued little time since the annual, which was 7 months before the accident flight. He added that it seemed like the airplane was starved for fuel.

The Federal Aviation Administration inspector reported finding substantial water in the gascolator.

Flight Events

Takeoff - Fuel related
Emergency descent - Off-field or emergency landing
Landing-landing roll - Landing gear collapse
Landing-landing roll - Nose over/nose down

Probable Cause

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

The pilot's failure to detect water in the fuel system during the preflight inspection, which resulted in a loss of engine power during departure and a subsequent impact with terrain.

Findings

Aircraft-Fluids/misc hardware-Fluids-Fuel-Fluid condition - C
Personnel issues-Task performance-Inspection-Preflight inspection-Pilot - C

Student Pilot Information

| | | | |
|---------------------------|--|-----------------------|------|
| Certificate: | Student | Age: | 49 |
| Airplane Rating(s): | None | Instrument Rating(s): | None |
| Other Aircraft Rating(s): | None | Instructor Rating(s): | None |
| Flight Time: | (Estimated) 50 hours (Total, all aircraft), 50 hours (Total, this make and model), 48 hours (Pilot In Command, all aircraft), 2 hours (Last 90 days, all aircraft), 2 hours (Last 30 days, all aircraft) | | |

Pilot-Rated Passenger Information

| | | | |
|---------------------------|---|-----------------------|----------|
| Certificate: | Commercial | Age: | 63 |
| Airplane Rating(s): | Single-engine Land | Instrument Rating(s): | Airplane |
| Other Aircraft Rating(s): | None | Instructor Rating(s): | None |
| Flight Time: | (Estimated) 957 hours (Total, all aircraft), 107 hours (Total, this make and model), 957 hours (Pilot In Command, all aircraft) | | |

Aircraft and Owner/Operator Information

| | | | |
|--------------------------------|--------------------------------------|----------------------|-----------------|
| Aircraft Make: | CESSNA | Registration: | N1889Y |
| Model/Series: | 172 C | Engines: | 1 Reciprocating |
| Operator: | On file | Engine Manufacturer: | CONT MOTOR |
| Operating Certificate(s) Held: | None | Engine Model/Series: | O-300-D |
| Flight Conducted Under: | Part 91: General Aviation - Personal | | |

Meteorological Information and Flight Plan

| | | | |
|----------------------------------|----------------------------------|------------------------------|------------------------------|
| Conditions at Accident Site: | Visual Conditions | Condition of Light: | Day |
| Observation Facility, Elevation: | KSGT, 224 ft msl | Weather Information Source: | Weather Observation Facility |
| Lowest Ceiling: | None | Wind Speed/Gusts, Direction: | 8 knots / , 320° |
| Temperature: | 11°C | Visibility | 10 Miles |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | England, AR | Destination: | England, AR |

Wreckage and Impact Information

| | | | |
|----------------------|-----------------------------|---------------------|-------------|
| Crew Injuries: | 1 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | 1 None | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Latitude, Longitude: | 34.486667, -91.865556 (est) | | |

Administrative Information

| | | | |
|-------------------------------|---|---------------|------------|
| Investigator In Charge (IIC): | Eric A Swenson | Adopted Date: | 07/05/2018 |
| Note: | This accident report documents the factual circumstances of this accident as described to the NTSB. | | |
| Investigation Docket: | http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=96859 | | |

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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.