



National Transportation Safety Board Aviation Accident Final Report

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|--------------------------------|--------------------------------------|-------------------------|-------------|
| Location: | Spearfish, SD | Accident Number: | GAA18CA429 |
| Date & Time: | 07/19/2018, 0830 MDT | Registration: | N432W |
| Aircraft: | Cessna 170 | Aircraft Damage: | Substantial |
| Defining Event: | | Injuries: | 2 None |
| Flight Conducted Under: | Part 91: General Aviation - Personal | | |

Analysis

The pilot reported that, during takeoff on a grass runway, after liftoff, he noticed the airplane was not able to climb at a normal rate. He lowered the airplane's nose, but the airspeed remained "dangerously low," and the stall horn sounded intermittently. He reduced power to abort the takeoff, but there was insufficient runway remaining. The airplane touched down and overran the runway, the left wing impacted a tree, and the airplane spun 180° before coming to rest.

The airplane sustained substantial damage to the left wing.

The automated weather observation station located on the airport reported that, about 5 minutes after the accident, the wind was from 140° at 5 knots. The airplane was departing from runway 26.

Probable Cause and Findings

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

The pilot's improper decision to take off in tailwind conditions, which resulted in an aborted takeoff with insufficient runway remaining.

Findings

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| Personnel issues | Decision making/judgment - Pilot (Cause) Aircraft control - Pilot (Cause) |
| Environmental issues | Tailwind - Decision related to condition (Cause) Tailwind - Effect on operation Tree(s) - Contributed to outcome |

Factual Information

History of Flight

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|--------------------------|---|
| Takeoff-rejected takeoff | Miscellaneous/other Aerodynamic stall/spin Runway excursion Collision with terr/obj (non-CFIT) |
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Pilot Information

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|---------------------------|--|-----------------------------------|------------|
| Certificate: | Private | Age: | 31, Male |
| Airplane Rating(s): | Single-engine Land | Seat Occupied: | Unknown |
| Other Aircraft Rating(s): | None | Restraint Used: | Unknown |
| 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: | 09/02/2015 |
| Occupational Pilot: | No | Last Flight Review or Equivalent: | |
| Flight Time: | | | |

Aircraft and Owner/Operator Information

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|-------------------------------|-----------|-----------------------------------|-----------------|
| Aircraft Make: | Cessna | Registration: | N432W |
| Model/Series: | 170 B | Aircraft Category: | Airplane |
| Year of Manufacture: | 1952 | Amateur Built: | No |
| Airworthiness Certificate: | Normal | Serial Number: | 20325 |
| Landing Gear Type: | Tailwheel | Seats: | 4 |
| Date/Type of Last Inspection: | Unknown | Certified Max Gross Wt.: | 2200 lbs |
| Time Since Last Inspection: | | Engines: | 1 Reciprocating |
| Airframe Total Time: | | Engine Manufacturer: | Continental |
| ELT: | | Engine Model/Series: | C145 SERIES |
| Registered Owner: | On file | Rated Power: | 145 hp |
| Operator: | On file | Operating Certificate(s) Held: | None |

Meteorological Information and Flight Plan

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|----------------------------------|----------------------------------|--------------------------------------|------------------|
| Conditions at Accident Site: | Visual Conditions | Condition of Light: | Day |
| Observation Facility, Elevation: | KSPF, 3931 ft msl | Distance from Accident Site: | 0 Nautical Miles |
| Observation Time: | 1335 UTC | Direction from Accident Site: | 6° |
| Lowest Cloud Condition: | Clear | Visibility | 10 Miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | 5 knots / | Turbulence Type Forecast/Actual: | None / None |
| Wind Direction: | 140° | Turbulence Severity Forecast/Actual: | N/A / N/A |
| Altimeter Setting: | 30.02 inches Hg | Temperature/Dew Point: | 18°C / 15°C |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | Spearfish, SD (SPF) | Type of Flight Plan Filed: | Unknown |
| Destination: | Newcastle, WY (ECS) | Type of Clearance: | Unknown |
| Departure Time: | 0830 MDT | Type of Airspace: | Class G |

Airport Information

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|----------------------|-----------------------------------|---------------------------|------------|
| Airport: | BLACK HILLS-CLYDE ICE FIELD (SPF) | Runway Surface Type: | Grass/turf |
| Airport Elevation: | 3933 ft | Runway Surface Condition: | Dry |
| Runway Used: | 26 | IFR Approach: | None |
| Runway Length/Width: | 4003 ft / 100 ft | VFR Approach/Landing: | None |

Wreckage and Impact Information

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|---------------------|--------|----------------------|------------------------------|
| Crew Injuries: | 1 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | 1 None | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 2 None | Latitude, Longitude: | 44.480833, -103.783333 (est) |

Administrative Information

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|-----------------------------------|---|--------------|------------|
| Investigator In Charge (IIC): | Kathryn R Benhoff | Report Date: | 03/18/2019 |
| Additional Participating Persons: | Todd Obrick; FAA; Rapid City, SD | | |
| Publish Date: | 03/18/2019 | | |
| 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=97824 | | |

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. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).