



# Aviation Investigation Final Report

<b>Location:</b>	Madison, South Dakota	<b>Accident Number:</b>	GAA18CA166
<b>Date &amp; Time:</b>	March 12, 2018, 17:15 Local	<b>Registration:</b>	N2011N
<b>Aircraft:</b>	Cessna 140	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of control on ground	<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The flight instructor, acting as a safety pilot, in the tailwheel-equipped airplane reported that, to expedite takeoff, he decided to take off from the grass runway instead of the concrete runway. He added that, about midway into the soft-field takeoff roll, he observed that the airplane was "struggling to build airspeed." He added that the runway had previously thawed and was "wet spongy sod." He reduced power and began to apply the brakes to abort the takeoff, but the airplane overran the runway, impacted a snow bank, and nosed over.

The airplane sustained substantial damage to the fuselage.

The flight instructor reported that there were no preaccident mechanical failures or malfunctions with the airplane that would have precluded normal operation.

## Probable Cause and Findings

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

The flight instructor's delayed aborted takeoff on a soft, wet, grass runway, which resulted in a runway overrun.

## Findings

<b>Personnel issues</b>	Delayed action - Instructor/check pilot
<b>Environmental issues</b>	Soft surface - Effect on operation
<b>Environmental issues</b>	Wet surface - Effect on operation

## Factual Information

### History of Flight

<b>Takeoff</b>	Loss of control on ground (Defining event)
<b>Takeoff-rejected takeoff</b>	Runway excursion
<b>Takeoff-rejected takeoff</b>	Collision with terr/obj (non-CFIT)
<b>Takeoff-rejected takeoff</b>	Nose over/nose down

### Flight instructor Information

<b>Certificate:</b>	Flight instructor	<b>Age:</b>	30,Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Lap only
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane single-engine	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	December 29, 2017
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	January 22, 2018
<b>Flight Time:</b>	(Estimated) 500 hours (Total, all aircraft), 10 hours (Total, this make and model), 418 hours (Pilot In Command, all aircraft)		

### Pilot-rated passenger Information

<b>Certificate:</b>	Private	<b>Age:</b>	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>	Lap only
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Unknown	<b>Last FAA Medical Exam:</b>	
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>			

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N2011N
<b>Model/Series:</b>	140 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>	12247
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	December 14, 2017 Annual	<b>Certified Max Gross Wt.:</b>	1450 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	1324 Hrs at time of accident	<b>Engine Manufacturer:</b>	CONT MOTOR
<b>ELT:</b>	C91 installed, not activated	<b>Engine Model/Series:</b>	C-85-12F
<b>Registered Owner:</b>		<b>Rated Power:</b>	85 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>	KMDS, 1716 ft msl	<b>Distance from Accident Site:</b>	0 Nautical Miles
<b>Observation Time:</b>	21:55 Local	<b>Direction from Accident Site:</b>	8°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	6 knots /	<b>Turbulence Type Forecast/Actual:</b>	/ None
<b>Wind Direction:</b>	310°	<b>Turbulence Severity Forecast/Actual:</b>	/ N/A
<b>Altimeter Setting:</b>	30.36 inches Hg	<b>Temperature/Dew Point:</b>	0°C / 0°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Madison, SD (MDS )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Madison, SD (MDS )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	17:15 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	MADISON MUNI MDS	<b>Runway Surface Type:</b>	Grass/turf
<b>Airport Elevation:</b>	1718 ft msl	<b>Runway Surface Condition:</b>	Rough;Snow;Soft
<b>Runway Used:</b>	03	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	2380 ft / 200 ft	<b>VFR Approach/Landing:</b>	None

## Wreckage and Impact Information

<b>Crew Injuries:</b>	2 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>	2 None	<b>Latitude, Longitude:</b>	44.012779,-97.086669(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Benhoff, Kathryn
<b>Additional Participating Persons:</b>	Dwight Pladsen; FAA; Rapid City, SD
<b>Original Publish Date:</b>	June 14, 2018
<b>Note:</b>	This accident report documents the factual circumstances of this accident as described to the NTSB.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=96890">https://data.nts.gov/Docket?ProjectID=96890</a>

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