



National Transportation Safety Board Aviation Accident Final Report

Location:	Willmar, MN	Accident Number:	CEN18LA015
Date & Time:	10/18/2017, 1045 CDT	Registration:	N50609
Aircraft:	CESSNA 150J	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 Minor, 1 None
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Analysis

The private pilot stated that, when he initiated the takeoff for a flight review on the damp, soft runway, the airplane accelerated slowly. The flight instructor reported that he felt the airplane's nose "dive" twice, so he instructed the pilot to increase back pressure and get the airplane in ground effect because of the soft runway. The instructor then took control of the airplane, and it lifted off the runway and subsequently became airborne about 2,000 ft down the 3,000-ft-long runway. The instructor lowered the nose in ground effect to gain airspeed, but the airplane did not accelerate, and it was nearing an aerodynamic stall. The instructor then chose to land on a nearby field. He turned the airplane toward the field but had to level it off because he was concerned it was going to stall. During the landing, he flared the airplane too high, and the airplane impacted the field hard on the main landing gear. The nose landing gear dug into the soft terrain and collapsed, and the airplane then nosed over.

During a postaccident test-run, the engine started without hesitation. The engine ran smoothly at various power settings, including full throttle. Given that the engine operated normally during the postaccident test-run, it is likely that the airplane did not accelerate properly due to the pilot's improper soft-field takeoff, which resulted in his failure to attain adequate airspeed. The instructor's subsequent improper landing flare led to a hard, forced landing.

Probable Cause and Findings

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

The pilot's improper conduct of the soft-field takeoff, which led to his failure to attain adequate airspeed, and the flight instructor's subsequent improper landing flare, which resulted in a hard, forced landing.

Findings

Personnel issues	Aircraft control - Instructor/check pilot (Cause)
Environmental issues	Soft surface - Effect on operation (Factor)

Factual Information

On October 18, 2017, at 1045 central daylight time, a Cessna 150J airplane, N50609, nosed over during a forced landing in Willmar, Minnesota. The flight instructor received minor injuries and the private pilot was not injured. The airplane received substantial damage to the wings and fuselage. The airplane was registered to an individual and was operated as a Title 14 *Code of Federal Regulations* Part 91 instructional flight. Visual flight rules conditions existed near the accident site at the time of the accident, and a flight plan had not been filed. The local flight had departed from the Willmar Municipal Airport (BDH), at the time of the accident.

The purpose of the flight was a flight review for the private pilot. The flight instructor stated they checked the magnetos and carburetor heat during the engine runup, at 1,500 rpm, and both functioned normally. They initiated the takeoff on runway 21 (2,980 ft long, turf) which they stated was damp and soft from recent rain. The private pilot initiated the takeoff and stated that the airplane seemed slow to accelerate. The flight instructor reported he felt the nose "dive" a couple times, so he instructed the private pilot to increase back pressure and get the airplane in ground effect because of the soft runway. The private pilot stated the flight instructor took control of the airplane and lifted it off the runway. The airplane became airborne about 2,000 ft down the 3,000 ft long runway. The flight instructor stated he lowered the nose in ground effect to gain airspeed, but the airplane did not accelerate, and it was nearing an aerodynamic stall.

The flight instructor stated there was a road and a field on which to land. He turned the airplane, but had to level off because he was concerned the airplane was going to stall. He stated that during the forced landing in a plowed field, he flared too high, and the airplane contacted the terrain hard on the main gear. The nose gear dug into the soft terrain, collapsed and the airplane then nosed over.

The flight instructor did not notice the tachometer, but he reported that the private pilot stated the rpm never increased above 1,900.

A postaccident examination and test run of the engine was conducted. The engine started without hesitation on the first attempt. The engine ran smoothly at various power settings and ultimately at full throttle which produced 2,764 rpm.

History of Flight

Takeoff	Miscellaneous/other Loss of control in flight (Defining event)
Landing-flare/touchdown	Nose over/nose down Off-field or emergency landing Hard landing Landing gear collapse

Flight Instructor Information

Certificate:	Flight Instructor; Commercial	Age:	41, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 2 With Waivers/Limitations	Last FAA Medical Exam:	11/16/2016
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	12/02/2015
Flight Time:	6300 hours (Total, all aircraft), 150 hours (Total, this make and model), 6100 hours (Pilot In Command, all aircraft), 50 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft)		

Pilot Information

Certificate:	Private	Age:	62, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With Waivers/Limitations	Last FAA Medical Exam:	05/04/2017
Occupational Pilot:	No	Last Flight Review or Equivalent:	11/14/2015
Flight Time:	883 hours (Total, all aircraft), 10 hours (Total, this make and model), 843 hours (Pilot In Command, all aircraft), 8 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	Registration:	N50609
Model/Series:	150J	Aircraft Category:	Airplane
Year of Manufacture:	1968	Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	15069430
Landing Gear Type:	Tricycle	Seats:	
Date/Type of Last Inspection:	05/21/2017, Annual	Certified Max Gross Wt.:	1601 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	3635.43 Hours as of last inspection	Engine Manufacturer:	CONT MOTOR
ELT:		Engine Model/Series:	O-200-A
Registered Owner:	ASCHE TODD MICHAEL	Rated Power:	100 hp
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	BDH, 1125 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	1055 CDT	Direction from Accident Site:	30°
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	300°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.83 inches Hg	Temperature/Dew Point:	17° C / 8° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Willmar, MN (BDH)	Type of Flight Plan Filed:	None
Destination:	Willmar, MN (BDH)	Type of Clearance:	None
Departure Time:	1045 CDT	Type of Airspace:	

Airport Information

Airport:	Willmar Municipal Airport (BDH)	Runway Surface Type:	Grass/turf
Airport Elevation:	1125 ft	Runway Surface Condition:	Wet
Runway Used:	21	IFR Approach:	None
Runway Length/Width:	2980 ft / 250 ft	VFR Approach/Landing:	Forced Landing

Wreckage and Impact Information

Crew Injuries:	1 Minor, 1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor, 1 None	Latitude, Longitude:	45.110000, -95.129444 (est)

Administrative Information

Investigator In Charge (IIC):	Pamela S Sullivan	Report Date:	07/23/2019
Additional Participating Persons:	Ray Peterson; FAA; Minneapolis, MN		
Publish Date:	07/23/2019		
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=96211		

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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](#).