National Transportation Safety Board
Aviation Accident Final Report

Location:	Howell, Michigan	**Accident Number:**	CEN17LA078
Date & Time:	January 16, 2017, 11:59 Local	**Registration:**	N525PZ
Aircraft:	TEXTRON AVIATION INC 525C	**Aircraft Damage:**	Substantial
Defining Event:	Runway excursion	**Injuries:**	1 Serious
Flight Conducted Under:	Part 91: General aviation		

Analysis

After exiting the clouds during the landing approach at the uncontrolled airport, the private pilot of the small jet canceled his instrument flight plan with air traffic control. He stated that, although there was no precipitation when he exited the clouds, he suspected the runway may be icy due to the weather conditions. The pilot saw an airplane holding short on the taxiway at the end of the runway and assumed it was preparing to takeoff, which he stated led him to believe that the runway condition was good. Although the pilot announced his location and intentions on the airport's common traffic advisory frequency (CTAF), he did not inquire about the runway condition via CTAF/UNICOM. Witnesses reported that the approach looked normal. After touchdown, the pilot applied brakes and realized he had no braking action. He subsequently retracted the speed brakes, spoilers, and flaps, and added takeoff power. The airplane yawed to the left and the pilot reduced engine power to idle while applying rudder to correct the airplane's track. The airplane continued off the runway, where it traveled through a fence and across a road before coming to rest inverted.

The pilot and mechanic seated in the airplane that was holding short of the runway during the landing reported that they were only taxiing to a maintenance facility and did not intend to take off. They reported that the taxiways were icy. A witness who assisted the pilot following the accident reported that the roads at the time were covered in ice and "very slick."

Recorded data from the airplane showed that the pilot flew a stabilized approach and that the airplane touched down near the approach end of the runway; however, given the icy runway conditions, the airplane's landing distance required exceeded the available runway by more than 8,000 ft.

Airport personnel had not issued a NOTAM regarding the icy runway conditions. The airport manager stated he was not at the airport at the time of the accident, and that he was still trying to learn the new digital NOTAM manager system. The employee who was at the airport was authorized to issue NOTAMs, but had not yet been trained on the new system.

Probable Cause and Findings

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

The pilot's attempted landing on the ice-covered runway, which resulted in a runway excursion and impact with terrain. Contributing to the accident was airport personnel's lack of training regarding issuance of NOTAMs

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Surface speed/braking - Capability exceeded
Environmental issues	Snow/slush/ice covered surface - Ability to respond/compensate
Environmental issues	Snow/slush/ice covered surface - Availability of related info
Organizational issues	(general) - Airport
Personnel issues	Use of automation - Airport personnel
Personnel issues	Use of policy/procedure - Airport personnel

Factual Information

On January 16, 2017, at 1159 eastern standard time, a Textron Aviation 525C, N525PZ, collided with the terrain following a loss of control on landing at the Livingston County Airport (OZW), Howell, Michigan. The private pilot received serious injuries. The airplane was substantially damaged by impact forces and a post impact fire. The airplane was registered to and operated by Zeliff Aviation, Inc., under the provisions of 14 *Code of Federal Regulations* Part 91 as a business flight. Visual meteorological conditions prevailed near the accident site and the flight was operated on an instrument flight rules flight plan. The flight originated from the Genessee County Airport (GCQ), Batavia, New York at 1057.

The pilot reported that prior to the flight he checked the weather and Notices to Airmen (NOTAMs) on the Aviation Digital Data Services Meteorological Terminal Aviation Routine Weather Reports (ADD METAR) website. When preparing for the Instrument Landing System (ILS) runway 13 approach at OZW, the pilot listened to the Automated Terminal Information Service (ATIS) and he used the airplane's flight management system (FMS) to determine the landing performance data. The pilot stated the Next Generation Radar (NEXRAD) was showing rain in the area, but the onboard radar was not. He did not encounter any precipitation once he descended below the clouds. He then canceled his flight plan and continued the approach.

The pilot stated he knew there was a possibility of there being ice on the runway, as the weather conditions were favorable for ice. He stated he decided to continue the approach making sure he was accurately flying the approach speeds and that he did not land long on the runway. He stated he was prepared to go-around if the runway was icy. In addition, he saw an airplane holding short on a taxiway at the end of the runway, which appeared to be waiting for him to land so that it could depart, and this led him to believe the runway condition was good. The pilot did not use the common traffic advisory frequency (CTAF) to inquire about the runway conditions.

The pilot stated that upon touchdown, he applied the speed brakes and spoilers. Once the nose wheel touched down, he applied the brakes and realized he had no braking action. He retracted the speed brakes, spoilers and flaps and applied takeoff power. The airplane yawed to the left, so he reduced the power to idle and applied right rudder to correct the airplane's heading. The airplane continued off the runway where it contacted a fence, a ditch, and crossed a road prior to coming to rest. The pilot next recalled the airplane came to rest with him hanging upside down by the seatbelt. He crawled out of the airplane and noticed the wings had separated.

The lineman who was working in the fixed base operator reported hearing the pilot announce that he was on the ILS approach and then again that he was on short final. He stated the airplane touched down prior to the taxiway A-2 turnoff, and he asked the pilot if he knew where he was going to park. He walked outside and noticed the airplane was near the east end of the runway. He recalled hearing the engine power increase followed by the impact and black smoke.

The airplane that was sitting at the end of the runway was being taxied to a maintenance shop and was not going to takeoff. The pilot and mechanic in the airplane stated they saw the airplane during its approach which looked "normal." They stated the taxiways were icy and there was mist/light rain in the area. Another witness who saw the accident and assisted the pilot following the accident, stated the

roads were covered with ice and "very slick." This witness stated that the sleet and freezing rain had started about an hour before the accident.

The aircraft recording system (AReS II) data from the airplane was downloaded. The data showed the airplane was ½ mile from the runway at 200 ft above ground level at an airspeed of 110 knots, and that the airplane touched down near the approach end of the runway prior to veering to the left. After touching down, the throttles were advanced for a period of about 15 seconds, reduced, then advanced momentarily once again.

The Model 525C landing performance data charts show that at a weight of 14,500 lbs, a landing reference speed (Vref) of 108 KIAS, and with no wind, the landing distance on a wet icy runway would have been about 13,625 ft. The length of runway 13 was 5,002 ft.

A NOTAM had not been issued regarding the icy runway conditions at OZW. The airport manager stated he was not at the airport at the time of the accident, and that he was still trying to learn the new digital NOTAM manager system. The employee who was at the airport was authorized to issue NOTAMs, but had not yet been trained on the new system. Subsequent to the accident, the airport manager reported that the employees have been trained on inspecting runway conditions and issuing NOTAMs.

History of Flight

Landing-landing roll	Other weather encounter
Landing-landing roll	Runway excursion (Defining event)
Landing-landing roll	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Private	**Age:**	60,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	5-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	December 9, 2015
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	April 10, 2016
Flight Time:	5800 hours (Total, all aircraft), 320 hours (Total, this make and model), 66.4 hours (Last 90 days, all aircraft), 23.8 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	TEXTRON AVIATION INC	**Registration:**	N525PZ
Model/Series:	525C	**Aircraft Category:**	Airplane
Year of Manufacture:	2015	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	525C0196
Landing Gear Type:	Retractable - Tricycle	**Seats:**	11
Date/Type of Last Inspection:	January 14, 2017 Continuous airworthiness	**Certified Max Gross Wt.:**	10399 lbs
Time Since Last Inspection:		**Engines:**	2 Turbo fan
Airframe Total Time:	320 Hrs at time of accident	**Engine Manufacturer:**	WILLIAMS
ELT:	C126 installed, activated, did not aid in locating accident	**Engine Model/Series:**	FJ44-4A
Registered Owner:		**Rated Power:**	3621 Lbs thrust
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KOZW,962 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	11:59 Local	**Direction from Accident Site:**	0°
Lowest Cloud Condition:		**Visibility**	3 miles
Lowest Ceiling:	Overcast / 5500 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	130°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.28 inches Hg	**Temperature/Dew Point:**	-1°C / -3°C
Precipitation and Obscuration:	Light - None - Snow		
Departure Point:	Batavia, NY (GVO)	**Type of Flight Plan Filed:**	IFR
Destination:	Howell, MI (OZW)	**Type of Clearance:**	IFR
Departure Time:	10:57 Local	**Type of Airspace:**	

Airport Information

Airport:	Livingston Co. OZW	**Runway Surface Type:**	Concrete
Airport Elevation:	962 ft msl	**Runway Surface Condition:**	Ice
Runway Used:	13	**IFR Approach:**	ILS
Runway Length/Width:	5002 ft / 100 ft	**VFR Approach/Landing:**	Full stop

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious	**Latitude, Longitude:**	42.627223,-83.973609(est)

Administrative Information

Investigator In Charge (IIC):	Sullivan, Pamela
Additional Participating Persons:	Richard Anderson; FAA; Detroit, MI Andrew Hall; Textron Aviation; Wichita, KS Peter Basile; Textron Aviation; Wichta, KS
Original Publish Date:	November 6, 2019
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=94613