National Transportation Safety Board
Aviation Accident Final Report

Location:	Michigan City, Indiana	**Accident Number:**	CEN18LA062
Date & Time:	December 27, 2017, 06:50 Local	**Registration:**	N525KT
Aircraft:	Cessna 525A	**Aircraft Damage:**	Substantial
Defining Event:	Runway excursion	**Injuries:**	2 Minor
Flight Conducted Under:	Part 91: General aviation - Positioning		

Analysis

The pilot reported that, during the approach following a positioning flight, he saw that the runway had a light dusting of snow on it and that the airplane touched down on speed in the first 1,000 ft of the 4,100-ft-long runway. The copilot, who was the pilot flying, applied heavy braking, but there appeared to be no braking effectiveness, and the airplane did not slow down as expected. The pilot added that, when the airplane reached about two-thirds of the way down the runway, he knew that it was going to overrun the runway due to the loss of only half of its airspeed. He thought that if he aborted the landing, there was a small chance the airplane could become airborne within the remaining runway. The copilot added engine power to abort the landing, and the nose landing gear lifted off, but insufficient runway was remaining to take off. The copilot reduced the engine power to idle, and the airplane overran the runway and went through the airport fence and a guardrail, across a highway, and into a field.

Postaccident examination revealed no flat spots or evidence of skidding on the landing gear tires. The flaps were found in the “ground flaps” position, which is not allowed for takeoff. No evidence of any pre-accident mechanical malfunctions or failures were found with the airplane that would have precluded normal operation.

Based on an airplane weight of 11,000 lbs, the airplane’s stopping distance would have been about 4,400 ft. The flight crew’s improper decision to land on a snow-covered runway that was too short to accommodate the landing in such conditions led to a runway overrun and impact with obstacles.

Probable Cause and Findings

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

The flight crew's improper decision to land on a snow-covered runway that had insufficient runway distance for the airplane to land with the contamination, which resulted in a runway overrun and impact with obstacles.

Findings

Personnel issues	Decision making/judgment - Flight crew
Aircraft	Landing distance - Capability exceeded
Environmental issues	Snow/slush/ice covered surface - Decision related to condition
Environmental issues	Snow/slush/ice covered surface - Effect on operation
Aircraft	Surface speed/braking - Not attained/maintained

Factual Information

On December 27, 2017, at 0650 central standard time, a Cessna 525A airplane, N525KT, impacted an airport fence, highway barrier, and terrain during a landing overrun on runway 20 (4,100 ft by 75 ft, asphalt/dry snow) following an area navigation (RNAV) runway 20 approach at Michigan City Municipal Airport-Phillips Field (MGC), Michigan City, Indiana. The airplane sustained substantial damage. The pilot and copilot received minor injuries. The airplane was registered to Van E Aviation LLC and operated by Integrated Flight Resources Inc under 14 *Code of Federal Regulations* Part 91 as a positioning flight and was operating on an activated instrument flight rules flight plan. The flight originated from DuPage Airport (DPA), West Chicago, Illinois, at 0622 and was destined to MGC for a Part 135 on-demand passenger flight.

The pilot stated the co-pilot was the flying pilot for the flight. About halfway to MGC, they noticed instrument meteorological conditions below them. They flew the MGC RNAV approach runway 20 and broke out of the clouds with "adequate time to see the runway lights." The pilot said the runway appeared to have a "light dusting of snow." He said the airplane touched down on speed within the first 1,000 ft of the runway. The co-pilot "immediately" deployed ground flaps, and the airplane began slowing down. There appeared to be no braking effectiveness when co-pilot braked "heavily." He said the airplane was not slowing down as he was accustomed. About 2/3rds down, he knew that the airplane was going to overrun the runway, and the airplane had not lost half its airspeed. He said there was a small chance to become airborne within the remaining runway distance if an aborted landing was performed. The pilot said that engine power was added for the aborted landing, and for a moment it appeared that the airplane was going to become airborne as the nose wheel landing gear lifted off, but there was not enough runway remaining. Engine power was reduced to idle as the airplane overran the runway and went through the airport fence, a guard rail, across US Highway 20, and into a field.

A witness, who was driving westbound in the right lane of US Highway 20, stated he saw the airplane traveling toward the north, go through the fence and guard rail, and missed his car by no more than 5 ft.

The airplane came to rest, facing north, in a corn field about 300 yards from the departure end of the runway 20. The left wing was separated near wing station (WS) 57.00 and the right wing leading edge sustained damage near WS 171.00. The vertical stabilizer sustained damage near water line 195.00. A post-accident examination revealed that there were no flat spots or evidence of skidding on the landing gear tires. The flaps were in the GROUND FLAPS POSITION. There were no mechanical anomalies that would have precluded normal aircraft operation.

According to the airport manager, the soonest that airport personnel could perform a post-accident runway inspection was about two hours after the accident and it revealed about ¼ inch of snow on the runway.

The Cessna 525A Aircraft Flight Manual shows an airplane at the gross landing weight (12,500 lbs) and weather conditions, the airplane needed about 2,540 ft to stop on a dry runway. The 525A Section VII Advisory Information indicates that the stopping distance with 1 inch of snow was 7,100 ft and with 2 inches of snow was 6,300 ft.

According to the Federal Aviation Administration inspector from the DuPage Flight Standards District Office, the approximate stopping distance on a wet runway based upon an aircraft weight of 11,000 lbs was 4,400 ft. An alternate airport required under Part 91.169(a)(2), IFR flight plan: Information required, was not filed by the flight crew.

History of Flight

Landing-landing roll	Other weather encounter
Landing	Attempted remediation/recovery
Landing-landing roll	Loss of control on ground
Landing-landing roll	Runway excursion (Defining event)

Pilot Information

Certificate:	Airline transport; Commercial; Flight instructor	**Age:**	28,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 1 With waivers/limitations	**Last FAA Medical Exam:**	February 10, 2017
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	September 11, 2017
Flight Time:	3200 hours (Total, all aircraft), 300 hours (Total, this make and model)		

Co-pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	27,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	July 19, 2017
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	June 1, 2017
Flight Time:	2020 hours (Total, all aircraft), 81 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N525KT
Model/Series:	525A	**Aircraft Category:**	Airplane
Year of Manufacture:	2002	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	525A-0058
Landing Gear Type:	Retractable - Tricycle	**Seats:**	9
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	12500 lbs
Time Since Last Inspection:		**Engines:**	2 Turbo fan
Airframe Total Time:	2681 Hrs at time of accident	**Engine Manufacturer:**	Williams
ELT:		**Engine Model/Series:**	FJ44-2C
Registered Owner:		**Rated Power:**	
Operator:		**Operating Certificate(s) Held:**	On-demand air taxi (135)
Operator Does Business As:		**Operator Designator Code:**	I4FA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Dawn
Observation Facility, Elevation:	MGC,655 ft msl	**Distance from Accident Site:**	
Observation Time:	06:35 Local	**Direction from Accident Site:**	200°
Lowest Cloud Condition:	Scattered / 1200 ft AGL	**Visibility**	4 miles
Lowest Ceiling:	Broken / 1900 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	290°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.64 inches Hg	**Temperature/Dew Point:**	-13°C / -16°C
Precipitation and Obscuration:	Light - None - Snow		
Departure Point:	West Chicago, IL (DPA)	**Type of Flight Plan Filed:**	IFR
Destination:	Michigan City, IN (MGC)	**Type of Clearance:**	IFR
Departure Time:	06:22 Local	**Type of Airspace:**	

Airport Information

Airport:	Michigan City Municipal Airpor MGC	**Runway Surface Type:**	Asphalt
Airport Elevation:	655 ft msl	**Runway Surface Condition:**	Dry;Snow
Runway Used:	20	**IFR Approach:**	RNAV
Runway Length/Width:	4100 ft / 75 ft	**VFR Approach/Landing:**	Full stop;Straight-in

Wreckage and Impact Information

Crew Injuries:	2 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Minor	**Latitude, Longitude:**	41.695278,-86.825553(est)

Administrative Information

Investigator In Charge (IIC):	Gallo, Mitchell		
Additional Participating Persons:	James Lobash; Federal Aviation Administration; DPA FSDO; Des Plaines, IL Andrew Hall; Textron Aviation; Wichita, KS		
Original Publish Date:	May 5, 2021	**Investigation Class:**	3
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=96540		