Aviation Investigation Final Report

Location:	Chatham, Illinois	**Accident Number:**	CEN20CA182
Date & Time:	May 15, 2020, 15:20 Local	**Registration:**	N120MZ
Aircraft:	Cessna 120	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control on ground	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot was conducting a visual flight rules (VFR) cross-country flight at 5,500 ft mean sea level (MSL) above a cloud layer, and the airplane was not equipped with an attitude indicator or flight instruments to operate in instrument meteorological conditions. According to the pilot, the weather was forecast VFR at her destination. While en route, a cloud layer above her started lowering, so she descended to 5,000 ft MSL. The pilot could see blue sky between the layers when the two layers started to come together and then she inadvertently entered instrument meteorological conditions (IMC).

The pilot transitioned to an "inside instrument scan", turned on carburetor heat, and added full power to attempt to climb to find VFR conditions. After climbing 300 to 500 ft and about 5 minutes after entering the clouds, the pilot noticed a right turn had developed as confirmed on the heading indicator and her electronic flight device. The right turn became tighter, and the pilot recognized she was disoriented, and the airplane was descending. She elected to perform corrective action for a nose low unusual attitude and attempted to descend to visual flight conditions. The airplane broke out of the clouds about 1,500 ft above the ground (AGL) in a 25° to 30° right bank and 10° to 15° nose low attitude.

The pilot recovered to level flight and added full power. The airplane would not accelerate above 60 to 65 knots in level flight and the pilot felt the rudder was ineffective. The pilot elected to conduct a precautionary landing to nearby field that was muddy due to recent rains. During the landing, the airplane flipped over when the wheels dug into the ground. The vertical stabilizer, rudder, and both wings sustained substantial damage. Examination of the airplane revealed flight control continuity to all flight control surfaces. The pilot reported that the airplane was operating normally prior to entering IMC conditions..

Probable Cause and Findings

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

The pilot's decision to continue flight in instrument meteorological conditions in an airplane not equipped for instrument flight, which forced her to perform a precautionary landing to a muddy field resulting in the airplane nosing over.

Findings

Personnel issues	Decision making/judgment - Pilot
Environmental issues	Wet/muddy terrain - Contributed to outcome
Environmental issues	Clouds - Ability to respond/compensate
Aircraft	Directional control - Not attained/maintained
Aircraft	Pitch control - Not attained/maintained

Factual Information

History of Flight

Enroute-cruise	Loss of visual reference
Enroute-cruise	Loss of control in flight
Landing	Off-field or emergency landing
Landing	Loss of control on ground (Defining event)

Pilot Information

Certificate:	Airline transport; Commercial; Flight instructor	**Age:**	24,Female
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	4-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	August 21, 2019
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	November 7, 2019
Flight Time:	2868 hours (Total, all aircraft), 92 hours (Total, this make and model), 1178 hours (Pilot In Command, all aircraft), 117 hours (Last 90 days, all aircraft), 29 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N120MZ
Model/Series:	120 No Series	**Aircraft Category:**	Airplane
Year of Manufacture:	1946	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	9226
Landing Gear Type:	Tailwheel	**Seats:**	
Date/Type of Last Inspection:	December 17, 2019 Annual	**Certified Max Gross Wt.:**	1451 lbs
Time Since Last Inspection:	28 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2675 Hrs as of last inspection	**Engine Manufacturer:**	Continental
ELT:	C91 installed, activated, aided in locating accident	**Engine Model/Series:**	C85 SERIES
Registered Owner:	On file	**Rated Power:**	85 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:		**Distance from Accident Site:**	
Observation Time:		**Direction from Accident Site:**	
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Overcast / 1500 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.95 inches Hg	**Temperature/Dew Point:**	19°C / 17°C
Precipitation and Obscuration:			
Departure Point:	St Louis, MO (1H0)	**Type of Flight Plan Filed:**	None
Destination:	Chicago, IL (06C)	**Type of Clearance:**	VFR;VFR on top
Departure Time:		**Type of Airspace:**	Class E;Class G

Wreckage and Impact Information

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:**	39.704166,-89.717224(est)

Administrative Information

Investigator In Charge (IIC):	Baker, Daniel
Additional Participating Persons:	Michael Strickland; FAA; Springfield, IL
Original Publish Date:	May 5, 2021
Last Revision Date:	
Investigation Class:	Class 4
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=101294