Aviation Investigation Final Report

Location:	Ray, Michigan	**Accident Number:**	CEN20LA372
Date & Time:	August 30, 2020, 12:00 Local	**Registration:**	N698D
Aircraft:	Cessna 414	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control on ground	**Injuries:**	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that the preflight, taxi, and run-up were normal and that the brakes of the twin-engine airplane operated normally. He reported that during takeoff, the airplane suddenly veered to the right, which he attempted to counteract with left rudder input. He ultimately decided to abort the takeoff, but, according to the pilot, the airplane was already partially in the grass. It travelled through the grass, turned 90° to the left, and the landing gear collapsed.

A pilot-rated witness reported seeing the airplane taxi onto the runway and that the airplane did not use the displaced threshold as available runway for takeoff. The airplane stopped on the runway and then the engines went to full power. During the takeoff roll, the airplane veered left, then overcorrected to the right, at which time the airplane was going to exit the runway. The airplane became airborne and attempted to fly in ground effect with the wings “wallowing near stall.” One wing dropped and the airplane impacted the ground.

The fuselage sustained substantial damage. Examination of the airplane was limited due to impact damage; however, there were no preimpact anomalies noted that would have precluded normal operations.

Based on the available information, the pilot lost directional control of the airplane during takeoff.

Probable Cause and Findings

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

The pilot’s loss of directional control on takeoff.

Findings

Aircraft	Directional control - Not attained/maintained
Personnel issues	Aircraft control - Pilot

Factual Information

History of Flight

Takeoff	Loss of control on ground (Defining event)
Takeoff-rejected takeoff	Runway excursion
Takeoff-rejected takeoff	Landing gear collapse

On August 30, 2020, about 1200 eastern daylight time, a Cessna 414 airplane, N698D, was substantially damaged when it was involved in an accident at Ray Community Airport (57D), near Ray, Michigan. The pilot received minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that the purpose of the flight was to reposition the airplane for an annual inspection and installation of automatic dependent surveillance – broadcast (ADS-B), equipment. The preflight inspection and engine run-up were normal, and the brakes operated normally during taxi. The pilot stated that he gently applied full power, everything seemed good, and the airplane started to slowly accelerate. He stated that about a third of the way down the runway, about 50 mph, the airplane suddenly started to steer right, which he attempted to counteract with left rudder input. His heels were on the floor to avoid inadvertent brake application during takeoff. After another 1-2 seconds, he decided to abort the takeoff; he applied the brakes and shut down the engines. At this time, the airplane was already partially in the grass. The airplane traveled into the grass, turned 90° to the left, and the landing gear collapsed.

A witness, who was a pilot with multiengine experience, including experience in twin engine Cessna airplanes, reported seeing the airplane taxi onto runway 28 for departure. He noted that the airplane did not use the displaced threshold as available runway for the takeoff, and it taxied up past the end of the displaced threshold. He reported that the airplane then stopped on the runway and the engines went to full power. The airplane accelerated and started to veer to the left and then overcorrected to the right at which point it was going to exit the runway. The nose of the airplane came up and the airplane attempted to fly in ground effect with both wings “wallowing near stall.” One wing eventually dropped, and the airplane pancaked sideways near the end of runway 28 in the grass field.

The airplane sustained substantial damage including crush damage to its forward fuselage and separation of the nose landing gear. A comprehensive determination of the airplane’s mechanical integrity prior to the accident could not be determined due to the damage to the damage to the forward fuselage and nose landing gear; however, no apparent pre-impact defects were noted.

Pilot Information

Certificate:	Commercial; Private	**Age:**	49,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	May 28, 2019
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	527.95 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N698D
Model/Series:	414 Undesignat	**Aircraft Category:**	Airplane
Year of Manufacture:	1970	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	414-0046
Landing Gear Type:	Retractable - Tricycle	**Seats:**	
Date/Type of Last Inspection:		**Certified Max Gross Wt.:**	6349 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Continental
ELT:		**Engine Model/Series:**	IO 520 SERIES
Registered Owner:	On file	**Rated Power:**	285 Horsepower
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:	MTC,580 ft msl	**Distance from Accident Site:**	8 Nautical Miles
Observation Time:	20:55 Local	**Direction from Accident Site:**	135°
Lowest Cloud Condition:	Few / 4500 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	Broken / 5500 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	140°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.88 inches Hg	**Temperature/Dew Point:**	22°C / 15°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Ray, MI	**Type of Flight Plan Filed:**	None
Destination:	Pontiac, MI (PTK)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	

Airport Information

Airport:	Ray Community 57D	**Runway Surface Type:**	Asphalt
Airport Elevation:	632 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	28	**IFR Approach:**	None
Runway Length/Width:	2495 ft / 60 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 Minor	**Latitude, Longitude:**	42.736752,-82.888838

Administrative Information

Investigator In Charge (IIC):	Brannen, John
Additional Participating Persons:	David Zwicker; FAA- East Michigan FSDO; Belleville, MI
Original Publish Date:	July 12, 2022
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=101891