



# Aviation Investigation Final Report

---

<b>Location:</b>	Ray, Michigan	<b>Accident Number:</b>	CEN20LA372
<b>Date &amp; Time:</b>	August 30, 2020, 12:00 Local	<b>Registration:</b>	N698D
<b>Aircraft:</b>	Cessna 414	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of control on ground	<b>Injuries:</b>	1 Minor
<b>Flight Conducted Under:</b>	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

<b>Aircraft</b>	Directional control - Not attained/maintained
<b>Personnel issues</b>	Aircraft control - Pilot

## Factual Information

### History of Flight

<b>Takeoff</b>	Loss of control on ground (Defining event)
<b>Takeoff-rejected takeoff</b>	Runway excursion
<b>Takeoff-rejected takeoff</b>	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

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

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N698D
<b>Model/Series:</b>	414 Undesignat	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1970	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	414-0046
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	
<b>Date/Type of Last Inspection:</b>		<b>Certified Max Gross Wt.:</b>	6349 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Reciprocating
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>		<b>Engine Model/Series:</b>	IO 520 SERIES
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	285 Horsepower
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	MTC,580 ft msl	<b>Distance from Accident Site:</b>	8 Nautical Miles
<b>Observation Time:</b>	20:55 Local	<b>Direction from Accident Site:</b>	135°
<b>Lowest Cloud Condition:</b>	Few / 4500 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	Broken / 5500 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	5 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	140°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29.88 inches Hg	<b>Temperature/Dew Point:</b>	22°C / 15°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Ray, MI	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Pontiac, MI (PTK)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>		<b>Type of Airspace:</b>	

## Airport Information

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

## Wreckage and Impact Information

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

## Administrative Information

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

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).