



Aviation Investigation Final Report

Location:	Loveland, Colorado	Accident Number:	GAA17CA131
Date & Time:	February 5, 2017, 15:55 Local	Registration:	N4853U
Aircraft:	Cessna T210	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 Minor, 1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that the airplane was low and that he felt "rushed" during final approach. He added that, during the landing roll, the airplane "started to veer off the runway," so he applied power to abort the landing and that, during the aborted landing, he "pulled back" on the yoke. The airplane then aerodynamically stalled and impacted grass left of the runway and then nosed over.

The fuselage, left wing, and vertical stabilizer sustained substantial damage.

The pilot reported that there were no preaccident mechanical malfunctions or failures with the airplane that would have precluded normal operation.

Probable Cause and Findings

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

The pilot's exceedance of the airplane's critical angle of attack during an attempted go-around, which resulted in an aerodynamic stall.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Angle of attack - Capability exceeded
Aircraft	Directional control - Not attained/maintained

Factual Information

History of Flight

Landing-landing roll	Loss of control on ground
Landing-aborted after touchdown	Runway excursion
Approach-VFR go-around	Aerodynamic stall/spin
Approach-VFR go-around	Loss of control in flight (Defining event)
Approach-VFR go-around	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Private	Age:	56,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	June 12, 2015
Occupational Pilot:	No	Last Flight Review or Equivalent:	February 13, 2015
Flight Time:	(Estimated) 1130 hours (Total, all aircraft), 582 hours (Total, this make and model), 1050 hours (Pilot In Command, all aircraft), 20 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Passenger Information

Certificate:		Age:	Female
Airplane Rating(s):		Seat Occupied:	Right
Other Aircraft Rating(s):		Restraint Used:	3-point
Instrument Rating(s):		Second Pilot Present:	No
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:		Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N4853U
Model/Series:	T210 N	Aircraft Category:	Airplane
Year of Manufacture:	1984	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	21064824
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	February 4, 2016 Annual	Certified Max Gross Wt.:	4000 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	5505 Hrs at time of accident	Engine Manufacturer:	Continental
ELT:	C126 installed, activated, aided in locating accident	Engine Model/Series:	TSIO-520-R
Registered Owner:		Rated Power:	310 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:	KFNL, 5015 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	22:56 Local	Direction from Accident Site:	0°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	110°	Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	29.87 inches Hg	Temperature/Dew Point:	14°C / -6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	SANTA FE, NM (SAF)	Type of Flight Plan Filed:	IFR
Destination:	Loveland, CO (FNL)	Type of Clearance:	VFR flight following
Departure Time:	13:55 Local	Type of Airspace:	Class E

Airport Information

Airport:	FORT COLLINS-LOVELAND MUNI FNL	Runway Surface Type:	Asphalt
Airport Elevation:	5015 ft msl	Runway Surface Condition:	Dry
Runway Used:	15	IFR Approach:	None
Runway Length/Width:	8500 ft / 100 ft	VFR Approach/Landing:	Full stop;Go around;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor, 1 None	Latitude, Longitude:	40.451946,-105.01139(est)

Preventing Similar Accidents

Prevent Aerodynamic Stalls at Low Altitude

While maneuvering an airplane at low altitude in visual meteorological conditions, many pilots fail to avoid conditions that lead to an aerodynamic stall, recognize the warning signs of a stall onset, and apply appropriate recovery techniques. Many stall accidents result when a pilot is momentarily distracted from the primary task of flying, such as while maneuvering in the airport traffic pattern, during an emergency, or when fixating on ground objects.

An aerodynamic stall can happen at any airspeed, at any altitude, and with any engine power setting. Pilots need to be honest with themselves about their knowledge of stalls and preparedness to recognize and handle a stall situation. Training can help pilots fully understand the stall phenomenon, including angle-of-attack concepts and how weight, center of gravity, turbulence, maneuvering loads and other factors can affect an airplane's stall characteristics. The stall characteristics may be different in each type of plane, so learn them before you fly.

The stall airspeeds marked on the airspeed indicator (for example, the bottom of the green arc and the bottom of the white arc) typically represent steady flight speeds at 1G at the airplane's maximum gross weight in the specified configuration. Maneuvering loads and other factors can increase the airspeed at which the airplane will stall. For example, increasing bank angle can increase stall speed exponentially.

Reducing angle of attack by lowering the airplane's nose at the first indication of a stall is the most important immediate response for stall avoidance and stall recovery. This may seem counterintuitive at low altitudes, but is a necessary first step.

See http://www.nts.gov/safety/safety-alerts/documents/SA_019.pdf for additional resources.

The NTSB presents this information to prevent recurrence of similar accidents. Note that this should not be considered guidance from the regulator, nor does this supersede existing FAA Regulations (FARs).

Administrative Information

Investigator In Charge (IIC):	Gerhardt, Adam
Additional Participating Persons:	Mike Burton; FAA; Denver, CO
Original Publish Date:	April 4, 2017
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=94694

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).