



National Transportation Safety Board Aviation Accident Final Report

Location:	Broomfield, CO	Accident Number:	CEN18LA180
Date & Time:	05/16/2018, 1520 MDT	Registration:	N4EJ
Aircraft:	Roger G White Glasair	Aircraft Damage:	Substantial
Defining Event:	Sys/Comp malf/fail (non-power)	Injuries:	1 Minor
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The airline transport pilot reported that, during the landing roll, the experimental, amateur-built airplane started drifting to the left and he applied right rudder to correct. He subsequently attempted to apply right brake pressure to further correct for the drift as the airplane was traveling about 50 knots. At that time, the right brake pedal "went to the floor," and there was "zero" right brake available. The airplane departed the left side of the runway, crossed the grass, and came to rest on the parallel taxiway.

A postrecovery examination revealed that the plastic right brake line was broken near the upper end of the landing gear strut. The airplane was equipped with a free-castering nosewheel and did not have any nosewheel steering capability. Directional control during ground operations was maintained with differential braking. As a result, maintaining directional control after the brake failure was not possible.

Probable Cause and Findings

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

The failure of the right brake line, which resulted in a loss of directional control and runway excursion.

Findings

Aircraft

Landing gear brakes system - Failure (Cause)

Directional control - Attain/maintain not possible (Cause)

Factual Information

On May 16, 2018, about 1520 mountain daylight time, an experimental, amateur-built Roger G White Glasair airplane, N4EJ, was substantially damaged during a runway excursion after landing on runway 12L (9,000 ft by 100 ft, asphalt) at the Rocky Mountain Metropolitan Airport (BJC), Broomfield, Colorado. The pilot sustained minor injuries. The airplane was registered to a private individual and operated by the pilot as a Title 14 *Code of Federal Regulations* Part 91 personal flight. Day visual meteorological conditions prevailed. The flight was not operated on a flight plan. The flight originated from the Vance Brand Airport (LMO), Longmont, Colorado about 1500 and was destined for BJC.

The pilot reported that he was relocating the airplane from LMO to BJC for modification of the fuel injection system after a recent sale. He noted that his preflight inspection and run-up did not reveal any anomalies. He specifically checked the brakes and detected no problems. The takeoff, cruise, and landing approach were conducted without incident. However, during the landing rollout, the airplane started drifting to the left and he applied right rudder to correct. He subsequently attempted to apply right brake pressure to further correct for the drift as the airplane was traveling about 50 knots. At that time, the right brake pedal "went to the floor;" there was "zero" right brake available. The airplane departed the left side of the runway, crossed the grass, and came to rest on the parallel taxiway.

A postrecovery examination conducted by a Federal Aviation Administration inspector revealed that the right brake line was broken near the upper end of the landing gear strut. The brake line consisted of a flexible plastic line at that location. The brake master cylinder was intact. No anomalies were observed related to the brake master cylinder or the caliper assemblies.

The airplane was equipped with a free castering nose wheel and did not have any nose wheel steering capability. Directional control during ground operations was maintained with differential braking.

History of Flight

Landing-landing roll	Sys/Comp malf/fail (non-power) (Defining event) Loss of control on ground Runway excursion
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Pilot Information

Certificate:	Airline Transport; Flight Instructor	Age:	81, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	Glider	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Glider; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 2 With Waivers/Limitations	Last FAA Medical Exam:	01/16/2017
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	11/18/2016
Flight Time:	14800 hours (Total, all aircraft), 250 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Roger G White	Registration:	N4EJ
Model/Series:	Glasair FT	Aircraft Category:	Airplane
Year of Manufacture:	1990	Amateur Built:	Yes
Airworthiness Certificate:	Experimental	Serial Number:	265
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	11/08/2017, Condition	Certified Max Gross Wt.:	
Time Since Last Inspection:	0 Hours	Engines:	1 Reciprocating
Airframe Total Time:	1589.3 Hours at time of accident	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-360-A3A
Registered Owner:	Gene W Gay	Rated Power:	180 hp
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	BJC, 5673 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	1545 MDT	Direction from Accident Site:	90°
Lowest Cloud Condition:	Scattered / 8000 ft agl	Visibility	50 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	120°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.01 inches Hg	Temperature/Dew Point:	27° C / -4° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Longmont, CO (LMO)	Type of Flight Plan Filed:	None
Destination:	Broomfield, CO (BJC)	Type of Clearance:	VFR
Departure Time:	1500 MDT	Type of Airspace:	Class D

Airport Information

Airport:	Rocky Mountain Muni (BJC)	Runway Surface Type:	Asphalt
Airport Elevation:	5673 ft	Runway Surface Condition:	Dry
Runway Used:	12L	IFR Approach:	None
Runway Length/Width:	9000 ft / 100 ft	VFR Approach/Landing:	Full Stop; Traffic Pattern

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	39.908889, -105.117222 (est)

Administrative Information

Investigator In Charge (IIC):	Timothy Sorensen	Report Date:	03/18/2019
Additional Participating Persons:	John Childers; FAA Flight Standards; Denver, CO		
Publish Date:	03/18/2019		
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=97274		

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