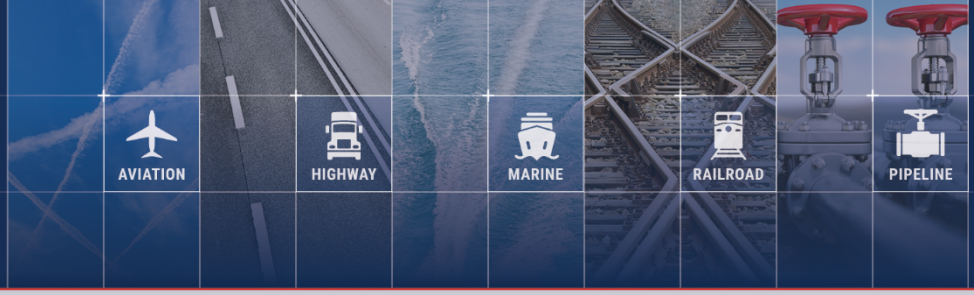

Aviation Investigation Final Report

Location:	Waco, Texas	**Accident Number:**	CEN16LA356
Date & Time:	August 5, 2016, 17:00 Local	**Registration:**	N323DC
Aircraft:	Cessna P210N	**Aircraft Damage:**	Substantial
Defining Event:	Landing gear collapse	**Injuries:**	5 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airline transport pilot reported that the electrical system began to indicate a discharge condition during cruise flight and that he chose to divert to an intermediate airport. He lowered the wing flaps and landing gear, and then the airplane lost total electrical power. Landing gear extension seemed to be normal, which included a green down position indicator light and visual verification of the landing gear in the extended position. The pilot then conducted a visual approach to landing, and after landing, the right main landing gear (MLG) collapsed, which resulted in a runway excursion.

A postaccident examination of the electrical system revealed that the alternator was not functioning properly and that the voltage regulator was inoperative, which precipitated the diverted landing. Examination of the landing gear system revealed that the right MLG down-lock mechanism had failed. None of the components were provided to the National Transportation Safety Board for further examination, which precluded a determination of the root cause of the failure of the right MLG down-lock mechanism.

Probable Cause and Findings

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

The failure of the right main landing gear (MLG) down-lock mechanism, which resulted in the collapse of the landing gear. The root cause of the right MLG down-lock mechanism could not be determined because the components were not available for examination.

Findings

Aircraft	Gear extension and retract sys - Failure
Aircraft	DC generator-alternator - Failure
Aircraft	DC regulator - Failure

Factual Information

History of Flight

Enroute-cruise	Electrical system malf/failure
Landing-flare/touchdown	Landing gear collapse (Defining event)
Landing-flare/touchdown	Runway excursion

On August 5, 2016, about 1700 central daylight time, a Cessna P210N airplane, N323DC, was substantially damaged when the landing gear collapsed during landing on runway 19 (7,107 feet by 150 feet, concrete) at the Waco Regional Airport (ACT), Waco, Texas. The pilot and four passengers onboard were not injured. The airplane was registered to and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed for the flight, which was operated on an instrument flight rules flight plan. The flight originated from the Dallas-Fort Worth International Airport (DFW) about 1630. The intended destination was the Austin-Bergstrom International Airport (AUS), Austin, Texas.

The pilot reported that the airplane electrical system began to indicate a discharge condition during cruise flight. He elected to divert to ACT. The wing flaps and landing gear were lowered before the airplane lost electrical power completely. Landing gear extension seemed to be normal, which included a green down position indicator light and visual verification of the landing gear in the extended position. He executed an uneventful visual approach and landing touchdown. However, after touching down, the landing gear collapsed. The airplane subsequently departed the left side of the runway before coming to rest.

A postaccident examination of the aircraft electrical system revealed that the alternator was not functioning properly and the voltage regulator was inoperative. Examination of the landing gear system revealed that the right main landing gear down lock mechanism had failed. None of the components were provided to the NTSB for further examination, which precluded any determination of the root cause of the failures. The alternator was repaired and the voltage regulator was replaced. The landing gear down lock mechanism was repaired. The airplane was subsequently returned to service and no further anomalies were reported to the NTSB.

Pilot Information

Certificate:	Airline transport	**Age:**	62,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Gyroplane	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 With waivers/limitations	**Last FAA Medical Exam:**	July 7, 2016
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	April 25, 2016
Flight Time:	12108 hours (Total, all aircraft), 110 hours (Total, this make and model), 2860 hours (Pilot In Command, all aircraft), 103 hours (Last 90 days, all aircraft), 22 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N323DC
Model/Series:	P210N	**Aircraft Category:**	Airplane
Year of Manufacture:	1979	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	P21000384
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	September 8, 2015 Annual	**Certified Max Gross Wt.:**	4000 lbs
Time Since Last Inspection:	110 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	6160 Hrs as of last inspection	**Engine Manufacturer:**	Continental Motors
ELT:	C91 installed, not activated	**Engine Model/Series:**	TSIO-520-P5
Registered Owner:	On file	**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:	KACT,516 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	16:51 Local	**Direction from Accident Site:**	360°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.89 inches Hg	**Temperature/Dew Point:**	38°C / 18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Dallas-Ft Worth, TX (KDFW)	**Type of Flight Plan Filed:**	IFR
Destination:	Austin, TX (KAUS)	**Type of Clearance:**	IFR
Departure Time:	16:30 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	Waco Regional KACT	**Runway Surface Type:**	Concrete
Airport Elevation:	516 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	19	**IFR Approach:**	Visual
Runway Length/Width:	7107 ft / 150 ft	**VFR Approach/Landing:**	Full stop

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	4 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	5 None	**Latitude, Longitude:**	31.612222,-97.230278(est)

Administrative Information

Investigator In Charge (IIC):	Sorensen, Timothy
Additional Participating Persons:	Gary Watson; FAA – Flight Standards; Irving, TX
Original Publish Date:	January 25, 2018
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=93960