



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.nts.gov/Docket?ProjectID=93960

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](#).