Aviation Investigation Final Report

Location:	Tulsa, Oklahoma	**Accident Number:**	CEN18LA345
Date & Time:	August 18, 2018, 09:46 Local	**Registration:**	N6958N
Aircraft:	Cessna T210	**Aircraft Damage:**	Substantial
Defining Event:	Electrical system malf/failure	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane had been sitting on a ramp for 3-4 months before the accident flight. The pilot initially could not start the engine due to a discharged battery but then departed on a cross-country flight after a ground unit was used to start the airplane. After takeoff, the pilot noticed that the radios became silent. He started to troubleshoot the loss of radio communications with no success. He set up to return to the airport and land on the runway. The pilot tried to deploy the flaps and landing gear, but there was no indication that either extended. He stated that he checked to see if the landing gear extended by using the wing-mounted mirrors. The pilot continued the approach. During the landing rollout, the pilot applied right rudder and brakes, but the airplane rolled off the runway into the grass. Postaccident examination of the airplane revealed a collapsed left main landing gear. No mechanical anomalies were noted with the landing gear, and the battery was discharged. It is likely that the discharged battery affected the landing gear extension system. However, it could not be determined if the landing gear collapsed during the accident sequence or if it was not completely extended before landing.

Probable Cause and Findings

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

The pilot's decision to take off with a known electrical problem, which resulted in the loss of electrical power, problem with the landing gear extension system, and subsequent runway excursion.

Findings

Aircraft	Battery/charger - Inoperative
Personnel issues	Decision making/judgment - Pilot

Factual Information

History of Flight

Initial climb	Electrical system malf/failure (Defining event)
Landing	Runway excursion

On August 18, 2018, about 0946 central daylight time, a Cessna 210 airplane, N6958N, registered to a private individual, sustained substantial damage during a runway excursion at the Richard Lloyd Jones Jr. Airport (RVS), Tulsa, Oklahoma. The airline transport pilot, who was the sole occupant, was not injured. Visual meteorological conditions prevailed and an instrument flight rules (IFR) flight plan was filed for the flight. The personal flight was conducted under the provisions of Title 14 *Federal Code of Regulations* Part 91. The flight departed RVS about 0930 and was en route to the McAllen Miller International Airport (MFE), McAllen, Texas.

According to the Federal Aviation Administration (FAA) inspector who responded to the accident, the pilot could not start the airplane due to a discharged battery, so he had the local fixed base operator (FBO) use a ground power starter to jump start the airplane.

After takeoff, about 800 ft AGL, the pilot noticed that the radios became silent. He maneuvered the airplane upwind and started to troubleshoot the loss of radio communications (checked circuit breakers, recycled the avionics master switch, tried COMM 2, and tried the hand-held microphone mounted in the airplane). He switched his initial transponder code of 1730 to the emergency code 7600 on the transponder and set up to return to the airport to land on runway 11. The pilot tried to deploy the flaps and landing gear, but there was no indication that either extended. He checked to see if the landing gear extended by using the wing-mounted mirrors.

During landing rollout, the pilot applied right rudder and brakes to try to stop the airplane safely. The airplane rolled off the runway into the grass with a collapsed left main landing gear.

The FAA inspector examined the airplane and did not find any mechanical anomalies with the landing gear. He confirmed that the battery was completely discharged. Also, the airplane had been sitting on the ramp for about 3-4 months before the accident flight.

Pilot Information

Certificate:	Airline transport	**Age:**	36,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	4-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	August 11, 2017
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	July 31, 2018
Flight Time:	(Estimated) 2767 hours (Total, all aircraft), 25 hours (Total, this make and model), 45 hours (Last 90 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N6958N
Model/Series:	T210 N	**Aircraft Category:**	Airplane
Year of Manufacture:	1979	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	21063168
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	October 3, 2017 Annual	**Certified Max Gross Wt.:**	2600 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	TSIO520
Registered Owner:		**Rated Power:**	300 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:	TUL,1325 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	08:53 Local	**Direction from Accident Site:**	0°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:		**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	29.31 inches Hg	**Temperature/Dew Point:**	27°C / 22°C
Precipitation and Obscuration:			
Departure Point:	Tulsa, OK (RVS)	**Type of Flight Plan Filed:**	IFR
Destination:	McAllen, TX (MFE)	**Type of Clearance:**	IFR
Departure Time:	09:30 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Richard lloyd Jones Jr RVS	**Runway Surface Type:**	Asphalt
Airport Elevation:	637 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	1L	**IFR Approach:**	None
Runway Length/Width:	5102 ft / 100 ft	**VFR Approach/Landing:**	Precautionary landing;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	36.039722,-95.984725(est)

Administrative Information

Investigator In Charge (IIC):	Lemishko, Alexander
Additional Participating Persons:	Dan Donnelly; FAA FSDO; Oklahoma City, OK
Original Publish Date:	June 3, 2020
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=98116