



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Santa Teresa, NM	<b>Accident Number:</b>	CEN09LA417
<b>Date &amp; Time:</b>	07/01/2009, 0830 MDT	<b>Registration:</b>	N2118S
<b>Aircraft:</b>	CESSNA T210L	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Sys/Comp malf/fail (non-power)	<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Business		

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## Analysis

The pilot reported that he lowered the landing gear handle on downwind to land and heard the gear cycle down. He told investigators that he could not recall if he saw green, gear down indicator lights. While in the landing flare he heard someone call "gear, gear" on the radio, but it was too late for him to go around. The left main gear collapsed on touchdown and the airplane exited the side of the runway, substantially damaging the horizontal stabilizer and elevator. No anomalies were found with the landing gear indicator lights during the post accident inspections. Following four additional gear malfunctions, the landing gear accumulator was found to leak, allowing air into the hydraulic system. The seals from the accumulator were not retained and the reason for the failure of the seals was not determined.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of the landing gear accumulator seal for undetermined reasons. Contributing to the accident was the pilot's failure to confirm the status of the landing gear.

## Findings

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<b>Aircraft</b>	Accumulator, main - Malfunction (Cause) Main landing gear - Malfunction Main landing gear - Failure
<b>Personnel issues</b>	Forgotten action/omission - Pilot

## Factual Information

On July 1, 2009, at 0830 mountain daylight time, a Cessna T210L airplane, N2118S, was substantially damaged during landing at Dona Ana County Airport (5T6), Santa Teresa, New Mexico. The private pilot was not injured. The flight was being conducted under the provisions of Title 14 Code of Federal Regulations Part 91 without a flight plan. The flight originated at Cielo Dorado Estates Airport (TA50), El Paso, Texas, and was terminating at the time of the accident. Visual meteorological conditions prevailed at the time of the accident.

The pilot reported he lowered the landing gear handle on downwind to land and heard the gear cycle down. He told the investigator he could not recall if he saw green, gear down indicator lights. While in the landing flare he heard someone call "gear, gear" on the radio, but it was too late for him to go around. The left main gear collapsed on touchdown and the airplane exited the side of the runway. The pilot did not recall hearing the gear warning horn prior to landing.

Examination of the airplane revealed substantial damage to the horizontal stabilizer and the elevator. The right main and nose landing gear were found in a down and locked position and the left main was in the gear well. During initial inspection by FAA investigators the left landing gear did not extend fully and lock into position during manual extension, but the gear operated correctly and did lock down when hydraulic power was applied to the system. The hydraulic system was found to be properly serviced and the three gear indicator lights operated properly when the gear was extended and locked. The airplane was taken to a repair station and the landing gear was examined further. No abnormalities were found with the airplane at that time. The witness who made the radio call of "gear, gear" could not be located.

In the months after the accident, and following the repairs to the airplane, the pilot had four additional landing gear malfunctions and failures to extend. He said he had to manually extend the gear during each instance. After the fourth occurrence, the nose gear up-lock actuator and the landing gear accumulator were removed and resealed. The seal in the landing gear accumulator was found to leak. The accumulator requires gaseous nitrogen or dry air. The seals from the accumulator were not retained by maintenance personnel and were not available for examination by investigators. The reason for the failure of the seals was not determined.

## History of Flight

Approach-VFR pattern downwind	Sys/Comp malf/fail (non-power) (Defining event) Miscellaneous/other
Landing-flare/touchdown	Landing gear collapse

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	51, Male
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Without Waivers/Limitations	<b>Last Medical Exam:</b>	06/16/2008
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	12/01/2008
<b>Flight Time:</b>	848 hours (Total, all aircraft), 217 hours (Total, this make and model), 15 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Manufacturer:</b>	CESSNA	<b>Registration:</b>	N2118S
<b>Model/Series:</b>	T210L	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	21061081
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	6
<b>Date/Type of Last Inspection:</b>	01/25/2009, Annual	<b>Certified Max Gross Wt.:</b>	3800 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	3113 Hours	<b>Engine Manufacturer:</b>	CONT MOTOR
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	TSIO-520 SER
<b>Registered Owner:</b>	ADVANCED SECURITY CONTRACTORS INC	<b>Rated Power:</b>	300 hp
<b>Operator:</b>	ADVANCED SECURITY CONTRACTORS INC	<b>Air Carrier Operating Certificate:</b>	None

## Meteorological Information and Flight Plan

Observation Facility, Elevation:	ELP, 3921 ft msl	Observation Time:	0851 MDT
Distance from Accident Site:	19 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	109°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Scattered	Temperature/Dew Point:	30° C / 12° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	10 knots, 110°	Visibility (RVR):	
Altimeter Setting:	29.74 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:			
Departure Point:	Cielo Dorado Es, TX (TA50)	Type of Flight Plan Filed:	None
Destination:	Santa Teresa, NM (5T6)	Type of Clearance:	None
Departure Time:	0815 MDT	Type of Airspace:	

## Airport Information

Airport:	Dona Ana County Airport (5T6)	Runway Surface Type:	Asphalt
Airport Elevation:	4112 ft	Runway Surface Condition:	Dry
Runway Used:	28	IFR Approach:	Visual
Runway Length/Width:	8500 ft / 100 ft	VFR Approach/Landing:	Full Stop; Traffic Pattern

## Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None		

## Administrative Information

Investigator In Charge (IIC):	Daniel Baker	Adopted Date:	05/11/2010
Additional Participating Persons:	Lonnie B Jeffcoat; FAA; Albuquerque, NM		
Publish Date:	05/10/2010		
Investigation Docket:	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=74221">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=74221</a>		

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