



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	San Luis Obispo, California	Accident Number:	WPR18LA264
Date & Time:	September 14, 2018, 17:18 Local	Registration:	N5340Y
Aircraft:	Cessna T210	Aircraft Damage:	Substantial
Defining Event:	Landing gear not configured	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The private pilot reported that during the approach to land after a cross-country flight, he lowered the landing gear and felt the gear extending into place. After visually observing the left main landing gear out the window, he thought that everything was normal for landing. As the airplane contacted the runway about 65 to 70 knots, he felt a bump from the right as the nose landing gear contacted the runway. The airplane veered to the right as it exited the runway, then completed a 180° turn before coming to rest in the runway safety area; the right horizontal stabilizer and right elevator impacted the ground and were buckled upward. The pilot reported that he did not remember seeing the landing gear indicator lights during the approach, nor did he hear the landing gear warning horn; however, the pilot was wearing a noise-cancelling headset during the flight that could have prevented him from hearing the warning horn.

Postaccident examination of the airplane revealed that the right main landing gear was collapsed. The landing gear extension motor was replaced, and no anomalies were noted when the landing gear was tested; the warning horn sounded, and landing gear indicator lights illuminated during the testing. It was revealed during the examination that the landing gear extension motor on the airplane at the time of the accident was the original pump installed during the airplane's manufacture about 37 years before the accident. The motor was disassembled and had internal wear, which likely prevented the landing gear from fully extending and locking into place during landing.

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 extension motor due to wear, which resulted in the right main landing gear not fully extending and locking into place during landing. Contributing to the accident was the pilot's failure to ensure that all three landing gear were down and locked before landing.

Findings

Aircraft	Gear extension and retract sys - Fatigue/wear/corrosion
Personnel issues	Lack of action - Pilot

Factual Information

History of Flight

Landing	Landing gear not configured (Defining event)
Landing-landing roll	Sys/Comp malf/fail (non-power)
Landing-landing roll	Runway excursion

On September 14, 2018, about 1718 Pacific daylight time, a Cessna T210 airplane, N5340Y, was substantially damaged during landing roll at San Luis County Regional Airport (SBP), San Luis Obispo, California. The private pilot was not injured. The airplane was registered to and operated by the pilot under the provisions of Title 14 *Code of Federal Regulations* Part 91 as a personal flight. Visual meteorological conditions prevailed, and no flight plan was filed for the cross-country flight. The flight originated from John Wayne-Orange County Airport (SNA), Santa Ana, California at 1613, with a destination of SBP.

The pilot reported that during the approach to land at SBP, he selected the landing gear to the DOWN position, after which he felt the gear extending into place. Following the gear extension, he observed the left main landing gear out the window and felt that everything was normal. As the airplane contacted the runway at 65 to 70 knots, he felt a "...bump up from the right" as the nose landing gear immediately made contact with the runway. The airplane veered to the right as it exited the runway, and completed a 180° turn before coming to rest in the runway safety area. Additionally, the pilot reported that he did not hear the landing gear warning horn, nor did he remember seeing the landing indicator lights during the approach. The pilot wore a noise cancelling headset during the flight.

Initial examination of the airplane by a Federal Aviation Administration inspector revealed that the right main landing gear was retracted, and that the right horizontal stabilizer and the right elevator had impacted the ground and were buckled upwards. Subsequent to the airplane being relocated to a facility on the airport, the landing gear extension motor was replaced. The landing gear was tested, and no anomalies were noted. The warning horn sounded, and landing gear indicator lights illuminated during the testing. It was revealed during the examination that the landing gear extension motor was the original pump installed during the manufacturing of the airplane. When the motor was disassembled, internal wear was observed.

The six-seat, high-wing, retractable tricycle-gear airplane, serial number (S/N) 21064173 was manufactured in 1981 and had accumulated 6,813.5 hours total airframe time at the last annual inspection on March 22, 2018.

Pilot Information

Certificate:	Private	Age:	64, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	August 16, 2016
Occupational Pilot:	No	Last Flight Review or Equivalent:	July 31, 2017
Flight Time:	2563.8 hours (Total, all aircraft), 2521 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N5340Y
Model/Series:	T210 N	Aircraft Category:	Airplane
Year of Manufacture:	1981	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	21064173
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	March 22, 2018 Annual	Certified Max Gross Wt.:	3800 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	6813.5 Hrs as of last inspection	Engine Manufacturer:	Teledyne Continental
ELT:	C91 installed, not activated	Engine Model/Series:	TSIO-520R
Registered Owner:		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:	KSPD,200 ft msl	Distance from Accident Site:	20 Nautical Miles
Observation Time:	16:55 Local	Direction from Accident Site:	290°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	13 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	310°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.85 inches Hg	Temperature/Dew Point:	21°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Santa Ana, CA (KSNA)	Type of Flight Plan Filed:	None
Destination:	San Luis Obispo, CA (KSBP)	Type of Clearance:	VFR;Traffic advisory;VFR flight following
Departure Time:	16:13 Local	Type of Airspace:	Class D

Airport Information

Airport:	SAN LUIS COUNTY RGNL SBP	Runway Surface Type:	Asphalt
Airport Elevation:	212 ft msl	Runway Surface Condition:	Dry
Runway Used:	29	IFR Approach:	None
Runway Length/Width:	6101 ft / 150 ft	VFR Approach/Landing:	Full stop;Straight-in

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:	35.237499,-120.640556(est)

Administrative Information

Investigator In Charge (IIC):	Swick, Andrew
Additional Participating Persons:	Stephen D Rowell; FAA-FSDO; San Jose, CA
Original Publish Date:	November 19, 2019
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=98312

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).