



Aviation Investigation Final Report

Location:	Torrance, California	Accident Number:	WPR16LA163
Date & Time:	August 8, 2016, 15:08 Local	Registration:	N756FZ
Aircraft:	Cessna TR182	Aircraft Damage:	Substantial
Defining Event:	Landing gear collapse	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

During an instructional flight, the flight instructor was demonstrating a normal landing to the pilot under instruction. As the airplane approached the runway, the instructor selected the landing gear down and configured the airplane for the landing. The landing checks were called out, and a landing gear green indicator light was verified, indicating that the landing gear should have been down and locked. The landing flare and initial touchdown were normal. However, shortly after the airplane touched down, it listed right as the right main landing gear (MLG) collapsed. The airplane then entered a 180o skidding turn before coming to a stop. Two witnesses reported seeing the airplane on final approach with its right MLG not fully extended.

During a postaccident examination, the airplane was placed on jacks to facilitate a gear-swing test. The MLG were cycled multiple times with no evidence of any preimpact mechanical failures or malfunctions that would have precluded normal operation. Each time the MLG were extended, the landing gear indicator lights inside the cockpit illuminated. The reason for the right MLG's failure to fully extend when the MLG were selected down could not be determined.

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 to fully extend for reasons that could not be determined because postaccident examination and testing did not reveal any evidence of preimpact mechanical failures or malfunctions that would have precluded normal operation.

Findings

Not determined	(general) - Unknown/Not determined
Aircraft	Main landing gear - Malfunction

Factual Information

History of Flight

Landing-flare/touchdown	Landing gear collapse (Defining event)
Landing	Loss of control on ground

On August 8, 2016, at 1508 Pacific daylight time, a Cessna TR182, N756FZ, experienced a right main landing gear collapse after landing at Zamperini Field Airport (TOA), Torrance, California. The airplane was registered to M and S 182 LLC and operated by Pacific Skies Aviation under the provisions of 14 *Code of Federal Regulations* Part 91. The certified flight instructor and the commercial pilot undergoing instruction (PUI), were not injured. The airplane sustained substantial damage to the right horizontal stabilizer. The local instructional flight departed TOA about 1338. Visual meteorological conditions prevailed, and no flight plan had been filed.

The flight instructor reported that he was demonstrating a normal landing to the PUI. As the flight approached the runway, he extended the landing gear and configured the airplane for a normal landing. The landing checks were called out and a green light was verified indicating that the landing gear was extended. The flare and initial touchdown were normal. Shortly after the airplane touched down, the airplane listed to the right. The airplane entered into a 180° skidding turn before coming to a stop.

Two witnesses located at the airport reported seeing the airplane on final approach with its right main landing gear not fully extended.

A Federal Aviation Administration inspector from the Long Beach Flight Standards District Office reported that when he arrived on site, he observed the airplane on the runway with the nose and left main landing gear down and locked. The right main landing gear was fully retracted. During the recovery process, the airplane was lifted and the right main landing gear freely fell into trail. A mechanic then manually placed the right side gear in the down and locked position. The airplane was lowered onto the landing gear and subsequently towed from the runway to a secured location.

During a postaccident examination, the airplane was placed on jacks to facilitate a gear swing test. The landing gear was cycled multiple times with no anomalies noted. The landing gear indicator lights inside the cockpit illuminated during the landing gear extension.

Flight instructor Information

Certificate:	Airline transport; Commercial	Age:	41, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	December 30, 2015
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	July 12, 2016
Flight Time:	(Estimated) 9000 hours (Total, all aircraft), 300 hours (Total, this make and model), 8700 hours (Pilot In Command, all aircraft), 150 hours (Last 90 days, all aircraft), 50 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Commercial	Age:	20, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	July 26, 2016
Occupational Pilot:	No	Last Flight Review or Equivalent:	April 15, 2016
Flight Time:	(Estimated) 315.7 hours (Total, all aircraft), 127.4 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N756FZ
Model/Series:	TR182 NO SERIES	Aircraft Category:	Airplane
Year of Manufacture:	1979	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	R18201069
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	July 15, 2016 100 hour	Certified Max Gross Wt.:	3100 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	3730.8 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-540-L3C5D
Registered Owner:	M and S 182 LLC.	Rated Power:	235 Horsepower
Operator:	Pacific Skies Aviation LLC.	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KTOA,90 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	22:08 Local	Direction from Accident Site:	279°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	9 knots /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	270°	Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	29.8 inches Hg	Temperature/Dew Point:	28°C / 18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Torrance, CA (TOA)	Type of Flight Plan Filed:	None
Destination:	Torrance, CA (TOA)	Type of Clearance:	VFR
Departure Time:	13:38 Local	Type of Airspace:	Class D

Airport Information

Airport:	ZAMPERINI FIELD TOA	Runway Surface Type:	Asphalt;Concrete
Airport Elevation:	103 ft msl	Runway Surface Condition:	Dry
Runway Used:	11L	IFR Approach:	None
Runway Length/Width:	5001 ft / 150 ft	VFR Approach/Landing:	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	33.801109,-118.334999(est)

Administrative Information

Investigator In Charge (IIC):	Jones, Patrick
Additional Participating Persons:	Josef E Babati; Federal Aviation Administration; Long Beach, CA
Original Publish Date:	March 5, 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=93806

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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](#).