



National Transportation Safety Board Aviation Accident Final Report

Location:	Silver City, NM	Accident Number:	CEN14LA107
Date & Time:	01/03/2014, 1515 MST	Registration:	N6767P
Aircraft:	PIPER PA 24-250	Aircraft Damage:	Substantial
Defining Event:	Landing gear collapse	Injuries:	1 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot reported that he lowered the landing gear and observed gear-down indications before touchdown; however, the landing gear collapsed during the landing. A postaccident examination of the airplane revealed that all three landing gear had collapsed; no anomalies in the extension/retraction linkage were found.

The airplane owner reported that, during recovery of the airplane, he had adjusted the nose landing gear actuating rod for the nose gear to fully seat on the stop flats. Additionally, the landing gear had been serviced during the most recent annual inspection, which was about 24 flight hours before the accident. Although it is possible that the landing gear was not properly adjusted after the maintenance work, several flights had been conducted in the interim without any reported issues related to the landing gear system.

Postaccident examinations revealed that the nose landing gear down lock switch was improperly mounted upside down and that the limit switch was stuck in the closed position. The inoperative nose landing gear switch would have provided a gear down/locked indication to the pilot regardless of the nose landing gear condition. It is possible that the nose landing gear did not fully extend and lock down before landing due to either the inoperative limit switch or a slight misrigging of the system. However, because the landing gear was operated by the transmission jackscrew, it is unlikely that an issue with the nose landing gear would have caused a collapse of the main landing gear if the main landing gear was fully extended and locked in the down position. The reason for the landing gear collapse could not be determined.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The collapse of the landing gear during landing for reasons that could not be determined during postaccident examinations.

Findings

Aircraft	Gear extension and retract sys - Malfunction (Cause)
Not determined	Not determined - Unknown/Not determined (Cause)

Factual Information

On January 3, 2014, about 1515 mountain standard time, a Piper PA-24-250, N6767P, sustained substantial damage when the landing gear collapsed during landing at the Grant County Airport (SVC), Silver City, New Mexico. The pilot was not injured. The aircraft 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 not operated on a flight plan. The flight originated from the Deming Municipal Airport (DMN), Deming, New Mexico, about 1430.

The pilot reported that he lowered the landing gear on downwind and observed a gear down indication before touchdown. He noted that the approach was normal; however, the landing gear collapsed during the landing rollout.

A postaccident examination was conducted by a Federal Aviation Administration (FAA) inspector after recovery of the airplane. All three landing gear had collapsed. Damage included bent and buckled fuselage frames. The examination did not reveal any anomalies in the extension/retraction linkage. However, it was noted that the nose landing gear down lock switch was improperly mounted upside-down and was not making contact with the striker plate. Further examination revealed that the limit switch plunger was stuck in the closed position.

The airplane owner informed the assigned FAA inspector that after the accident, he adjusted the nose landing gear actuating rod in order for the nose landing gear to fully seat on the stop flats. A mechanic noted that there may have been damage to one of the frames, causing the nose landing gear to become out of rig. However, the FAA inspector reported that there appeared to be no movement of the landing gear transmission mounting at the time of the postaccident examination.

Maintenance records indicated that the landing gear had been serviced during the most recent annual inspection. This included repair of the gear motor transmission, a rebuild of all three landing gear struts, and replacement of the bungee cords. The maintenance work and inspection was completed on April 11, 2013, at a recording tachometer time of 2,862 hours. The tachometer indicated 2,886 hours at the time of the accident.

The landing gear retraction mechanism included push-pull cables to each main gear and a push-pull tube to the nose gear. The transmission motor installed below the cabin floor drove the transmission screw (jackscrew), which in turn actuated the push-pull cables and push-pull tube to extend or retract the landing gear. Limit switches installed on each gear assembly would stop the transmission motor when the landing gear was fully extended or retracted. These switches also operated indicator lights in the cabin. A safety switch was located on the left main gear assembly in order to prevent the gear from retracting while the airplane was on the ground.

History of Flight

Landing-landing roll	Landing gear collapse (Defining event) Runway excursion
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Pilot Information

Certificate:	Private	Age:	60
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Without Waivers/Limitations	Last Medical Exam:	03/15/2012
Occupational Pilot:	No	Last Flight Review or Equivalent:	11/15/2012
Flight Time:	900 hours (Total, all aircraft), 350 hours (Total, this make and model), 900 hours (Pilot In Command, all aircraft), 9 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	PIPER	Registration:	N6767P
Model/Series:	PA 24-250	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	24-1897
Landing Gear Type:	Retractable - Tricycle	Seats:	
Date/Type of Last Inspection:	04/30/2013, Annual	Certified Max Gross Wt.:	2899 lbs
Time Since Last Inspection:	24 Hours	Engines:	1 Reciprocating
Airframe Total Time:	4500 Hours	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	0-540-A1B5
Registered Owner:	On file	Rated Power:	250 hp
Operator:	On file	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	SVC, 5446 ft msl	Observation Time:	1535 CST
Distance from Accident Site:	0 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	360°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	15° C / -8° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	12 knots/ 16 knots, 290°	Visibility (RVR):	
Altimeter Setting:	30.05 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Deming, NM (DMN)	Type of Flight Plan Filed:	None
Destination:	Deming, NM (DMN)	Type of Clearance:	None
Departure Time:	1430 MST	Type of Airspace:	

Airport Information

Airport:	Grant County (SVC)	Runway Surface Type:	Asphalt
Airport Elevation:	5446 ft	Runway Surface Condition:	Dry
Runway Used:	26	IFR Approach:	None
Runway Length/Width:	6802 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):	Timothy Sorensen	Adopted Date:	09/24/2014
Additional Participating Persons:	L. Bruce Jeffcoat; FAA -- Albuquerque Flight Standards; Albuquerque, NM		
Publish Date:	09/24/2014		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=88653		

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