



National Transportation Safety Board Aviation Accident Final Report

Location:	Chicago, IL	Accident Number:	CEN15LA147
Date & Time:	02/16/2015, 1445 CST	Registration:	N727SC
Aircraft:	PIPER PA 31-350	Aircraft Damage:	Substantial
Defining Event:	Landing gear collapse	Injuries:	1 None
Flight Conducted Under:	Part 91: General Aviation - Positioning		

Analysis

The pilot reported that he executed a normal approach for landing. During the approach, the pilot lowered the landing gear and verified the extended position by checking the landing gear position indicators in the cockpit. Upon touchdown on the runway, the nose landing gear collapsed, and then the right main landing gear collapsed. The airplane then exited the runway surface and came to rest upright. The right wing sustained substantial damage. A postaccident examination of the landing gear system revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation.

Probable Cause and Findings

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

The collapse of the nose and right main landing gears during landing for reasons that could not be determined because examination of the landing gear system revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation.

Findings

Not determined	Not determined - Unknown/Not determined (Cause)
----------------	---

Factual Information

On February 16, 2015, at 1445 central standard time, a Piper PA-31-350 airplane, N727SC, sustained substantial damage following a collapse of the nose and right main landing gear during landing at Chicago Midway International Airport (MDW), Chicago, Illinois. The airline transport pilot, who was the sole occupant, was not injured. The airplane was registered to Pinot Leasing, LLC, Zionsville, Indiana, and operated by Solutions Air Charter, Greenfield, Indiana. Visual meteorological conditions prevailed at the time of the accident and an instrument flight rules flight plan was filed for the 14 Code of Federal Regulations Part 91 positioning flight. The airplane departed the Indianapolis Regional Airport (MQJ), Indianapolis, Indiana, at 1445 eastern standard time, and was destined for MDW.

The pilot reported that he executed a normal approach for landing to runway 4R at MDW. During the approach, the pilot lowered the landing gear and verified the extended position with the landing gear position indicators in the cockpit. Upon touchdown on the runway, the nose landing gear collapsed, followed by a collapse of the right main landing gear. The airplane exited the runway surface and came to rest upright.

According to the Federal Aviation Administration (FAA) inspector who examined the airplane, the right wing sustained substantial damage to the forward and aft spars.

On March 2, 2015, the airplane was examined by a National Transportation Safety Board investigator, a FAA inspector, and representatives from the operator. At the time of the examination, the airplane was located on an outside ramp surface with its landing gear extended and secured with straps and harness equipment. The airplane is equipped with a hydraulically actuated, retractable tricycle landing gear, and the landing gear system was visually examined. The airplane's hydraulic reservoir, located in the forward baggage compartment, did not exhibit fluid in its sight glass. The sight glass was removed and fluid was observed on a removed strip that was lowered into the sight glass opening. No evidence was found that the hydraulic system was compromised during the accident.

During the examination, the airplane power was switched on, the landing gear handle was lowered, and landing gear emergency extension was performed. During the landing gear emergency extension, the landing gear locked into the extended position and the right main inner landing gear door moved to the up position. The left main landing gear door actuator was separated from its door. Due to the unavailability of equipment to properly support the airplane, a test of landing gear retraction and extension operations was not performed. The examination of the landing gear system revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation.

The airplane's most recent annual inspection was completed on October 1, 2014.

According to the Airplane Flight Manual (AFM), the hydraulic system fluid level of the reservoir should be checked every 50 hours by placing the airplane in a level position and viewing the fluid level through the sight glass located in the forward surface of the reservoir

dome. If fluid is not visible, filtered hydraulic fluid (MIL-H-5606) should be added. The AFM preflight inspection checks do not include verifying the hydraulic fluid level in the sight gauge.

According to a FAA inspector who spoke with a Piper technical service representative, the amount of hydraulic fluid found in the accident airplane at the time of the examination would not impact the operation of the landing gear system.

History of Flight

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

Pilot Information

Certificate:	Airline Transport	Age:	59
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With Waivers/Limitations	Last FAA Medical Exam:	02/12/2015
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	10/25/2014
Flight Time:	12085 hours (Total, all aircraft), 40 hours (Total, this make and model), 6261 hours (Pilot In Command, all aircraft), 31 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER	Registration:	N727SC
Model/Series:	PA 31-350 350	Aircraft Category:	Airplane
Year of Manufacture:	1973	Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	31-7305110
Landing Gear Type:	Retractable - Tricycle	Seats:	8
Date/Type of Last Inspection:	10/01/2014, Annual	Certified Max Gross Wt.:	7368 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:	13600 Hours as of last inspection	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	TIO-540-J2BD
Registered Owner:	PINOT LEASING LLC	Rated Power:	350 hp
Operator:	Solutions Air Charter	Operating Certificate(s) Held:	On-demand Air Taxi (135)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	MDW, 620 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	1514 CST	Direction from Accident Site:	0°
Lowest Cloud Condition:	Few / 6000 ft agl	Visibility	10 Miles
Lowest Ceiling:	Broken / 25000 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.06 inches Hg	Temperature/Dew Point:	-7° C / -21° C
Precipitation and Obscuration:	No Precipitation		
Departure Point:	Indianapolis, IN (MQJ)	Type of Flight Plan Filed:	IFR
Destination:	Chicago, IL (MDW)	Type of Clearance:	IFR
Departure Time:	1445 EST	Type of Airspace:	Class C

Airport Information

Airport:	Chicago Midway International (MDW)	Runway Surface Type:	Asphalt; Concrete
Airport Elevation:	620 ft	Runway Surface Condition:	Dry
Runway Used:	4R	IFR Approach:	Visual
Runway Length/Width:	6445 ft / 150 ft	VFR Approach/Landing:	Full Stop; Straight-in

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	Latitude, Longitude:	41.787500, -87.752222 (est)

Administrative Information

Investigator In Charge (IIC):	Aaron M Sauer	Report Date:	08/11/2015
Additional Participating Persons:	Victor C Liberatore; Federal Aviation Administration; DuPage, IL		
Publish Date:	06/08/2017		
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=90739		

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](#).