



Aviation Investigation Final Report

Location:	Port Mansfield, Texas	Accident Number:	CEN18LA017
Date & Time:	October 19, 2017, 13:00 Local	Registration:	N633CB
Aircraft:	Piper PA 32RT-300T	Aircraft Damage:	Substantial
Defining Event:	Landing gear collapse	Injuries:	3 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The private pilot stated that, during landing, he pitched the airplane's nose up "slightly" and reduced engine power before the main landing gear wheels touched down on the runway. The nosewheel landing gear then touched down and collapsed.

Postaccident examination of the nosewheel landing gear revealed that the trunnion casting was fractured. Metallurgical examination of the trunnion casting revealed fractures consistent with overstress. No evidence of preexisting cracks was observed on any of the fracture surfaces. No other mechanical malfunctions or failures that would have precluded normal operation were noted. Therefore, it is likely that the pilot did not properly flare the airplane, which led to a hard landing and the subsequent collapse of the nosewheel landing gear.

Probable Cause and Findings

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

The pilot's improper landing flare, which led to a hard landing and the subsequent collapse of the nosewheel landing gear due to the overstress failure of the nosewheel landing gear trunnion casting.

Findings

Aircraft

Nose/tail gear strut/axle - Capability exceeded

Factual Information

History of Flight

Landing-flare/touchdown	Landing gear collapse (Defining event)
--------------------------------	--

On October 19, 2017, at 1300 central daylight time, a Piper PA-32RT-300T airplane, N633CB, experienced a nose landing gear collapse and an impact with a taxiway surface during an after-landing taxi at Charles R Johnson Airport (T05), Port Mansfield, Texas. The airplane sustained substantial fuselage damage. The private pilot and a commercial pilot were uninjured. The airplane was registered to PKJ Aviation LLC and operated by the pilot under Title 14 Code of Federal Regulations as a part 91 personal flight. The flight was operating on an instrument rules flight plan. Day visual meteorological conditions prevailed at the time of the accident. The flight departed from Conroe-North Houston Regional Airport, Houston, Texas, at 1041 and was destined to T05.

The private pilot stated that he had pitched the nose up "slightly" and reduced engine power prior to the main landing gear wheels touching down on the runway. The nose wheel landing gear then touched down and collapsed.

Post-accident examination of the nose landing gear revealed a fractured trunnion casting. Metallurgical examination of the trunnion casting revealed fractures consistent with overstress. No evidence of preexisting cracks was observed on any of the fracture surfaces. No other mechanical anomalies that would have precluded normal airplane operation were noted.

Pilot Information

Certificate:	Private	Age:	56, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	BasicMed Unknown	Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	January 26, 2017
Flight Time:	100 hours (Total, all aircraft), 57 hours (Total, this make and model)		

Co-pilot Information

Certificate:	Commercial	Age:	27, 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:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	May 19, 2017
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	September 8, 2016
Flight Time:	796 hours (Total, all aircraft), 234 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N633CB
Model/Series:	PA 32RT-300T 300T	Aircraft Category:	Airplane
Year of Manufacture:	1978	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	32R-7887158
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	April 21, 2017 Annual	Certified Max Gross Wt.:	3600 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	4050.31 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	TIO-540-S1AD
Registered Owner:	PKJ AVIATION LLC	Rated Power:	300 Horsepower
Operator:	Pilot	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	HRL,36 ft msl	Distance from Accident Site:	23 Nautical Miles
Observation Time:	12:30 Local	Direction from Accident Site:	203°
Lowest Cloud Condition:	Scattered / 2900 ft AGL	Visibility	10 miles
Lowest Ceiling:	Overcast / 3000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	9 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	110°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:		Temperature/Dew Point:	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Houston, TX (CXO)	Type of Flight Plan Filed:	IFR
Destination:	Port Mansfield, TX (T05)	Type of Clearance:	IFR
Departure Time:	10:41 Local	Type of Airspace:	Class G

Airport Information

Airport:	Charles R Johnson Airport T05	Runway Surface Type:	Asphalt
Airport Elevation:	10 ft msl	Runway Surface Condition:	Dry
Runway Used:	12	IFR Approach:	None
Runway Length/Width:	3200 ft / 50 ft	VFR Approach/Landing:	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 None	Latitude, Longitude:	26.560277,-97.439163(est)

Administrative Information

Investigator In Charge (IIC):	Gallo, Mitchell
Additional Participating Persons:	Carl Newton; Federal Aviation Administration; SAT FSDO; San Antonio, TX
Original Publish Date:	November 6, 2019
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=96230

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).