National Transportation Safety Board
Aviation Accident Factual Report

Location:	Mount Pleasant, TX	**Accident Number:**	CEN20TA025
Date & Time:	11/25/2019, 1610 CST	**Registration:**	N15412
Aircraft:	Piper PA34	**Aircraft Damage:**	Substantial
Defining Event:	Hard landing	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General Aviation - Instructional		

On November 25, 2019, about 1610 central standard time, a Piper PA34-200 airplane, N15412, landed hard on the nose landing gear at Mount Pleasant Regional Airport, (OSA), Mount Pleasant, Texas. The flight instructor and pilot under instruction were not injured and the airplane sustained substantial damage. The airplane was registered to and operated by US Aviation Group LLC, under the provisions of Title 14 *Code of Federal Regulations* Part 91 as an instructional flight. Visual meteorological conditions prevailed at the time of the accident and no flight plan had been filed. The cross-country flight originated from Denton Enterprise Airport (DTO), Denton, Texas, about 1510.

A company mechanic stated that before the accident flight he was called out to the airplane for maintenance and when he arrived, he noticed the nose gear strut was extended too far. He released some nitrogen pressure from the strut and lowered it to 2.8 inches of extension, which was within proper tolerance.

According to the flight instructor (CFI), during the preflight inspection the nose gear strut appeared to be extended more than normal so they called a company mechanic to the assess the issue. He stated that the mechanic released pressure in the nose strut which resulted in the strut lowering to a normal position. The CFI stated that during the flight the airplane and landing gear were operating normally.

The pilot receiving multi-engine instruction was in the left seat and flew the accident approach and landing. Before landing the pilot stated that he confirmed the landing gear were down and locked. The CFI stated that during the landing the airplane touched down on the runway with the main landing gear first and then the nose gear touched down and felt like it had a flat tire. The airplane bounced, during which the CFI noticed a high pitch attitude and assumed control of the airplane, then landed again. During this sequence the nose gear strut came through the windscreen between the two pilots.

The CFI stated that he had accumulated 15 flight hours in the accident airplane make and model. He added that the accident flight was his first flight in the accident airplane.

The pilot receiving instruction stated that during the landing the main gear touched first and then the nose gear, then bounced into the air about 5 ft. He stated that the CFI took control of the airplane after the bounce. The pilot receiving instruction had flown the accident airplane for a total of 3 flights and 3.9 hours not including the accident flight. During the flight lesson before the accident flight, he completed 3 to 4 good landings with no bounces.

One witness, who was an OSA airport employee, observed the approach and landing. He stated that the airplane landed on the nose wheel first while the main landing gear were still about one foot off the runway. The airplane bounced into the air then landed hard on the nose wheel again. The airplane slid on the runway and came to rest upright about 1,000 ft later.

Another witness, who is a pilot and has his airplane hangared at OSA, observed the approach and landing. He stated that the airplane was very fast on final approach and landed fairly flat on the first landing attempt. The airplane bounced into the air about 10 to 15 ft then landed on the nose gear. The airplane bounced a final time and came down directly on the nose gear. The airplane hit the runway hard and the nose strut collapsed upward into the fuselage (Figure 1).

Figure 1 – Airplane with nose gear strut through the fuselage and windscreen

A postaccident examination of the damage to the nose landing gear revealed that the lower truss of the nose gear mounting structure was fractured. The nose gear mount assembly separated from the airframe but remained attached to the windscreen trim strip. The mount was displaced upward and punctured through the top of the fuselage and fractured the windscreen. The nose landing gear strut was intact and did not show signs of damage or failure.

Flight Instructor Information

Certificate:	Flight Instructor; Commercial	**Age:**	27, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Right
Other Aircraft Rating(s):		**Restraint Used:**	3-point
Instrument Rating(s):		**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 1 Without Waivers/Limitations	**Last FAA Medical Exam:**	08/17/2017
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	04/01/2019
Flight Time:	485 hours (Total, all aircraft), 15 hours (Total, this make and model), 345 hours (Pilot In Command, all aircraft), 76 hours (Last 90 days, all aircraft), 28 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Private	**Age:**	18, 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:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 With Waivers/Limitations	**Last FAA Medical Exam:**	02/21/2019
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 210 hours (Total, all aircraft), 4 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N15412
Model/Series:	PA34 200	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	34-7350060
Landing Gear Type:	Retractable - Tricycle	**Seats:**	2
Date/Type of Last Inspection:	11/12/2019, Annual	**Certified Max Gross Wt.:**	3999 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	11482.7 Hours as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	IO360
Registered Owner:	US Aviation Group LLC	**Rated Power:**	
Operator:	US Aviation Group LLC	**Operating Certificate(s) Held:**	Pilot School (141)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Day
Observation Facility, Elevation:	KOSA, 363 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:		**Direction from Accident Site:**	10°
Lowest Cloud Condition:	Clear	**Visibility**	10 Miles
Lowest Ceiling:		**Visibility (RVR):**	
Wind Speed/Gusts:	Calm /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:		**Temperature/Dew Point:**	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Denton, TX (DTO)	**Type of Flight Plan Filed:**	None
Destination:	Mount Pleasant, TX (OSA)	**Type of Clearance:**	VFR
Departure Time:	1310	**Type of Airspace:**	Class E

Airport Information

Airport:	Mount Pleasant Rgnl (OSA)	**Runway Surface Type:**	Asphalt
Airport Elevation:	364 ft	**Runway Surface Condition:**	Dry
Runway Used:	17	**IFR Approach:**	None
Runway Length/Width:	6004 ft / 100 ft	**VFR Approach/Landing:**	Traffic Pattern

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	33.094167, -94.961389 (est)

Administrative Information

Investigator In Charge (IIC):	Joshua D Lindberg
Additional Participating Persons:	Stephen Wisdom; Federal Aviation Administration; Irving, TX
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=100640