Aviation Investigation Final Report

Location:	Farmington, New Mexico	**Accident Number:**	FTW02LA189
Date & Time:	June 23, 2002, 12:15 Local	**Registration:**	N8245H
Aircraft:	Beech BE-58	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

During the takeoff/initial climb, when the main landing gear retracted a "pop-bang was heard." The two green main landing gear indicator lights and the red in-transit indicator light remained illuminated. The pilot's recycled the landing gear; however, they could not get a down and locked indication for the nose landing gear. During a low approach over the runway, company personnel observed that the nose landing gear was not locked in the down position and was at a 45 degree angle. Subsequently, the nose landing gear collapsed during the landing roll. The nose landing gear plunger assembly, part number 35-825094-4, had accumulated 10,872.5 hours. Stereoscopic and metallurgical examination of the component revealed a fatigue fracture.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of the nose landing gear plunger assembly due to fatigue.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (C) LANDING GEAR,NOSE GEAR ASSEMBLY - FAILURE
2. (C) LANDING GEAR,NOSE GEAR ASSEMBLY - FATIGUE

Occurrence #2: NOSE GEAR COLLAPSED
Phase of Operation: LANDING - ROLL

Factual Information

On June 23, 2002, at 1215 mountain daylight time, a Beech BE-58, twin-engine airplane, N8245H, was substantially damaged following the collapse of the nose landing gear during the landing roll at the Four Corners Regional Airport (FMN), near Farmington, New Mexico. The airplane was owned and operated by San Juan Pilot Training, Inc., dba Mesa Airlines Pilot Development, at Farmington, New Mexico, under Code of Federal Regulations Part 91. The flight instructor and the private pilot/multiengine student were not injured. Visual meteorological conditions prevailed for the instructional flight, for which a company visual flight rules (VFR) flight plan was filed. The local flight departed Farmington at 1100.

On the Pilot/Operator Aircraft Accident Report (NTSB Form 6120.1/2) the flight instructor reported that when the main landing gear retracted a "pop-bang was heard." The two green main landing gear indicator lights and the red in-transit indicator light remained illuminated. The pilot's recycled the landing gear; however, they could not get a down and locked indication for the nose landing gear.

The pilots established radio communication with the company dispatcher who notified the chief pilot. During a low approach over the active runway, the chief pilot and mechanics observed the nose landing gear was not locked in the down position and was at a 45 degree angle. Subsequently, the nose landing gear collapsed during the landing roll on runway 23 at FMN.

The FAA inspector, who responded to the accident site, reported the failure of the plunger assembly for the nose landing gear. Substantial damage was found at the cabin bulkhead.

The operator reported that the nose landing gear plunger assembly, part number 35-825094-4, had accumulated 10,872.5 hours. The nose landing gear plunger assembly was forwarded to the NTSB for examination.

The NTSB Investigator-in-Charge (IIC) examined the nose landing gear plunger assembly utilizing the stereoscopic microscope. The nose landing gear plunger assembly was forwarded to Raytheon Aircraft Company, Wichita, Kansas, for metallurgical examination. Metallurgical examinations revealed a fatigue fracture.

Flight instructor Information

Certificate:	Commercial; Flight instructor	**Age:**	34,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	
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 1 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	March 18, 2002
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	August 17, 2001
Flight Time:	2945 hours (Total, all aircraft), 150 hours (Total, this make and model), 2855 hours (Pilot In Command, all aircraft), 270 hours (Last 90 days, all aircraft), 105 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Commercial	**Age:**	39,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	September 22, 2000
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	April 22, 2002
Flight Time:	296 hours (Total, all aircraft), 19 hours (Total, this make and model), 180 hours (Pilot In Command, all aircraft), 36 hours (Last 90 days, all aircraft), 16 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N8245H
Model/Series:	BE-58	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	TH-1635
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	June 21, 2002 Continuous airworthiness	**Certified Max Gross Wt.:**	5500 lbs
Time Since Last Inspection:	4.6 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	10872.5 Hrs as of last inspection	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	IO-550-C
Registered Owner:	San Juan Pilot Training, Inc.	**Rated Power:**	300 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:	Mesa Airlines Pilot Development	**Operator Designator Code:**	036A

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	FMN,5500 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	11:53 Local	**Direction from Accident Site:**	0°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.19 inches Hg	**Temperature/Dew Point:**	29°C / 1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Farmington, NM (FMN)	**Type of Flight Plan Filed:**	Company VFR
Destination:	Farmington, NM (FMN)	**Type of Clearance:**	VFR
Departure Time:	11:00 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	Four Corners Regional FMN	**Runway Surface Type:**	Asphalt
Airport Elevation:	5506 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	23	**IFR Approach:**	None
Runway Length/Width:	6500 ft / 150 ft	**VFR Approach/Landing:**	Full stop

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:**	36.74139,-108.230003

Administrative Information

Investigator In Charge (IIC):	Roach, Joyce
Additional Participating Persons:	James L Malarsie; FAA FSDO; Albuquerque, NM
Original Publish Date:	March 30, 2004
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=55046