



# Aviation Investigation Final Report

<b>Location:</b>	BEND, Oregon	<b>Accident Number:</b>	SEA98LA058
<b>Date &amp; Time:</b>	April 1, 1998, 15:40 Local	<b>Registration:</b>	N1069D
<b>Aircraft:</b>	Cessna 195A	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Instructional		

## Analysis

During the landing roll, when the dual student allowed the tailwheel aircraft to drift too close to the right side of the runway, the instructor applied left rudder and left brake. As he took this corrective action, the left main gear leg fractured and separated from the aircraft. NTSB examination of the fracture surface revealed that two fatigue cracks had initiated in corrosion pits created where the gear leg rubbed against the gear leg clamping system. The two cracks eventually combined to become one, and when loads were applied during the landing roll, an overstress separation stemming from the fatigue fracture region occurred.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Separation by fracture of the left main gear leg, as the result of fatigue cracks that initiated in corrosion pits on the gear leg surface.

## Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION  
Phase of Operation: LANDING - ROLL

### Findings

1. (C) LANDING GEAR,MAIN GEAR - SEPARATION
2. (C) LANDING GEAR,MAIN GEAR - FRACTURED
3. (C) LANDING GEAR,MAIN GEAR - FATIGUE
4. (C) LANDING GEAR,MAIN GEAR - CORRODED

5. LANDING GEAR,MAIN GEAR - OVERLOAD

-----

Occurrence #2: MAIN GEAR COLLAPSED

Phase of Operation: LANDING - ROLL

## Factual Information

On April 1, 1998, approximately 1540 Pacific standard time, the left main gear of a Cessna 195A, N1069D, separated from the aircraft during the landing roll at Bend Municipal Airport, Bend, Oregon. The certified flight instructor and his student, who is a private pilot, were not injured, but the aircraft, which was owned by the student, sustained substantial damage. The 14 CFR Part 91 instructional flight, which had been in the air for about 40 minutes, was being operated in visual meteorological conditions. No flight plan had been filed, and there was no report of an ELT transmission.

According to the CFI, the student, who had recently purchased the aircraft, allowed the aircraft to drift toward the right edge of the runway during the landing roll. At the point where it looked like additional corrective action was necessary, the instructor took control and applied left brake and left rudder. At that point the left main gear leg fractured where it protrudes from the gear leg attach box.

NTSB examination of the fracture surface revealed that two separate fatigue cracks had initiated in an area of corrosion generated by the gear leg rubbing on the gear leg clamping system. These two cracks had combined and formed a united crack front. When loads were applied to the gear leg during the landing roll, an overstress separation stemming from the fatigue fracture region occurred.

### Pilot Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	46, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane single-engine	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	July 7, 1997
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	3833 hours (Total, all aircraft), 200 hours (Total, this make and model), 3520 hours (Pilot In Command, all aircraft), 2 hours (Last 90 days, all aircraft), 2 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N1069D
<b>Model/Series:</b>	195A 195A	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	7681
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	5
<b>Date/Type of Last Inspection:</b>	September 3, 1997 Annual	<b>Certified Max Gross Wt.:</b>	3350 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	2400 Hrs	<b>Engine Manufacturer:</b>	Jacobs
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	755-A2
<b>Registered Owner:</b>	JERRY W. ROZELLE	<b>Rated Power:</b>	300 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	20 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	6 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	0°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	16°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	(S07)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	15:00 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	BEND MUNICIPAL AIRPORT S07	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	3453 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	34	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	5000 ft / 100 ft	<b>VFR Approach/Landing:</b>	Full stop;Traffic pattern

## Wreckage and Impact Information

<b>Crew Injuries:</b>	2 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 None	<b>Latitude, Longitude:</b>	44.069728,-121.249252(est)

## Administrative Information

**Investigator In Charge (IIC):** Anderson, Orrin

**Additional Participating Persons:** ALLEN SHELBY;

**Original Publish Date:** February 15, 2001

**Last Revision Date:**

**Investigation Class:** [Class](#)

**Note:**

**Investigation Docket:** <https://data.nts.gov/Docket?ProjectID=42771>

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](#).