



# Aviation Investigation Final Report

<b>Location:</b>	ELIZABETHTON, Tennessee	<b>Accident Number:</b>	ATL95LA011
<b>Date &amp; Time:</b>	November 3, 1994, 15:00 Local	<b>Registration:</b>	N6688H
<b>Aircraft:</b>	CESSNA 185	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	4 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Instructional		

## Analysis

DURING A THREE POINT LANDING DEMONSTRATION, THE LEFT PEDAL ON THE CO-PILOT'S SIDE OF THE COCKPIT COLLAPSED, AND THE INSTRUCTOR PILOT LOST CONTROL OF THE AIRPLANE. EXAMINATION OF THE RUDDER PEDAL ASSEMBLY FAILED TO DISCLOSE A COMPONENT FAILURE. ACCORDING TO THE MAINTENANCE INSPECTOR, THE LOCKING ASSEMBLY WAS RE-ENGAGED AND THE RUDDER ASSEMBLY OPERATED NORMALLY. THE INSPECTOR CONCLUDED THAT, HEAVY BRAKING CAUSED THE LOCKING ASSEMBLY TO FLEX ENOUGH TO RELEASE. THE MAINTENANCE INSPECTOR ALSO STATED THAT THERE HAD BEEN A FEW MALFUNCTIONS OF THE LOCKING ASSEMBLY. THOSE INCIDENTS REPORTED BY MISSIONARY PILOTS WERE CORRECTED BY DISABLING THE STOW ASSEMBLY, AND LOCKING THE PEDALS IN THE UPRIGHT POSITION.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE FLEXING OF THE RUDDER PEDAL CONTROL LOCKING ASSEMBLY WHICH RESULTED IN THE COLLAPSE OF THE CO-PILOT'S LEFT PEDAL DURING HEAVY BRAKING.

## Findings

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

Findings

1. FLT CONTROL SYST, RUDDER CONTROL - UNLOCKED

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Occurrence #2: LOSS OF CONTROL - ON GROUND/WATER

Phase of Operation: LANDING - ROLL

Findings

2. NOSEWHEEL STEERING - NOT POSSIBLE - PILOT IN COMMAND

3. BRAKES(NORMAL) - NOT POSSIBLE - PILOT IN COMMAND

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Occurrence #3: OTHER GEAR COLLAPSED

Phase of Operation: LANDING - ROLL

Findings

4. LANDING GEAR, MAIN GEAR - OVERLOAD

## Factual Information

On November 3, 1994, at 1500 eastern standard time, a Cessna 185, N6688H, went off the right side of runway 24 during an attempted landing at Elizabethton Municipal Airport, Elizabethton, Tennessee. The instructional flight operated under 14 CFR Part 91, with no flight plan filed. Visual weather conditions prevailed at the time of the accident. The airplane sustained substantial damage, and the instructor pilot and three other pilots were not injured. The flight departed Elizabethton at 1300 hours.

According to the certified flight instructor, he and three other private pilots were conducting routine training when he lost control of the airplane during a landing attempt. The airplane had rolled 500 feet when the left pedal collapsed. The airplane veered off the right side of runway and collided with the ground. A preliminary examination of the airplane disclosed that the instructor's left pedal unlocked and collapsed.

Examination of the rudder pedal assembly failed to disclose any failed components. The examination disclosed some deformation to the locking assembly. The steering and braking systems operated normally, after the pedal assembly was restored to the normal operational position. The company maintenance inspector concluded that heavy braking caused the locking components to flex enough to collapse the left pedal assembly. The company maintenance inspector stated that rudder pedal malfunctions experienced by mission pilots were corrected by disabling the stow feature.

### Pilot Information

<b>Certificate:</b>	Airline transport	<b>Age:</b>	44, Male
<b>Airplane Rating(s):</b>	Single-engine land; Single-engine sea; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	
<b>Instructor Rating(s):</b>	Airplane multi-engine; 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>	September 1, 1994
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	14692 hours (Total, all aircraft), 2500 hours (Total, this make and model), 14000 hours (Pilot In Command, all aircraft), 159 hours (Last 90 days, all aircraft), 43 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	CESSNA	<b>Registration:</b>	N6688H
<b>Model/Series:</b>	185 185	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	185-03335
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	October 7, 1994 100 hour	<b>Certified Max Gross Wt.:</b>	3350 lbs
<b>Time Since Last Inspection:</b>	39 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	2694 Hrs	<b>Engine Manufacturer:</b>	CONTINENTAL
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	IO-520D
<b>Registered Owner:</b>	MOODY BIBLE INSTITUTE	<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>	Dawn
<b>Observation Facility, Elevation:</b>	TRI ,1519 ft msl	<b>Distance from Accident Site:</b>	20 Nautical Miles
<b>Observation Time:</b>	13:50 Local	<b>Direction from Accident Site:</b>	270°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	30 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	3 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	200°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	21°C / 1°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	(0A9 )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	14:45 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	ELIZABETHTON MUNICIPAL 0A9	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	1585 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	24	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	4000 ft / 75 ft	<b>VFR Approach/Landing:</b>	Full stop

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	3 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	4 None	<b>Latitude, Longitude:</b>	36.329772,-82.229148(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Powell, Phillip
<b>Additional Participating Persons:</b>	JIM MATTHEWS; NASHVILLE , TN
<b>Original Publish Date:</b>	May 18, 1995
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=3495">https://data.ntsb.gov/Docket?ProjectID=3495</a>

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