

# **Aviation Investigation Final Report**

Location: Pistol Creek, Idaho Accident Number: WPR10CA011

Date & Time: October 8, 2009, 15:00 Local Registration: N1674C

Aircraft: Cessna 180 Aircraft Damage: Substantial

**Defining Event:** Landing gear collapse **Injuries:** 1 None

Flight Conducted Under: Part 91: General aviation - Personal

#### **Analysis**

The pilot was landing at a remote dirt/grass airstrip where the winds were gusting and variable in direction. Although the touchdown was normal, as he made rudder and brake inputs to maintain directional control, the right main gear leg separated from its mounting structure, and the right wing sustained substantial damage when it contacted the terrain. An inspection of the gear leg attachment hardware determined that the nut on the gear leg attachment bolt had been stripped from the bolt, thus allowing the bolt to come out of the attachment structure. During the pilot's initial contact with the NTSB Investigator-In-Charge, the pilot stated that the airplane's right brake had failed during the landing roll, but in a follow-up interview the pilot stated that he believes that the brake was working fine until the moment the gear leg separated from its mount.

#### **Probable Cause and Findings**

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The separation of one of the airplane's main landing gear legs during landing in variable gusting wind conditions, due to the nut being stripped from the attachment bolt.

### **Findings**

Aircraft Main landing gear attach sec - Failure

**Environmental issues** Variable wind - Effect on operation

**Environmental issues** Gusts - Effect on operation

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### **Factual Information**

### **History of Flight**

Landing-landing roll	Landing gear collapse (Defining event)	
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#### **Pilot Information**

Certificate:	Airline transport; Flight instructor	Age:	75,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	September 2, 2008
Occupational Pilot:		Last Flight Review or Equivalent:	July 19, 2008
Flight Time:	25115 hours (Total, all aircraft), 100	0 hours (Total, this make and model)	

### **Aircraft and Owner/Operator Information**

Aircraft Make:	Cessna	Registration:	N1674C
Model/Series:	180	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	30374
Landing Gear Type:	Tailwheel	Seats:	4
Date/Type of Last Inspection:	August 10, 2009 Annual	Certified Max Gross Wt.:	2550 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	3295 Hrs at time of accident	Engine Manufacturer:	CONT MOTOR
ELT:	Installed, not activated	Engine Model/Series:	0-470 SERIES
Registered Owner:	MASLEN HOLBROOK	Rated Power:	230 Horsepower
Operator:	MASLEN HOLBROOK	Operating Certificate(s) Held:	None

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## Meteorological Information and Flight Plan

Conditions at Accident Site:       Visual (VMC)       Condition of Light:       Day         Observation Facility, Elevation:       Distance from Accident Site:         Observation Time:       Direction from Accident Site:         Lowest Cloud Condition:       Clear       Visibility       10 miles         Lowest Ceiling:       None       Visibility (RVR):         Wind Speed/Gusts:       20 knots / 25 knots       Turbulence Type Forecast/Actual:       /         Wind Direction:       Turbulence Severity Forecast/Actual:       /         Precipitation and Obscuration:       No Obscuration; No Precipitation Precipitation and Obscuration:       No Obscuration; No Precipitation Precipitation Precipitation:       Type of Flight Plan Filed:       None         Departure Point:       Emmett, ID (NONE)       Type of Clearance:       None         Departure Time:       14:00 Local       Type of Airspace:				
Observation Time:  Lowest Cloud Condition: Clear Visibility 10 miles  Lowest Ceiling: None Visibility (RVR):  Wind Speed/Gusts: 20 knots / 25 knots Turbulence Type Forecast/Actual:  Wind Direction: Turbulence Severity Forecast/Actual:  Altimeter Setting: Temperature/Dew Point:  Precipitation and Obscuration: No Obscuration; No Precipitation  Departure Point: Emmett, ID (NONE) Type of Flight Plan Filed: None  None	Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Lowest Cloud Condition:  Clear  Visibility  None  Visibility (RVR):  Wind Speed/Gusts:  20 knots / 25 knots  Turbulence Type Forecast/Actual:  Wind Direction:  Turbulence Severity Forecast/Actual:  Altimeter Setting:  Temperature/Dew Point:  Precipitation and Obscuration:  No Obscuration; No Precipitation  Departure Point:  Emmett, ID (NONE)  Type of Flight Plan Filed: None  None	Observation Facility, Elevation:		Distance from Accident Site:	
Lowest Ceiling: None Visibility (RVR):  Wind Speed/Gusts: 20 knots / 25 knots Turbulence Type Forecast/Actual:  Wind Direction: Turbulence Severity Forecast/Actual:  Altimeter Setting: Temperature/Dew Point:  Precipitation and Obscuration: No Obscuration; No Precipitation  Departure Point: Emmett, ID (NONE) Type of Flight Plan Filed: None  Destination: None	Observation Time:		Direction from Accident Site:	
Wind Speed/Gusts:  20 knots / 25 knots Turbulence Type Forecast/Actual:  Wind Direction: Turbulence Severity Forecast/Actual:  Altimeter Setting: Temperature/Dew Point:  Precipitation and Obscuration: No Obscuration; No Precipitation  Departure Point: Emmett, ID (NONE) Type of Flight Plan Filed: None  Pistol Creek, ID (NONE) Type of Clearance: None	<b>Lowest Cloud Condition:</b>	Clear	Visibility	10 miles
Wind Direction:  Turbulence Severity Forecast/Actual:  Altimeter Setting:  Temperature/Dew Point:  Precipitation and Obscuration:  No Obscuration; No Precipitation  Departure Point:  Emmett, ID (NONE)  Type of Flight Plan Filed:  None  Pistol Creek, ID (NONE)  Type of Clearance:  None	Lowest Ceiling:	None	Visibility (RVR):	
Altimeter Setting: Temperature/Dew Point:  Precipitation and Obscuration: No Obscuration; No Precipitation  Departure Point: Emmett, ID (NONE) Type of Flight Plan Filed: None  Destination: Pistol Creek, ID (NONE) Type of Clearance: None	Wind Speed/Gusts:	20 knots / 25 knots	7-	/
Precipitation and Obscuration:  No Obscuration; No Precipitation  Departure Point:  Emmett, ID (NONE)  Type of Flight Plan Filed:  None  Pistol Creek, ID (NONE)  Type of Clearance:  None	Wind Direction:		•	/
Departure Point:       Emmett, ID (NONE)       Type of Flight Plan Filed:       None         Destination:       Pistol Creek, ID (NONE)       Type of Clearance:       None	Altimeter Setting:		Temperature/Dew Point:	
Destination: Pistol Creek, ID (NONE) Type of Clearance: None	Precipitation and Obscuration:	No Obscuration; No Precipitation		
· · · · · · · · · · · · · · · · · · ·	Departure Point:	Emmett, ID (NONE)	Type of Flight Plan Filed:	None
Departure Time: 14:00 Local Type of Airspace:	Destination:	Pistol Creek, ID (NONE)	Type of Clearance:	None
	Departure Time:	14:00 Local	Type of Airspace:	

### **Airport Information**

Airport:	Pistol Creek NONE	Runway Surface Type:	Dirt;Grass/turf
Airport Elevation:	4796 ft msl	<b>Runway Surface Condition:</b>	Dry
Runway Used:	23	IFR Approach:	None
Runway Length/Width:	2200 ft / 50 ft	VFR Approach/Landing:	Full stop

## Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	45.471111,-115.391387(est)

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#### **Administrative Information**

Investigator In Charge (IIC):	Anderson, Orrin
Additional Participating Persons:	Patrick Darling; Boise FSDO; Boise, ID
Original Publish Date:	April 19, 2010
Last Revision Date:	
Investigation Class:	<u>Class</u>
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=74882

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.

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