



# Aviation Investigation Final Report

<b>Location:</b>	Townsend, Montana	<b>Accident Number:</b>	SEA08CA009
<b>Date &amp; Time:</b>	October 10, 2007, 10:50 Local	<b>Registration:</b>	N1139C
<b>Aircraft:</b>	Piper PA-22/20	<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

The flight instructor stated that the purpose of the flight was for the private pilot/owner to receive instruction for the tailwheel endorsement. After practicing several successful takeoffs and landings, the flight instructor had the private pilot set-up for a full stop wheel landing to runway 16, which had a six knot, 45 degree crosswind. While in ground effect, the private pilot reduced the throttle too fast, which increased the sink rate and the aircraft touched down firmly on the mains. The private pilot arrested the bounce with forward pressure before the aircraft lifted off, and applied some power to maintain directional control. The aircraft then began to make an excursion from the runway centerline and the private pilot lowered the tail which made the aircraft unstable. The flight instructor then assisted the private pilot and stabilized the aircraft. The private pilot then indicated that he could handle the situation, and the flight instructor returned control back to the private pilot. The flight instructor stated that he may have returned control back to the private pilot too quickly, as the situation degraded to large excursion from centerline, and the aircraft diverted from normal track. The flight instructor was not able to regain directional control and the aircraft ground looped to the left. During the ground loop, the right wing and elevator contacted the ground and were structurally damaged.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The private pilot/student failed to maintain directional control during the landing roll, and remedial action was not possible by the flight instructor which resulted in an inadvertent ground loop.

## Findings

Occurrence #1: LOSS OF CONTROL - ON GROUND/WATER

Phase of Operation: LANDING - ROLL

### Findings

1. (C) DIRECTIONAL CONTROL - NOT MAINTAINED - DUAL STUDENT
2. (C) REMEDIAL ACTION - NOT POSSIBLE - PILOT IN COMMAND(CFI)
3. GROUND LOOP/SWERVE - INADVERTENT - PILOT IN COMMAND(CFI)

-----

Occurrence #2: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER

Phase of Operation: LANDING - ROLL

### Findings

4. TERRAIN CONDITION - GROUND

## Factual Information

The flight instructor stated that the purpose of the flight was for the private pilot/owner to receive instruction for the tailwheel endorsement. After practicing several successful takeoffs and landings, the flight instructor had the private pilot set-up for a full stop wheel landing to runway 16, which had a six knot, 45 degree crosswind. While in ground effect, the private pilot reduced the throttle too fast, which increased the sink rate and the aircraft touched down firmly on the mains. The private pilot arrested the bounce with forward pressure before the aircraft lifted off, and applied some power to maintain directional control. The aircraft then began to make an excursion from the runway centerline and the private pilot lowered the tail which made the aircraft unstable. The flight instructor then assisted the private pilot and stabilized the aircraft. The private pilot then indicated that he could handle the situation, and the flight instructor returned control back to the private pilot. The flight instructor stated that he may have returned control back to the private pilot too quickly, as the situation degraded to large excursion from centerline, and the aircraft diverted from normal track. The flight instructor was not able to regain directional control and the aircraft ground looped to the left. During the ground loop, the right wing and elevator contacted the ground and were structurally damaged.

### Flight instructor Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	0, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	
<b>Other Aircraft Rating(s):</b>	Glider	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>		<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2	<b>Last FAA Medical Exam:</b>	December 1, 2006
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	5942 hours (Total, all aircraft), 10 hours (Total, this make and model), 121 hours (Last 90 days, all aircraft), 34 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Piper	<b>Registration:</b>	N1139C
<b>Model/Series:</b>	PA-22/20	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	22-975
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	
<b>Date/Type of Last Inspection:</b>		<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>		<b>Engine Model/Series:</b>	O-320
<b>Registered Owner:</b>	Douglas S. Cairns	<b>Rated Power:</b>	
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None

## 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>	30 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>	130°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Canyon Ferry, MT (8U9 )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Townsend, MT (8U8 )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>		<b>Type of Airspace:</b>	

## Airport Information

<b>Airport:</b>	Townsend 8U8	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	3893 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	16	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	4000 ft / 60 ft	<b>VFR Approach/Landing:</b>	

## 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>	
<b>Total Injuries:</b>	2 None	<b>Latitude, Longitude:</b>	46.480957,-111.339103(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Eckrote, Debra
<b>Additional Participating Persons:</b>	Derek Amos; FAA/FSDO; Helena, MT
<b>Original Publish Date:</b>	December 20, 2007
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	This accident report documents the factual circumstances of this accident as described to the NTSB.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=66881">https://data.nts.gov/Docket?ProjectID=66881</a>

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](#).