Aviation Investigation Final Report

Location:	Nebraska City, Nebraska	**Accident Number:**	CHI06CA159
Date & Time:	June 18, 2006, 16:30 Local	**Registration:**	N1270C
Aircraft:	Piper PA-22-135	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Minor, 1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane was substantially damaged when the pilot lost directional control during the landing rollout. The airplane subsequently ground looped causing the left wing to contact the ground and the left main landing gear to collapse. The pilot reported that he flew a "normal downwind to final" with a "very good touchdown followed by the start of a smooth rollout." He stated that the tail wheel began to "wobble (chatter)" and the airplane drifted to the left side of the runway. He added engine power as the airplane reached the edge of the runway and applied rudder correction to return to the runway centerline. The pilot stated, "Too much right rudder started the ground loop which finished with the airplane having turned 180 [degrees]." When the airplane came to rest, the "left wing was down in the dirt with the left main folded under the airplane," according to the pilot. He noted no malfunctions with the airplane. He also commented that more patience with the tail wheel "chatter" may have prevented the over controlling which led to the ground loop.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain directional control during the landing rollout and the resulting ground loop. A contributing factor was the excessive tail wheel steering (rudder) input by the pilot.

Findings

Occurrence #1: LOSS OF CONTROL - ON GROUND/WATER
Phase of Operation: LANDING - ROLL

Findings
1. (F) RUDDER - IMPROPER USE OF - PILOT IN COMMAND
2. (C) DIRECTIONAL CONTROL - NOT MAINTAINED - PILOT IN COMMAND
3. (C) GROUND LOOP/SWERVE - INADVERTENT - PILOT IN COMMAND

Occurrence #2: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: LANDING - ROLL

Occurrence #3: MAIN GEAR COLLAPSED
Phase of Operation: LANDING - ROLL

Factual Information

The airplane was substantially damaged when the pilot lost directional control during landing rollout. The airplane subsequently ground looped causing the left wing to contact the ground and the left main landing gear to collapse. The pilot reported that he flew a "normal downwind to final" with a "very good touchdown followed by the start of a smooth rollout." He stated that the tail wheel began to "wobble (chatter)" and the airplane drifted to the left side of the runway. He added engine power as the airplane reached the edge of the runway and applied rudder correction to return to the runway centerline. The pilot stated, "Too much right rudder started the ground loop which finished with the airplane having turned 180 [degrees]." When the airplane came to rest, the "left wing was down in the dirt with the left main folded under the airplane," according to the pilot. He noted no malfunctions with the airplane. He also commented that more patience with the tail wheel "chatter" may have prevented the over controlling which led to the ground loop.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	83,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**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 3 With waivers/limitations	**Last FAA Medical Exam:**	August 1, 2005
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	June 1, 2005
Flight Time:	10475 hours (Total, all aircraft), 1000 hours (Total, this make and model), 10265 hours (Pilot In Command, all aircraft), 20 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N1270C
Model/Series:	PA-22-135	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	22-1063
Landing Gear Type:	Tailwheel	**Seats:**	4
Date/Type of Last Inspection:	July 1, 2005 Annual	**Certified Max Gross Wt.:**	2000 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	2727 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	O-320-A2B
Registered Owner:	On file	**Rated Power:**	150 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	AFK,1162 ft msl	**Distance from Accident Site:**	
Observation Time:	16:50 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Scattered / 12000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots / 0 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	280°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.94 inches Hg	**Temperature/Dew Point:**	30°C / 13°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Plattsmouth, NE (PMV)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	15:30 Local	**Type of Airspace:**	

Airport Information

Airport:	Nebraska City Muni AFK	**Runway Surface Type:**	Concrete
Airport Elevation:	1162 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	33	**IFR Approach:**	None
Runway Length/Width:	4500 ft / 75 ft	**VFR Approach/Landing:**	Stop and go

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor, 1 None	**Latitude, Longitude:**	40.607223,-95.865554

Administrative Information

Investigator In Charge (IIC):	Sorensen, Timothy
Additional Participating Persons:	Larry Becherer; FAA-Lincoln FSDO
Original Publish Date:	October 3, 2006
Last Revision Date:	
Investigation Class:	Class
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=64090