



Aviation Investigation Final Report

Location:	SALEM, Oregon	Accident Number:	SEA99LA040
Date & Time:	March 5, 1999, 16:30 Local	Registration:	N4328X
Aircraft:	Piper PA-12	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that 'while practicing [a] short field approach, I landed a little shorter than planned.' The aircraft impacted the up-sloping terrain short of the threshold to the pilot's 900 foot long, turf landing strip and nosed over, coming to rest approximately 18 feet beyond the gear contact with the up-sloping edge. The left main landing gear folded aft upon ground impact.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot-in-command's misjudgment of distance/altitude on final approach, and overload of the left main landing gear. A factor was the embankment at the end of the landing strip.

Findings

Occurrence #1: ENGINE TEARAWAY
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings
1. (C) DISTANCE/ALTITUDE - MISJUDGED - PILOT IN COMMAND

Occurrence #2: GEAR COLLAPSED
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings

2. (C) LANDING GEAR,MAIN GEAR - OVERLOAD
3. (F) TERRAIN CONDITION - DROP-OFF/DESCENDING EMBANKMENT

Occurrence #3: NOSE OVER

Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Factual Information

On March 5, 1999, approximately 1630 Pacific standard time, a Piper PA-12, N4328X, registered to and being flown by a private pilot, was substantially damaged when the aircraft impacted sharply up-sloping terrain just short of the landing threshold at the pilot's personal, non-airspaced landing strip near Salem, Oregon. The aircraft was on a short final approach, landing to the south, when the main gear impacted the terrain and collapsed. The aircraft then nosed over. The pilot sustained minor injuries. Visual meteorological conditions prevailed, and no flight plan had been filed. The flight, which was personal, was to have been operated under 14CFR91, and originated from Salem approximately 1610.

The pilot reported that "while practicing [a] short field approach, I landed a little shorter than I planned. The landing wheels contacted the very end of the runway, which caused the nose to make contact on the grass strip, and [the plane] flipped over on its back. " The pilot stated that there was no mechanical malfunction with the aircraft at the time.

An inspector with the Federal Aviation Administration's Hillsboro Flight Standards District Office examined the aircraft and accident site/landing strip. He reported that the landing strip was approximately 900 feet in length, 45 feet in width, and oriented along a north/south magnetic bearing (refer to DIAGRAM I). The landing surface was grass and the north end of the strip descended sharply approximately 20 feet (vertical height) to lower terrain (refer to photograph 1). Marks in the soil at the crest of the up-sloping edge of the runway's north threshold matched the distance between the main landing gear, and were consistent with a gear impact (refer to photograph 2). The aircraft was observed to be inverted at a point approximately 18 feet beyond the main gear impact at the up-sloping north end, and displayed extensive aftward left main landing gear deformation(refer to photograph 3).

Pilot Information

Certificate:	Private	Age:	72, Male
Airplane Rating(s):	Single-engine land; Single-engine sea	Seat Occupied:	Front
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	August 8, 1997
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	1900 hours (Total, all aircraft), 25 hours (Total, this make and model), 1900 hours (Pilot In Command, all aircraft), 25 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N4328X
Model/Series:	PA-12 PA-12	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	12144
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	February 23, 1998 Annual	Certified Max Gross Wt.:	1750 lbs
Time Since Last Inspection:	4 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	4049 Hrs	Engine Manufacturer:	Lycoming
ELT:	Not installed	Engine Model/Series:	O-320
Registered Owner:	STUART, DONALD, L.	Rated Power:	150 Horsepower
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	SLE ,214 ft msl	Distance from Accident Site:	7 Nautical Miles
Observation Time:	16:56 Local	Direction from Accident Site:	190°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	Unknown	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	350°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	6°C / 1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	AURORA , OR	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	16:10 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	Grass/turf
Airport Elevation:	180 ft msl	Runway Surface Condition:	Dry
Runway Used:	18	IFR Approach:	None
Runway Length/Width:	900 ft / 45 ft	VFR Approach/Landing:	Full stop

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	45.010055,-122.909072(est)

Administrative Information

Investigator In Charge (IIC):	Mccreary, Steven
Additional Participating Persons:	CARROL HEBERT; HILLSBORO , OR
Original Publish Date:	June 21, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=45861

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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](#).