



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Alabaster, Alabama	Accident Number:	ATL07LA004
Date & Time:	October 7, 2006, 13:00 Local	Registration:	N70SR
Aircraft:	Piper PA-28R-180	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot stated that he was practicing in preparation for his commercial pilot certificate. On the initial takeoff, after raising the gear, the pilot noticed the gear in-transit light remained on. The pilot pulled the landing gear pump circuit breaker. When he reset the breaker, he did not see a movement on the amp meter. He said this was an indication that the pump was not running. Although the in-transit light remained on, the pilot stated that the gear was up and locked. The pilot continued on to the practice area to do some air work, then he returned to the airport to do some touch-and-go landings. The pilot stated that on the first landing the gear went down normally and he had three green lights. On the takeoff he said the gear would not go up and lock. He cycled the gear handle several times. The pilot stated he had three green lights and the gear in-transit light was still on. The pilot stated the light was on for the entire flight. He said that he made a normal touchdown, and the right main gear collapsed veering the airplane to the right, off the runway. Examination of the airplane by an FAA Inspector found the nose and right main landing gear collapsed and structural damage to the wing ribs at the right main landing gear attach point. The airplane was placed in a hangar and jacked up for a retraction test. The gear handle was placed in the up position and the gear raised normally and the in-transit light was not on when the gear was up and locked. When the gear handle was placed in the down position the hydraulic pump operated but the gear did not extend. The landing gear remained up and locked. Striking the pump with a hammer freed the shuttle valve and the gear operated normally. According to the FAA Inspector the gear would not extend normally without striking the shuttle valve with a hammer.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The jammed landing gear hydraulic motor shuttle valve.

Findings

Occurrence #1: MAIN GEAR COLLAPSED

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

1. (C) LANDING GEAR,NORMAL RETRACTION/EXTENSION ASSEMBLY - JAMMED

Factual Information

On October 7, 2006, at 1300 central daylight time, a Piper PA-28R-180, N70SR, registered to Shelby Air LLC, operating as a 14 CFR Part 91 instructional flight, collapsed the right main landing gear during landing on runway 15 at the Shelby County Airport, in Alabaster, Alabama. Visual meteorological conditions prevailed, and no flight plan was filed. The airplane received substantial damage. The private pilot reported no injuries. The flight originated from Shelby County Airport on October 7, 2006, at 1200.

The pilot stated that he was practicing in preparation for his commercial pilot certificate. On the initial takeoff, after raising the gear, the pilot noticed the gear in-transit light remained on. The pilot pulled the landing gear pump circuit breaker. When he reset the breaker, he did not see a movement on the amp meter. He said this was an indication that the pump was not running. Although the in-transit light remained on, the pilot stated that the gear was up and locked. The pilot continued on to the practice area to do some air work, then he returned to the airport to do some touch-and-go landings. The pilot stated that on the first landing the gear went down normally and he had three green lights. On the take off he said the gear would not go up and lock. He cycled the gear handle several times. The pilot stated he had three green lights and the gear in-transit light was still on. The pilot stated the light was on for the entire flight. He said that he made a normal touch-down, and the right main gear collapsed veering the airplane to the right, off the runway, damaging the right wing, right main gear, and nose-wheel.

Examination of the airplane by an FAA Inspector found the nose and right main landing gear collapsed and structural damage to the wing ribs at the right main landing gear attach point. The airplane was placed in a hangar and jacked up for a retraction test. The gear handle was placed in the up position and the gear raised normally and the in transit light was not on when the gear was up and locked. When the gear handle was placed in the down position the hydraulic pump operated but the gear did not extend. The landing gear remained up and locked. Striking the pump with a hammer freed the shuttle valve and the gear operated normally. According to the FAA Inspector the gear would not extend normally without striking the shuttle valve with a hammer.

A completed NTSB Form 6120.1/2, Pilot/Operator Report, was not received from the pilot or aircraft operator.

Pilot Information

Certificate:	Private	Age:	50, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Unknown	Last FAA Medical Exam:	August 1, 2001
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	300 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N70SR
Model/Series:	PA-28R-180	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	28R-30122
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	Annual	Certified Max Gross Wt.:	2550 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:		Engine Model/Series:	IO-360
Registered Owner:	Shelby Air LLC	Rated Power:	180 Horsepower
Operator:	Milton Perry Sheppard	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	EET, 587 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	12:53 Local	Direction from Accident Site:	0°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	7 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	10°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.15 inches Hg	Temperature/Dew Point:	22°C / 11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Alabaster, AL (EET)	Type of Flight Plan Filed:	None
Destination:	(EET)	Type of Clearance:	None
Departure Time:	12:00 Local	Type of Airspace:	

Airport Information

Airport:	Shelby County Airport KEET	Runway Surface Type:	Asphalt
Airport Elevation:	587 ft msl	Runway Surface Condition:	Dry
Runway Used:	15	IFR Approach:	None
Runway Length/Width:	4411 ft / 75 ft	VFR Approach/Landing:	Touch and go; Traffic pattern

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:	33.172779,-86.77639

Administrative Information

Investigator In Charge (IIC):	Wilson, Ralph
Additional Participating Persons:	David W Hargett; Birmingham FSDO; Birmingham, AL
Original Publish Date:	December 20, 2007
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=64698

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