



National Transportation Safety Board Aviation Accident Final Report

Location:	Lake Havasu, AZ	Accident Number:	WPR11LA245
Date & Time:	06/02/2011, 1300 MST	Registration:	N712MK
Aircraft:	PIPER PA-46-310P	Aircraft Damage:	Substantial
Defining Event:	Sys/Comp malf/fail (non-power)	Injuries:	2 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot said that he was descending into the traffic pattern after canceling his instrument flight rules clearance and that he lowered the landing gear; however, there was no response. At that point, he reset the landing gear circuit breaker and tried again to no avail. He then used the emergency checklist and attempted to drop the gear. Again there was no response. He continued to repeat all procedures for about the next 1 1/2 hours until the airplane was at minimum fuel and he was forced to land with the landing gear retracted. Prior to landing, he secured all items in the cabin, feathered the propeller, and shut down the engine and all electrical and fuel controls. The airplane touched down mid-field and slid about 1,200 feet.

During the postaccident examination, the airplane was placed on jacks and supplied electrical power. Both the normal and emergency extension landing gear systems did not work. The examination revealed that a faulty low hydraulic pressure switch prevented the normal gear extension system from operating properly. The examination also revealed that the emergency gear release valve's control arm was misrigged and would only move 1/4 inch instead of the approximately 2 inches of movement that was required. The misrigged control arm would not allow the system to port hydraulic fluid from the gear-down line to the gear-up line, which is required for the fluid to return to the reservoir and to allow gravity to extend the gear.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of the low pressure switch in the normal landing gear system, which prevented normal operation of that system, and the misrigging of the emergency extension gear release valve, which prevented the system from being depressurized to allow for the freefall of the gear.

Findings

Aircraft	Landing gear actuator - Malfunction (Cause)
Personnel issues	Maintenance - Maintenance personnel (Cause)

Factual Information

On June 2, 2011, about 1300 mountain standard time, a Piper PA-46-310P, N712MK, experienced a landing gear extension system failure during approach to the Lake Havasu City Airport, Lake Havasu City, Arizona. The airplane was substantially damaged as it slid to a stop on the runway. Neither the airline transport pilot nor passenger was injured. The airplane was registered to Sea Air Holdings, LLC. The personal flight was operated under the provisions of 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed, and an instrument flight plan was filed. The flight originated from Portland, Oregon, about 0830.

The pilot said that he was descending into the traffic pattern after canceling his IFR clearance and he attempted to lower the landing gear. There was no response. At that point he reset the landing gear circuit breaker and tried again to no avail. He then went to the emergency check list and attempted to drop the gear. Again there was no response. He continued to repeat all procedures for approximately the next 1 1/2 hours until he was at minimum fuel and was forced to land gear up. Prior to landing he located his passenger in the right rear seat, secured all items in the cabin, feathered and shut down the engine, and all electrical and fuel controls. The aircraft touched down at mid field and slid about 1200 feet.

Examination of the airframe revealed that a lower fuselage bulkhead was ground down.

A Federal Aviation Administration (FAA) airworthiness inspector examined the airplane's landing gear system following recovery from the runway. The aircraft was placed on jacks and electrical power was supplied to the airplane. Both the normal and emergency extension landing gear systems did not work. The landing gear was lowered by bleeding pressure out of gear up line fitting on the nose gear sequence valve. The Emergency Gear Release valve, P/N 85124-02, was manually operated at the valve. Its control arm would only move 1/4-inch instead of the approximately 2 inches of movement it should have. It would not port fluid from the gear down line to the gear up line, which is its required function to allow hydraulic fluid to return through the up line to the reservoir and allowing gravity to extend the gear.

The cause of the failure of the normal gear extension system was traced to a faulty low pressure switch.

History of Flight

Approach	Sys/Comp malf/fail (non-power) (Defining event)
Landing-flare/touchdown	Abnormal runway contact

Pilot Information

Certificate:	Airline Transport	Age:	64, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With Waivers/Limitations	Last Medical Exam:	05/01/2009
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	PIPER	Registration:	N712MK
Model/Series:	PA-46-310P	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	4608032
Landing Gear Type:	Tricycle	Seats:	6
Date/Type of Last Inspection:	07/08/2010, Annual	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Turbo Prop
Airframe Total Time:	2747 Hours	Engine Manufacturer:	P&W
ELT:	Installed, not activated	Engine Model/Series:	PT6A SERIES
Registered Owner:	SEA AIR HOLDINGS LLC	Rated Power:	500 hp
Operator:	On file	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	HII, 783 ft msl	Observation Time:	MST
Distance from Accident Site:	17 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	135°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	Light and Variable, Variable	Visibility (RVR):	
Altimeter Setting:		Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Portland, OR (PDX)	Type of Flight Plan Filed:	IFR
Destination:	Lake Havasu, AZ (HII)	Type of Clearance:	VFR
Departure Time:	0830 PDT	Type of Airspace:	

Airport Information

Airport:	Lake Havasu City (HII)	Runway Surface Type:	Asphalt
Airport Elevation:	783 ft	Runway Surface Condition:	Dry
Runway Used:	32	IFR Approach:	None
Runway Length/Width:	8001 ft / 100 ft	VFR Approach/Landing:	Full Stop; Traffic Pattern

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None		

Administrative Information

Investigator In Charge (IIC):	Wayne R Pollack	Adopted Date:	01/15/2013
Additional Participating Persons:	Douglas G Anderson; Federal Aviation Administration; Scottsdale, AZ		
Publish Date:	01/15/2013		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=79291		

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