



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

November 27, 2019

WRECKAGE EXAMINATION SUMMARY

WPR19LA239

This document contains 3 embedded photos.

A. ACCIDENT

Location: Wendover, Nevada
Date: August 24, 2019 at 1315 MDT
Aircraft: PA-224-250, N6696P
NTSB IIC: Andrew Swick

B. EXAMINATION PARTICIPANTS:

Andrew Swick
Aviation Accident Investigator
National Transportation Safety Board-Western Pacific Region

C. SUMMARY

Examination of the recovered airplane was conducted on November 27, 2019, at the facilities of Air Transport, in Phoenix, Arizona. The examination of the landing gear system revealed a faulty landing gear solenoid. The landing gear system electrical wires, control cables and linkages, and emergency landing gear extension system operated normally during the examination. No other evidence of preimpact mechanical failure was noted during the examination.

D. DETAILS OF THE INVESTIGATION

1.0 Landing Gear System

The wings and horizontal stabilators were removed from the airplane prior to the examination. The airplane belly had impact damage revealing the landing gear motor, jack screw and emergency extension linkage. No damage was noted to the landing gear system or its electrical wires. The landing gear motor circuit breaker was found in the open position. The airplane's fuselage was supported off the ground, where the nose landing gear was free to swing.



Figure 1-Main Wreckage

The landing gear selector switch was positioned to the center 'OFF' position. The emergency landing gear motor-raise motor release arm was positioned to the forward position and the gear freely swung to a transient position, between the retracted position and down-and-locked position. The landing gear emergency gear handle was extended to full length and the handle was positioned to the full forward position, locking the nose landing gear in place. The main landing gear control cables operated normally during the emergency extension of the landing gear. The nose landing gear was retracted by use of the emergency gear handle. The main landing gear control cables operated normally during the retraction of the landing gear.



Figure 2-Main Wreckage-Cabin Area

An electrical source was attached to the airplane's battery and the landing gear motor circuit breaker was closed. The master switch was turned to the 'ON' position and the landing gear switch was positioned in both 'UP' and 'DOWN' positions. The landing gear motor did not operate during the positioning of the switch. The landing gear electrical wires were examined from the circuit breaker to the landing gear solenoid to the landing gear motor, and no damage or loose connections were found on any of the wires. A voltmeter was attached to the circuit breaker and electrical power was exiting from the breaker. The voltmeter was attached to the electrical wire into the landing gear motor and electricity was not indicated at the motor. An electrical jumper was attached from the circuit breaker to the motor, and the landing gear motor

worked normally from the landing gear switch in both positions. The landing gear solenoid was not removed from the airplane and the electrical connections were tight at the solenoid terminals.

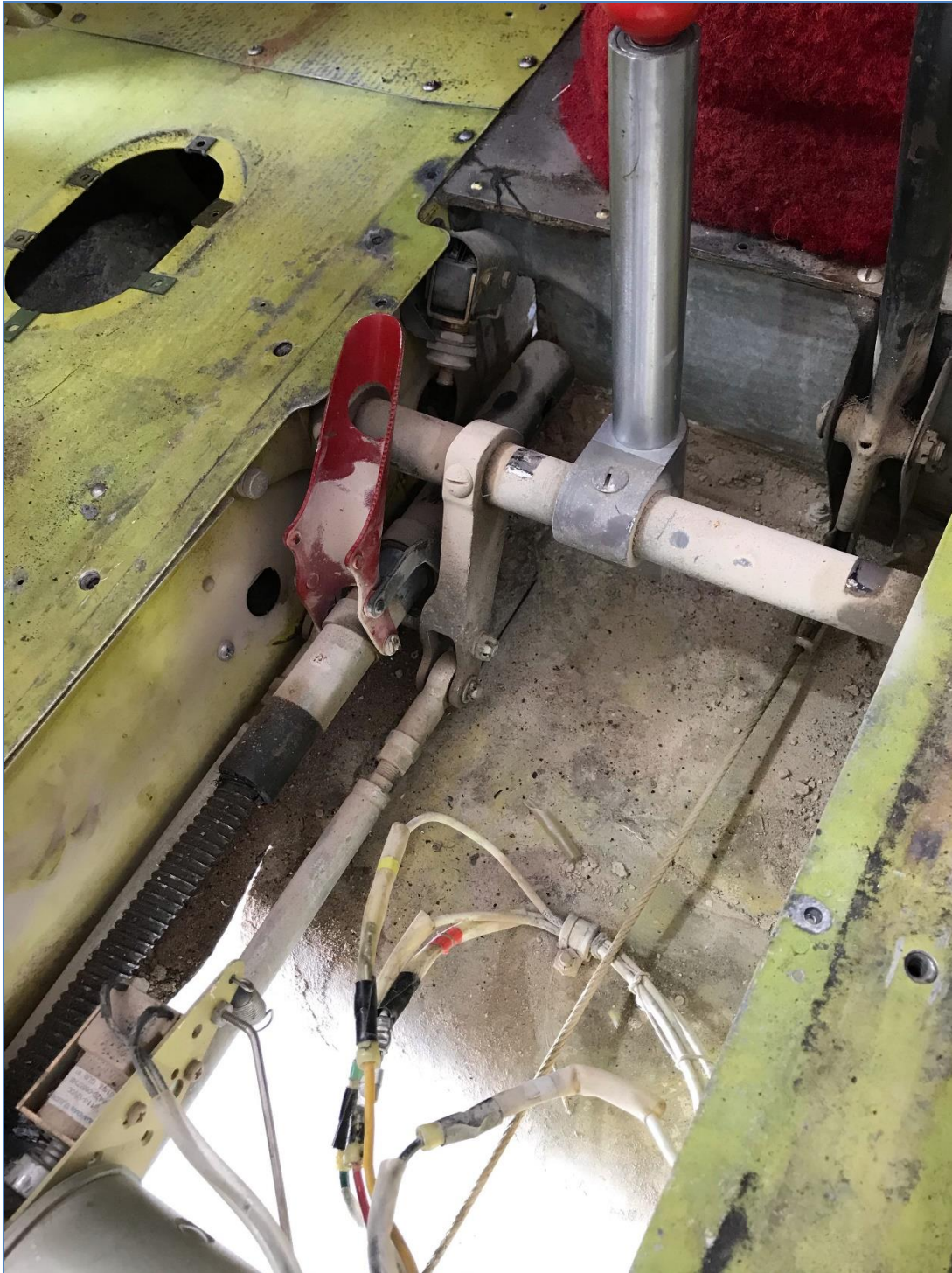


Figure 3-Landing Gear Emergency Extension-Down and Locked Position

PIPER COMANCHE SERVICE MANUAL

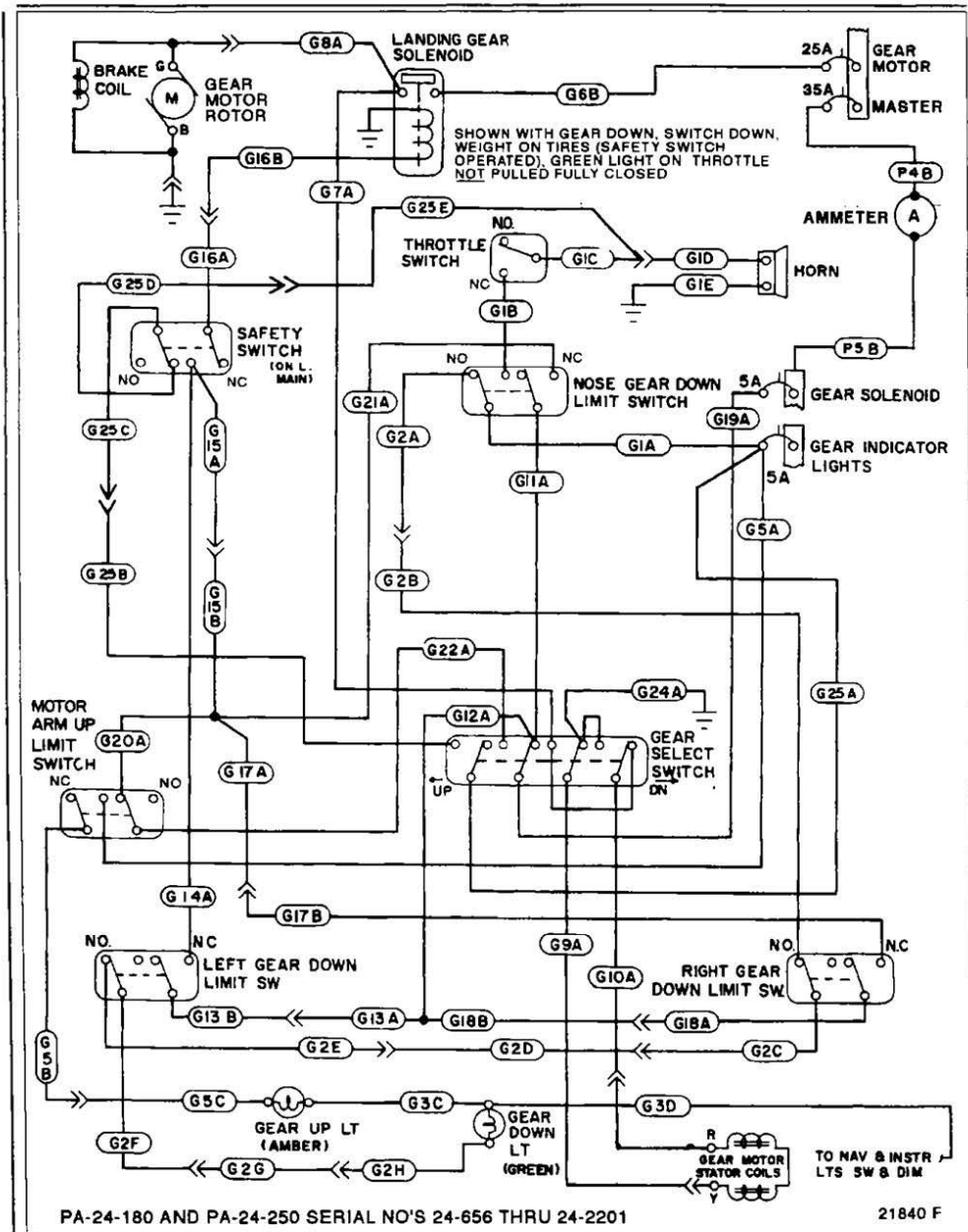


Figure 9-79. Gear Motor, Solenoid, and Indicator Lights

ELECTRICAL SYSTEM

Revised: 8/15/98

3E12

Figure 4-Landing Gear Electrical Schematic