02/10/2014

Inspector's Statement

On February 4, 2014, at approximately 0730 hours, Inspector Stephanie V. Williams and I arrived at Hangar 5, at Springfield, IL to assist the NTSB in federal oversight of an aircraft inspection being performed on an aircraft that had been involved in a gear collapse on January 31, 2014. The aircraft is a Piaggio P-180, serial number 1232. Upon arrival the aircraft was setting up on its gear, with the doors locked. There were two technicians from West Star Aviation, the maintenance provider under contract to provide assistance, in the hangar preparing jacks for the aircraft inspection.

I walked around the aircraft and noted damage to the belly, right flap and track, right outboard wing tip, right canard and flap, right propeller, landing light assembly, nose landing gear doors, belly antennae, and both main landing gear doors.

At approximately 0900 hours, David M. Duncan, the Piaggio America technical representative arrived along with two representatives from the manufacturer and the maintenance representative form the aircraft operator, Mountain Aviation. Upon arrival, the Mountain Aviation representative unlocked the doors to the aircraft. The maintenance personnel gained access to and removed the CVR (PNR 2100-1020-00, SER: 000851267) for quarantine to the NTSB in Washington DC. The representative from Mountain Aviation signed FAA Form 8020-2 Aircraft/Parts Identification and Release tag. The tag was attached to the CVR and copies of the 8020-2 were distributed as appropriate. The CVR was retained and eventually transported to the FSDO office for shipment to the NTSB.

The aircraft was then placed on jacks so the gear retraction/extension and emergency operation could be tested. The left stress plate was removed for access to the hydraulic power pack. Checks were accomplished to determine if there was power being supplied to the hydraulic gear selection valves when the gear handle was placed in the up position and removed when the gear was selected to the down position. These checks confirmed that the power was being supplied and removed with the appropriate gear handle position.

The next item was to simulate weight on wheels (WOW) and the conditions from what we believed to be the configuration at the time of the accident. The flaps were secured by pulling breakers, fuses, and power circuit breakers. The emergency gear extension handle was confirmed to be in the actuated or out position. The aft main landing gear doors and the forward nose gear doors were also disconnected and secured up and away from the aircraft. The switches for the gear doors were "zip-tied" so they would not produce a "main bus disconnect" when the gear was tested. Power was applied to the aircraft momentarily. When the hydraulic switch was turned on the pump actuated. The nose and right hand mail gear immediately showed unsafe condition. Maintenance personnel also observed the right main landing gear moving slightly. The hydraulic power switch was immediately returned to the off position.

At this time the landing gear selector handle was ensured to be in the "Down" position, the WOW switches were returned to the inflight configuration, the emergency gear extension "T" handle stowed to the normal position and the hydraulic power switch was again turned to the on position. The landing gear was expected to go to the down and locked position in this configuration. Instead, all three landing gear continued to the up position.

A review of the electrical schematics revealed that the landing gear control valve was electrically actuated to the up position when power is applied. The ground wire was removed from the gear selector valve to ensure that this valve was not in any way electrically energized. When power was applied to the aircraft the right and nose gear indicator lights were red, with no indication from the left gear. This was determined to be because the removed ground point also supplied a ground to the left main indicator lights. When the hydraulic switch was turned to the on position, the landing gear went up.

The landing gear was then extended using the emergency extension handle. It was determined at the point that the gear selector valve in the hydraulic power pack was stuck in the "up" position.

It was decided at that point to quit for the day and we would reconvene the next day, February 5, 2014 at noon CST. I immediately advised all parties to the investigation that the aircraft would be released to the owner, but, the NTSB would remain in control of the hydraulic power pack and landing gear selection valve assembly.

On Wednesday, February 5, 2014, I, along with the SPI FSDO office manager David L. Slaybaugh, arrived at the hanger where the accident aircraft was being housed. When we arrived, the technicians from West Star Aviation were already there, waiting. When Mr. Duncan and the other representatives arrived, I immediately tagged the hydraulic power pack and landing gear selection valve assembly and distributed receipts to all parties involved. All parties signed those receipts.

The above statement is true and accurate to the best of my recollection.

[redacted]

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