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Date: January 17, 2024

Subject: CEN24LA086, FAA Airplane Examination

Contact: Curtis Anthony, FAA Inspector, North Texas FSDO

The following is a summary of two emails from Inspector Anthony:

I have been in contact with ATP Flight Schools. I have talked with Lance Schexnayder, Maintenance Supervisor for the ATP location in Arlington, TX (GKY). He was at the aircraft Sunday with Mr. Shadwick. The aircraft was moved to a hanger at Fort Worth Alliance (Hanger 1 at the old FBO location, immediately north of the control tower). Mr. Schexnayder arranged to have one of his technicians perform gear swings with me Monday [1/8/24].

We did a preliminary check on the landing gear operation. Placed the aircraft on jacks. We performed 6 cycles of the gear with power and 1 cycle without power (emergency extension). The gear operated normal. I was not able to perform the gear warning alert check associated with the manifold pressure switch due to an air supply being unavailable. The gear warning alerts associated with the flap position operated normal. With the gear up, the flaps were extended to the second notch (20 degrees). Warning horn sounded. The flaps were extended to 40 and the warning horn and annunciation remained on. The G1000 system displays the landing gear indications. Three black circles are displayed to indicate gear is up. Transition indication are three gray circles with X's. Then three green when all gear were down. During the gear extension, the landing gear annunciations became green starting with the nose, then left gear, finally the right gear. This was consistent with all gear swings except the emergency extension where the right main gear indicated locked before the left main gear locked.

I would like to do another series of gear swings this time with an air supply to verify the warning annunciations and aural alerts activate below 14 in-hg. This aircraft has

transducers in the manifold pressure lines rather than microswitches in the throttle quadrant for the gear up warning. There is a procedure for testing the landing gear warning that utilizes a jumper wire at the transducer connector, but it does not check the transducer. I wanted to be able to do the jumper wire check and check the transducers at the same time.

[1/16/2024] I went to Alliance Airport this morning and met with Trenton Gannon, ATP Maintenance Technician, to evaluate the landing gear. We used the procedures in the Piper PA-44-180, Seminole Maintenance Manual, Landing Gear Retraction System Functional Test, Section 32-30-00, for the G1000NXi equipped aircraft page 11.

The only deviations to the procedures were: (1) external power was unavailable and aircraft battery power was utilized instead. Aircraft battery voltage at the beginning of the procedure was 24.1 Volts and at the end of the procedure it was 23.8 volts. Air temp in the hanger was approximately 18°F. (2) Cabin heat/combustion air blower was not operated (squat switch was defeated by the alternate procedure of removing the torque link connecting bolt and rotating the upper torque link to free the plunger.)

The landing gear and warning annunciations/aural alerts operated per the procedures in the maintenance manual. No anomalies with the landing gear system were observed. However, the flaps do not currently indicate the appropriate degrees for the mechanical position of the flap lever. The indication on all flap settings were 5° lower. I believe this indication error is due to the impact the flaps sustained during the accident.

END