

# Testing Summary

CEN14LA127  
Springfield, IL  
Piaggio P180 (N700FE)

June 5, 2014  
Piaggio P180 Evaluation of Landing Gear Actuator Operating Pressure  
Regarding Doc no. 180-TRP-3230-07404  
Piaggio Aero Industries Service Center  
Genoa Airport  
Italy



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## Summary & Factual Information from Examination:

Piaggio Aero Industries performed testing on an exemplar Piaggio P180 airplane to determine if they could duplicate an uncommanded landing gear retraction with a simulated failure of the solenoid-operated directional control valve in the gear-up position. Without the hydraulic system on, the landing gear was extended using the emergency landing gear extension procedure. The emergency line pressure was 1,800-2,700 psi when there was a gear safe indication and significant force was required to actuate the emergency hand pump. The test results indicated that the pressure decay in emergency system lines was between 50-100 psi/min. The landing gear retract line pressure was 560-600 psi when the landing gear was in an emergency gear-down configuration with hydraulic power on and a simulated failure of the directional control valve in the gear-up position. However, the landing gear did not unlock (gear unsafe indication) and/or retract while the pressure in the emergency line was maintained above 100 psi. Finally, the emergency landing gear selector handle had to be moved more than 70% of its total stroke before the emergency line lost pressure.

--- End of testing summary ---

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