U.S. Department
of Transportation
**Federal Aviation
Administration**

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October 06, 2010

Mr. Timothy Monville
National Transportation Safety Board (NTSB)
8240 NW 52 Terrace, Suite 418
Doral, Fl. 33166

Dear Mr. Monville:

On October 01, 2010, I was tasked to verify the integrity of Aircraft N590JL, S/N 1014 landing gear system after it collapsed during an aborted takeoff. Listed below are the results of the landing gear operational test along with the findings from the troubleshooting procedures:

P180 Landing Gear Operation Test Results

1. With the landing Gear in the down position and electrical power applied, the nose and main gear position light illuminated green (normal indication).

2. With the aircraft on jacks, weight on wheels, electrical and hydraulic power applied; moving the landing gear handle to the up position did not caused landing gear retraction. In addition, the green gear position lights remained illuminated; this result is a normal.

3. With the aircraft on jacks, weight off wheels, electrical, and hydraulic applied; moving the landing gear handle to the Up position, caused the landing gear to retract. During gear retraction, the nose and main landing gear green position lights changed from green to red. When the gears were in the Up position and the gear doors closed, the red gear indication lights extinguished. This operation is also normal.

4. With the aircraft on jacks, weight off wheels, gear extended, electrical and hydraulic power applied. Deactivating the Nose and Left main landing weight on wheels switches, and activating the right main landing gear weight on wheel switch caused the gears to retract when the control handle was moved to the Up position. This result in a normal because the landing gear system simplified wiring diagram indicates that the weight on wheel switches that affect gear retraction are located on the Nose and Left main landing gear assembly only. So, this means that with the landing gear control handle placed in the Up position and the aircraft weight is on the right landing gear wheel only, it is possible that the gear could retract (normal operation).

5. The landing gear control handle locking mechanism integrity test was also performed successfully. The control handle cannot be lifted unwillingly out of the Down position, because it requires two actions (pull out and up).

P180 Landing Gear Troubleshooting Procedure Result

Un-commanded gear movement (with the landing gear lever either up or down) event was excluded with the troubleshooting procedures described in attachment 1.

The operational test and the troubleshooting procedures were conducted at the Avanti Air facility in Clearwater Florida. Piaggio engineers, Mr. Chris Grinnell and Mr. Paolo Pellegrino performed the operational test and troubleshooting procedures.

If you need additional assistance or information, please contact Inspector Robert Haynes at the above address, or by telephone, at (407) 812-7755 Monday through Friday from 8:00 am until 4:30 pm.

Sincerely,

Robert E. Haynes
Aviation Safety Inspector

Enclosure
P180 Landing Gear Troubleshooting Procedures