



MEMORANDUM FOR RECORD

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Air Safety Investigator
National Transportation Safety Board
Office of Aviation Safety - Eastern
Region

NTSB Case Number: ERA20LA066
Aircraft: Honda Aircraft, N166HJ
Honda ASI inspector: Thomas Sully
Date: 10/15/2019
Subject: N166HJ Gear Swing

The information below was provided to the NTSB investigator via email from the Honda Air Safety Inspector Thomas Sully regarding examination and gear swing of N166HJ.

- *Honda Personnel arrived at Interstate Turbines at 1030a*
- *FAA Don Dingeldein arrived soon after Honda personnel*
- *Honda personnel along with the Director of Maintenance for Interstate went to the Atlantic Aviation hangar where the aircraft was being stored*
- *The FAA joined Honda and Interstate in the hangar on his arrival*
- *Interstate personnel then brought the Honda aircraft jack pads to the aircraft and prepared the aircraft for jacking, which included gaining access to the hydraulic ports located in the forward baggage compartment. This also included disconnecting the aircraft's battery*
- *Approximately noon, Interstate became to the process of raising the aircraft*
- *Approximately 1230p EST written approval was received from the FAA personnel, at the director of the NTSB IIC, for the Honda test procedure*

- **Testing began at approximately 130p when the nose wheel landing gear was raised into the aircraft approximately 90% of full nose landing gear retraction to avoid the gear engaging the uplock**
- **The towbar lug remained completely inserted in the nose landing gear assembly to determine if the lug would impact the fuselage of the aircraft**
- **The towbar lug did not come into contact with the aircraft fuselage during the gear retraction while it was fully inserted into the nose landing axel**
- **Next the nose landing gear was extended slowly so as to take a measurement of the clearance between the fully inserted towbar lug (0.5" of the towbar lug exposed) and the aircraft fuselage**
- **The clearance was approximately 14/64" between the fuselage and towbar lug**
- **Next the towbar lug was partially removed from the nose wheel axel assembly to match the observed position of the towbar lug during the recovery of the aircraft from the runway. The towbar lug was extended from the nose wheel axel assembly such that approximately 3/4" of the towbar lug was exposed.**
- **Next the aircraft nose wheel landing gear was extend such that the towbar lug was a fraction of an inch away from the fuselage. This allowed for a determination of whether the lug would have struck the fuselage if the nose wheel landing gear extension had continued.**
- **The towbar lug in the 3/4" exposed condition would have struck the fuselage had the nose wheel landing gear been fully extended.**
- **Next the towbar lug was again extend such that 1.5" of the towbar lug was exposed from the nose landing gear axel assembly**
- **The nose wheel landing gear was then extend again to determined to what extent the towbar lug would have struck the fuselage, and to determine to what degree the towbar lug location matched the witness marks on the upper surface of the nose landing gear fuselage bay structure.**
- **It was determined that the position of the lug during extension highly correlated to the witness marks in the aircraft nose landing bay interior**
- **Tests were also conducted in the same three towbar lug configurations during retraction to determine the possibilities of the lug striking the outside fuselage around the nose landing gear bay.**
- **It was determined that the 3/4" and 1.5" towbar lug positions would result in the lug striking the outside of the fuselage around the nose landing gear bay. In the 0.5" lug exposed configuration, the nose wheel landing gear would have fully retracted into the aircraft nose landing gear bay.**
- **The testing was completed.**
- **Nose landing gear was fully extended to its down and locked position**
- **The battery was then reconnected and the aircraft powered up**
- **Once the aircraft was powered on, it was verified that the aircraft did indicate three green down and locked landing gear indications**
- **The aircraft was then lowered off of the jacks**