Sensors Northwest

…applying sensor technology in the Great Northwest

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Application Notes

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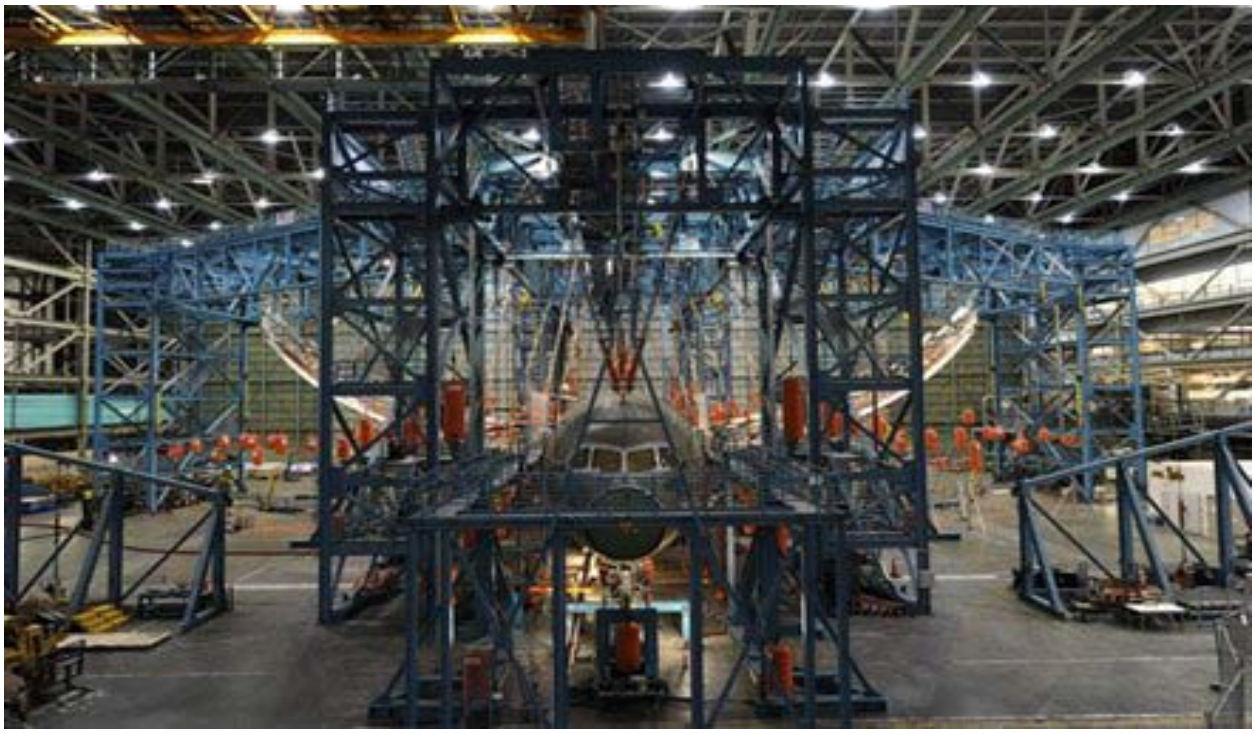
787 Wing Flexure Tests



On March 28, loads were applied to the test unit to replicate 150 percent of the most extreme forces the airplane is ever expected to experience while in service. The wings were flexed upward by approximately 25 feet (7.6 meters) during the test and the fuselage was pressurized to 150 percent of its maximum normal operating condition. In evaluating the success criteria for the test, Boeing specialists have been poring over the thousands of data points collected during the test to ensure that all parts of the airplane performed as expected. "The airframe performed as designed and retained the required structural integrity. These results continue to validate the design of the 787 as we move toward certification," explained Fancher.

Hanging from the end of each wing was an ***Acuity AR1000***, mounted on a gimbal to ensure the laser would be pointed at the floor as the wing bent upwards. The AR1000 read the distance from the ends of the wings to the floor. Connected to each laser was a scoreboard display, showing the distance in large numerics that could be read from anywhere in the test area. The lasers can not be seen but the white target area on the floor beneath the wing tips is visible. That was how the 25 foot wing flexure was measured, plus/minus 1/8th of an inch.

Can we apply an Acuity laser to your non-contact measurement requirement?