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Photogrammetric Contrasting Light Merged With Hole Recognition Software

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2014 CMSC Abstract

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The 787 46 Section Measurement Update; Jan. 14, 2014. Alenia is now using the "T" Probe to measure 1800 Determinant Assembly (DA) holes. Survey time a minimum of **8 to 12 HOURS**. The accuracy of the "T" Probe with the varying length stylus can produce uncertainties up to +/- 0.010"

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Alenia could use "Off The Shelf" **Edge Recognition Software**. (ERS). The **Right Side Flash Bar** creates a Bright, well exposed image, with a great half circle "Black hole" contrasted edge, for improved hole definition and location. The D.A. hole location accuracy is clearly defined by the **Edge Recognition Software**. Now the **Left Side Flash Bar** lights up the left side of the same measured D.A. hole. The half circle "Black Hole" high contrast edge, hole definition, is clearly defined by the **Edge Recognition Software.** The Two clearly defined halves of the same measured hole are now joined in the computer. The Determinant Assembly (DA) Hole, edge recognition location improves from .030 to .002, with this Boeing patented technology.

2014 Survey Time: The 46 Section Fuselage surveys would only require **one hour !** The 46 section fuselage DA Hole survey "True Position" accuracy would be within .**006 to .008 !**

One of the current 787 Final Assembly Fuselage Section focals, Paul Baughman, leads the 787 Circ Splice Join Drilling operations. When Paul has drilled the Fuselage Circ Splice Join holes, the Counter Sink / Top OML merging Diameters need a "rapid measurement" process today. This Boeing patented measurement process can help solve this Countersink diameter confirmation requirement, for the 787 Final Assembly Teams. This **Side Light Bar Presentation** includes a CGI video, showing the speed and simplicity of this Boeing invention. The video presents Side Light Bars with Photogrammetric "Pro-Spot" Targets, flashing on a large Boeing Fuselage section. This provides Boeing and our support Partners with **Large Area Rapid Scanning tool,** at a much lower cost today.

Boeing Patent # US 7,783,376