How Nondestructive Evaluation Reduces Risk and Boosts Productivity

Automobile assembly requires thousands of separate joints, typically made in short times with high repetition rates. Quality assurance is a major concern, therefore the production process has always included extensive destructive testing and redundant welding. NDE offers alternatives techniques that are more efficient for assuring vehicle structural performance, perceived quality, and product reliability.

Ensure

first-time quality

Use NDE for fast inspection of parts before they are put into use

Facilitate rootcause analysis

Understand the cause of a failure to predict and prevent future failures

Reduce NVH

Achieve consistently high levels of perceived vehicle quality

NDE CAN HELP AUTOMOTIVE

Reduce Redundant Welding

Verify weld quality allowing improvements in vehicle design

MANUFACTURERS TO...

Reduction or elimination of destructive testing

Eliminate the need for vehicle teardowns with high resolution weld quality assessment

Improve Vehicle Safety

Provide assurances that all welds meet defined geometry and quality standards

Meeting Quality Standards

Achieve quality requirements for existing standards through high resolution NDE techniques

EWI can provide advisory, development, and implementation services for applying NDE to minimize risk and maximize customer satisfaction.

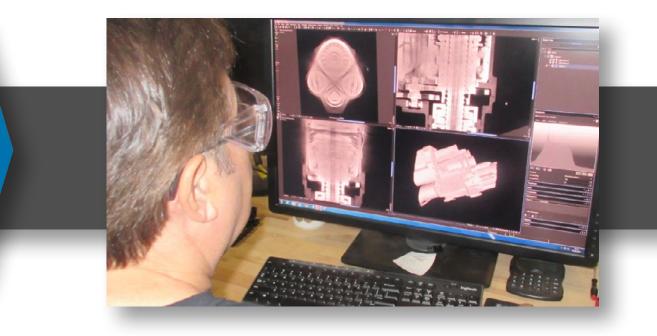
New Phased-array Ultrasonic Tool for Assuring Resistance Spot Weld Quality

EWI has developed a matrix phased-array ultrasonic imaging inspection technique that has been shown to identify spot weld diameters down to roughly 4-mm. This system, SpotSight[™] is available commercially through an EWI partner.



CT Imaging for Weld Quality Assessments

Computed tomography (CT) imaging allows a detailed interpretation of weld morphology, and has been used to examine the occurance and location of instabilities (expulsion events) on automotive sensor components. EWI now has CT imaging capability and has applied it to assessments of resistance projection weld quality.



NDE can be performed with little to no downtime with EWI's unique skills in the process automation and analysis of examination data. EWI develops innovative NDE solutions at our three technology centers in Loveland, CO, Columbus, OH, and Buffalo, NY. To learn how your organization can use NDE to reduce risk and liability, contact Shaun Freed at **sfreed@ewi.org.**



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