

Deaton Drives Efficiency for Honda Facility

The Client: Honda Motor Co., Ltd. Tier 1 Supplier

Honda manufactures a wide array of vehicles for a world of diverse needs and lifestyles. All Honda vehicles demonstrate their leadership with high performance, superior fuel economy, optimum safety, and driving pleasure. Honda's unique innovation has earned respect worldwide. That's how they sell more than 3.5 million vehicles around the globe each year.

The Challenge: Semi Automated Manufacturing Line for Mexico

Our customer, a tier 1 supplier to Honda and other car manufacturers, needed to expand their manufacturing capacity in their Mexican facility. The challenge, design and fabricate a semi-automated manufacturing line to assemble and test airbag horn assemblies at a rate of 1 every 29 seconds. The new design had to be flexible enough to handle 19 product variations, reduce product change over time and meet strict Automotive TS 16949:2002 standards for quality and record keeping.



The Solution: Manufacturing Line Capable of Running 19 Product Variations



Deaton Engineering designed a manufacturing line that integrated quality assurance and test. We incorporated a poke-yoke design to eliminate left hand or right hand part substitution errors. The human-machine interfaces (HMIs) provided assembly instructions in the operator's language and controlled all machine operations. We were able to automate the manufacturing process and critical testing while taking advantage of low cost labor to move subassemblies from station to station. The time required to change over a line was greatly reduced by having the machines pre-configured according to bar coded part numbers.

Engineering Highlights:

- Product change over was reduced from 6 hours to less than 2 hours
- 11 stations including: electrical testing, ultrasonic welding, mechanical testing and final packout
- Bar code part & subassembly management over a secure wireless network, records retained for 30 years
- Parts are locked down if test detects failure - only authorized personnel can release part
- Universal design capable of handling 19 product variations
- Additional manufacturing lines were designed for Brazilian facility