

Keyless remote housing comes together with more consistent quality and less cost with ultrasonic and laser welding

RESULTS

- Increased manufacturing throughput
- Improved durability
- Lower costs, reduced assembly time, and no consumables
- Less risk of inconsistent quality



APPLICATION

Keyless remote assembly

CHALLENGE

Keyless remotes, or keyless entry systems, gained widespread use during the 1990s. The two remote halves were originally assembled using either an adhesive or snap-fit method.

The use of adhesives required consumables, which had to be sourced, stored, applied to the component parts, and then fully cured—multiple steps that added cost, slowed production throughput, and created multiple opportunities for inconsistent quality.

Snap-fit assembly avoided the cost and inconvenience of adhesives, but snap-fit remotes would often break open when dropped on hard surfaces. They could not always be reassembled by the consumer. And occasionally, the internal components could be damaged and require complete replacement.

SOLUTION

Having worked successfully with Branson ultrasonic technology in other areas in the assembly of automotive applications, the manufacturer wanted to see if Branson technology from Emerson could provide a better solution.

Branson ultrasonic welding technology proved capable of sealing the components together without the cost or complication associated with adhesives. More recently, as keyless remotes have begun incorporating more sophisticated functionalities, Branson laser welding has provided a way to seal these advanced remotes without disturbing or compromising the new more sensitive electronics.

Keys to quality

Branson ultrasonic and laser technology simplify assembly, speed production, lower costs, and ensure quality.

Ultrasonic and laser welding both eliminated the risk of the remotes breaking apart at the components' interface when dropped, as the weld seams created by both technologies are typically as strong or stronger than the plastic materials being joined.

An auto maker stated, "I couldn't be happier with the results of converting from gluing to ultrasonic welding. Our customers get a better product while I have reduced cycle times and manufacturing costs. It's a win-win."

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