



Branson solves critical plastic joining problem. Gets Blendtec's automated line back into production in record time.

Background

Blendtec produces a highly advanced blender of world-renowned quality and durability. Unlike most blenders that operate at a few thousand rpm, the Blendtec operates at 28,000 rpm, and is known for its ability to pulverize virtually any material, not just the fruits and vegetables for which it is primarily used.

Blendtec blenders get their high-performance capability from innovative design and construction. One detail is the blade bearing drive assembly which is hermetically sealed to the bottom ring of the blender jar. It's a technique that results in extraordinary durability and one feature that enables Blendtec to back its blenders with an industry-leading 8-year warranty.

To meet increasing demand for its product, in 2011 Blendtec decided to fully automate one of its production lines. They contacted Branson because of Branson's reputation for plastics welding expertise and for solving tough production challenges. Branson collaborated with the automation integrator and they determined a Branson 2000X ultrasonic assembly system with robotic feed was the optimal welding solution for the job.

Challenge

The challenge came when Blendtec, in its ongoing quest to improve performance and quality, decided to redesign its blender jar by increasing the diameter of the lower seal. What they did not realize was that the change in diameter size would affect the integrity of the hermetic seal, a feature essential to the product's leak-proof performance.

Already fully committed to their new container design, and gearing up to fill a large order, Blendtec discovered that the horns that had functioned properly using the old container design were now too tight. The welds were failing internal quality testing. So with zero margin for error, production came to a halt.

Blendtec called Branson at 4PM to help solve the problem.

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Solution

“Branson was able to respond immediately,” according to Tim Herren, Branson Western Regional Manager. “We were local and able to be on the scene within an hour.”

Branson’s evaluation determined that the horns needed to be modified to properly seal the new container design. Branson engineers went to work making the modifications and programming new weld parameters. To prove success, an arbor press test of the modified design showed that the new welds would hold beyond the failure point of the materials. The seal was once again hermetically perfect.

“Branson really exceeded our expectations. Within two hours, they had made the fine-tuned adjustments to the horn redesign, and we were back into production,” said Brad Hanson, Blendtec’s Manufacturing Engineering Manager.

In addition to solving the joining problem, Branson made adjustments so Blendtec could take advantage of the weld-by-energy feature on the Branson 2000X. Weld-by-energy rather than weld-by-time provides an added quality-assurance checkpoint and safeguard for weld strength.

Results

As a result of Branson’s modification of the horns and weld parameters, Blendtec achieved a weld joint they needed and returned to full production within hours. They also met the critical shipment deadline that had been in jeopardy.

Demand for Blendtec’s rugged, high-performance blenders continues to explode in both retail and commercial markets, domestically and abroad.

According to Brad Hanson, “Branson really went the extra mile. They not only solved our immediate problem, they also took the horns that had become useless because of our redesign and re-machined and retuned them at no cost, so we can re-use them in the future to help meet the demands of a triple-digit growth curve.”

