

Customer training and new tooling improve quality and output, and lower costs for appliance manufacturer

RESULTS

- Improved product quality and higher yields
- Less downtime and scrapping out failed parts
- Enhanced knowledge of weld equipment and process
- Reduced material and production costs



APPLICATION

Rugged seal for small appliance fuel tank

CUSTOMER

Manufacturer of gas-powered small appliances

CHALLENGE

A manufacturer of small appliances used vibration welding equipment to seal the plastic fuel tanks for its products. The fuel tanks required a strong weld line to withstand the internal tank pressure, and a seal that was as free of particulates as possible to meet the manufacturer's aesthetic requirements for its products, as well as to avoid potential clogging of the fuel line.

The manufacturer's vibration welders were generating too many parts that failed pressure tests as well as the aesthetic requirements of the company. The result was unacceptably high scrap and bloated materials costs. In addition, complicated and time-consuming tooling changes, often requiring an hour or more to achieve the alignment needed to produce a part of acceptable quality, resulted in significant downtime and lower yields.

The manufacturer was also faced with an engineering and production staff that did not have the knowledge of vibration welding equipment and processes to overcome the productivity losses it was experiencing.

SOLUTION

Branson technology available from Emerson addressed the manufacturer's challenges in two ways. It held a two-day vibration welding technology exchange for employees and recommended a key upgrade to the tooling equipment.

Weld quality

Small appliance manufacturer improves quality and production output with the help of a vibration welding technology exchange and tooling upgrade.

The seminar covered topics ranging from vibration welding part design, polymer science and the unique properties of nylon, and tooling design and construction, to application and tooling setup and machine and tooling maintenance. It involved both classroom and hands-on training on the production floor.

In addition, the replacement tooling incorporated proprietary alignment technology that allows tools to be taken in and out as a set, since the nests are pre-aligned.

As a result of the seminar and new tooling, the manufacturer reported it was able to produce a fuel tank with acceptable quality on the first try after a changeover to the new tooling. It subsequently installed several new tool sets, and upgraded 10 existing tools with the Branson pre-alignment system.

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