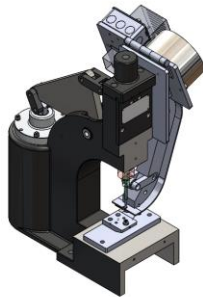


Tag Holder Pocket Riveting

Project Number: 832

Summary

A manufacturer of tag holders approached AIM-Joraco to attach a clasp to their tag holder pockets using a rivet. The press was required to include a way to eliminate the need to load rivets while maintaining precision of the work part. Using a Toggle-Aire 1530, AIM-Joraco developed a solution able to perform the intended rivet on the tag holder pocket as well as implement an automatic feeding system to the machine, allowing the operator to easily and repeatably produce a rivet by simply cycling the press using a two-hand controller.



Tags: Toggle-Aire, 1530, rivet, automatic feeding system, custom fixture, bowl feed, blind rivet, tag holder, adjustable head

Customer Requirements

- Press must install the rivet at its specified location repeatably and consistently.
- Press must include an automatic feeding system that eliminates the need for the operator to load individual rivet into the machine.
- The tool and guide rail must accommodate the existing hollow rivet body (blind rivet) supplied by the customer.

Design Challenges

- Incorporating a feeding system with small parts requires high dimensional precision.
- High susceptibility to displacement requires the rivet head to be properly aligned.
- The clasp and pocket requires a fixture designed to easily align these two components with the rivet head.

Process

- Engineers implemented adjustment to both the stop roller (left to right) and mounting plate (front to back) in turn allowing for adjustment of the rivet head to enable calibration of the desired rivet location.
- The tooling consists of a base plate rolling tool and a spring-loaded drive punch assembly made of hardened heat-treated tool steel to maximize operation life.
- A custom guide track was implemented with a rivet retention finger that kept the rivets in the feed (holds rivet in place) until the press actuation.
- A bowl feed was connected to the guide track that facilitated the refilling of rivets into the machine, designed to require that the operator simply pours them into the bowl.

Results

- The rail guides allowed for a steady flow of correctly aligned rivets ready for operation.
- The heightened adjustment increased tool precision due to the ability for accessible calibration.
- The tooling design demonstrated its compatibility with the hollow rivet body supplied by the customer.
- The automatic feeding system greatly increased ease and speed of operation.