

'Value-Added' Key to Stamping Success at Rockford Toolcraft



Large Minster E2 HeviStamper Presses at Rockford Toolcraft in Rockford, Illinois.

Early stamping presses had some very basic functions. “Some of the first presses 100 years ago hit a piece of metal, made a part and that was about it,” said Jerry Busse, President of Rockford Toolcraft, Inc. “Those simple applications are still part of the business today, and probably always will be.”

However, Busse is quick to point out that to stay competitive in today’s metal forming industry, manufacturers are constantly implementing more “value” to the production process and the final product.

Building and running progressive and transfer tooling that form, blank and shear is no longer enough at Rockford Toolcraft.

“All the simple stuff is being taken over by imports,” Busse said. “We feel the future is headed toward more value-added production that takes some of the labor out of the processes. And when it comes to how much

value we can add, the bar is always raising.”

Busse rented a 1,500 sq. ft. building in Rockford, Ill. in 1976, and founded Rockford Toolcraft. The company has grown to a world class supplier of complex tooling and stamped parts for a wide range of industries with more than 150 employees.

Today, Rockford Toolcraft has perfected various in-die assembly techniques.

“The Minster presses are very important to us. In fact, I tell people, ‘if you’re into high volume stamping, and are not using Minster presses, then you just don’t get it.’”

*Jerry Busse
President
Rockford Toolcraft, Inc.*

One application is a heavy gauge shelving bracket coming off a two-out die. Each six-inch bracket is staked with two L-studs and a safety clip. The Minster E2-300 press that produces the brackets has six feeder bowls connected to the die. The four L-studs and two safety brackets are fed into the die and staked to the brackets at 50 strokes per minute.

“Engineering for the escapement is the key to any of our in-die assembly dies,” Busse said. “The part that is to be inserted has to be presented in the exact right place at the exact right time over and over again. To achieve this the use of sensors is important along with quick stopping time with a quality hydraulic clutch.”

Busse said another important factor is a quality press.

“I use Minster presses because I have great success with them,” Busse said. “The downtime is zero and the repeatability we get from Minster presses is tremendous.”

“We get nearly 500,000 strokes between die main-



Heavy gauge shelving bracket parts produced on a two-out die. Each bracket is staked with L-studs and a safety clip.

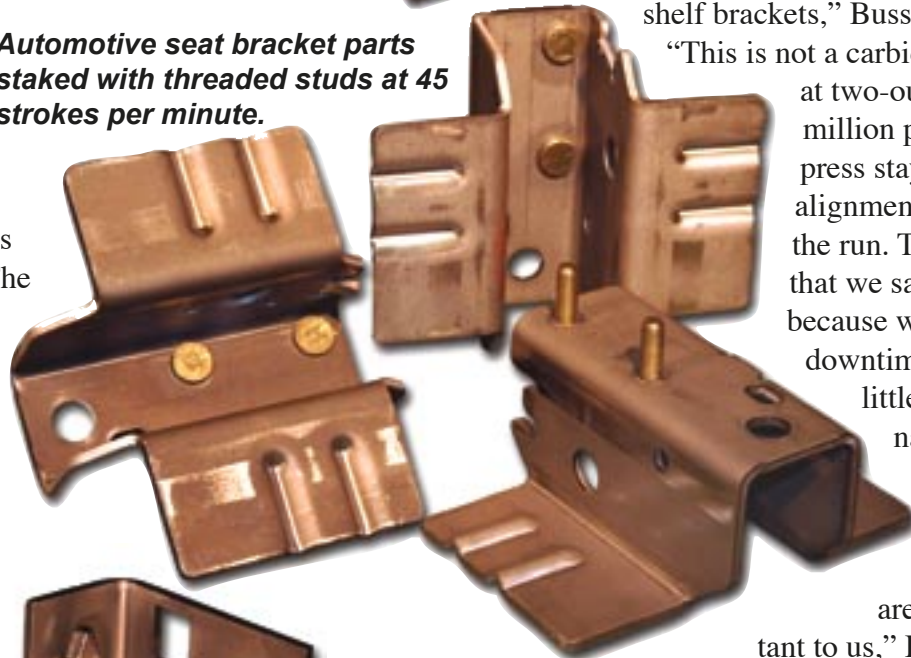
Stainless steel bracket parts for agricultural machinery. Flared-type nuts are assembled to the part within the die.



tenance on the

shelf brackets,” Busse continued. “This is not a carbide die, and at two-out that’s a million parts with the press staying in great alignment throughout the run. The results are that we save money because we have no downtime and very little die maintenance between runs.”

Automotive seat bracket parts staked with threaded studs at 45 strokes per minute.



“The Minster presses are very important to us,” Busse added.

“In fact, I tell people, ‘if you’re into high volume stamping, and are not using Minster presses, then you just don’t get it.’”

Another in-die staking application at Rockford Toolcraft is performed on a Minster E2-600 press. A heavy gauge truck seat bracket is formed and staked with two bolts coming from a feeder bowl.

Other popular applications include inserted nuts into stamped parts. For one agricultural machinery customer, Rockford inserts a “flared-type” nut in a stainless steel bracket.

Rockford Toolcraft has also received an order to build 15 dies using the insertion of “Strux Nuts” which are actually stamped and seated into a part. Engineers are currently working on proprietary systems to deliver the nuts to the dies via plastic tubing for high speed production.

“The Strux Nuts are pressed into the stamping and replace weld nuts,” Busse said. “They have great twist-off resistance.”

Besides in-die assembly, Rockford Toolcraft is adding value with PLC controlled dies with gagged punches.



Press Dept. Foreman Seth Doolan shows a die and stock strip from Rockford Toolcraft.

One die produces different grill parts for an agricultural equipment customer. The PLC control activates different components within the same die, which enables it to produce three different parts.

“This saves our customer money, because we didn’t have to build three different dies,” Busse said.

According to Busse the value-added trend is likely to continue, especially as the competition in manufacturing continues to grow.

“We’ve looked at Minster’s new VariSlide Press Technology which allows the slide to dwell at different points in the stroke cycle,” he said. “This type of press action would allow for welding and other assembly functions within the die.

“We thrive on complicated parts that your average stamper cannot produce, and we feel this is a market we will continue to have success in,” Busse concluded.



E2-300 ton presses are used for many of the in-die assembly applications at Rockford Toolcraft.