

# PUSHING FOR PERFECTION.

**BRUDERER** helps Weiss-Aug New Jersey  
with advanced stamping technology to be  
more productive.

*By Lincoln Brunner*

[www.weiss-aug.com](http://www.weiss-aug.com)





**In 2015, Weiss-Aug Co. located in East Hanover, New Jersey, noticed a recurring problem that they knew needed fixing, and fast.** Their stamping dies, that were running in their 30+ year old BRUDERER presses – the old workhorses of their high-volume, high-precision stamping operation – were starting to show excessive wear. The company’s engineers knew the root cause wasn’t tooling. Good as they were, the old single-crank mechanical presses were showing the inevitable marks of time and, as it turned out, were the root cause for excessive die wear.

**Other companies may not have raised the red flag right away. But with millions of parts being produced by every machine, every week and customers regularly demanding zero-PPM defects, the decision-makers at Weiss-Aug had to decide: Do we refurbish the existing machines or invest in new machinery at a premium cost of about 30 percent?**

After a good bit of back-and-forth, Weiss-Aug Owner and Founder Dieter Weissenrieder decided to bet big on nine new BRUDERER BSTA 200 presses. The machines can stamp at a rate of up to 2,000 strokes per minute, ideal for the high-volume, intricate stampings – think connectors for electronics – that Weiss-Aug provides for its customers in the automotive, medical, interconnect, defense and aerospace industries.

“This is not a machine that is used to stamp boat anchors,” says Dieter Weissenrieder. “This is a state-of-the-art machine

and is the perfect machine for the sophisticated products that we produce. It is the favored high speed punch press for our type of industry.”

Not that the 20-ton BRUDERERS – most of which Weiss-Aug purchased in the 1980s – were high precision state-of-the-art machines at that time, but BRUDERER has made significant improvements in 30 years. Incredibly, some of those machines had accumulated 80,000 to 90,000 production hours and were still being used in regular production. In fact, part of the internal struggle at Weiss-Aug arose because the older machines were still humming along at high speeds, albeit not at the level of consistency that the company needs to maintain its quality standards.

After all the discussion, in-house and with BRUDERER, Weiss-Aug chose new machinery over refurbished because making that jump enabled them to increase their production output by improving die life while moving ahead with the technological advances that BRUDERER offered.



Mr. Alois J. Rupp, BRUDERER MACHINERY INC., CEO  
Mr. Jeff Cole, Weiss-Aug Co., Inc., Vice President of Operations  
Mr. Dieter Weissenrieder, Weiss-Aug Co., Inc., President  
Mrs. Elisabeth Weissenrieder-Bennis, Weiss-Aug Co., Inc., Executive Vice President  
Mr. Mark Weissenrieder, Weiss-Aug Co., Inc., IT/Automation Manager



## “We got way ahead of our competitors in the space.”

*Alois J. Rupp, CEO  
BRUDERER MACHINERY INC.*

“At the end of the day, these presses were old,” says Weiss-Aug Vice President of Operations Jeff Cole, who Weissenrieder says lobbied the hardest for the new presses. “We were seeing premature tooling wear, and we were seeing inconsistency in part geometry. So, we realized that it was time to change.”

“In our case, we made the decision that, economically, it didn’t make any sense to rebuild these 20-ton machines. BRUDERER had incorporated significant technological advances in these new machines, and now that these machines are in production, the improvements in output and part consistency are astonishing.

BRUDERER Machinery Inc. President Alois J. Rupp says that even though he can maintain accuracy on rebuilt presses, the older machines can’t accommodate the new features that set newer technology apart. For that reason and others, the reconditioned machines didn’t make sense for Weiss-Aug.

“In some cases, we will rebuild our machines as it makes sense for certain products to do so” Rupp says. “In this particular case... we knew it wasn’t a good decision for him to do that.”

Weiss-Aug produces small, highly complex stamped parts that are rarely flat. Most parts are coined, formed and bent multiple times. The tolerances are extremely tight, many times down to  $\pm 0.01$  mm.

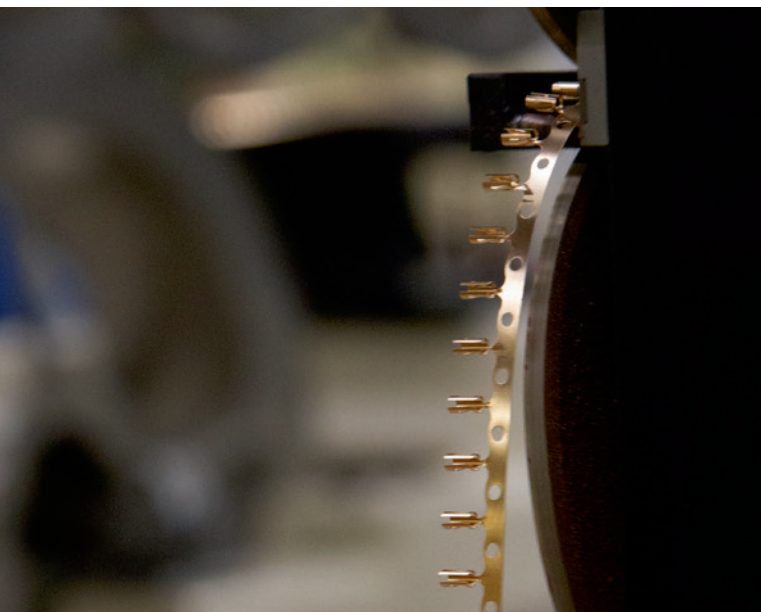
Parts are stamped in quantities of many millions. This kind of consistency cannot be expected from presses that have 80,000 to 90,000 production hours “on their back”. Because of zero defect requirements in today’s environment, consistency from the first part to the last part is mandatory. →



“When we were running the same dies making the same parts in the new BRUDERER presses, we couldn’t believe the improved consistency within production runs. Not only were we able to increase press speeds, but most of all the new machines reduced die maintenance. Dies also had to be adjusted less frequently, reducing downtime. In summary, productivity went up significantly,” Cole states.

As a contract stamper, specializing in small, intricate and high volume parts, Weiss-Aug uses many different types of materials. Material types range from Be Cu, Phosphor Bronze, Nickel, Stainless Steel and many exotic alloys.

Because of the competitive nature of manufacturing highly complex parts at high volumes, Weiss-Aug runs its presses at very high speeds. The design and construction of the BRUDERER presses allows that. Weiss-Aug runs many of their 20-ton BRUDERER presses at speeds of up to 1,700 strokes/minute. Cole states “BRUDERER presses are ideal for this kind of manufacturing.”



Zero defect – parts in perfection.

Because of the incredibly accurate construction of the machines, Cole states “consistence in manufacturing small, intricate parts is assured. Today customers require zero defect over millions of parts – something unheard of 20–30 years ago.” He states, that in today’s environment, he needs highly precise tooling, flawless material and excellent punch presses. He calls this the “three legged stool”. If one leg is missing, the entire process falls apart.

### **Designed to Last**

Rupp says that his presses’ consistency originates with one key feature of his company’s presses: the mass counterbalance system that distributes the press’s forces more evenly throughout the machine, thereby maintaining the press’s stability at high speeds. The counterbalance system, which Egon Bruderer patented more than 60 years ago, represents a unique technology that the company still prides itself in.

“We didn’t realize it at the time, but it was a quantum leap,” says Rupp, whose company is based in Ridgefield, N.J., a 30-minute drive from Weiss-Aug. “We got way ahead of our competitors in the space. And to this day, the technology has come up, but it’s still not there yet. No one offers the same engineering principles that we do.”

“Our customers, they know. They run different machines. They know where they need the BRUDERER, and they know where they can get away with another brand.” Weissenrieder confirms that the reason for having bought BRUDERER presses for the past 45 years is “the latest technology incorporated in the design of the presses and its robust and accurate construction. The machines also retain their value over many years.”



### Faster Setups, With Less Variation

One of the improvements of BRUDERER's new presses that surpasses its predecessors is the servo feeding system featured on the BSTA 200s.

At first, BRUDERER delivered the new presses to Weiss-Aug with mechanical feed systems. However, Weiss-Aug quickly determined that they wanted the servos instead – a decision that simultaneously increased setup speeds and decreased the person-to-person variability inherent in setups determined by operators' judgment rather than a servo drive's control system.

"Set up time is faster, almost 50%" Cole says. "The setup of a servo feed is very much automatic and foolproof. The parameters, that is stroke, pitch and pilot release which in the past were set manually, are now keyed in at the initial set up and then retained in the 'press library'. Not only does this cut set up time, but guarantees consistent set ups by eliminating personal preferences."

### Technology: Worth the Investment

If anyone can appreciate the value of Weiss-Aug's investment in technology, it's Cole. The stamping industry veteran joined the company 25 years ago and has watched its commitment to technology increase steadily over that time. "Dieter has always been very supportive of buying the best technology," Cole says. "My plan is to continue to upgrade to new technology as we move forward."

In essence, the 200s give people, like Cole, incentive to continue the good fight of meeting zero-defect demands from customers who are also constantly asking for cheaper parts prices.

"The challenge, the tight tolerances, the parts that no one else wants to make," Cole says when asked what really excites him. "It's very satisfying as you stand in the press-room and watch those parts come off the press – all the brainpower that went into figuring out the tooling and making it all work." →



Technological investments offer the additional benefits of attracting new talent to the company. Cole says finding talent represents his biggest challenge today and having a company with the latest and best equipment money can buy including a great working environment gives him a chance to attract quality people.


### **Mutual Respect**

The Weiss-Aug story follows a typical script, they have been BRUDERERS devotees for 45 years. In fact, the company has over 31 BRUDERER presses running in its 3 press rooms in New Jersey and its new plant in Apodaca, Mexico.

"He knows the business," Cole says of his boss. "That's why when I go to him to talk about capital investment, he knows what I'm talking about. He understands the business.

He knows we need precision equipment, cutting edge tooling and talented team members to be successful."

In that regard, BRUDERER considers Weiss-Aug one of its model customers – not just because they buy so many presses, but because the level of understanding the two companies share.

"We are focused on high precision, high volume," Rupp says. "Those are the two things that match with our products. Weiss-Aug is a perfect customer. They understand quality." "The important thing with Weiss-Aug and with all of our good customers, it's about a mutual benefit," Rupp adds. "That's where we do well with our customers. It has to be, or else it's a one-time sale or a short-lived relationship." 

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**Close to BRUDERER USA,**  
in terms of location as well as quality  
and service.

