Mechanical Presses | Part-Cost Reduction

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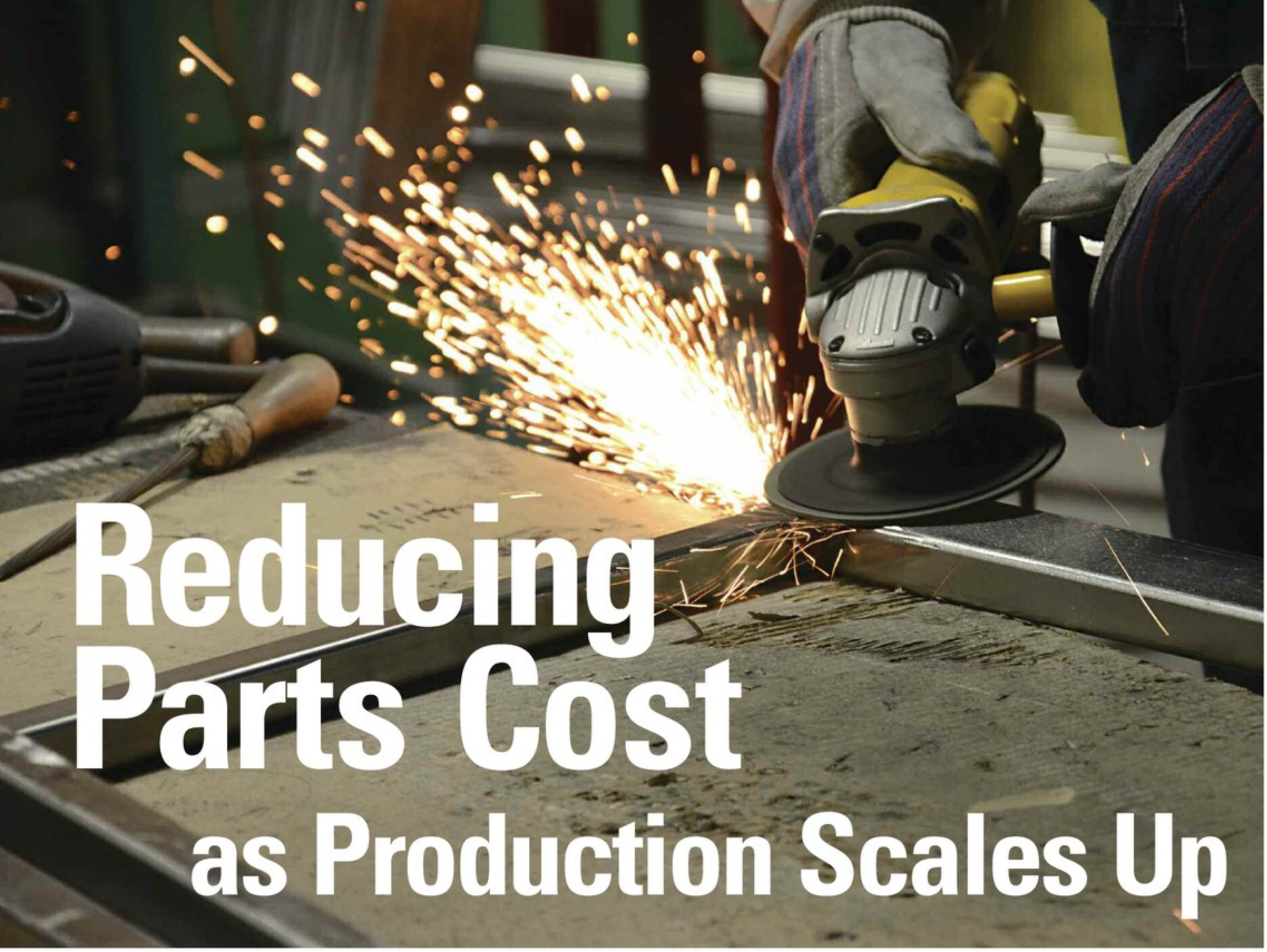


Reducing Parts Cost as Production Scales Up

OEMs turn to one-stop metal-parts shops for transitioning to cost-effective fabrication and machining techniques as demand increases.

Deciding on the best metalforming process for a part involves careful analysis of production volume versus the cost of hard tooling. While certain complex metal parts must be machined, thinner-gauge parts and enclosures typically are stamped using hard tooling or fabricated using lasers, turret presses and press brakes.

For startups or smaller companies with more modest production requirements, avoiding the high upfront costs of hard tooling is appealing. As a result, fabrication alternatives that do not require a high tooling investment, even if the cost per piece is higher, may be the better initial choice.

But what happens when demand increases and an OEM must scale up production?

Determining the ideal time to transition to a more economical alternative can be challenging, and in some cases, involves switching from a sheetmetal fabricator without stamping capabilities to a one-stop shop with multiple process capabilities.

By offering the full gamut of sheetmetal fabrication, stamping and machining options under one roof, these larger operations are much better positioned to scale with the customer as demand increases. This includes facilitating the transition to hard tooling, mixing and matching metalworking techniques for multicomponent assemblies, and incorporating hybrid and secondary tooling approaches to further reduce costs.

The Progression of Options

One such shop, Union, NJ-based DureX, Inc., operates a 120,000-sq.-ft. facility for metal stamping, sheetmetal fabrication and CNC machining. The company, founded in 1946, has more than 50 presses with capacity to 400 tons, along with laser-cutting equipment and turret presses, and offers value-added services such as powder coating, assembly, packaging and fulfillment.

According to its president Bob Denholtz, DureX provides customers a full progression of options based on "the ROI threshold." He explains that for a startup needing 500 units per month, stamping may not make financial sense, so the part may be fabricated. But as the part runs increase from 500

to 5000 units per month, the customer can move from fabrication to hard tooling with a one-stop shop.

Dentholz provides a recent example involving a customer spending $18 for a power-supply chassis with a $4 cover. As volume requirements increased, DureX suggested a move to hard tooling. This reduced the overall unit cost from $22 to $14.

"The customer saves $8 a unit, and now production has surpassed 3000 units per month," explains Denholtz. "The tooling cost is $80,000, so at $24,000 in savings each month, it took only 3½ months to get the money back."

In other cases, says Denholtz, the shop may use a hybrid approach. "We may fabricate a part on our turret press or use laser cutting, and then use a hard tool to form it into a box," he says. "Tools also can be staged to create a blank, before a secondary press forms it into a box with another hard tool." And if determined to be cost justifiable, "a full-blown progressive die can be purchased that will form the entire box completely with very little labor," Denholtz adds.

Air Conditioning Parts

Michael Milazzo, CEO of Simon-Aire, considers working with a metal-parts supplier such as DureX, which initiates suggestions, highly unusual.

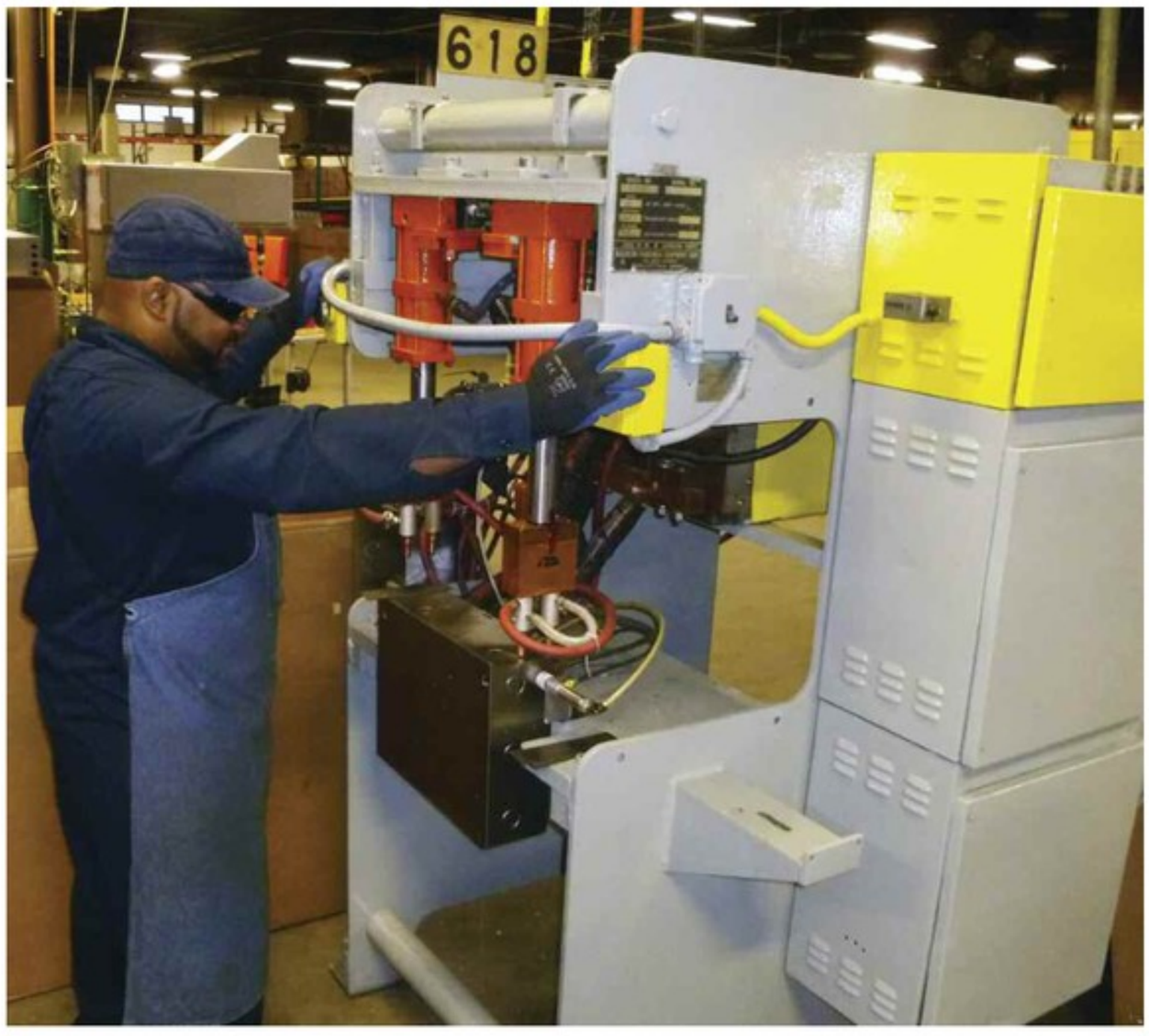
"I've worked with many sheetmetal fabricators over the years and they often are silent (when it comes to making suggestions)," says Milazzo. "They just keep moving forward without stopping to say, 'listen, if you do this, you can save yourself 12 passes,' or 'the weight of the sheetmetal is too heavy, but if you use a lower gauge, you can reduce your costs.'"

Simon-Aire Inc. manufactures packaged terminal air conditioners, self-contained HVAC systems commonly found in hotels, senior housing facilities, hospitals, dormitories and apartment buildings. The company also supplies parts and accessories, including replacement chassis, hydronic heat assemblies, louvers, wall sleeves, room enclosures and control components. For these products, Simon-Aire requires a variety of metal parts and components from DureX.

"I'll get a phone call from DureX saying 'have you thought about this?'" says Milazzo. "That's a good phone call to get. I'm not billed for that, and it doesn't make DureX more money. It's just part of the relationship."

Milazzo adds that his company benefits greatly from working with a parts manufacturer with experience across the metalworking spectrum. "I get to pick DureX's brains on every little 'what if' that I've been considering," he says. "The company can pull from their experience with a customer that makes rifle components, and one that makes a hot dog cooker, and another that makes a sign for a donut chain, to arrive at a technology that I can use in my

Reducing Parts Cost



Having the full gamut of sheetmetal-fabrication options under one roof enables one-stop metal-parts shops, such as DureX, to scale with the customer as demand increases and to facilitate the transition to hard tooling by mixing and matching metalworking techniques for multicomponent assemblies and incorporating hybrid and secondary tooling approaches to reduce costs.

air-conditioning business."

That happened recently when Milazzo pursued a project with DureX that helped him reduce the amount of warehouse space required for a volume of large, bulky products in inventory.

"Many of our sheetmetal components are basically boxes, so they take up a lot of dead air space," explains Milazzo. "If you have hundreds of them, that means a lot of money to store them."

Durex developed a knockdown box that could be stored flat until final finishing and assembly, allowing 50 or 60 components to be stored in the same space that normally fit about 12.

"That saves a lot of space, which in a warehouse translates into money," says Milazzo, adding that it also provides him with a competitive edge over his much larger competitors.

Milazzo stresses the importance of having a good, collaborative relationship with metal-parts supplier such as DureX. "The cooperation that exists between our company, our engineering, our research and development and DureX's inhouse engineers is very good," he says. "I've come to depend upon the company as if they existed under my roof." **MF**

Information for this article was supplied by DureX, Inc., Union, NJ; 908/688-0800, www.durexinc.com.