

New Press Ushers



HVAC Part Production Inhouse

A 400-ton straightside gives Alabama stamper Hart & Cooley the tonnage and dependability it needs to bring previously outsourced part production home.

When the Huntsville, AL, manufacturing plant of Hart & Cooley, Inc. brought production of outsourced parts inhouse, the decision prompted a search for the right mechanical stamping press.

“Bringing these parts under our roof

meant we could improve quality and enhance control over inventory and delivery, but we had to find a press with enough tonnage capacity to support the tooling,” says Eric Thacker, Hart & Cooley engineering manager. With lead times as short as one day, the plant also had critical requirements for consistency and dependability. In ultimately selecting a 400-ton straightside press (an NSU model from Aida-America Corp.), Hart & Cooley has the means to further its business strategy of continuous improvement.

“The press gives us the foundation we need to support the parts production we’ve absorbed and the tooling we’ve brought inhouse,” says Larry McAfee, plant manager. “That means we can achieve even tighter quality control of our products.”

For Hart & Cooley, reliability and

service are the mainstays that have helped the company thrive for 104 years. Reportedly the first company in the nation to manufacture warm-air registers from stamped steel, Hart & Cooley today provides a range of HVAC products for commercial and residential markets. In addition to Huntsville and its Holland, MI, headquarters location, Hart & Cooley manufactures in California, Mississippi, Arizona, North Carolina, Illinois and Mexico.

The Huntsville plant supplies the entire United States with stamping, assembly and e-coat painting of finished products including grilles, registers and diffusers for residential and light-commercial use. It also manufactures positive-pressure vent pipes and duct accessories for commercial applications. And its distribution ability

HVAC Stamping

allows it to have products ready to ship the day after they are ordered, according to McAfee.

Selected to Handle Rigorous Work

The new press, designed and built at Aida's North American headquarters and manufacturing facility in Dayton, OH, was installed in September 2004. At Hart & Cooley, it operates as a stand-alone work center producing components for light commercial diffusers and some parts for complete assemblies. Materials include cold-rolled and galvanized steel and aluminum.

With short lead times, the press experiences heavy tool changeover and runs high- and low-volume part batches 24 hr./day, five days/week. Key to allowing it to successfully handle such rigorous work, according to Hart & Cooley management, are a rigid frame and hydraulic overload protection.

"We were interested in a press with a unitized versus a tie-rod frame," says Thacker, commenting on the machine's rigidity.

The press' one-piece frame limits elongation under load for less deflection and improved die life as compared to tie-rod designs, according to Aida-America officials, while eliminating the cost of tie rods and associated machining. Another plus with the unitized frame—fewer mating surfaces help reduce press-installation costs. Many manufacturing facilities lack the headroom to set up tie rods and stack press components. Instead, tie rods must be dropped through holes drilled in the ceiling before press components can be assembled, generating higher installation costs.

"Also, the NSU's hydraulic overload protection was an important feature to us because we maintain our own dies," says Thacker. "We found that with this feature it is impossible to stick a die on bottom. We've experienced dies stuck on bottom with other presses, causing significant downtime. With this press, if there's a problem with the die, the hydraulic overload protection also pro-

tections the press from making multiple hits on a part and eliminates the potential for producing bad parts."

The hydraulic overload-protection system works rapidly, with the slide connection itself configured to operate as a high-speed valve. This eliminates pressure-relief valves and large hydraulic flow systems found on older-design presses with wrist-pin and saddle-bushing connections. As a result, claim Aida-America officials, die and press components are protected beyond the level provided by conventional presses.

"We also anticipate improved die life and less maintenance as a result of the press' ball-and-socket connection," says Thacker. "Worn wrist pins cause excessive connection-point clearances, so we're excited about the performance of this ball-type slide connection."

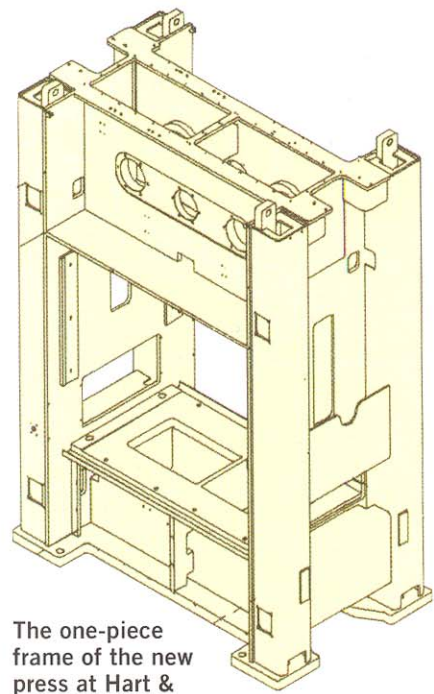
The ball-and-socket arrangement more than doubles the surface under load when compared to a wrist-pin configuration, according to Aida officials. Riding on a near-zero-clearance oil film, the widely spaced ball-socket joints reportedly require less maintenance while maintaining slide parallelism and die life with less downtime.

Control Brings Simplified Setup, Operation

Employing an Access press control, which comes standard with Aida's straightside units, has eased press setup and operation, bringing a boost in productivity, according to Thacker.

"Its easy-to-understand interface provides quick access to the press control's decision-making capability and other functions that help to reduce downtime and maximize press operation, safety and production," he says.

The control leads operators through setup and operation requirements, and identifies maintenance needs and procedures. It also enables users to determine operating parameters without changing software, purchasing additional equipment or mounting separate control enclosures for press monitoring, die-information storage and other press functions.



The one-piece frame of the new press at Hart & Cooley reportedly limits its elongation under load for less deflection and offers improved die life as compared to tie-rod designs, while reducing installation costs.

New Work Coming

With its new press meeting demanding expectations, Hart & Cooley expects to keep it busy with new work as the Huntsville plant expands capacity.

"We built a new die for low-volume production that will support a new product offering," explains McAfee. "We didn't have another press with the tonnage capacity to handle this new die, and its bed size also was a factor."

In addition to supporting the new product offering, the press will be used to manufacture perforated parts from cold-rolled steel and some aluminum. The inhouse ability to provide perforated parts brings cost savings to Hart & Cooley customers, according to McAfee. MF



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