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America

AIDA “MINING” RESEARCH AND DEVELOPMENT TO PROVIDE STAMPERS WITH KEY PRODUCTION SOLUTIONS

By Dennis Boerger, Product Manager

Caption: Designed and manufactured at AIDA's North American headquarters with features from AIDA's top of the line stamping equipment, the NST was specifically built for high performance, multi-purpose work.



Photo courtesy of Empire Comfort Systems

In a lean economy, metalforming trends continue to move toward the use of lighter, stronger materials and the manufacture of high-end niche parts. For many stampers, the challenge is finding mechanical press systems that make it possible to compete in these arenas as well as meet the day-to-day needs of general stamping requirements. A technology leader, AIDA uses a multitiered strategy to provide stampers with dynamic production solutions capable of running thin, exotic materials, delivering higher productivity, more accurate parts, longer die life and lower operating costs.

The first component is the ability to launch new technology while continuing to introduce incremental improvements in existing products. A key example is AIDA's tie-rod straightside NST Series press. Designed and manufactured at AIDA's North American headquarters, the NST was specifically built to incorporate features from the press builder's top of the line stamping equipment like its PMX without the added cost.

The NST's pre-loaded roller slide guides improve die life and part quality. The pre-loaded roller slide guide's lube free system also eliminates press oil in the die space so pre-painted or coated stock won't be contaminated. Another design feature is the NST's ball

and socket arrangement. The ball type slide design uses a spherical ball seat with a load carrying area more than twice that of a conventional wrist pin configuration. In addition to providing significantly higher reverse load capacity, the ball design's larger load carrying area reduces wear and maintenance on the suspension point components in compression, tension and off-center loading conditions.

These improvements to AIDA's straightside press technology make it possible for the NST to provide the high performance, multi-purpose work required by today's appliance, automotive, lighting, HVAC, furniture, hardware and farm and garden machinery industries.

A second component to helping stampers remain competitive in the current marketplace is AIDA's active participation in university research around the globe. Through partnerships with universities in North America and Japan, AIDA has developed technology resulting in new products and processes. Automotive manufacturers are continually searching for materials that are lighter yet stronger. The electronics, computer and telecommunications industries to name a few, continue to raise demands for high end niche products.



Caption: Wide spaced connections, approximately 30 percent farther apart than conventional presses, provides greater resistance to slide tipping caused by off center loads.

In response to these production challenges, AIDA is currently working with university partners to improve the formability of magnesium and other exotic metals through the introduction of a process that will allow the warm forming of sheet metal. The ability to introduce heat into a blank will allow manufacturers to accomplish forming operations that cannot be completed with conventional stamping processes.

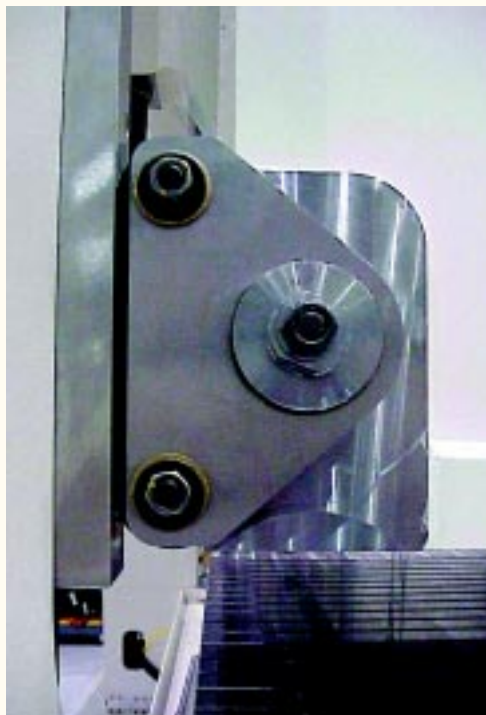
AIDA's ServoForming™ with ServoPro™ technology represents another important offshoot of the press builder's work with academic partners. This technology allows stampers to literally dial-in stroke, velocity and dwell profile for any job on just one press. ServoPro continues to change the face of traditional metalforming and represents the first fundamental change the forming industry has seen in years.

With ServoPro, stampers can build the quality and production rate advantages necessary for survival in today's competitive environment. ServoPro's central element is its proprietary high torque and low RPM servo motor. Developed and manufactured by AIDA, the ServoPro motor eliminates the need

for complex and weak "ball-screw" mechanisms and other linkage or reducer systems required by off-the-shelf high RPM and low torque servo motors. Specifically designed for a broad range of metalforming applications, ServoPro is suited to the forming of exotic materials like titanium-magnesium alloys and high-strength steels.

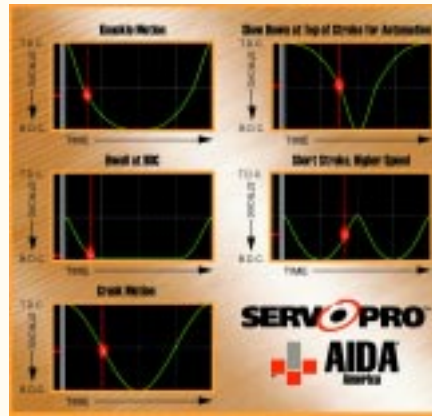
In addition to teaming with universities, AIDA also works closely with customers on specific projects to produce leading edge technology. Visitors to this year's Japan International Machine Tool exhibition saw a dynamic example of AIDA's MSP Series (multiple suspension high speed press). AIDA used the MSP to demonstrate the manufacturing process for high-end motor cores at the exhibition. Available in 125 to 400 tons, the MSP allows stampers to produce motor laminations in interlocking stacks from very thin materials.

The fourth component to AIDA's multi-tiered approach is its investment in research and development. AIDA devotes five percent of sales to research and development annually. With a dedicated department that houses some 50 associates, AIDA targets its efforts in two major areas; improving current products and



Caption: The NST's pre-loaded roller slide guides improve die life and part quality. The slide guide's lube free system also eliminates press oil in the die space.

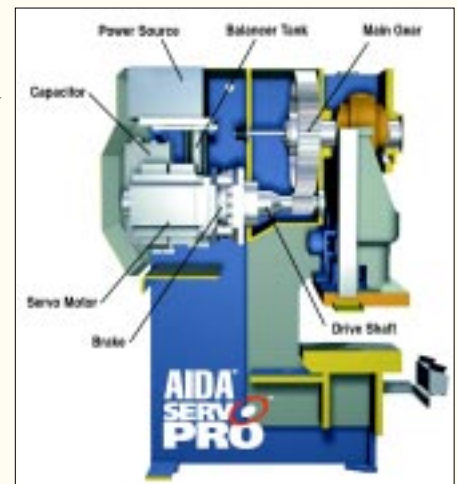
developing next generation press technology. For AIDA, these four areas of activity allow the press builder to strike an important balance between developments that are revolutionary and those ongoing enhancements required for general stamping. As a technology leader, AIDA understands the importance of being able to support stamper's foundational needs while "mining" for technologically advanced options that will allow them to overcome the metalforming challenges of the future.



Caption: ServoPro's technology allows stampers to literally dial-in stroke, velocity and dwell profile for any job on just one press.

- AIDA – more than 85 years of innovation
- Devotes five percent of sales to research and development
- Exports presses to more than 50 countries
- Offers full range of presses 30 to 4000 tons
- Global operations system that focuses on world markets
- Large networking of manufacturing, sales and service
- Strong global presence with local customer service approach
- 1,800,000 million square feet of manufacturing space worldwide
- Manufacturing facilities in the United States, Europe, Malaysia, China and Japan
- Manufacturing capacity exceeds 2000 presses annually
- A global team of more than 1400 associates
- One of the largest press builders

Caption: ServoPro's proprietary high torque and low RPM servo motor eliminates the need for complex and weak "ball-screw" mechanisms and other linkage or reducer systems required by off-the-shelf high RPM and low torque servo motors.



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