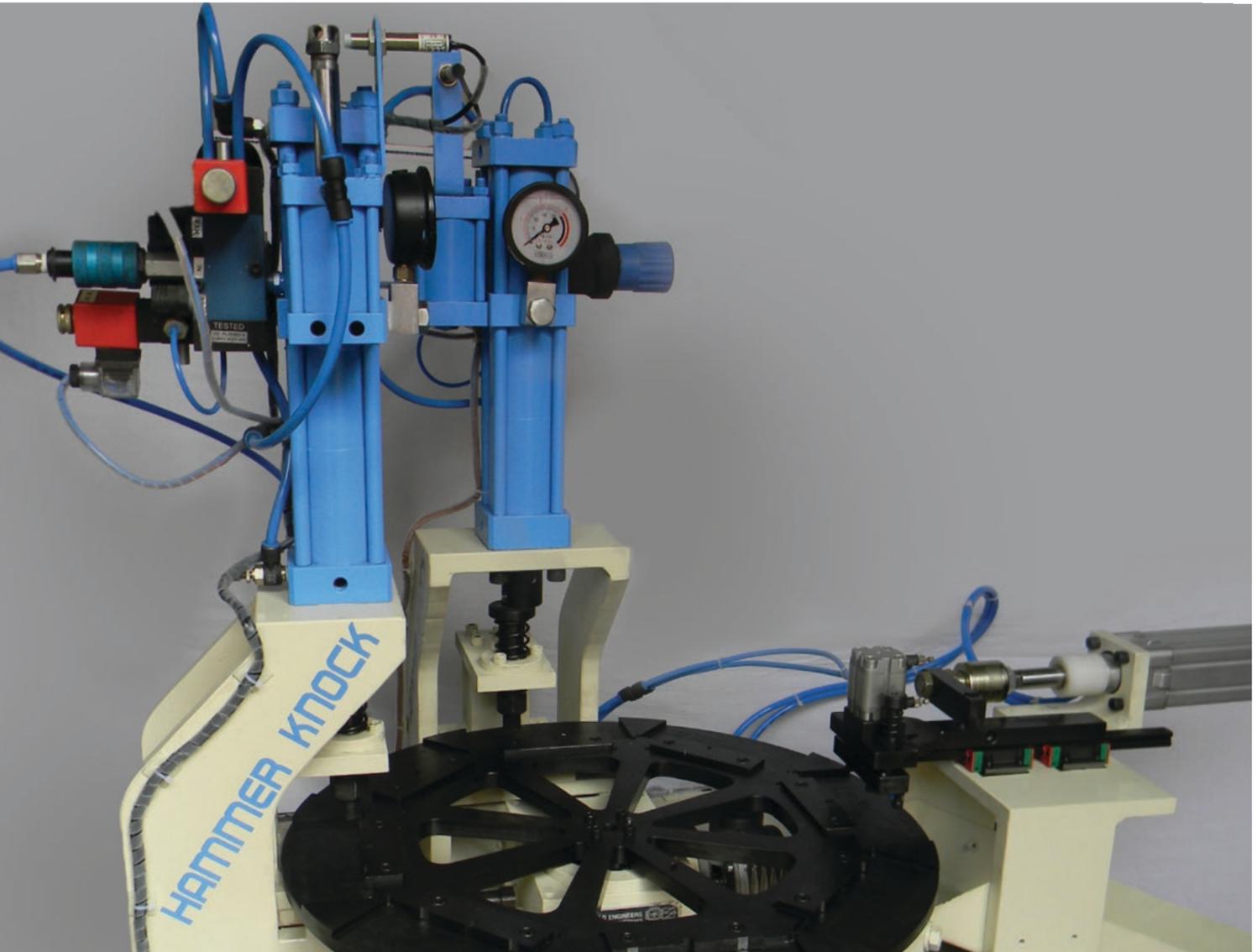


HAMMER KNOCK PRESSOTECHNOLOGIES

IMPROVING DEVELOPMENT AND QUALITY OF RIVETING SYSTEMS WITH SOLIDWORKS SOLUTIONS



By transitioning from 2D design tools to the SOLIDWORKS 3D development platform, Hammer Knock Pressotechnologies shortened its design cycles, reduced development costs, and improved the quality of its industrial-scale riveting and fastening machines.



Challenge:

Shorten design cycles while improving the quality of automated riveting solutions.

Solution:

Implement SOLIDWORKS Professional design and SOLIDWORKS Premium design and analysis software.

Benefits:

- Reduced design cycles by 60 percent
- Accelerated time-to-market by 50 percent
- Cut development costs by 40 percent
- Doubled product offering

Hammer Knock Pressotechnologies (India) Pvt. Ltd. is the fastest growing manufacturer of equipment for industrial-scale riveting and fastening operations. Founded in 2005, the company serves a global customer base, having leveraged its success in the Indian market internationally. Hammer Knock offers a comprehensive line of manual and pneumatic riveting machinery and solutions, including solid rivets, semihollow rivets, tubular rivets, assembly rivets, inserts, cling nuts, and custom fasteners, which are made from aluminum, steel, stainless steel, copper, and other materials.

Riveting systems are a necessity for building and assembling many types of modern products, such as airplanes, ships, automobiles, machinery, decorations, containers, home appliances, furniture, and luggage. To meet these diverse riveting needs, Hammer Knock designs and manufactures standard and customized impact press, toggle press, and insert-o-press fastening machinery products.

Hammer Knock's success stems from its commitment to constantly improve the quality of its products in the most efficient and cost-effective manner possible. When company management determined that Hammer Knock's initial reliance on AutoCAD® 2D design tools had resulted in drawing errors, they decided to upgrade to a 3D development platform, according to Director Joseph N. George.

"In 2008, we received a design from a customer that was in the SOLIDWORKS® 3D model format," George recalls. "We made a fixture to support riveting on that model. However, we later identified drawing errors on the project related to interfering parts, which are difficult to visualize and catch in 2D. That's the primary reason that we decided to move to 3D design—to improve accuracy, visualization, and performance."

Because the use of SOLIDWORKS 3D design software is widespread among Hammer Knock's customers and partners, the company didn't evaluate other 3D packages, and implemented SOLIDWORKS Professional design and SOLIDWORKS Premium design and analysis software. Hammer Knock chose SOLIDWORKS because it is easy to use, provides assembly validation tools like interference detection, and allows the company's engineers to view and demonstrate complete, detailed machine models.

"Machine customization is essential to our business, and we need to quickly develop a machine design and show it to the

customer in 3D," George stresses. "SOLIDWORKS 3D software helps us win new business and customers."

SHORTER DESIGN CYCLES, IMPROVED QUALITY

Since implementing SOLIDWORKS 3D design software, Hammer Knock has realized dramatic design productivity gains while simultaneously improving the quality and performance of its products. Machine designs that required a month of development time in 2D are now completed in a few days in 3D. Overall, Hammer Knock has reduced its design cycles by 60 percent, enabling the fastening solutions provider to accelerate product time-to-market by 50 percent and double its product offering.

"With SOLIDWORKS software, we have achieved better design productivity and have eliminated errors before going to manufacturing," George notes. "The software allows us to save a lot of design and development time, and is very easy to use. The ability to quickly create a virtual concept of the product in SOLIDWORKS helps us get new products to market much faster."

REDUCING PROTOTYPING AND DEVELOPMENT COSTS

Hammer Knock relies on SOLIDWORKS simulation and validation tools to more thoroughly interrogate machine designs and eliminate design and drawing errors. This has led to significant cost reductions. The company has slashed prototyping costs by 80 to 90 percent, total development costs by 40 percent, and manufacturing costs by 30 percent.

"The capability to use SOLIDWORKS Dynamic Motion tools to show how all of the parts in a machine move in context with each other is very significant," George says. "It enables us to resolve errors prior to manufacturing, which saves time and money, and also minimizes scrap and rework. SOLIDWORKS is a fantastic tool for design and validation."



"With SOLIDWORKS software, we have achieved better design productivity and have eliminated errors before going to manufacturing."

— Joseph N. George, Director

VISUALIZING AND COMMUNICATING IN 3D

Migrating from 2D design to SOLIDWORKS 3D development software has also made every step in Hammer Knocks' development process faster and easier due to improved visualization and communication in 3D. In addition to enabling the company's engineers to more fully validate designs, SOLIDWORKS software improves communications with both customers and manufacturing partners.

"With the improved design visualization and communication provided by SOLIDWORKS, we are more confident in the machine's performance and more innovative in our approach,"

George says. "We can send a SOLIDWORKS eDrawings® file to a customer or vendor to communicate the machine design in detail. 3D is easy to understand, and doesn't require them to imagine a 2D line drawing as a 3D machine. With SOLIDWORKS, our machines are more accurate and easier to visualize and understand."

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Using the validation and simulation tools in SOLIDWORKS Premium software, Hammer Knock Pressotechnologies can more thoroughly interrogate machine designs and eliminate design and drawing errors, resulting in significant reductions in prototyping and development costs.

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