SIEMENS

Solid Edge

Sharp Chucks

Using Solid Edge, specialty manufacturer increases production by 20 percent while achieving double digit cost reduction

Industry
Industrial machinery

Business challenges
Simplify complex design process to better serve customers

Migrate to a totally 3D development environment

Keys to success
Solid Edge with synchronous technology, especially capabilities for rapid editing of designs

Results
Manufacturing cost cut by 15 percent

Engineering design productivity increased by 20 percent

Design cycle time reduced by 35 percent

Assembly errors reduced by 50 percent

Synchronous technology plays key role in helping the highly successful maker of lathe chucks and machine tool accessories achieve big process gains: design cycle turnaround reduced by 35 percent and assembly errors slashed by 50 percent

Seeking a better way to win
For more than 40 years, Sharp Chucks & Machines Ltd. (Sharp Chucks) has been one of the world's best performing lathe chuck and machine tool accessories manufacturers. In this highly competitive industry, success often depends on a company's ability to deliver long-lasting, precision products made from hardened steel alloys of the highest possible quality.

Sharp Chucks uses computer-aided design (CAD) technology to meet customer demands for innovative new products. Sharp Chucks engineers had been using AutoCAD® software and SolidWorks® software for product design, but the company wanted to speed up product development dramatically, while reducing errors, rework and scrap. Sharp Chucks management ascertained that the organization needed to migrate to a totally 3D environment to be able to meet its targets, especially its goal to respond markedly faster to customer requests.
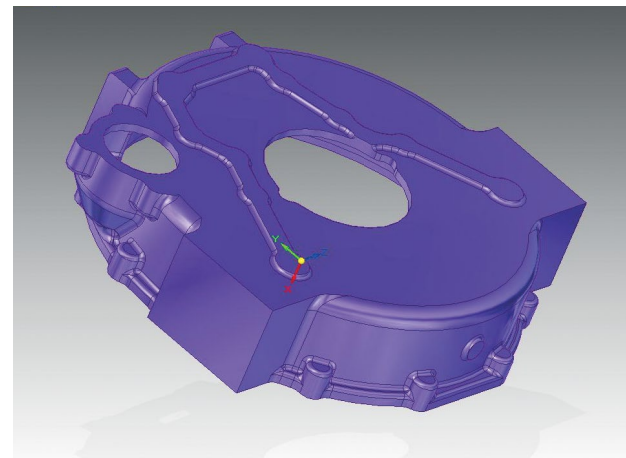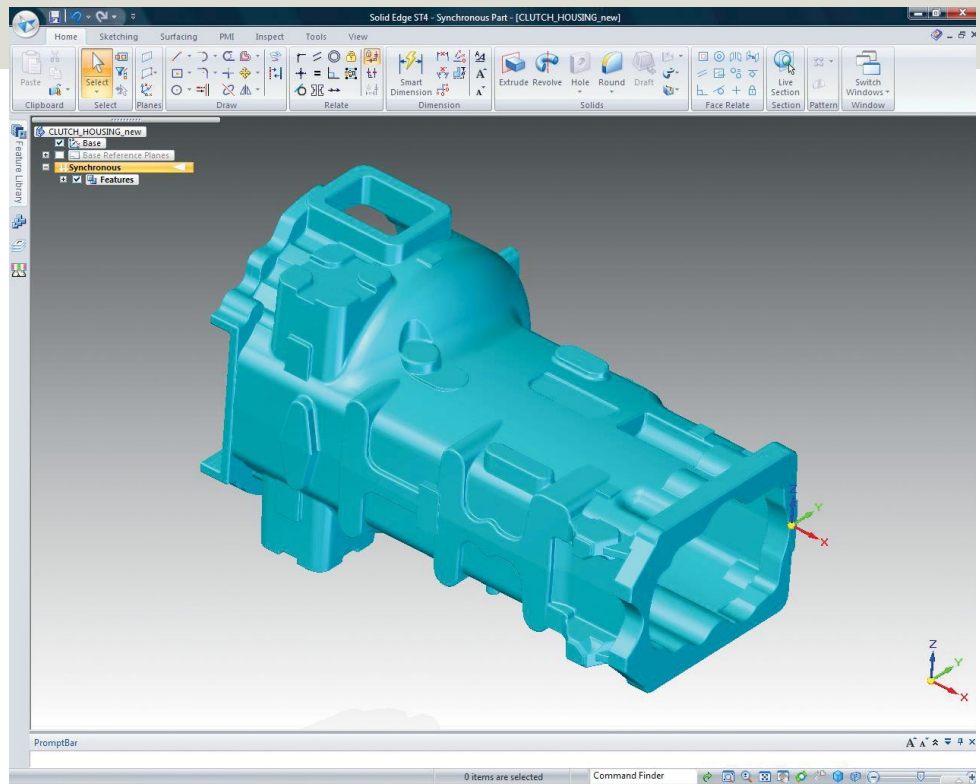
Sharp Chucks chose Solid Edge® software from Siemens PLM Software to improve its product development operations. It only took a brief demonstration to convince Sharp Chucks management to adopt Solid Edge as its new design software standard. "The fact that learning to use Solid Edge is easy and quite straightforward was a welcome bonus," says Ravinder Kumar Jhalli, head of operations at Sharp Chucks.

Eliminating issues with synchronous technology
While Sharp Chucks offers a large catalog of standard hardened steel products, some customers need custom variations. Using its prior CAD software, the custom design work was time-consuming. This was largely due to the inherent nature of history-based CAD technology. Even minor

changes to a design required the user to have a detailed understanding of how the product was originally built. Making changes necessitated updating the part model and subsequently solving any errors, as each change could cause problems downstream in the process. Using Solid Edge with synchronous technology, these issues are eliminated.

"With most CAD systems, making changes requires that the user either knows how the part was designed or is able to somehow unravel the steps taken by the original designer," says Jhalli. "In fact, making any change with a history-based CAD system requires that the user solve the rest of the model to make sure that the change doesn't result in unforeseen downstream complications, which can lead to scrap and rework. Using synchronous technology, there is no such constraint. A user simply makes the changes he wants to make where he wants to make them."

Jhalli adds, "We've found that using Solid Edge with synchronous technology enables us to dramatically accelerate our entire product development operation compared to the CAD software we were using. Using synchronous technology is not only better and faster for editing a design, but also for new product development as well."
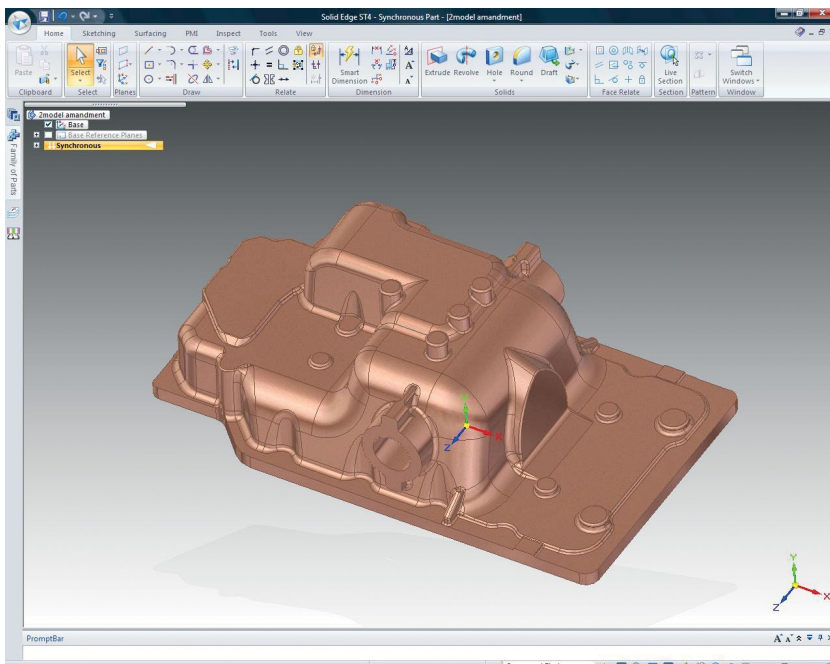
Solutions/Services

Solid Edge with synchronous technology
www.siemens.com/solidedge

Customer's primary business

Sharp Chucks designs and manufactures lathe chuck and machine tool accessories used in machining operations throughout the world.
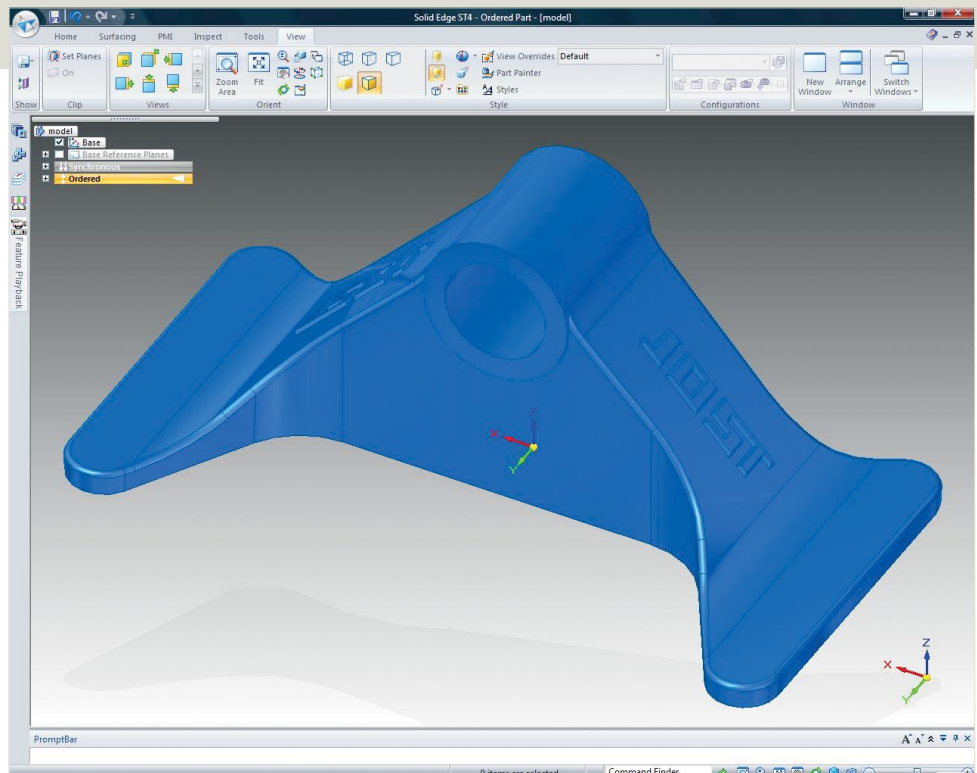www.sharpchucks.com

Customer location

Punjab
India

Partner

Kadkraft Systems Pvt. Ltd.

"We can rely on the accuracy of complex designs developed with Solid Edge. This minimizes assembly rework, reducing assembly errors by nearly 50 percent. Our production costs are down 15 percent."

Ravinder Kumar Jhalli
Head of Operations
Sharp Chucks & Machines
Ltd.

Design productivity up, costs down

Sharp Chucks engineers can now import design files from virtually any history-based CAD system into Solid Edge and make edits to geometry quickly and easily. For complex designs, the use of Solid Edge has improved engineering design productivity by 20 percent and reduced design cycle time by 35 percent.

"We can rely on the accuracy of complex designs developed using Solid Edge," says Jhalli. "This minimizes assembly rework, reducing assembly errors by nearly 50 percent. Our production costs are down 15 percent.

"Using Solid Edge gives us more time for design, which means we are also able to dedicate more time to innovation and quality. Ultimately, our restructured, fully 3D product design process translates into significantly greater customer value."