

KNK KARTS



KnK Prodigy for kids
between 5-7 years

Challenge:

Overcome design delays to test innovative go-karts on the racetrack as soon as possible and incorporate the necessary changes.

Solution:

Implement SOLIDWORKS 3D design software.

Results:

- Cut component design time by 25 to 30 percent
- Compressed large assembly design time by 50 percent easily
- Shortened design cycle by 50 percent (time savings from using shortcuts and drop-down menus)
- Reduced design errors by 30 to 40 percent

KnK Karts (Karts 'n' Kitcars) are the manufacturers of world-class go karts. In addition to India, the karts are driven in Australia, Canada, the US, England, Switzerland, Germany, Singapore, Malaysia, Sri Lanka, and South Africa. The company continues to search for established importers across the globe to represent the karts.

KnK Karts are handcrafted by experienced craftsmen and welders using the finest materials throughout the manufacturing process. These karts are the product of an unorthodox approach that examines karting from a perspective of functionality rather than relying on conventional ideas.

A KnK kart is the ideal vehicle for beginners and experienced drivers alike, catering to both worlds with maximum efficiency. The company works continuously to keep karting affordable, enabling them to offer a high-quality product at very reasonable prices.

GETTING TO THE TRACK FASTER

The KnK Karts Design team was looking to overcome design delays but was having trouble keeping up with the constant changes to their previous modeling software. In the past, some software packages that claimed to be superior were not resolving their production issues.

In the company's main line of business designing and manufacturing go-karts, the product as a whole needs actual track time. No amount of computer simulation or re-creation of real-world conditions could provide the kind of analysis that a proper track test can give, so getting to the track on time is critical. With SOLIDWORKS®, the Design team found they could complete the model much more quickly and get it to the track sooner.

The main challenge with design is the ability to interpret the requirements and feedback of a professional race driver, and then introduce the required change or incorporate a design modification, either at the component or subassembly level. SOLIDWORKS software allows the company to incorporate the necessary changes more easily.

FOCUSING ON DESIGN WITH ALL THE RIGHT FEATURES

The KnK Karts Design team found it much simpler working with SOLIDWORKS. The basic design principle adopted by SOLIDWORKS allows users to learn and work faster. They found the software effective because it allows component assembly using mate types that are similar to real-world fastening methods. The software also enables relative movement between components—a great tool to ensure proper design of individual components. Company designers cited their appreciation of the animation and interference detection features, which they described as brilliant tools that allow them to focus on better design. The company also uses eDrawings® to help them show the design of assemblies and subcomponents simply yet effectively.

KnK strives to be innovative and unique. To succeed, they must excel at design. With SOLIDWORKS software, they hope to stay ahead of the competition, particularly in the area of innovation. Because SOLIDWORKS is so thorough, it leaves very little margin for error while designing.

"SOLIDWORKS is an incredible tool. Just as the saying goes – 'necessity is the mother of invention', SOLIDWORKS is a necessity for design."

— Ishaan Singh, Owner



KnK Maskart – budget hire kart



KnK Integra 330 race chassis

INNOVATING DESIGNS FOR A VARIETY OF PRODUCTS

One of the first designs the company completed using SOLIDWORKS was a component called the upright for a dune buggy. They have worked on several small- and large-assembly projects since then, one of the most prominent being the steering geometry for a new go-kart chassis frame. KnK was encouraged by the initial tests for motion study and interference detection. After they built the actual system, they were pleased to see that it functioned exactly as the model had shown.

Another exciting Karts 'n' Kitcars project was the design of a multipurpose seating system for outdoor enthusiasts. The product is essentially a chair that can be set up in many different configurations. It is undergoing development and testing and will be introduced to the market as a revolutionary seating system with numerous applications.

Focus on Shed D-5
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