

SpaceExplorer® 3D mouse revs up miniature motorcycle design performance for Farmer Plastics & Machining

3D Mouse: SpaceExplorer®

Application: SolidWorks®



Developer of the ultimate 1/5-scale four-stroke motorcycle uses 3Dconnexion 3D mice for greater comfort and design control in SolidWorks.

Farmer Plastics & Machining, Inc. (FPM) provides invention, product design, prototyping, machining, and short-run production services using plastics and light metal materials. Owner Nolan Farmer started the small machine shop located in the mountains west of Boulder, Colorado in 1987, and has done work over the years for IBM and Hewlett Packard. And while short run production and instrument work pays the bills, his passion is motorcycles. But not just any motorcycle.

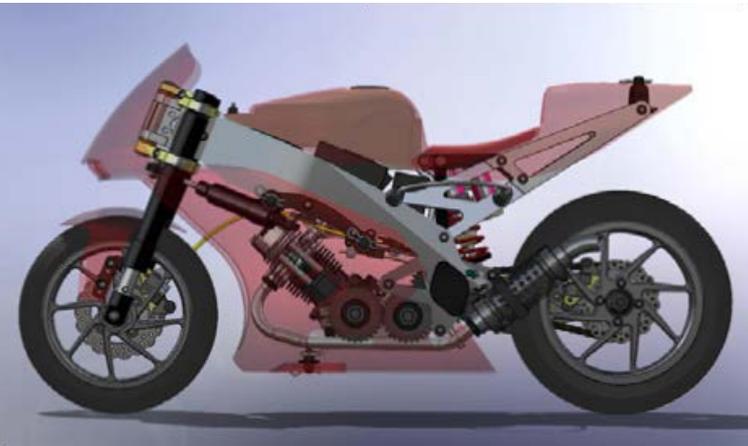
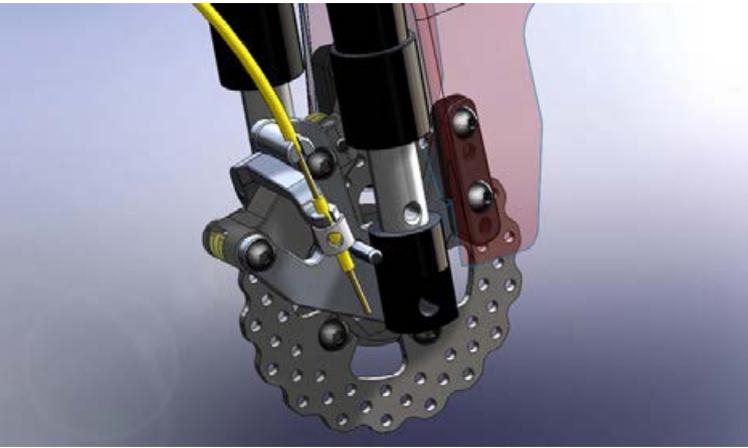
Farmer's passion is the FPM R30FS – a fifth-scale, glow fuel-powered, radio-controlled super bike, which according to Farmer, “may be the most sophisticated one on the planet.” Powered by a four-stroke engine, the downsized motorcycle was built from the ground up, which allowed Farmer to include a perimeter frame just like a full-size bike.

Designed in SolidWorks, the FPM R30FS is more than just a cool motorcycle – it's a tribute to what one designer can do with the combination of powerful 3D design software and ultimate 3D navigation. “Throwing myself into the design of this bike enabled me to put to

use everything I've learned over the years. It may not be something I'll make any money with any time soon, but it sure is fun and a showcase for my CAD skills.”

In 2008, Farmer's right arm started to hurt when using his traditional mouse and key board for extended periods of time. Searching for a remedy he discovered the 3Dconnexion SpaceExplorer 3D mouse. “When I came across it, I knew it was exactly what I needed. My right arm was going out on me and running the mouse was getting to be excruciating.”

Thanks to the SpaceExplorer, Farmer's arm pain disappeared and he was once again able to work without discomfort. In addition, he immediately benefitted from the balanced and cooperative work style enabled by the 3D mouse – one hand engaging the SpaceExplorer to position models and navigate environments and his other hand simultaneously using his traditional mouse to select, create or edit. Spreading the workload across both hands provided Farmer a more comfortable working experience and added productivity by reducing traditional mouse clicks by up to 50 percent.



Farmer uses the SpaceExplorer three or four hours a day, and unlike most machinists who still work with blueprints, he finds he can get things done accurately using 3D, thanks in part to his 3Dconnexion 3D mouse. "Building very complex assemblies and navigating around the 3D work environment gets to be extremely labor intensive with a standard mouse. But with a 3D mouse, it's a piece of cake. It frees me up completely to move around in a way that wasn't possible before."

At the heart of every 3Dconnexion 3D mouse is the Controller Cap that allows designers to simultaneously pan, zoom and rotate models and views by gently pushing, pulling, twisting or tilting. It's a direct connection to the 3D environment that enables users to more intuitively and naturally interact with their designs.

With the ability to easily move around the assembly with the SpaceExplorer, Farmer notes he is more patient and can catch errors where he might not have before. And, he's excited to share that with others. When talking to a medical molding outfit in Denver recently that uses SolidWorks all day, every day to design medical parts, Farmer shared the productivity, design and comfort benefits with a lead design engineer. "It's very easy for me to get someone in my profession to buy a 3D mouse because more often than not, they are suffering from the same thing I was."