



CASE STUDY

BIKE SHOCKS USE PLASTIC BUSHINGS

APPLICATION OVERVIEW:

A coil shock for serious mountain bike enthusiasts uses iglide® G300 plastic bushings.

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“With iglide® G300, we significantly lowered warranty costs. The iglide® bearings are contamination resistant and abrasion proof. These mountain bikes often encounter tough conditions. With iglide® we are able to save money and time and deliver a superior, virtually maintenance-free product to our customers.”

- Vice President of Engineering and R&D

Downhill speeds in excess of 80 mph



When a manufacturer of mountain bike shocks and springs designed a coil shock for speed and the serious mountain bike enthusiast, they ultimately chose to implement iglide® G300 plastic bushings

from igus®. The iglide® bushings alleviate long-term costs for the company and maintenance requirements for its customers.

iglide® G300 mates with a stainless steel shaft. The bushing withstands high shock loads due to the rigors of descending mountainous, uneven terrains at downhill speeds in excess of 80 miles per hour.

The stainless steel shaft pivots within the iglide® G300 with minimal wear, as the suspension arms for the bike frame move through their

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range of motion. The low-friction system is essential for the smooth, silent operation of the suspension members. iglide® G300 also supports the compressive loads in this demanding application.

The shock developer switched to igus® bushings when they realized that traditional metal-backed bearings were not surviving the shocks long term. Replacement bearings were increasing warranty costs.

iglide® plastic bushings outlasted PTFE-lined, metal-backed bearings five times over when tested head to head.

The PTFE lining, which wore out in less than 10 hours in some applications, is extremely thin and easily susceptible to damage from debris and contaminants, such as rocks, sand, and water. Any abrasion quickly wears away the lining, exposing metal to metal.

Lateral and torsional forces minimized

igubal® spherical bearings are also used in one of the company's bike air shocks. It is a pneumatic, hydraulically dampened shock absorber made for lightweight high-performance bicycle applications in which superior tracking and precision are paramount.

The igubal® bearing ensures air and oil are reliably sealed. With an igubal® spherical ball bearing, lateral and torsional loads resulting from frame misalignment or frame flex on the air and oil seals are minimized, improving the life of the seal.

The igubal® bearing can withstand the maximum static load of more than 3,000 pounds. It can also safely endure normal outdoor weather conditions ranging from 32°F to 120°F. The shaft is comprised of aluminum, steel or stainless alloy.



Innovative

“Our customers want cutting-edge products. We are always seeking out not only the most cost-effective ways to deliver our shocks, but also new and innovative components and materials that further the development and evolution of the industry.”

More information

[iglide® plastic bushings](#)

[igubal® self-aligning bearings overview](#)