L&H INDUSTRIAL

# OMEGA UNDERCARRIAGE
## CASE STUDY

## THE CHALLENGE

Upgrade our current undercarriage technology to continue to perform better and last longer than industry standards

When L&H designed, engineered, and manufactured the first Omega undercarriage, our goal was to provide our customers with an assembly that would last significantly longer to dramatically decrease downtime and total cost of ownership of their shovels. With over 100 undercarriages operating across the globe for more than 10 years, L&H has proven that the current Omega system lasts 30% longer than OEM models. To continue to set industry-leading benchmarks, we decided to upgrade the current Omega system to leap farther ahead of existing technologies.

## IMPACT TO OPERATIONS

- **Geographical conditions** – From the oil sands in Canada to the copper mines of Chile, each mining operation has unique terrain which plays an important role in how shovel undercarriages wear and how to plan for maintenance.
- **Downtime for structural repairs** – High-stress joints in the OEM designs, along with lower-grade steel means the machines will have more frequent structural repairs.

Advanced materials, forged components, and cutting-edge design innovations extend the Omega undercarriage lifespan by more than 30%, reducing lifetime maintenance, materials waste, and your total cost of ownership.

## THE SOLUTION

### Redesigning key structures and utilizing upgraded materials

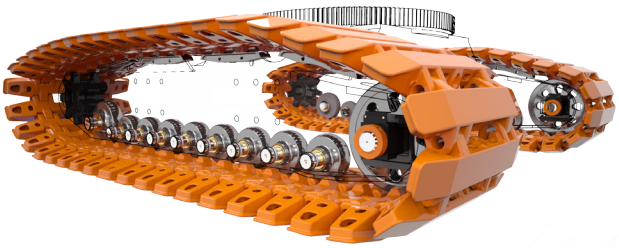
Using existing OEM designs, the L&H engineering team evaluated the most costly pitfalls and addressed these issues with the upgraded Omega system in a number of ways.

- Manganese steel—a material superior to all others— was used to build shoes for both CAT® and Joy Global® shovels.
- Larger pins and wider hinges were used at the clevis of the shoe to slow the pitch change and extend the life of the track.
- Our engineers built a high-performance, deep engagement track system for both CAT and Joy Global machines that reduces wear to tumblers.
- We fitted bearings into the two outer support blocks, creating twice the support so half of the load is equally shared between both bearings. The wheel is then fixed to the shaft, helping the wheel to remain stable between both bearing blocks, adding life and reliability to the system.

The upgraded Omega undercarriage provides an overall solution to customers that will increase the lifespan of their undercarriage, no matter what terrain the machine has to power through.

We want to take the best aspects of all of our current designs, get rid of the bad, and add innovative new ideas to continue to make the best possible undercarriage we can come up with for any shovel model.

Bill Schroyer - Manager of Engineering – L&H Industrial



## STATISTICS

**An Honestly Better assembly - stronger, more reliable, and longer lasting**

- There are over 100 L&H Omega undercarriages currently operating in the U.S., Canada, Mexico and Chile.
- The Omega undercarriage fits several machine makes and models, making it completely compatible for your fleet.