



Damage due to bolts coming loose on competitor U-Joint

Product

Custom Replacement U-Joints

Application

Steel Plate Mill Leveler

Highlights

- Custom, drop-in replacement U-joints
- Mill-proven cross and bearing design
- Cost-effective solution
- Longer service life in tough mill environments
- Forged steel construction
- Replaceable inner race bearing package
- Zero radial clearance bearing package
- Reduced lead times
- Made in USA

A large steel producer was experiencing failures of the U-joints on a plate mill leveler at their Indiana plant. The mill produces 160 in. wide plates that are then cut-to-length. The 350 mm U-Joints drive a series of 6 upper and 7 lower rollers that level 2 in. to 6 in. thick steel plates as they pass through.

The problem was that the original competitor U-Joint design utilized bolts to connect the bearing blocks to the shaft. Unfortunately, after three years of service, the bolts started to come loose under the leveler's high torque loads causing the U-joints to fail. The resulting downtime and costs associated with the U-joint replacement had become troublesome.

The mill contacted the overseas manufacturer of the original U-joints and discovered that replacement units would be very expensive and there was a 50-week lead time. The mill then contacted local sources, including Ameridrives, for a faster, more cost-effective solution.

The challenge was that the mill operators wanted a drop-in replacement for the existing U-joints so they would fit seamlessly with the other units on the leveler. After a careful examination of one of the failed competitor units, Ameridrives determined that they could easily manufacture completely new drop-in replacement U-joints to meet the customer's requirements. The new units would incorporate Ameridrives' mill-proven cross and bearing design vs. the competitor's bolt system. Ameridrives also suggested that they could manufacture new blocks, integrate Ameridrives cross and bearings and install the assemblies on the roll end of the customer's existing competitor U-Joints. The customer approved both design solutions and was back up and running at 100% in less than 6 weeks.

The mill operators were pleased to learn that the new replacement Ameridrives U-joints cost 40% less than the competitor units. The overall cost savings for the two new replacement U-joints and one block repair was close to \$250K. Plus, the Ameridrives units are manufactured in Erie, Pennsylvania and only had a 20-week lead time while replacement bearing blocks could be manufactured in only 6-8 weeks.

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