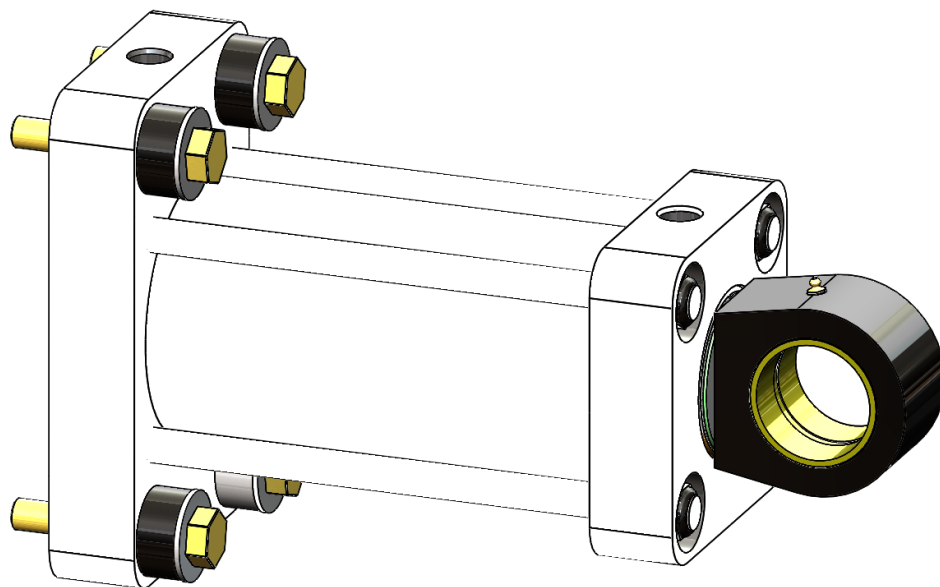


RAIL INDUSTRY

Hydraulic Cylinder for Rail Car Wheel Gripper



Hydraulic Cylinder for Rail Car Wheel Gripper

Extreme Load with Engineered Wear Surfaces

This cylinder was developed to improve the bulk handling of rail cars. Rail car wheel grippers often get damaged due to control errors where the rail car is moved before the safety wheel gripper has been released. This results in damage to the operating mechanism. The bulk material is often abrasive which wears out linkages prematurely.



DROP-IN REPLACEMENT	
Challenge	OEM replacement cylinders were too expensive and did not meet customers performance expectations.
Innovation	Cylinders were design to drop in with added features such as long life wear strips.
Benefit	No machine modifications. Longer time between repairs.



Rail Car Wheel Grip-

IMPROVED WEAR SURFACES	
Challenge	Improve the longevity of the key wear surfaces in hostile environments.
Innovation	Nitride surface hardening to surfaces that are under extreme loading.
Benefit	Cylinder body and piston/rod components will not deteriorate from high force contact.

REDUCED DOWNTIME	
Challenge	Rod clevis was wearing prematurely and clevis end was breaking due to misalignment.
Innovation	Compliant bushing was installed in clevis to absorb grit from operating environment. Compliant bushing allowed for other components to wear without causing catastrophic damage to clevis.
Benefit	This greatly improved cylinder life at a lower price.