

Tech Tip #103

Bushing Lip Seal Installation

This Tech Tip outlines the proper method to install bushing lip seals used in king pin applications.

After cleaning spindle bores with a brake hone, inspect bores prior to bushing lip seal installation.

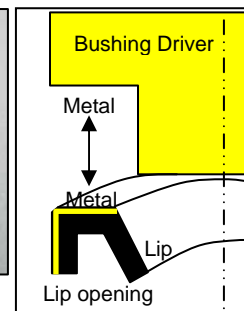
Improper installation of these seals may result in decreased king pin assembly performance.



Bushing Lip Seal

Please follow these steps to ensure proper bushing lip seal installation:

1. The lip opening of the rubber seal must always face the axle eye.
2. Position seal with the lip opening facing out on STEMCO Kaiser Bushing Driver/Lip Seal Installation tool. This will ensure the seal's lip opening is facing the axle when installed. You may think of the phrase "*metal to metal*" to help remember for the metal portion of the lip seal to be placed against the metal of the lip seal installation tool.



Schematic showing seal installation on Driver

3. Using a brass or dead blow hammer, pound the seal into the spindle bore until the seal is flush with the bottom of the bore. Seal should be positioned far enough into spindle bore to accommodate the bushing, but should not extend out of the bore, refer to seal placement shown in close-up photo.

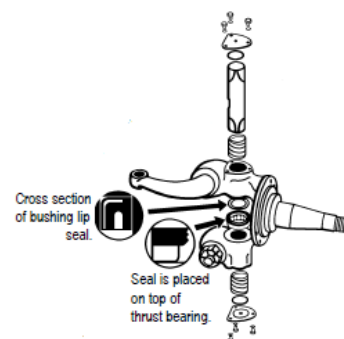


Use brass or dead-blow hammer to install



Close-up showing seal placement in bore

4. There are TWO (2) lip seals in each king pin assembly.
 - One lip seal is placed at the bottom of the top spindle bore (near axle)
 - One lip seal is placed at the top of the bottom spindle bore (near axle).
 - Both top and bottom seal lip openings are facing the axle eye.
5. The lip seal is properly installed when it is in the correct position with the seal lip opening facing the appropriate direction. This will allow grease to pass through the seal during greasing, but will prevent dirt, grit, and water from entering the bushing area.
6. Verify correct lip seal installation. After kin pin installation is complete and system is greased,
 - Check the spindle by moving it from side-to-side. It should have a smooth action.
 - If the spindle is locked up where it cannot be moved from side to side by hand, it is likely the lip seals have been installed backwards.
 - If lip seals were installed improperly, tear down and reassemble with seals properly installed.



Direct any questions about proper method of lip seal installation to the STEMCO Kaiser Technical Department.

Contact via phone at 888-854-6474 Ext #2216.