

The ConMet Connection

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Proper field installation and maintenance help prevent seal leaks in hub assemblies

A hub seal leak is a serious issue no matter how and when it occurs. While seals in ConMet PreSet® hubs are installed in an extremely controlled environment at the factory under strict quality standards, seals installed in the field aren't afforded the same conditions. These unknown conditions can create situations where seals fail.

This issue of the ConMet Connection will explain how seals installed in the field can leak and how to prevent this from happening with proper installation.

The most common cause of seal failure is improper installation of the seal or damage to the seal during installation. Common examples include:

- The seal is cocked during installation usually due to improper hub to axle installation,



Lubricate the ID of the seal.

failure to keep the outer bearing in place while the hub is installed onto the spindle or failure to support the hub if the outer bearing is removed while the hub is on the spindle.

- Failure to use the proper seal installation tool.
- Failure to remove burrs from the seal bore in the hub may damage the seal when it is installed.

Excessive end-play can also cause premature seal failure. End play is the amount an assembled hub may move axially on a spindle due to bearing clearances.

Debris from the road, rust and other foreign material can contaminate the wheel end, which causes the lubrication to break down and leads to failure of the bearings and the seal.

Using the incorrect type of lubricant or not lubricating the spindle and seal journal can cause a wheel seal to fail. Check with the seal manufacturer for a list of the correct lubricants.

In order to prevent seal leaks, refer to the following instructions when installing seals in hubs with manually adjusted bearings or PreSet/LMS hubs only (these do not apply to unitized hubs)

Field Installation Instructions

1. It is important to follow the seal manufacturer's recommended procedures for replacement seal installation. Most

seal manufacturers have a seal driver designed specifically for the installation of their seal. In most cases, they also recommend that you lightly lubricate the outside diameter of the seal prior to installation. Once the seal has been installed, use care to not damage or dislocate the seal. Damaged or dislocated seals are sometimes caused by handling damage or hitting the seal on the end of the spindle when the hub is placed back onto the spindle.



Grease the spindle prior to hub installation.

2. Be sure that the seal journal on the spindle has been cleaned prior to installing the hub back onto the spindle. In some cases it may be necessary to use emory cloth to remove rust and dirt from the seal journal prior to reinstalling the hub.

3. Lubricate the spindle with Grade 2 grease prior to installing the hub onto the spindle. Lightly lubricate the inside diameter of the seal with the lube that will be used in the hub, prior to placing the hub back onto the spindle.

4. It is important that the outer bearing be installed in the hub when the hub is installed onto the spindle. If the outer bearing is removed after the hub is seated on the spindle, be sure to support the hub. If a hub is allowed to hang on one bearing, the seal can become cocked.

5. Hubs equipped with manually adjusted bearings should have the bearings adjusted per TMC Recommended Practice (RP 618). The final endplay of .001" to .005" should be verified by the use of a dial indicator. Endplay above .005" can lead to premature seal failure. PreSet or LMS hubs should be installed per the manufacturer's recommended procedure. Unitized hubs are not serviceable in the field and are not covered in these instructions. For more information, refer to our service manuals on-line at www.conmet.com.



Properly seat the seal into the hub.

removed after the hub is seated on the spindle, be sure to support the hub. If a hub is allowed to hang on one bearing, the seal can become cocked.