

Inspection tips for the Scotseal[®] PlusXL wheel seal

TT 09-009

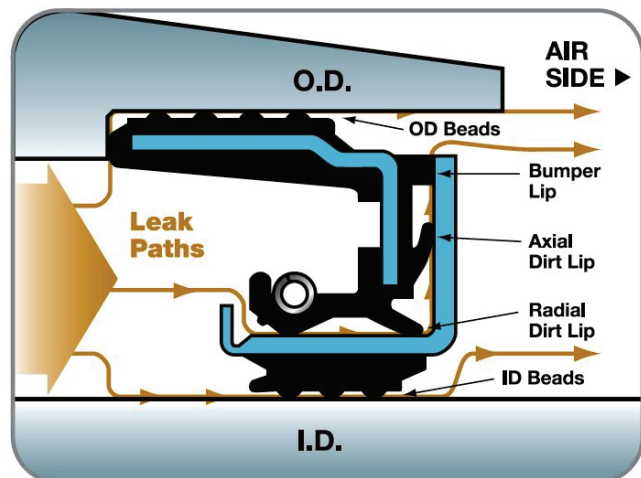
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Tech tip

Inspection of a wheel end component is a critical step in the installation and/or removal process of that particular component. Through inspection, wear signs and other indicators can help identify the causes of premature failure, such as lack of lubrication, improper installation or bearing wear. To help extend the service life of your wheel end components and keep your fleet running longer between service periods, SKF recommends both internal and external inspection of bearings, seals and related wheel end components.

Consult the following pages for examples of what to look for when inspecting a Scotseal PlusXL wheel seal.

Scotseal[®] PlusXL



The cross sectional drawing to the left illustrates the critical components of the Scotseal PlusXL, showing how the seal functions and its potential leak paths.

Most Scotseal PlusXL wheel seal failures are a result of:

- Improper installation
- O.D and/or I.D. not lubed
- Lube contamination
- Spindle not fully prepped
- Use of a hammer

External inspection

One of the most common types of failure is a dented sleeve assembly, which can result from a number of problems during installation.



Dented, scarred sleeve assembly: This may be caused by improper installation preparations such as not lubricating the I.D. and O.D. of the seal, a poorly prepared hub, or the use of hard-faced tools or seal driver. **Remember:** the Scotseal PlusXL is hand installable. No tools are required.

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Opening a Scotseal PlusXL

Before conducting an internal inspection, you'll need to know how to properly open a Scotseal PlusXL.



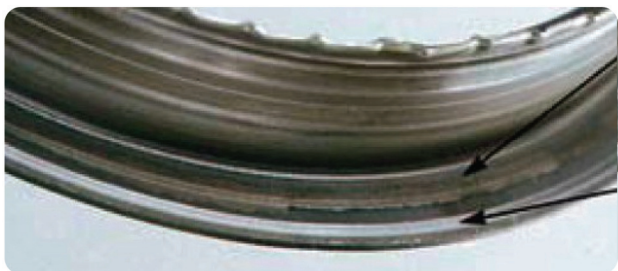
Use pliers to straighten the flange on the sleeve section. Be sure to wear gloves and use a shop rag to protect your hands, as the opened flange is extremely sharp.



Carefully separate the two components. Then set the seal component aside and carefully review the sleeve component.

Internal inspection – axial dirt and bumper lip wear patterns

The next most common failure mode is cocked seal installation. It's important to be aware of the following sealing lip wear patterns to help identify this common problem.



Good axial and bumper lip patterns: When you examine the axial face, you have two more wear patterns to learn from. About half way up on the face you should see a pencil line track from the axial lip and at the top edge a gently scuffed pattern from the bumper lip.



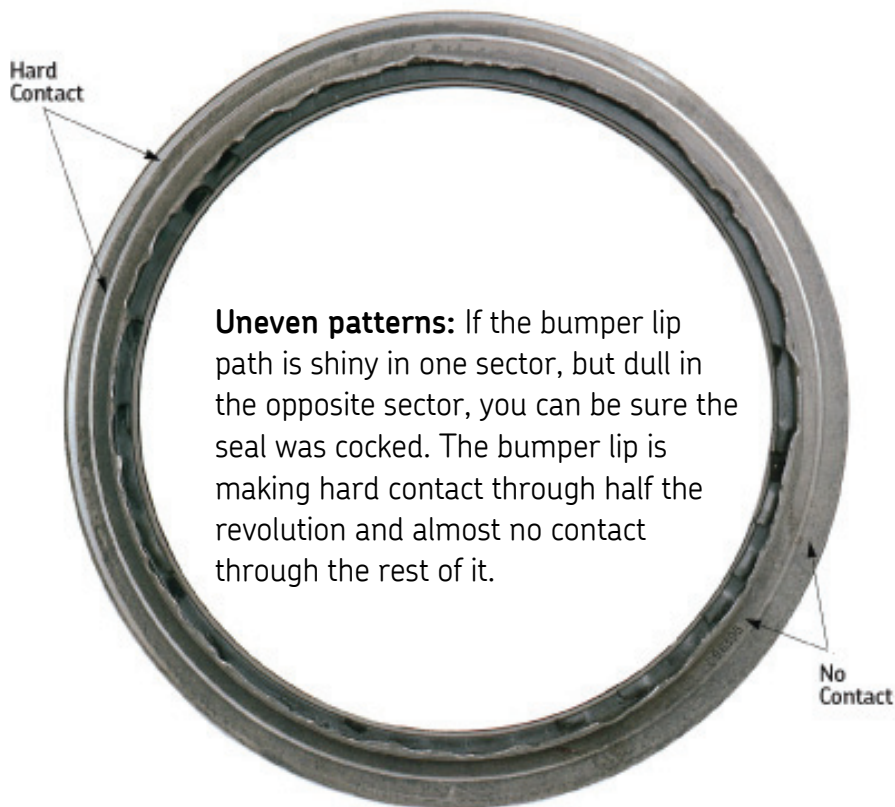
Wide, shiny: If both lines are wide or polished clean, you should suspect that the seal has been compressed. This will happen if the I.D. of the seal isn't lubricated before installation, if the sleeve wasn't seated fully on the spindle, or if the bearing adjustment is too tight.

Inspection tips for the Scotseal[®] PlusXL wheel seal – cont.

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Internal inspection – axial dirt and bumper lip wear patterns (cont.)



Inspection overview – Scotseal PlusXL

Inspection and failure analysis of a prematurely failed seal is one of the best means to discover the cause of failure and to avoid a similar fate for the replacement seal. Being familiar with a seal's components and learning common types of failure can help you spot indicators early, ultimately preventing premature failure and extending the life of your Scotseal PlusXL. The Scotseal PlusXL offers maximum sealing performance and increased service life under virtually all driving and road conditions. It features an advanced new HNBR (Hydrogenated Nitrile Butadiene Rubber) material that resists wheel end temperatures up to 300° F and offers broad compatibility with synthetic lubricants. Additionally, the Scotseal PlusXL is hand installable, eliminating the need for special size tools.

For more Scotseal PlusXL inspection tips, reference the SKF Wheel end maintenance guide (457975).

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