

## A SKF Scotseal® for every application

### Scotseal® *PlusXL*



The Scotseal® PlusXL design with extended life capabilities is the SKF premium performance seal, offering maximum sealing life under virtually all driving conditions. The new high-temperature, synthetic lubricant-friendly material of the new Scotseal PlusXL, Hydrogenated Nitrile Butadiene Rubber

(HNBR), is an excellent choice for frequent braking applications. HNBR elastomeric material provides heat resistance up to 300° F and broad compatibility with today's synthetic lubrication fluids. The unsurpassed exclusion properties allow the Scotseal PlusXL to perform in very harsh conditions. The new Scotseal PlusXL with the unique hand-installable design includes a fat footprint ensuring stability on the shaft. Worn hubs and spindles are not a problem for the Scotseal PlusXL.



### Scotseal® *Longlife*



Building upon the success of the original Scotseal design, SKF engineers had a great start in their development of a new extended life seal. Computer aided design (CAD) of lip geometry and the addition of an axial dirt excluder lip was combined with a newly formulated material to produce

Scotseal® Longlife—a premium performance seal with the characteristics required by many of today's demanding heavy duty environments.



### Scotseal® *Classic*



The original Self Contained Oil Type Seal, Scotseal® Classic became the trucking industry standard—and the best value for more than 30 years. With literally trillions of road miles to its credit, Scotseal Classic has proven to be a solid choice for dependable, long lasting service. Time

and time again, field studies show that when properly installed, using SKF tools and procedures, Scotseal Classic is a reliable performer for meeting the sealing requirements between brake maintenance intervals.



## SKF Scotseal® descriptions and fitting information

**SKF Scotseal® PlusXL** is a rubber unitized, one piece design. The Scotseal PlusXL consists of four sealing lips; a spring loaded primary sealing lip with patented Waveseal® design that is factory pre-lubed, a radial and axial dirt lip, plus an outer bumper lip that acts as a preliminary dirt excluder. Scotseal PlusXL requires no special installation tools and maintains a rubber-to-metal contact between the seal O.D. and the hub bore surface as well as a rubber-to-metal contact between the packing I.D. and spindle. (See Figure 1)

### Scotseal® PlusXL

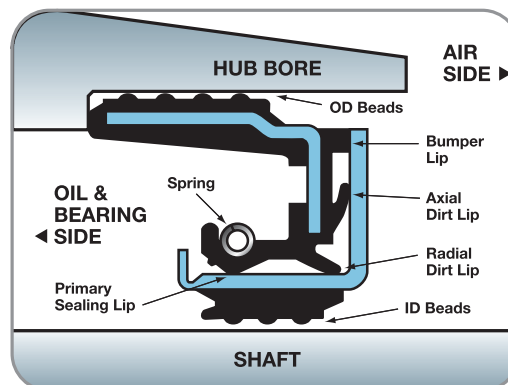


Figure 1

**SKF Scotseal® Longlife** is a unitized, one piece design consisting of a sealing element (packing) that is assembled between a metal outer and inner case. The Scotseal Longlife's packing consists of four sealing lips; a spring-loaded primary sealing lip that is factory pre-lubed, a radial and axial dirt lip, plus an outer bumper lip that acts as a preliminary dirt excluder. The Scotseal Longlife is pressfit into the hub bore using Scotseal Installation Tools. The Scotseal Longlife maintains a metal-to-metal contact between the seal O.D. and the hub bore surface as well as a metal-to-metal contact between the packing I.D. and the spindle. (See Figure 2).

### Scotseal® Longlife

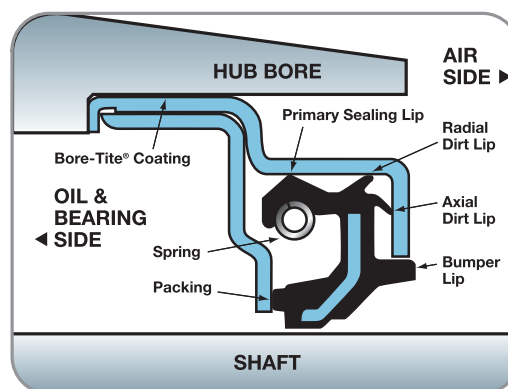


Figure 2

**SKF Scotseal® Classic** is a unitized, one piece design consisting of a sealing element (packing) that is assembled between a metal outer and inner case. The packing consists of three sealing lips; a spring-loaded primary sealing lip that is factory pre-lubed, a dirt exclusion lip, and an outer bumper lip that acts as a preliminary dirt excluder. The seal is pressfit into the hub bore using Scotseal Installation Tools. The Scotseal Classic maintains a metal-to-metal contact between the seal O.D. and the hub bore surface as well as a metal-to-metal contact between the packing I.D. and the spindle. (See Figure 3).

### Scotseal® Classic

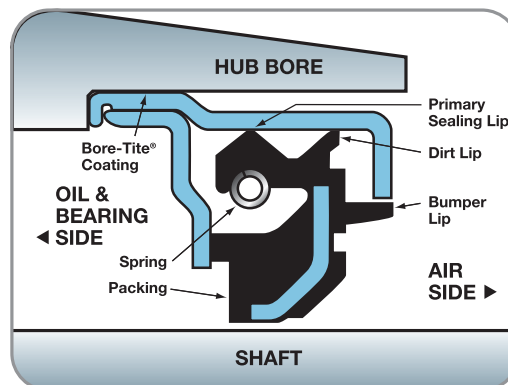


Figure 3

## TFO® “Good practice” tips

**To prevent wheel end leakage problems, be a good detective ... look for clues.**

Our experience has shown that there are many causes of wheel end leakage beyond the oil seal. If you look, you will find that leaking wheel ends leave clues pointing to which component or components are the culprits. Follow the guidelines of the checklist below as you service the wheel end. You may find that just changing the seal may not be your permanent solution.

### Inspect for indications of leakage:

Under vehicle inspection

- Oil present past the seal
- Oil contaminated hub, brake hardware, brake shoes

External leakage

- Oil present around hubcap, in wheel cavity
- Oil present around axle flange (drive axle)

### Disassembling the wheel end

*(Caution: Block wheels, support vehicle on stands)*

- Check condition of hubcap. Check flange, window and centerfill plug
- Check bolts and axle flange area on drive axle

### Remove hubcap

(Axle flange on drive axle)

Check condition of lube

- Cloudy or milky indicates water
- Shiny indicates bearing wear
- Metal flakes present could indicate loose shavings from an axle component
- Grit and sand indicates lube contamination

- Smells burnt indicates overheating

Check condition of fastening system

- Verify end-play measurement before removing fastener
- Examine outer nut, washer (dowel, tang or 'D' type), inner nut, cotter pin

### Remove outer bearing

- Inspect for signs of damage

### Remove wheel or hub assembly, using a wheel dolly

Check spindle

- Threads damaged
- Chamfer damaged

Set bearings aside for inspection

### Remove seal

- Check hub
- Condition of chamfer
- Nicks, burrs, damage
- Consult the Failure Analysis section of the User's Manual

# The quality of SKF bearings

## Bearing sets

SKF tapered bearings are engineered and manufactured to the highest quality standards. Their design and superior materials provides a significant increase in operational reliability under heavy loads and misaligned conditions.

Made from the highest quality steel and engineered for longer service intervals, the construction of the SKF tapered bearings handle a combination of radial and thrust loads. Each tapered bearing set contains a precision matched cup and cone that are specifically designed to maximize bearing performance and life. Additionally, the SKF part numbers follow industry-established numbers, allowing for easy look-up and identification for specific applications.

## SKF tapered bearing sets:

- Help the installer do the job right
- Ensure longer bearing life
- Help prevent premature failure
- Increase truck and trailer uptime
- Available for all popular applications.

## New from SKF!

### Half stand tapered bearing sets for PreSet® hub assemblies.

SKF also provides specifically-toleranced half stand tapered bearing sets for the PreSet hub assemblies:

- World-class quality of SKF, a global OE supplier
- Precision manufactured to tighter dimensional tolerances specified by ConMet
- Superior design and materials reduce friction and provide excellent reliability under heavy loads and misaligned conditions
- Approved as an OE tapered bearing set in PreSet hub assemblies beginning in 2007

The half stand tapered bearings – along with an SKF Scotseal PlusXL, SKF TF Hubcap and a PreSet spacer – are included in the SKF rebuild kit for PreSet. Together, all the components are manufactured to SKF and ConMet specifications to provide optimum wheel end performance of the PreSet hub assembly.

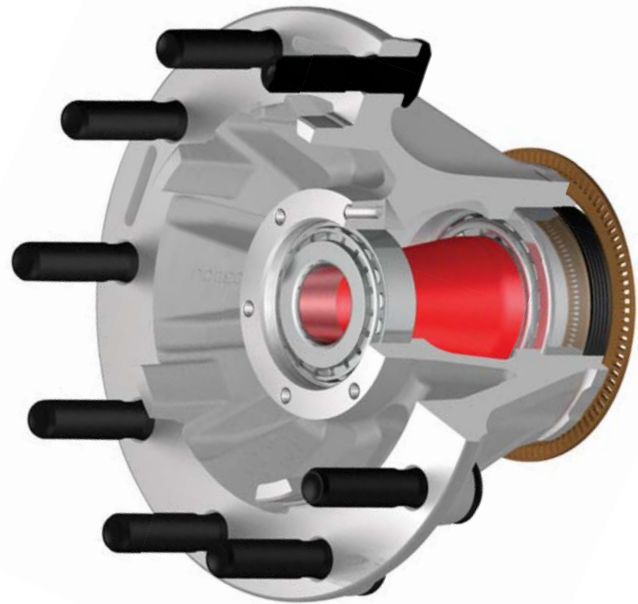


# Extend the life of your PreSet Hub Assembly with the SKF rebuild kit

## PreSet reliability and SKF quality in one convenient box

ConMet introduced the PreSet hub assembly in 1995. And since 2002, the SKF Scotseal PlusXL has been the primary wheel seal in the OE wheel-end system. Now that these units are approaching their first service intervals, SKF, the aftermarket leader, worked closely with ConMet to provide the only all-inclusive rebuild kit on the market.

SKF rebuild kits contain everything needed for servicing, including specific, tighter toleranced SKF tapered bearing sets, SKF Scotseal PlusXL wheel seal, SKF TF hubcap (if applicable), and precision machined PreSet bearing spacer.



## SKF half stand tapered bearing sets (2)

- World-class quality of SKF, a global OE supplier
- Precision manufactured with dimensional tolerances specified by ConMet
- Superior design and materials reduce friction and provide excellent reliability under heavy loads and misaligned conditions
- Approved as an OE tapered bearing set in PreSet hub assemblies beginning in 2007



## SKF Scotseal® PlusXL

- The most advanced generation Scotseal, standard in PreSet hub assemblies since 2002
- Hydrogenated Nitrile Butadiene Rubber (HNBR) construction is ideal for frequent braking applications
- Heat resistance up to 300° F; compatible with synthetic lubricants
- Excellent exclusion properties, even in harsh conditions
- Hand-installable design includes a fat footprint ensuring stability on the shaft

## Why install the kit, instead of off-the-shelf components?

While you could pull the spacer and rebuild your PreSet wheel end with individual components from several suppliers, there are some compelling reasons to install the SKF rebuild kit for PreSet:

**Reduce fleet downtime** – Unlike off-the-shelf components, all of the kit's parts are manufactured to SKF's and ConMet's specifications, ultimately reducing downtime and lowering operating costs.

**Simpler installation** – One procedure regardless of axle type, eliminating potential failures due to error; no need for complicated torquing and use of a dial indicator.

**Extended 3-year warranty** – In addition, by installing the ConMet approved SKF rebuild kit for PreSet, you will receive an extended 3-year warranty on these SKF wheel end components.

**Longer service life** – Because the kit meets the exact specifications of the original PreSet system components, you can expect the same kind of reliability and performance from your rebuilt wheel end.



### Precision machined PreSet spacer

- Manufactured of high-strength alloy to precise tolerances
- Eliminates need for manual end play adjustment
- Proprietary machined bearing spacer along with the SKF specifically toleranced bearings provides the most reliable bearing end-play setting, optimizing wheel end life
- Eliminates the need to verify adjustment with a dial indicator



### SKF TF hubcap

- Lightweight DuPont Zytel® material is stronger than aluminum, resisting impact damage, chemicals, UV and ozone
- Embedded, solid aluminum ring distributes an even, leak-proof load against the hub
- Cloud-free window is fusion-bonded to body – no screws to shake loose and no leaking
- Molded pressure ridge on flange bites into sealing gasket to ensure leak-proof fit

Zytel is a DuPont material.

#### SKF rebuild kit for PreSet hub assemblies warranty information

SKF believes in the SKF rebuild kits for PreSet® so much that we offer a three year extended warranty. All the components within the kit are SKF with the exception of the spacer which is the original equipment PreSet spacer by ConMet®.

In each box is a card to fill out and return. The policy and registration form will then be forwarded to the mail or e-mail address provided. All components supplied in the kit must be used in the service of the wheel end. This is important because the end-play target is a result of the precision tolerancing of the bearing sets and spacer. Not using all components could result in a wheel end leak or end-play outside of the TMC recommended range of .001" to .005" and thus void the warranty. The installation instructions must be followed explicitly.

The SKF rebuild kit for PreSet warranty policy will provide full details of the warranty program. This will come after the warranty card is filled out and returned.

# SKF TF replacement hubcaps

Approved by all major OE truck and trailer builders, SKF TF hubcaps are compatible with all popular oils and greases.



Oil bath type



Grease packed type



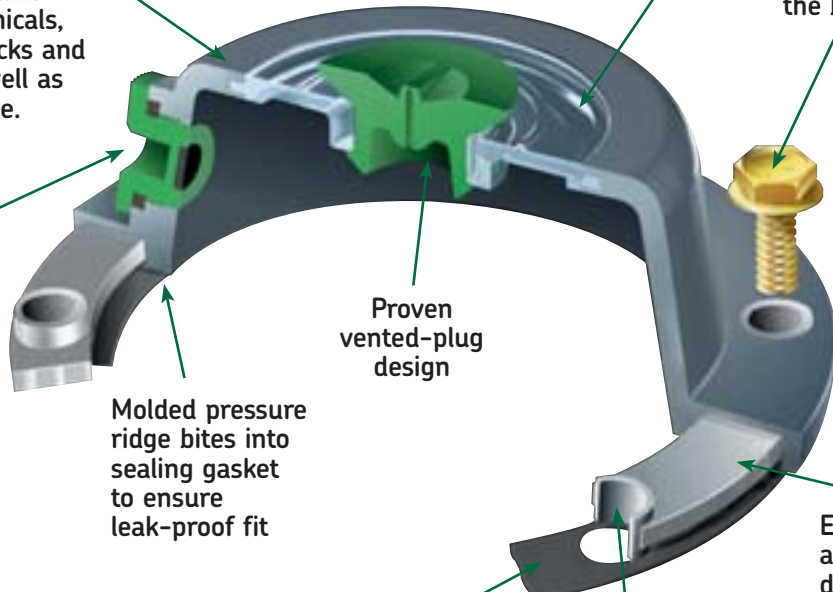
PSI compatible type

Cloud-free window is fusion-bonded to body: can't loosen or leak.

## Oil bath type

Lightweight DuPont Zytel® material is 50 times stronger than aluminum. Resists chemicals, road salt, rocks and bumps, as well as UV and ozone.

Magnet in fill-plug traps metal particles, protecting seal and bearings.



Plated preassembled bolts (included) provide positive leak protection at the bolt holes.

Proven vented-plug design

Molded pressure ridge bites into sealing gasket to ensure leak-proof fit

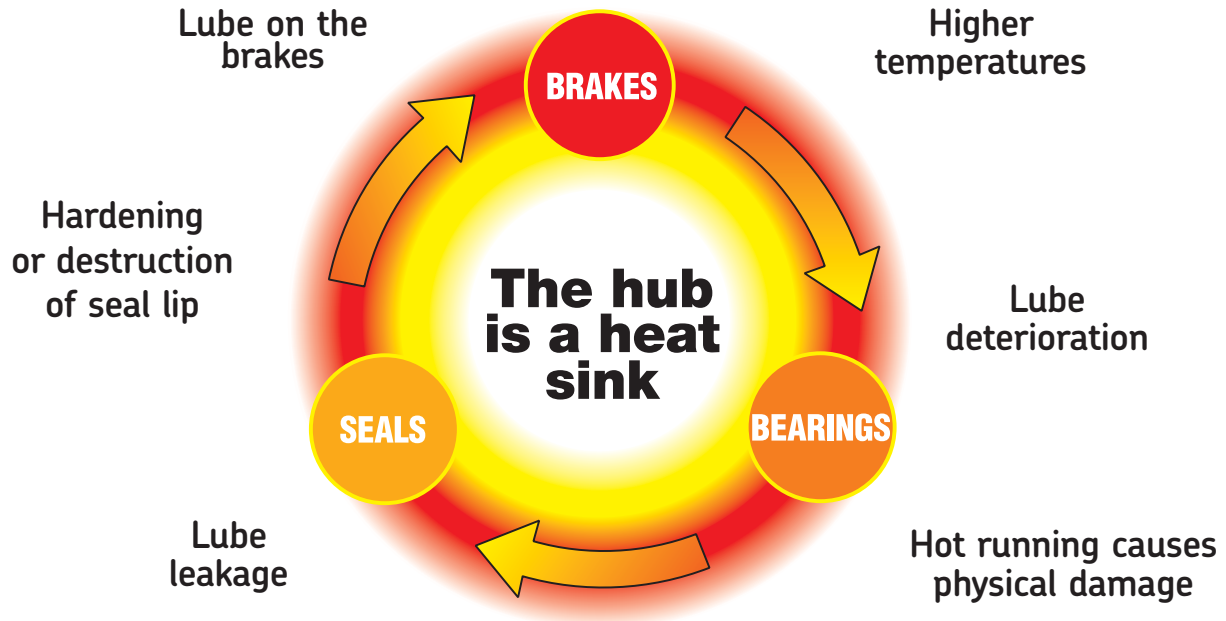
Gasket with slotted bolt holes

Elongated bolt holes accommodate multiple bolt circle patterns

Embedded solid aluminum ring distributes lock down pressure evenly, ensuring leak-proof seal.

# The importance of proper lubricants

Running conditions (Road surface, weather, terrain, speed and load)



## Inspection of lubricant

Inspection of grease or oil can provide a clue to other problems. Remove a sample from the wheel end and check for the following:

- Presence of contaminants
- Burnt aroma
- Presence of water



## Prior to re-installing bearings, always check for the proper lubricant.

Wheel end lubricants are formulated to match the requirements of the truck and bearing manufacturer.

- Always use specified lubricant
- Do not mix lubricants
- Chemical interaction between lubricants and seal materials can damage the seal
- Whenever possible, use a grease packer



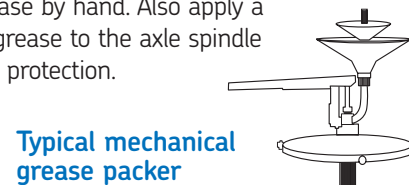
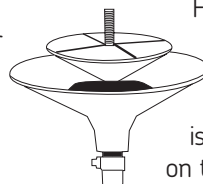
**Always use lubricants as recommended by the manufacturer.**

## Grease and oil lubricants

The truck or trailer manufacturer has pre-determined that the wheel-end assembly is to be lubricated by grease or oil. The importance of following the manufacturer's specifications cannot be over emphasized – never change or mix grease and oil in the same assembly!

## Grease lubricated wheel-ends

For proper lubrication, the grease must be packed into the cavities between the rollers and cage of the bearing cone. A mechanical grease packer is recommended in order to improve on the common procedure of filling the grease by hand. Also apply a light film of grease to the axle spindle for corrosion protection.



**Typical mechanical grease packer**