Service Manual
For ConMet Hub & Rotor Assemblies

PreSet®
Drive Hub & Rotor Assemblies

PreSet®
Trailer Hub & Rotor Assemblies

PreSet®
Steer Hub & Rotor Assemblies

HD
HEAVY DUTY

MD
MEDIUM DUTY

For Hydraulic & Air Disc Brakes
ABOUT THIS MANUAL

- This service manual applies to brake rotors designed and manufactured by ConMet for air disc brake applications. ConMet also manufactures hub assemblies equipped with brake rotors designed and manufactured by other brake companies. If your vehicle is equipped with a brake rotor other than a ConMet design, please refer to the vehicle or component manufacturer's published service information.
- Information relating to disc brake calipers, pads, or other vehicle-related systems is not included in this manual. Information regarding other brake-related components should be obtained from the vehicle or component manufacturer's published service information.
- Additional information pertaining to servicing ConMet wheel hub assemblies can be found in ConMet Service Manuals 10005642 (PreSet® Hubs) and 10008647 (ConMet Hubs with Manually Adjusted Bearings).
- Read this manual carefully, providing extra attention to its explanations and instructions.
- To ensure safe, continuous, trouble-free operation, understand your wheel hub system, and keep all components in proper operating condition.
- Pay particular attention to all NOTES, CAUTIONS, WARNINGS, and DANGERS to lessen the risk of personal injury or property damage, and realize these statements are not exhaustive. ConMet cannot possibly know or evaluate all conceivable methods in which service may be performed or the possibly hazardous consequences of each method. Accordingly, those who use a procedure not recommended by ConMet must first satisfy themselves that neither their safety nor the safety of the product will be jeopardized by the service method selected.

Before You Begin

1. Read and understand all instructions and procedures before you begin to service components.
2. Read and observe all Warning and Caution hazard alert messages in this publication. They provide information that can help prevent serious personal injury, damage to components, or both.
3. Follow your company’s maintenance and service, installation, and diagnostics guidelines.
4. Use special tools when required to help avoid serious personal injury and damage to components.

Hazard Alert Messages

A Danger alert indicates a hazardous situation which, if not avoided, will result in death or serious injury.

A Warning alert indicates a hazardous situation which, if not avoided, could result in death or serious injury.

A Caution alert indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

A note includes additional information that may assist the technician in service procedures.

How to Obtain Additional Maintenance and Service Information

On the Web
Visit www.conmet.com to access ConMet’s product, sales, service and maintenance literature.

ConMet Customer Service
Call ConMet’s Customer Service at 1-800-547-9473.

WARNING
Disc brake pads may contain both asbestos and non-asbestos materials that may pose a health hazard. Please follow all of the brake pad manufacturer’s recommended practices for servicing brakes to avoid unnecessary contact with brake dust.
TABLE OF CONTENTS

1. IDENTIFICATION ........................................................................................................ 1
   Wheel Hubs with ConMet Disc Brake Rotors ......................................................... 1
   Identification ......................................................................................................... 1

2. INSPECTION ............................................................................................................... 2
   HAZARD ALERT MESSAGES .................................................................................... 2
   DISC BRAKE ROTOR INSPECTION ......................................................................... 2
   OUT OF SERVICE CONDITIONS ............................................................................ 2
   Heat Checks ............................................................................................................ 2
   Cracks ..................................................................................................................... 2
   Deep Grooves or Scoring ....................................................................................... 3
   Blue Marks or Bands ............................................................................................. 4
   Polished Rotors ...................................................................................................... 4
   Martensite Spotted Rotors .................................................................................... 4
   Grease-Stained Rotors ........................................................................................... 5
   Lining Transfer ...................................................................................................... 5
   Clogged or Restricted Vent Holes .......................................................................... 5
   Rotor Runout .......................................................................................................... 6
   Rotor Thickness ..................................................................................................... 6
   Rotor Resurfacing ................................................................................................. 7

3. HUB AND ROTOR REMOVAL ..................................................................................... 8
   HAZARD ALERT MESSAGES .................................................................................... 8
   HUB AND ROTOR REMOVAL ................................................................................... 8

4. DISC BRAKE ROTOR REPLACEMENT ..................................................................... 9
   HAZARD ALERT MESSAGES .................................................................................... 9
   PART IDENTIFICATION ........................................................................................ 9
   ROTOR REPLACEMENT PROCEDURES ................................................................ 10
   ConMet Flat Rotor 10016195 ................................................................................ 10
   ConMet Hat-Shaped Rotor 10003830 ..................................................................... 11
   ConMet U-Shaped Rotor 10020109 ....................................................................... 12
   ConMet Flat Rotor 10019996 ................................................................................ 13
   ConMet Flat Rotor 10009970 ................................................................................ 14

5. REINSTALLATION ....................................................................................................... 15
   IDENTIFYING HUB TO BE INSTALLED .................................................................. 15
   INSTALLING ConMet STANDARD HUBS .............................................................. 16
   INSTALLING THE PreSet WHEEL HUB ASSEMBLY .......................................... 17
   INSTALLING THE PreSet Plus WHEEL HUB ASSEMBLY .................................... 19

6. LUBRICATION ............................................................................................................ 20
   DRIVE HUB LUBRICANT ....................................................................................... 20
   STEER AND TRAILER HUBS WITH OIL LUBRICANT ......................................... 20
   TRAILER HUBS WITH SEMI-FLUID GREASE LUBRICANT ................................ 20

7. WHEEL INSTALLATION ............................................................................................ 22
   SERVICE PARTS LIST .......................................................................................... 26
   SPECIFICATIONS ................................................................................................. 30
1. **IDENTIFICATION**

Wheel Hubs with ConMet Disc Brake Rotors

This manual contains general information on ConMet hub and rotor assemblies for air disc brake applications.

**Identification**

Before you perform any service procedures, you must first determine if the vehicle is equipped with a disc brake rotor designed and manufactured by ConMet.

ConMet rotors can be identified by part number. The part numbers are cast into the rotor as shown in figure 1 or stamped into the rotor as shown in figure 2.

![Cast Rotor Part Number](image1)

**FIGURE 1**

106832a

![Stamped Rotor Part Number](image2)

**FIGURE 2**

106833a

Use this part number to find the part specific service information in Section 4 of this manual.
2. INSPECTION

HAZARD ALERT MESSAGES

Read and observe all Warning and Caution hazard alert messages in this publication. They provide information that can help prevent serious personal injury, damage to components, or both.

⚠️ DANGER

To prevent serious eye injury, always wear safe eye protection when you perform vehicle maintenance or service.

Do not work under a vehicle supported only by jacks. Jacks can slip and fall over. Serious personal injury and damage to components can result.

Park the vehicle on a level surface. Block the wheels to prevent the vehicle from moving. Support the vehicle with safety stands.

⚠️ WARNING

Some brake linings contain asbestos fibers, a cancer and lung disease hazard. Some brake linings contain non-asbestos fibers, whose long-term effects to health are unknown. Use caution when handling both asbestos and non-asbestos materials.

DISC BRAKE ROTOR INSPECTION

A disc brake component inspection should be a part of any pre-trip inspection and regularly-scheduled preventive maintenance program.

⚠️ DANGER

Vehicles on jacks can fall, causing serious personal injury or property damage.

Never work under a vehicle supported by a jack without supporting the vehicle with stands and blocking the wheels. Wear safe eye protection.

Follow all shop safety procedures before beginning vehicle inspection.

1. Lift and support the axles with safety stands. Refer to the vehicle manufacturer's recommended instructions.

2. Remove the wheels from the hub.

3. Rotate the hub and visually inspect both sides of the rotor for the Out of Service Conditions detailed in this section. If any of these conditions are found, remove the hub and replace the rotor according to the instructions in this manual.

OUT OF SERVICE CONDITIONS

Heat Checks

Heat checks are caused by the repeated heating and cooling of the braking surface. They appear as short, thin, radial interruptions in the braking surface. There may be numerous light and heavy heat checks on the braking surface. See figure 3 for examples of light heat checking and figure 4 for heavy heat checking.

Cracks

Heat checks may wear away or they may eventually become braking surface cracks. Rotors should be replaced if cracks become over 0.060" wide or over 0.060" deep and extend over 75% of the braking surface in the radial direction.

Light Heat Check

FIGURE 3

Heavy Heat Check

FIGURE 4
2. Inspection (Continued)

Cracked rotors may be caused by mishandling, brake balance issues, wear beyond the minimum allowable thickness, or driver abuse. If a crack extends through a section of the rotor, the rotor should be replaced. If a crack is found on the mounting section of the rotor, the rotor should be replaced. Figure 5 shows a cracked rotor that should be replaced. The crack in figure 6 is acceptable to run, but the rotor should be inspected on a regular basis to ensure that the crack has not progressed.

Deep Grooves or Scoring

Grooves or scoring may be caused by contaminants trapped between the lining and the rotors, worn out linings, or the lining plate contacting the rotor. Grooves or scoring on the brake rotor are acceptable if they are less than 0.060" deep. If the rotor thickness, when measured across a groove, is less than the minimum allowable thickness for the rotor, the rotor should be replaced. See figure 7 for example of grooves on the braking surface of the rotor.
2. INSPECTION (CONTINUED)

Blue Marks or Bands

If the rotor has become extremely hot, the braking surface may exhibit blue marks or bands. See figure 8 for examples of these marks. This condition may be caused by continued hard stops, improper brake balance, improper brake caliper clearance, operation, or adjustment. The cause of overheating should be determined and corrected. It is not necessary to replace the rotor as long as it meets the proper dimensional specifications for runout and thickness.

Polished Rotors

A polished rotor will have a mirror-like finish on the braking surface. See figure 9. This condition may be caused by improper lining friction rating or a rotor resurfaced to too fine of a microfinish. To correct this condition, sand the braking surface on the rotor and the brake pads with 80 grit emery cloth. The microfinish should be 120 to 150 RMS. If the condition returns, verify that the linings on the brake pads have the correct friction rating for the application.

Martensite Spotted Rotors

Rotors subjected to extremely high heat followed by rapid cooling can exhibit a Martensite Spotted condition. This condition appears as black spots on the rotor that are slightly raised and are hard and brittle. See figure 10. The high temperatures cause a structural change to the rotor material. This condition can make the rotor more susceptible to cracking.

Rotors with this condition should be replaced. Check the brake linings for uneven wear and replace as necessary. After the rotor has been replaced, and the hub and rotor reinstalled onto the axle, the brake system should be checked for brake drag and proper brake balance.
2. **INSPECTION (CONTINUED)**

**Grease-Stained Rotors**

Brake rotors that have discolorations due to grease or oil on the brake surface should be removed from the vehicle and cleaned to remove the grease or oil. See figure 11. The brake pads should be inspected and replaced if they are found to be soaked with grease or oil. The source of the grease or oil should be identified and repaired.

**Clogged or Restricted Vent Holes**

Off-road and severe-duty applications may result in vent holes in the rotor becoming blocked by an accumulation of debris such as rocks or dirt. See figure 13. The vent holes should be cleaned as required to allow air flow and proper cooling of the brake rotor.

**Lining Transfer**

High operating temperatures or improper lining material can result in brake lining transfer onto the braking surface of the brake rotor. See figure 12. This may start as a spotty thin layer of lining material that has become welded to the brake rotor and may end up covering most of the braking surface. This condition will accelerate lining wear.

The buildup can be removed by resurfacing the brake rotor. Rotors should not be resurfaced to less than 0.060" above the minimum allowable thickness to allow for wear. The cause of the high brake operating temperature should be identified and corrected before the vehicle is put back into service.
2. **Inspection (continued)**

**Rotor Runout**

Lateral runout, or wobble, on the rotor braking surface should not exceed 0.020" in one full revolution of the rotor. The measurement should be taken with a dial indicator at the center of the rotor braking surface. See figure 14 for proper runout measurement set up.

The runout measurement should not include end play of the wheel bearings. If the runout measurement is over 0.020", the end play of the wheel bearings should be checked. If the wheel bearing end play is greater than the manufacturer's recommendations, the wheel bearings should be adjusted per the manufacturer's recommendations.

Radial runout on the outside diameter of the braking surface should not exceed 0.035" when checked with a dial indicator. See figure 15. If the runout exceeds 0.035", the rotor should be replaced.

**Rotor Thickness**

The rotor thickness should be measured at three points using a micrometer as shown in figures 16, 17 and 18. If the rotor thickness varies more than 0.005" between any two places, the rotor should be replaced.
2. INSPECTION (CONTINUED)

Rotor Resurfacing

ConMet does not recommend resurfacing disc brake rotors. However, if rotor resurfacing is necessary, be sure that at least 0.060" of material is left above the rotor minimum thickness specification to allow for wear before the minimum allowable rotor thickness is reached.
3. HUB AND ROTOR REMOVAL

HAZARD ALERT MESSAGES

Read and observe all Warning and Caution hazard alert messages in this publication. They provide information that can help prevent serious personal injury, damage to components, or both.

---

**DANGER**

Do not work under a vehicle supported only by jacks. Jacks can slip and fall over. Serious personal injury and damage to components can result.
Park the vehicle on a level surface. Block the wheels to prevent the vehicle from moving.
To prevent serious eye injury, always wear safe eye protection when you perform vehicle maintenance or service.

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**WARNING**

Do not loosen the axle spindle nuts by either striking them directly with a hammer, or striking a drift or chisel placed against them. Damage to the parts will occur causing possible loss of axle wheel-end components and serious personal injury.

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HUB AND ROTOR REMOVAL

1. Lift the axle and support it with safety stands. Refer to the vehicle manufacturer's recommended instructions.

2. Remove the tires and wheels.

3. Remove the hubcap or drive axle. Refer to the manufacturer's recommended instructions.

4. Follow the brake manufacturer's instructions to remove the brake caliper and brake pads from the axle mounting point.

5. Remove the spindle nut assembly.

6. Slide the hub and rotor assembly off the spindle. Be careful not to damage the outer bearing.

7. Remove the bolts that secure the rotor to the hub. Be careful not to damage the ABS tone ring when the rotor is removed.

8. Remove the seal from the hub.

9. Clean the bearing cups and cones, bearing spacer, grease cavity, and seal bore of the hub.

10. Inspect all components for signs of wear or damage. Replace components as necessary.

11. Clean the spindle. It may be necessary to remove the inner portion of the seal from the spindle. If necessary, use emery cloth to remove rust and foreign material from the seal journal on the spindle.

12. Clean the rotor mounting area of the hub.
4. DISC BRAKE ROTOR REPLACEMENT

HAZARD ALERT MESSAGES

Read and observe all Warning and Caution hazard alert messages in this publication. They provide information that can help prevent serious personal injury, damage to components, or both.

WARNING

Do not hit steel parts with a steel hammer. Pieces of a part can break off. Serious personal injury and damage to components can result. Use a brass or synthetic mallet for assembly and disassembly procedures.

PART IDENTIFICATION

The brake rotor can be identified by the part number that is cast or stamped into the rotor. Use the brake rotor part number to find the specific replacement instructions for the hub and rotor assembly you are working on.

Cast Part Number

FIGURE 19

Stamped Part Number

FIGURE 20
4. DISC BRAKE ROTOR REPLACEMENT (CONTINUED)

**Rotor Replacement Procedures**

*ConMet Flat Rotor 10016195*

*Service Kit Part Number 10018609*

*Rotor Minimum Thickness 1.65" (41.9 mm)*

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**NOTE**

Install the brake rotor using only the hardware provided in the rotor kit.

1. If the studs were removed, apply Loctite® 272 to the coarse threaded end of the double-ended stud and to the rotor mounting threads in the hub. Install the studs. Clean all mating surfaces.

2. Clean all mating surfaces.

3. Place the steel insulator and rotor on the hub.

4. Install and torque the rotor mounting bolts in a star pattern to 180 to 210 ft. lbs.

5. Place the ABS tone ring on the rotor.

6. Install and torque the #8-32 UNF truss head screws in a star pattern to 18 to 22 in. lbs.

---

**1. Flat Rotor**

**2. Hub Assembly**

**3. #8-32 UNF Truss Head Screw, 10 Ea.**

**4. ABS Tone Ring**

**5. 5/8-18 UNF Flanged Hex Head Nut, 10 Ea.**

**6. Stainless Steel Insulator**

See ConMet Service Manual for detailed hub service information.

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Clean all component mating surfaces before reassembly.

5/8-18 UNF FLANGED HEX HEAD NUTS

Torque to 180 to 210 ft. lbs. in a star pattern.

#8-32 UNF truss head screw.

Torque in a star pattern to 18-22 in. lbs.
4. DISC BRAKE ROTOR REPLACEMENT (CONTINUED)

**ConMet Hat-Shaped Rotor 10003830**
**Service Kit Part Number 10030921**
**Rotor Minimum Thickness 1.32" (33.5 mm)**

**NOTE**
Install the brake rotor using only the hardware provided in the kit.

1. Clean the rotor mounting surface on the hub and position the disc brake rotor onto the hub.

2. Install and torque the rotor capscrews in a star pattern to 130 to 150 ft. lbs.

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1. Hat-Shaped Rotor
2. Hub Assembly
3. 9/16"-12 UNC Rotor Capscrew, 10 Ea.
4. 9/16" Flat Washer, 10 Ea.

See ConMet Service Manual for detailed hub service information.

Clean all component mating surfaces before reassembly.

9/16"-12 UNC rotor capscrew. Torque in a star pattern to 130 to 150 ft. lbs.

See Section 2 for Out of Service Conditions.

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Consolidated Metco, Inc.
4. DISC BRAKE ROTOR REPLACEMENT (CONTINUED)

**ConMet U-Shaped Rotor 10020109**
**Service Kit Part Number 10020682**
**Rotor Minimum Thickness 1.46” (37.0 mm)**

**NOTE**

Install the brake rotor using only the hardware provided in the brake rotor kit.

1. Clean the mounting surfaces on the hub and place the disc brake rotor onto the hub. Install the disc brake rotor using the hardware provided in the brake rotor kit.

2. Install and torque the rotor capscrews in a star pattern to 190 to 210 ft. lbs.

---

**Figure 25**

1. Clean the mounting surfaces on the hub and place the disc brake rotor onto the hub. Install the disc brake rotor using the hardware provided in the brake rotor kit.

2. Install and torque the rotor capscrews in a star pattern to 190 to 210 ft. lbs.

---

**Figure 26**

1. U-Shaped Rotor
2. Hub Assembly
3. M16X1.5 MM Hex Head Capscrews with Flat Washers, 10 Ea.

See ConMet Service Manual for detailed hub service information.

Clean all component mating surfaces before reassembly.

See Section 2 for Out of Service Conditions.
4. DISC BRAKE ROTOR REPLACEMENT (CONTINUED)

NOTE

Install the brake rotor using only the hardware provided in the brake rotor kit.

1. Clean the rotor mounting surface on the hub and position the disc brake rotor on to the hub.

2. Install and torque the rotor capscrews in a star pattern to 100 to 110 ft. lbs.

1. Hub Assembly
2. Flat Rotor
3. 1/2” Flat Washer (10 ea.)
4. 1/2”-20 UNF Rotor Cap Screw (10 ea.)

See ConMet Service Manual for detailed hub service information.

See Section 3 for out of service conditions.

Clean all component mating surfaces before reassembly.

1/2”-20 UNF rotor cap screws. Torque in a star pattern to 100 to 110 ft-lbs.
4. DISC BRAKE ROTOR REPLACEMENT (CONTINUED)

**NOTE**

Install the brake rotor using only the hardware provided in the brake rotor kit.

1. If the rotor mounting studs were removed from the hub during disassembly, apply Loctite® 272 to the coarse end of the double-ended stud and to the rotor mounting threads in the hub. Install the studs.

**NOTE**

If Loctite® 272 is not available, use Loctite® 262.

2. Clean all mating surfaces.
3. Place the steel insulator and the rotor on the hub.
4. Install and torque the rotor mounting nuts in a star pattern to 180-210 ft. lbs.
5. Place the ABS ring on the rotor.
6. Install and torque the #8-32 UNF truss head screws in a star pattern to 18 to 22 in. lbs.

ConMet Flat Rotor 10009970
Service Kit Part Number 10016390
Rotor Minimum Thickness 1.65" (41.9 mm)

ConMet Medium Duty Flat Rotor

FIGURE 29

1. Flat Rotor
2. Hub Assembly
3. #8-32 UNF Truss Head Screw
4. ABS Tone Ring
5. 5/8"-18 UNF Flanged Hex Head Nut (10 ea.)
6. Stainless Steel Insulator

**See ConMet Service Manual for detailed hub service information.**

Clean all component mating surfaces before assembly.

See Section 3 for out of service conditions.

5/8-18 UNF flanged hex head nuts. Torque to 180-210 ft-lb in a star pattern.

#8-32 UNF truss head screw threads. Torque in a star pattern to 18-22 in-lbs.

Consolidated Metco, Inc.
5. REINSTALLATION

IDENTIFYING HUB TO BE INSTALLED

Before reinstalling the ConMet hub, it is very important to identify the correct hub. Below are ConMet's three types of hubs:

ConMet Standard Wheel Hubs

For instructions on installing ConMet's standard hub (see figure 31), proceed to the next page.

PreSet Wheel Hubs

For instruction on reinstalling ConMet's PreSet hub assemblies (see figure 32), proceed to page 16.

PreSet Plus Wheel Hubs

For instruction on reinstalling ConMet's PreSet Plus hub assemblies (see figure 33), proceed to page 17.
5. REINSTALLATION – CONMET STANDARD WHEEL HUBS

INSTALLING ConMet STANDARD WHEEL HUBS

**NOTE**
See TMC RPG18 for more details regarding installation of wheel hubs with manually adjusted bearing systems.

1. Lubricate the bearings with clean lubricant of the same type used in the axle sump or hub assembly.

2. Install the wheel hub and bearing onto spindle and torque the inner adjusting nut to 200 ft-lbs while rotating the hub assembly.

3. Back off the inner adjusting nut one full turn. Rotate the hub.

4. Re-torque the inner adjusting nut to 50 ft-lbs while rotating the wheel hub assembly.

5. Back off the inner adjustment nuts as per chart below.

6. Install the locking washer.

7. Install and torque the outer jam nut as per chart on next page.

8. Use a dial indicator to verify acceptable endplay of 0.001”-0.005”.

**Caliper Installation**

1. Reinstall and adjust the brake pads and brake caliper according to the brake manufacturer’s recommended instructions.

2. Reinstall the wheels and torque the wheel bolts in a star pattern to 450-500 ft. lbs. The last nut rotation must be with a torque-controlled device.

3. After the first 50 to 100 miles, retorque the wheel nuts to 450-500 ft. lbs. in a star pattern. The last nut rotation must be with a torque-controlled device.

<table>
<thead>
<tr>
<th>Axle Type</th>
<th>Nut Size</th>
<th>Torque Specs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Axle Type</strong></td>
<td><strong>Threads per inch</strong></td>
<td><strong>Final Back Off</strong></td>
</tr>
<tr>
<td>Steer (front non-drive)</td>
<td>12</td>
<td>1/6 turn*</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>1/4 turn*</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>1/3 turn</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>1/2 turn</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Drive</td>
<td>12</td>
<td>1/4 turn</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>1/4 turn</td>
</tr>
<tr>
<td>Trailer**</td>
<td>12</td>
<td>1/4 turn</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>1/4 turn</td>
</tr>
</tbody>
</table>

*If dowel pin and washer (or washer tang and nut flat) are not aligned, remove the washer, turn it over, and reinstall. If required, loosen the inner (adjusting) nut just enough for alignment.

**Bendable type washer lock only: Secure nuts by bending one wheel nut washer tang over the inner and outer nut. Bend the tangs over the closest flat perpendicular to the tang.

**NOTE**
If end play is not within specification, readjustment is required. Be sure to install or activate any locking device.

*Single Nut

**Positive adjustment wheel bearings (a product of Rockwell International), use 250-300 ft-lbs on adjusting nut and jam nut. See Rockwell Field Maintenance Manual No. 14.

***For single axle (13,000-19,000 lb capacity) with tang washers, consult manufacturer’s specifications.
5. REINSTALLATION – PreSet WHEEL HUBS

INSTALLING THE PreSet WHEEL HUB ASSEMBLY

CAUTION

On the ball seat wheel mounting system, always use left-handed threaded studs, which are gold in color and have an “L” stamped on the end, in the hub on the driver’s side of the equipment, and use right-handed threaded studs, which are silver in color and have an “R” stamped on the end, in the hub on the passenger’s side of the equipment. The ConMet part number is located on the head of the stud. The same part number must be used for replacement unless changing the drum or wheel type.

Spindle Preparation

1. Clean the spindle to remove any lubricant, corrosion prevention coating, foreign material, or surface rust that may be present.

2. Lubricate the bearing journals on the spindle, or the inside diameter of the bearing cones with Grade 2 grease or the lubricant that will be used in the wheel end. Do not coat the seal journal on the spindle.

3. Lubricate the inside diameter of the seal with the same lubricant that will be used in the wheel end.

CAUTION

Failure to apply lubricant to the bearing journals will result in fretting corrosion, which may result in difficulty removing the bearing. Never support the hub on the spindle with just the inner bearing and seal. This can damage the seal and cause premature failure, i.e., by cocking the seal in the bore.

Mounting the Hub

4. Mount the hub assembly onto the axle spindle with a smooth, firm motion while holding the outer bearing in place. Use care to maintain alignment between the bearing cones, spacer, and spindle and to avoid seal damage (see figure 34).

Spindle Nut Torque

5. a. One-Piece Spindle Nut System (Pro-Torq® and Axilok®)

For one-piece spindle nut systems like the Pro-Torq® or Axilok®, torque the nut to a minimum of 300 ft. lbs. Do not back off the spindle nut. Engage any locking device that is part of the spindle nut system. If the locking device cannot be engaged when the nut is at 300 ft. lbs., advance the nut until engagement takes place and the nut is locked.

b. Double Nut or Jam Nut System

If a double nut or jam nut system is being used, torque the inner nut to 300 ft. lbs. Do not back off the spindle nut. Advance the inner nut as necessary to install the locking ring. Install the outer nut with 200 ft. lbs. of torque. Be sure to engage any locking device.

NOTE

ConMet does not recommend a one-piece "castellated" type nut system for use with PreSet hubs.

NOTE

The hubcap bolt holes must be free of debris, such as silicone gasket sealer to ensure the bolts will tighten properly to avoid leaks. Silicone trapped in the hubcap screw holes can create hydraulic pressures during hubcap screw installation, leading to premature hub failure through the hubcap holes. The vent should also be clean and free of debris. Remove any burrs or sharp edges. Always use new gaskets.

6. Install the hub cap or drive axle with a new gasket. Torque the hub cap bolts in a star pattern to 12 to 18 ft-lbs. Torque the drive axle bolts or nuts per the drive axle manufacturer’s recommendation. A ConMet PreSet Plus hub cap is required for trailer hubs not equipped with tire inflation systems to maintain the warranty.

NOTE

Use SAE Grade 5 bolts or stronger. Do not use star washers. Use only flat washers or split washers.
5. REINSTALLATION – PRESET WHEEL HUBS (CONTINUED)

Caliper Installation

1. Reinstall and adjust the brake pads and brake caliper according to the brake manufacturer's recommended instructions.

2. Reinstall the wheels and torque the wheel bolts in a star pattern to 450-500 ft. lbs. The last nut rotation must be with a torque-controlled device.

3. After the first 50 to 100 miles, retorque the wheel nuts to 450-500 ft. lbs. in a star pattern. The last nut rotation must be with a torque-controlled device.
REINSTALLATION – PRESET PLUS WHEEL HUBS

INSTALLING THE PreSet Plus WHEEL HUB ASSEMBLY

WARNING

Failure to fill the hub with the correct amount of lubricant can cause premature failure of the PreSet Plus hub assembly, which, if not avoided, could result in death or serious injury.

NOTE

Use the proper hubcap for the type of lubricant intended to be used.

1. **Clean the spindle** to remove any lubricant, corrosion prevention coating, foreign material, or surface rust that may be present.

2. **Lubricate the bearing journals on the spindle,** or the inside diameter of the bearing cones with Grade 2 grease or the lubricant that will be used in the wheel end. Do not coat the seal journal on the spindle.

3. **Lubricate the inside diameter of the seal** with the same lubricant that will be used in the wheel end.

4. If present, remove the red locking snap ring from the spindle nut. Verify that the bearing spacer is in proper alignment. Align the key or flat on the washer with the keyway or flat on the spindle as the hub is placed onto the spindle. **Use a smooth firm motion and place the hub onto the spindle.** When the threads on the nut engage the threads on the spindle, rotate the nut in a clockwise direction to fully engage the threads.

5. Torque the spindle nut to the following torque values:

   **Steer Hub** – Torque the spindle nut to 300 ft-lbs while rotating the hub. **DO NOT BACK OFF THE SPINDLE NUT.**

   **Drive Hub or Trailer Hub** – Torque the spindle nut to 500 ft-lbs while rotating the hub. **DO NOT BACK OFF THE SPINDLE NUT.**

6. **Visually examine the three holes in the face of the spindle nut.** One of the holes will line up with the holes in the inner washer. Install the tab of the red locking snap ring through the hole in the nut and washer that are aligned. Spread the locking ring, push it over the spindle nut and into the machined grooves in the spindle nut. Use caution not to bend the locking ring permanently. If the locking ring is damaged or bent, replace it with a new one.

7. **Install the hub cap or drive axle with a new gasket.** Torque the hub cap bolts in a star pattern to 12 to 18 ft-lbs. Torque the drive axle bolts or nuts per the drive axle manufacturer’s recommendation. A ConMet PreSet Plus hub cap is required for trailer hubs not equipped with tire inflation systems to maintain the warranty.

**Caliper Installation**

1. Reinstall and adjust the brake pads and brake caliper according to the brake manufacturer’s recommended instructions.

2. Reinstall the wheels and torque the wheel bolts in a star pattern to 450-500 ft. lbs. The last nut rotation must be with a torque-controlled device.

3. After the first 50 to 100 miles, retorque the wheel nuts to 450-500 ft. lbs. in a star pattern. The last nut rotation must be with a torque-controlled device.

---

**Socket Sizes for PreSet Plus Spindle Nuts**

<table>
<thead>
<tr>
<th>Socket Size (6 Point)</th>
<th>FF Flat</th>
<th>FF Keyway</th>
<th>FL</th>
<th>R</th>
<th>TN</th>
<th>TP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2”</td>
<td>2”</td>
<td>2.75”</td>
<td>3.75”</td>
<td>3.125”</td>
<td>4”</td>
<td></td>
</tr>
</tbody>
</table>

Consolidated Metco, Inc.
6. LUBRICATION

DRIVE HUB LUBRICATION

Drive hubs can be lubricated by installing one quart of oil through the fill plug in the barrel of the hub.

**CAUTION**
The proper installation torque for the fill plug is 20-25 ft-lbs.

If no fill plug is present, the drive hub can be lubricated by lifting the opposite side of the axle 8" to allow the lubricant to run down the axle housing and into the hub assembly. Elevate the axle for two minutes to allow the lubricant time to fill the hub. Repeat the process for the opposite side of the vehicle. The rear axle carrier should be filled to the proper level to ensure adequate lubricant is available to fill the entire hub. Refill the carrier to the proper level after this procedure is completed.

STEER AND TRAILER HUBS WITH OIL LUBRICANT

1. Fill the hub through the hubcap or the fill hole with oil. It may be necessary to add lubricant more than once to adequately fill the hub (see figure 35).

2. Be certain the hubcap is properly filled to the “oil level” mark on the face of the cap (see figure 36). Allow the initial fill amount to settle for 10 minutes. Repeat the fill procedure until the oil is at the fill line on the hubcap.

3. Be sure to put the fill hole plug back into the hubcap and that the vent is working properly.

TRAILER HUBS WITH SEMI-FLUID GREASE LUBRICANT

**WARNING**

If you are using semi-fluid grease in trailer applications, special procedures must be followed as outlined in the “Semi-Fluid Grease Lubricant” section.

Failure to fill and maintain the hub with the correct amount of semi-fluid grease may cause premature failure of the wheel hub system, bearing failure and possible loss of the wheel.

1. Remove the fill hole plug.

2. Loosen the hubcap bolts to allow air to escape while the hub is filling.

3. Fill the hub with the OEM recommended amount of room temperature (60°F minimum) semi-fluid grease through the fill hole in the hub (see figure 37).

For proper fill levels using semi-fluid grease, see the following chart.
6. LUBRICATION (CONTINUED)

<table>
<thead>
<tr>
<th>HUB TYPE</th>
<th>MATERIAL</th>
<th>BRAKE TYPE</th>
<th>NO. OF STUDS</th>
<th>CASTING NUMBERS**</th>
<th>VOLUME* (FL.OZ.)</th>
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<tbody>
<tr>
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<td>102035</td>
<td>19</td>
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<td>TN</td>
<td>Aluminum</td>
<td>Drum</td>
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<td>101143</td>
<td>23</td>
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<td>42</td>
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<td>Drum</td>
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<td>Iron</td>
<td>Disc</td>
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<td>10009758</td>
<td>55</td>
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<td>Iron</td>
<td>Drum</td>
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<td>10025633</td>
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<td>Iron</td>
<td>Drum</td>
<td>10</td>
<td>10003654</td>
<td>55</td>
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</table>

*These fill volumes were established with ConMet hubcaps and are to be used as reference only. **Hub casting numbers can be found cast onto the flange of the hub. For part numbers that don’t appear in the chart, contact ConMet customer service at 800-547-9473.

Filling Hub with Semi-Fluid Grease
FIGURE 37

4. Retorque the hubcap bolts to 12-18 ft. lbs.

5. Reinstall and tighten the fill plug to 20-25 ft. lbs.
7. WHEEL INSTALLATION

Hub Pilot Wheel Mounting System

**NOTE**

If your shop practice requires the use of lubricant or anticorrosion material to the threads, avoid getting lubricant on the flat mating surfaces of the hub and wheels.

**WARNING**

Always snug the top nut first. See the adjacent diagram for bolt tightening sequence, and tighten in order from 1 through 10, depending on the bolt pattern (see figure 38).

1. Clean all mating surfaces on the hub and nuts. Remove loose paint, scale, and any material building around the pilots of the hub and wheels. Be sure paint is fully cured on recently refurbished wheels.

**CAUTION**

Care should be taken to avoid damaging the hub or other components.

2. In environments where a corrosion inhibitor is beneficial, ConMet recommends the use of Corrosion Block, a product of Lear Chemical Research, (905) 564-0018. In severely corrosive environments, a light coat of Corrosion Block on the wheel pilots has proven beneficial.

3. In addition to the above preparation, apply two drops of oil to a point between the nuts and nut flange washer and two drops to the last two or three threads at the end of each stud. Also, lightly lubricate the pilots on the hub to ease wheel installation and removal.

**CAUTION**

Do not get lubricant on the mounting face of the wheel. Failure to clean lubricant from these surfaces may result in decreased clamping load.

4. Before installation of wheels that utilize the hub piloted system, rotate the hub so one of the wheel pilot bosses is at the top (12 o’clock position) (see figure 39).

5. Place the wheel(s) into position. One or more nuts can be started in order to hold wheel(s) into position.

6. Snug the top nut first. Apply 50 ft. lbs. torque to draw the wheel up fully against the hub (see figure 40).

7. Install the remaining wheel nuts and using the sequence as shown, torque all the nuts to 50 ft. lbs., then retorque to 450-500 ft. lbs. (see figure 38). The last nut rotation must be with a calibrated torquing device.
7. Wheel Installation (continued)

**NOTE**

When torquing wheel nuts, the temperature of all the wheel end components should be as close as possible to the midpoint of the expected operating range. For example, if the hub will operate between 0°F and 150°F, 75°F is a good temperature to torque at. Room temperature is often a close approximation of the midpoint temperature.

This recommendation is due to the differences in the coefficient of thermal expansion for the various materials in the wheel end including the hub, studs, wheel and brake drum. If the wheel nuts are torqued at temperatures well below the midpoint, when the system warms up, the studs may become overstressed. This could cause the studs to be permanently stretched, leading to nut loosening or damage to the wheel or hub. If the torque is applied at elevated temperatures, the system may become loose and lose clamp at lower temperatures, resulting in wheel damage and broken wheel studs. If the nuts must be torqued at extreme temperatures, the nut torque should be readjusted when the temperature is in the desired range. See also TMC RP250 "Effects of Extreme Temperatures on Wheel Torque and Clamp Load".

**NOTE**

Use the appropriate nuts with the above technique to install the front and outer dual wheels. Follow your shop practice to locate the valve stems.

**DANGER**

Excessive or inadequate wheel nut torque can cause a failure of the wheel mounting system and a wheel separation resulting in severe personal injury or death and property damage. Always use a device that measures the torque being applied. After the first 50-100 miles, retorque all the nuts to 450-500 ft. lbs. Loosen the outer nuts to retorque the inner nuts.

**Ball Seat Wheel Mounting System**

1. Clean all mating surfaces on the hub, wheels and nuts. Remove loose paint, scale, and any material building around the pilots of the hub and wheels. Be sure paint is fully cured on recently refurbished wheels.

2. When installing the inner wheel and tire assembly, verify the inner nuts being used are suitable for the application: aluminum wheels or steel wheels.

3. Rotate the hub to bring a wheel pilot to the top (12 o'clock) position (see figure 42). Position the inner wheel and tire assembly over the studs against the hub.

Table A: Single Aluminum Wheel Applications

<table>
<thead>
<tr>
<th>Aluminum Wheels</th>
<th>ALCOA Cap Nut Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4-16” Threaded Studs</td>
<td>5995R and 5995L or 5554R and 5554L, depending on stud length</td>
</tr>
</tbody>
</table>

Table B: Single Steel Wheel Applications

<table>
<thead>
<tr>
<th>Steel Wheels</th>
<th>BATCO Cap Nut Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4-16” Threaded Studs</td>
<td>13-3013R and 13-3013L</td>
</tr>
</tbody>
</table>

Inner cap nuts must be deep enough to ensure the stud will not bottom inside the nut and must be of a configuration approved by wheel manufacturer.
7. Wheel Installation (continued)

4. Beginning in the 12 o’clock position, install the inner cap nuts by hand to ensure they are not cross-threaded. Do not tighten any nuts at this time.

5. Apply sufficient torque (about 50 ft. lbs.) to the inner top cap nut to draw the wheel up on the wheel pilot and against the hub and seat the ball seat of the nut into the ball socket of the wheel (see figure 43).

6. To properly center the wheel, snug the remaining wheel nuts. Verify the wheel is in place over the wheel pilot (see figure 44).

7. Starting with the top nut first and using a staggered pattern, torque the inner wheel nuts in stages to 450-500 ft. lbs. (see figure 45). The last nut rotation must be with a calibrated torquing device.

8. Install the outer wheel and nuts and tighten to 450-500 ft. lbs. (see figure 46). The last nut rotation must be with a calibrated torque device.

**NOTE**

Use the appropriate nuts with the above technique to install the front and outer dual wheels. Follow your shop practice to locate the valve stems.
7. **WHEEL INSTALLATION (CONTINUED)**

9. Inspect the wheel installation by checking the seating of the wheel(s) at the pilots and by turning the wheel(s) and check for any irregularity.

**DANGER**

Excessive or inadequate wheel nut torque can cause a failure of the wheel mounting system and a wheel separation resulting in severe personal injury or death and property damage. Always use a device that measures the torque being applied. After the first 50-100 miles, retorque all the nuts to 450-500 ft. lbs. Loosen the outer nuts to retorque the inner nuts.
## SERVICE PARTS LIST

### Axle Designations

<table>
<thead>
<tr>
<th>Designation</th>
<th>Typical Axle Rating (lbs.)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Steer Axle</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FC Steer</td>
<td>8,000</td>
<td>Medium duty</td>
</tr>
</tbody>
</table>
| FF Steer | 12,000-14,700 | Standard linehaul axle. Comes in two spindle variations.  
1. Flat locking feature with 12 threads/inch.  
| FL Steer | 20,000 | Vocational applications |
| **Drive Axle** | | |
| L-Drive | 19,000 | Medium duty |
| R-Drive | 20,000-23,000 | Standard linehaul axle |
| **Trailer Axle** | | |
| TN Trailer | 22,500 | Tapered spindle |
| TP Trailer | 25,000 | Parallel spindle or "Propar" |

### Approved PreSet Oil Seals — Cross Reference

<table>
<thead>
<tr>
<th>Axle Designation</th>
<th>ConMet Number</th>
<th>SKF Scotseal Plus XL</th>
<th>FOK Milemaker</th>
<th>National 5-Star Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC Steer</td>
<td>10037958</td>
<td>28759</td>
<td>10037958</td>
<td>N/A</td>
</tr>
<tr>
<td>FF Steer</td>
<td>10005430</td>
<td>35058</td>
<td>847</td>
<td>10045690</td>
</tr>
<tr>
<td>FL Steer</td>
<td>10008722</td>
<td>43761</td>
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<td>N/A</td>
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<tr>
<td>L Drive</td>
<td>38776</td>
<td>10020083</td>
<td>N/A</td>
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</tr>
<tr>
<td>R Drive</td>
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<td>47691</td>
<td>861</td>
<td>10045689</td>
</tr>
<tr>
<td>TN Trailer</td>
<td>10023849</td>
<td>46300</td>
<td>859</td>
<td>10045271</td>
</tr>
<tr>
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<td>10023847</td>
<td>42627</td>
<td>851</td>
<td>373-0323</td>
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</table>

### Approved Trailer Hub Caps

<table>
<thead>
<tr>
<th>Axle Designation</th>
<th>Type of Lubricant</th>
<th>PreSet Hubs</th>
<th>PreSet Plus Hubs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TN Trailer</td>
<td>Semi-Fluid Grease</td>
<td>10018622</td>
<td>10036694</td>
</tr>
<tr>
<td>TP Trailer</td>
<td>Semi-Fluid Grease</td>
<td>10018621</td>
<td>10036693</td>
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<tr>
<td>TN Trailer</td>
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<td>10036692</td>
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<tr>
<td>TP Trailer</td>
<td>Oil</td>
<td>106870</td>
<td>10036691</td>
</tr>
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### Seal Installation Tools (SKF Scotseal Plus XL is hand installable)

<table>
<thead>
<tr>
<th>Axle Designation</th>
<th>Bearing Centering Tool</th>
<th>Adapter Plate</th>
<th>Universal Tool Handle</th>
<th>Fleet Hub Tool</th>
<th>Bearing Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC Steer</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
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<td>FF Steer</td>
<td>BCT-6</td>
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<td>570-0020</td>
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<tr>
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<td>551-0001</td>
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## SERVICE PARTS LIST (CONTINUED)

### ABS Rings for ConMet Hubs (for reference only)

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<th>Axle</th>
<th>Material</th>
<th>Type of Brake</th>
<th>Hub Casting Number</th>
<th>ABS Ring Part Number</th>
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<td>Disc</td>
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<td>107912</td>
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### Rebuild Kits and Components

<table>
<thead>
<tr>
<th>PreSet Plus Hubs</th>
<th>Rebuild Kit</th>
<th>Bearing Spacer</th>
<th>Magnetic Fill Plug</th>
<th>Nut Assembly Kit*</th>
<th>Red Locking Snap Ring*</th>
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<tr>
<td>FF Flat</td>
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<td>10033448</td>
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<td>10034342</td>
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</table>

Rebuild kit includes seal, bearing spacer, inner cup and cone, outer cup and cone. Nut assembly kit includes integrated spindle nut, locking washer, red locking snap ring and spiral nut retaining ring.

*Not available for PreSet hub assemblies.

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**NOTE**
If an ABS ring is not listed for a particular hub, contact ConMet Customer Service at 800-547-9473.
### Service Parts List (continued)

#### Rebuild Kits and Components

<table>
<thead>
<tr>
<th>PreSet Hubs</th>
<th>Rebuild Kit</th>
<th>Bearing Spacer</th>
<th>Magnetic Fill Plug</th>
</tr>
</thead>
<tbody>
<tr>
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<td>103592</td>
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<td>FL Steer</td>
<td>10009904</td>
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<td>10019884</td>
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<td>103593</td>
<td>10033073</td>
</tr>
<tr>
<td>TN (Tapered)</td>
<td>10005436</td>
<td>104144</td>
<td>10033073</td>
</tr>
<tr>
<td>TP (Straight)</td>
<td>10005437</td>
<td>104412</td>
<td>10033073</td>
</tr>
</tbody>
</table>

Rebuild kit includes seal, bearing spacer, inner cup and cone, outer cup and cone.

**NOTE**

Bearing cups and cones must be replaced as a set.

When bearings are replaced in any PreSet hub, it is recommended that the bearing spacer be replaced as well.

#### Approved Aftermarket Bearing Sets

(Approved suppliers are for aftermarket only and may not be approved for production.)

<table>
<thead>
<tr>
<th>Description</th>
<th>ConMet Number</th>
<th>Bearing Set Number</th>
<th>Approved Suppliers</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC Steer Axle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inner Cup &amp; Cone</td>
<td>10037695</td>
<td></td>
<td>Not available in sets from bearing suppliers.</td>
</tr>
<tr>
<td>Outer Cup &amp; Cone</td>
<td>10037696</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FF Steer Axle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inner Cup &amp; Cone</td>
<td>107500</td>
<td>SET427</td>
<td>Timken / General / SKF</td>
</tr>
<tr>
<td>Outer Cup &amp; Cone</td>
<td>107501</td>
<td>SET428</td>
<td></td>
</tr>
<tr>
<td>FL Steer Axle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inner Cup &amp; Cone</td>
<td>10009902</td>
<td>SET445</td>
<td>Timken / General / SKF</td>
</tr>
<tr>
<td>Outer Cup &amp; Cone</td>
<td>10009903</td>
<td>SET446</td>
<td></td>
</tr>
<tr>
<td>L-Drive Axle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inner Cup &amp; Cone</td>
<td>10037959</td>
<td></td>
<td>Not available in sets from bearing suppliers.</td>
</tr>
<tr>
<td>Outer Cup &amp; Cone</td>
<td>10037960</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-Drive Axle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inner Cup &amp; Cone</td>
<td>107502</td>
<td>SET429</td>
<td>Timken / General / SKF</td>
</tr>
<tr>
<td>Outer Cup &amp; Cone</td>
<td>107503</td>
<td>SET430</td>
<td></td>
</tr>
<tr>
<td>TN Trailer Axle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inner Cup &amp; Cone</td>
<td>107504</td>
<td>SET431</td>
<td>Timken / General / SKF</td>
</tr>
<tr>
<td>Outer Cup &amp; Cone</td>
<td>107500</td>
<td>SET427</td>
<td></td>
</tr>
<tr>
<td>TP Trailer Axle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inner Cup &amp; Cone</td>
<td>107506</td>
<td>SET432</td>
<td>Timken / General / SKF</td>
</tr>
<tr>
<td>Outer Cup &amp; Cone</td>
<td>107506</td>
<td>SET432</td>
<td></td>
</tr>
</tbody>
</table>
## Brake Rotor Minimum Thickness

<table>
<thead>
<tr>
<th>Rotor Part Number</th>
<th>Minimum Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>10016195 Flat Rotor</td>
<td>1.65&quot; (41.9 mm)</td>
</tr>
<tr>
<td>10003830 Hat Shaped Rotor</td>
<td>1.32&quot; (33.5 mm)</td>
</tr>
<tr>
<td>10020109 U-Shaped Rotor</td>
<td>1.46&quot; (37.0 mm)</td>
</tr>
<tr>
<td>10019996 Medium Duty Flat Rotor</td>
<td>1.42&quot; (36.1 mm)</td>
</tr>
<tr>
<td>10009970 Flat Rotor</td>
<td>1.65&quot; (41.9 mm)</td>
</tr>
</tbody>
</table>

## Service Kit Part Numbers

<table>
<thead>
<tr>
<th>Rotor Part Number</th>
<th>Service Kit Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>10016195 Flat Rotor</td>
<td>10018609</td>
</tr>
<tr>
<td>10003830 Hat Shaped Rotor</td>
<td>10030921</td>
</tr>
<tr>
<td>10020109 U-Shaped Rotor</td>
<td>10020682</td>
</tr>
<tr>
<td>10019996 Medium Duty Flat Rotor</td>
<td>10020611</td>
</tr>
<tr>
<td>10009970 Flat Rotor</td>
<td>10016390</td>
</tr>
</tbody>
</table>
# Specifications

## Wheel End Torque Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Measurement</th>
<th>Torque (ft-lbs)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ball Seat Wheel Nut</td>
<td>3/4 - 16</td>
<td>450-500</td>
<td>Always tighten the top nut first or pilot damage may result. If lubricant is used, apply sparingly on threads only. Do not lubricate the faces of the hub, drum, wheel or on the ball seats of the wheel nuts. The last nut rotation should be with a calibrated torque device.</td>
</tr>
<tr>
<td></td>
<td>1-1/8 - 16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hub Pilot Wheel Nut</td>
<td>22 mm x 1.5 mm</td>
<td>450-500</td>
<td>Always tighten the top nut first or pilot damage may result. Apply two drops of oil between the nut and nut flange, and two or three drops to the outermost 2 or 3 threads of the wheel studs. Lightly lubricate the wheel pilots on the hub. The last nut rotation should be with a calibrated torque device.</td>
</tr>
<tr>
<td>Drive, Studs, Installation Torque</td>
<td>3/4 - 16</td>
<td>40 - 90</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5/8 - 18</td>
<td>40 - 90</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9/16 - 18</td>
<td>40 - 60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1/2 - 20</td>
<td>40 - 60</td>
<td></td>
</tr>
<tr>
<td>Hub Cap</td>
<td>5/16 - 18</td>
<td>12 - 18</td>
<td>Minimum SAE Grade 5 fasteners, flat washers only.</td>
</tr>
<tr>
<td>Oil Fill Plug</td>
<td>1/4 NPT</td>
<td>20 - 25</td>
<td>O-Ring Style</td>
</tr>
<tr>
<td></td>
<td>3/8 NPT</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9/16 - 18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bolt-On ABS Ring Screw</td>
<td>8-32</td>
<td>18-22 in-lbs</td>
<td>-</td>
</tr>
<tr>
<td>Disc Brake Rotor Screw</td>
<td>M8 x 1.25</td>
<td>18 - 22</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1/2 - 20</td>
<td>100 - 110</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9/16 - 12</td>
<td>130 - 150</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5/8 - 11</td>
<td>190 - 210</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5/8 - 18</td>
<td>155 - 195</td>
<td></td>
</tr>
<tr>
<td>Disc Brake Rotor Nut</td>
<td>5/8 - 18</td>
<td>180 - 210</td>
<td>-</td>
</tr>
<tr>
<td>Disc Brake Rotor</td>
<td>M16 x 1.5</td>
<td>190 - 210</td>
<td>-</td>
</tr>
<tr>
<td>Drive Axle Flange Nuts</td>
<td></td>
<td></td>
<td>See axle manufacturer’s recommendations for proper drive axle nut torque.</td>
</tr>
<tr>
<td>PreSet 2-Piece Nut (FF, FL, R, TN, TP, L)</td>
<td>300 Inner 200 Outer</td>
<td>300 minimum. Advance to nearest lock. Set wrench at 200 for outer nut. <strong>NO BACK OFF.</strong></td>
<td></td>
</tr>
<tr>
<td>PreSet 2-Piece Nut (FC-Medium Duty Steer Hub)</td>
<td>150 Inner 100 Outer</td>
<td>150 minimum. Advance to nearest lock. Set wrench at 100 for outer nut. <strong>NO BACK OFF.</strong></td>
<td></td>
</tr>
<tr>
<td>PreSet 1-Piece Nut (FF, FL, R, TN, TP, L)</td>
<td>300</td>
<td>300 minimum. Advance to nearest lock. <strong>NO BACK OFF.</strong></td>
<td></td>
</tr>
<tr>
<td>PreSet 1-Piece Nut (FC-Medium Duty Steer Hub)</td>
<td>150</td>
<td>150 minimum. Advance to nearest lock. <strong>NO BACK OFF.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>PreSet Plus</strong> Drive and Trailer Nut</td>
<td>500</td>
<td>Set wrench at 500. <strong>NO BACK OFF.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>PreSet Plus</strong> Steer Nut</td>
<td>300</td>
<td>Set wrench at 300. <strong>NO BACK OFF.</strong></td>
<td></td>
</tr>
</tbody>
</table>