

SERVICE REPAIR

MANUAL

Hyster R005 (H80FT, H90FT, H100FT, H110FT, H120FT)
Forklift Service Repair Manual

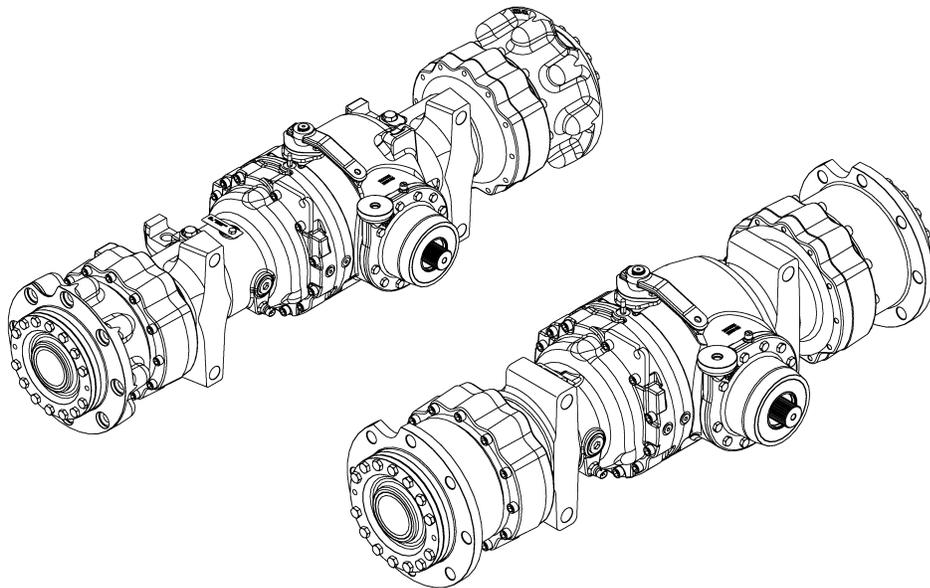
HYSTER

DRIVE AXLE AND DIFFERENTIAL ASSEMBLY REPAIR (WET BRAKE - NMHG)

**S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT;
S80, 100FTBCS; S120FTS; S120FTPRS)**

[H004, J004];

**H4.0FT5/FT6; H4.5FTS5, H4.5FT6; H5.0-5.5FT
(H80, 90, 100, 110, 120FT) [R005, S005, U005]**



HYSTER

SAFETY PRECAUTIONS

MAINTENANCE AND REPAIR

- The Service Manuals are updated on a regular basis, but may not reflect recent design changes to the product. Updated technical service information may be available from your local authorized Hyster® dealer. Service Manuals provide general guidelines for maintenance and service and are intended for use by trained and experienced technicians. Failure to properly maintain equipment or to follow instructions contained in the Service Manual could result in damage to the products, personal injury, property damage or death.
- When lifting parts or assemblies, make sure all slings, chains, or cables are correctly fastened, and that the load being lifted is balanced. Make sure the crane, cables, and chains have the capacity to support the weight of the load.
- Do not lift heavy parts by hand, use a lifting mechanism.
- Wear safety glasses.
- DISCONNECT THE BATTERY CONNECTOR before doing any maintenance or repair on electric lift trucks. Disconnect the battery ground cable on internal combustion lift trucks.
- Always use correct blocks to prevent the unit from rolling or falling. See HOW TO PUT THE LIFT TRUCK ON BLOCKS in the **Operating Manual** or the **Periodic Maintenance** section.
- Keep the unit clean and the working area clean and orderly.
- Use the correct tools for the job.
- Keep the tools clean and in good condition.
- Always use **HYSTER APPROVED** parts when making repairs. Replacement parts must meet or exceed the specifications of the original equipment manufacturer.
- Make sure all nuts, bolts, snap rings, and other fastening devices are removed before using force to remove parts.
- Always fasten a DO NOT OPERATE tag to the controls of the unit when making repairs, or if the unit needs repairs.
- Be sure to follow the **WARNING** and **CAUTION** notes in the instructions.
- Gasoline, Liquid Petroleum Gas (LPG), Compressed Natural Gas (CNG), and Diesel fuel are flammable. Be sure to follow the necessary safety precautions when handling these fuels and when working on these fuel systems.
- Batteries generate flammable gas when they are being charged. Keep fire and sparks away from the area. Make sure the area is well ventilated.

NOTE: The following symbols and words indicate safety information in this manual:



WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury and property damage.

On the lift truck, the **WARNING** symbol and word are on orange background. The **CAUTION** symbol and word are on yellow background.

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This section is for the following models:

S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS;
S120FTPRS) [H004, J004];
H4.0FT5/FT6; H4.5FTS5, H4.5FT6; H5.0-5.5FT (H80, 90, 100, 110, 120FT)
[R005, S005, U005]

**Thanks very much for your reading,
Want to get more information,
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manual**

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click on it.**

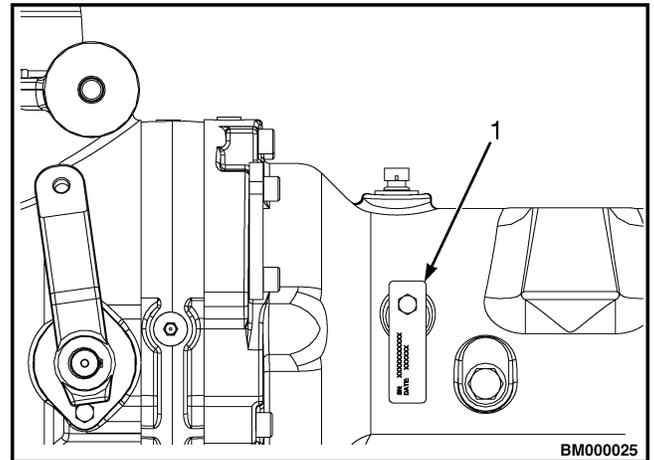
**Have any questions please write to me:
admin@servicemanualperfect.com**

General

This manual covers the repair of the drive axle, differential, and wet disc brakes.

IDENTIFICATION PLATE

See Figure 1.



1. IDENTIFICATION PLATE

Figure 1. Identification Plate

Drive Axle Removal



WARNING

When putting the lift truck on blocks, make sure the surface is solid, even, and level. Any blocks used to support the lift truck must be solid, one-piece units.

1. Put blocks on each side (front and back) of steering tires to prevent movement of lift truck.
2. Raise lift truck and put blocks under frame so that drive wheels do not touch floor. Put blocks under counterweight for stability.
3. Remove mast assembly as described in section **Mast Repairs (S/N A513, A514, A613, A614, A702, A703, A704, A705, A706, A707, A751, A752, B513, B514, B586, B587, B588, B589, B590, B591, B749, B750, B751, B752, B753, B754) 4000SRM1250.**



WARNING

On lift trucks with pneumatic tires, completely remove air from tires before removing them from lift truck. Air pressure in tires can cause tire and rim parts to explode, which can cause serious injury

or death. Never loosen nuts that hold together inner and outer wheel halves when there is air pressure in tire.

4. Remove wheels.
5. Remove fill plugs on both sides of drive axle.

See Figure 2 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

See Figure 3 for lift truck models

- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

6. Remove the drive axle trumpet arm (right side) fill/level plug.

See Figure 2 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

See Figure 3 for lift truck models

- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

See Figure 3 for lift truck models

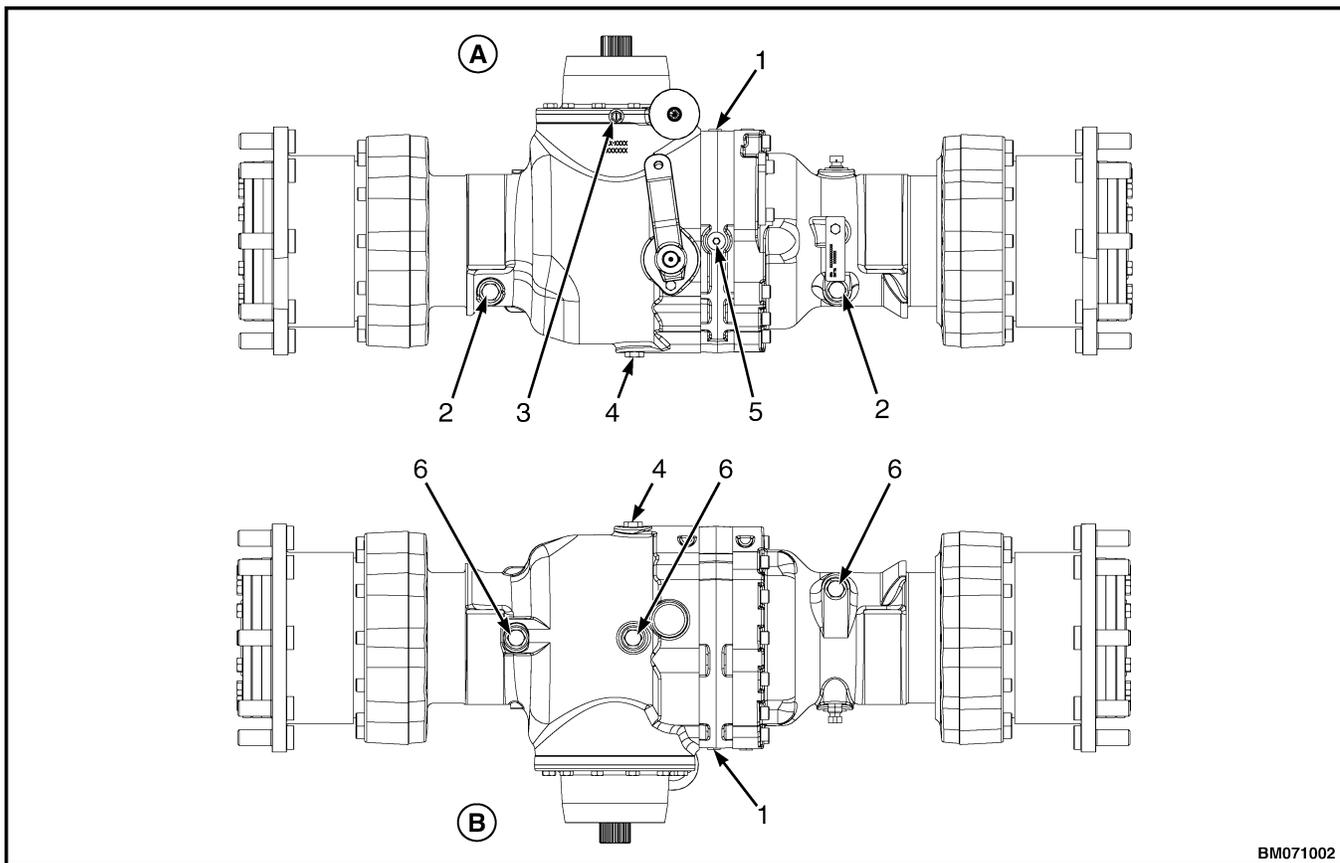
- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

7. Remove the drain plugs to drain the oil into a suitable container.

8. Remove the parking brake cable. Refer to the section **Wet Brakes - NMHG 1800SRM1597**.

See Figure 2 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)



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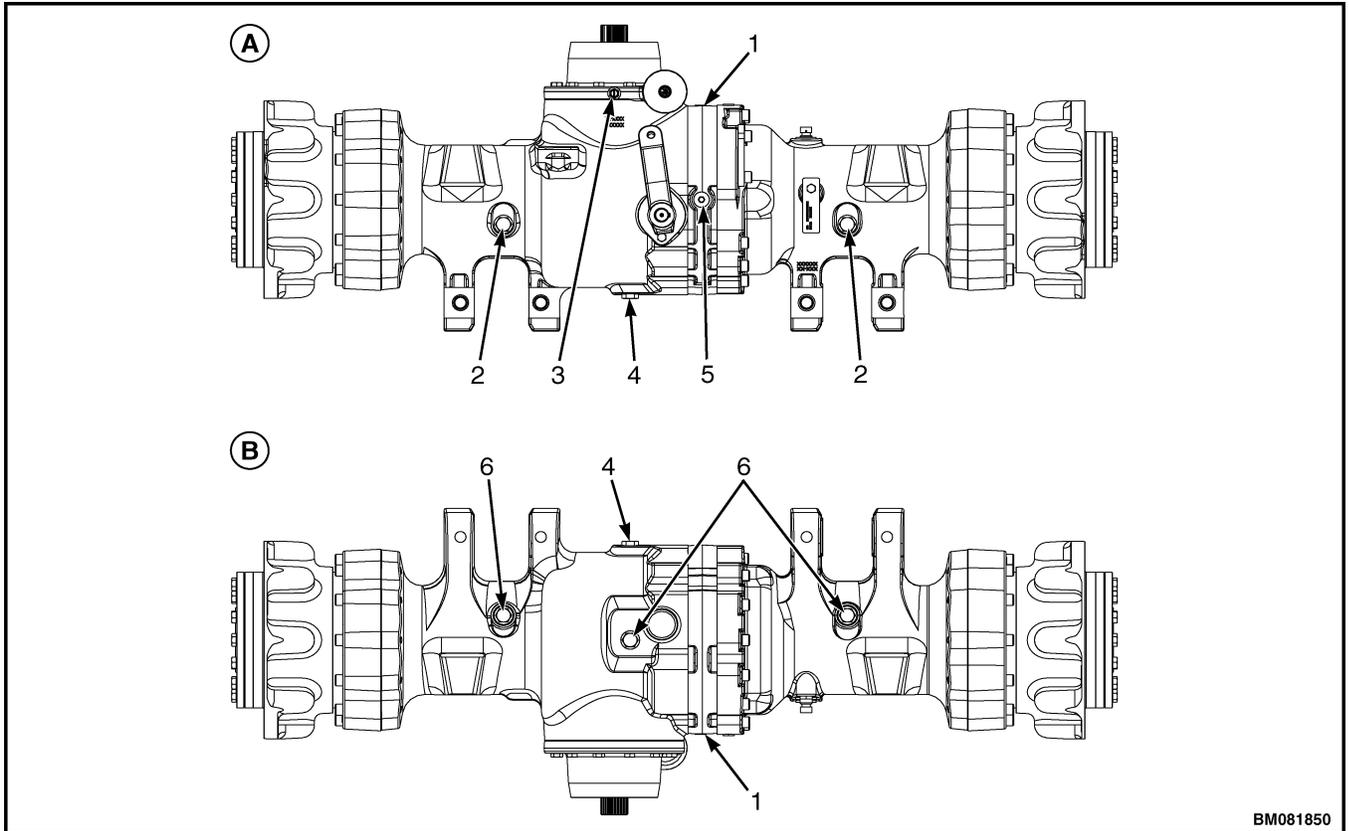
A. TOP VIEW SHOWN

B. BOTTOM VIEW SHOWN

1. SERVICE BRAKE PORT
2. FILL PLUG
3. OIL BREATHER

4. FILL/LEVEL PLUG
5. BRAKE BLEEDER VALVE
6. DRAIN PLUG

Figure 2. Drive Axle Drain and Fill/Level Plugs for Lift Truck Models S4.0, 4.5, 5.5FT, S5.5FTS, (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)



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A. TOP VIEW SHOWN

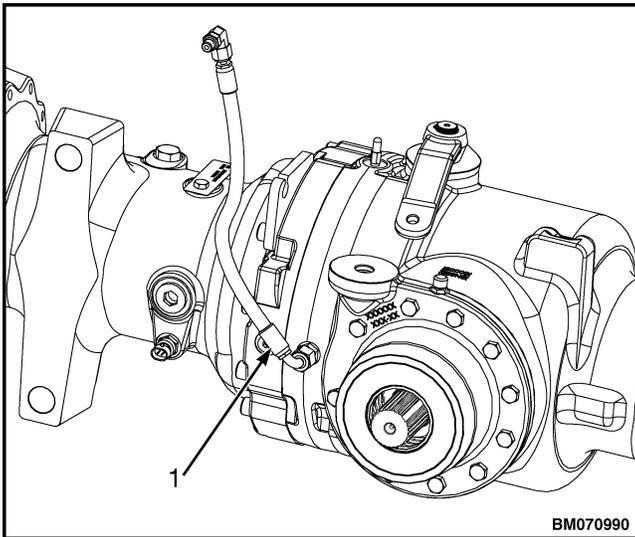
- 1. SERVICE BRAKE PORT
- 2. FILL PLUG
- 3. OIL BREATHER

B. BOTTOM VIEW SHOWN

- 4. FILL/LEVEL PLUG
- 5. BRAKE BLEEDER VALVE
- 6. DRAIN PLUG

Figure 3. Drive Axle Drain and Fill/Level Plugs for Lift Truck Models H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

9. Disconnect the brake line from the piston chamber and drain oil into a suitable container. See Figure 4.

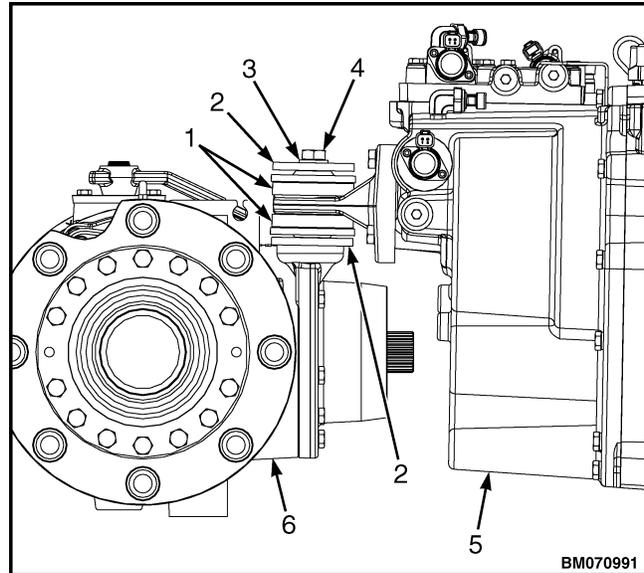


1. BRAKE LINE

Figure 4. Brake Line and Piston Chamber

10. Place blocks under the axle assembly and connect slings and lifting device.
11. Place blocks under the transmission to support the transmission while removing the drive axle.
12. Remove the capscrews holding the drive shaft and remove the drive shaft.
13. Remove the transmission isolator mounting bolt located on top of the assembly. See Figure 5.
14. Remove the four mounting capscrews and washers from the drive axle. See Figure 6.

15. Remove blocks and lower the drive axle assembly. Pull axle forward and away from frame.
16. Place blocks under the differential assembly.



NOTE: DRIVE AXLE FOR H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005) SHOWN. TRANSMISSION MOUNTING FOR S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004) IS SIMILAR.

1. ISOLATORS
2. WASHER
3. WASHER
4. CAPSCREW
5. TRANSMISSION
6. DRIVE AXLE

Figure 5. Transmission to Differential Mounting Bolt

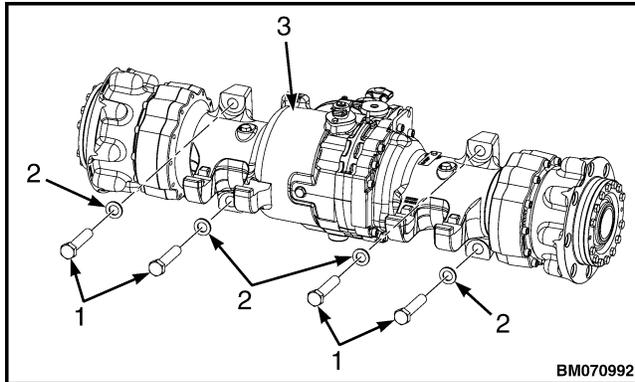


Figure 6. Drive Axle Mounting Capscrews

Legend for Figure 6

NOTE: DRIVE AXLE FOR H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005) SHOWN. TRANSMISSION MOUNTING FOR S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004) IS SIMILAR.

1. CAPSCREW
2. WASHER
3. DRIVE AXLE

Reduction Gear Assembly

REMOVE

1. Remove fourteen capscrews in wheel hub coupler.

See Figure 7 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

See Figure 8 for lift truck models

- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

2. Install two of fourteen capscrews in wheel hub removal holes. DO NOT tighten capscrews.

See Figure 9 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

See Figure 10 for lift truck models

- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

3. Once capscrews are snug, begin an alternating tightening sequence between two capscrews. Make sure to turn each capscrew same amount before returning to previous capscrew. Before capscrews bottom out, wheel hub coupler will be freed from wheel hub.

4. Once wheel hub coupler is free, bearing cap may be driven free from wheel hub coupler (if it shows signs of damage) with a soft hammer/mallet. Discard bearing cap if removed.

5. Remove two O-rings from wheel hub coupler and discard.

See Figure 9 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

See Figure 10 for lift truck models

- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

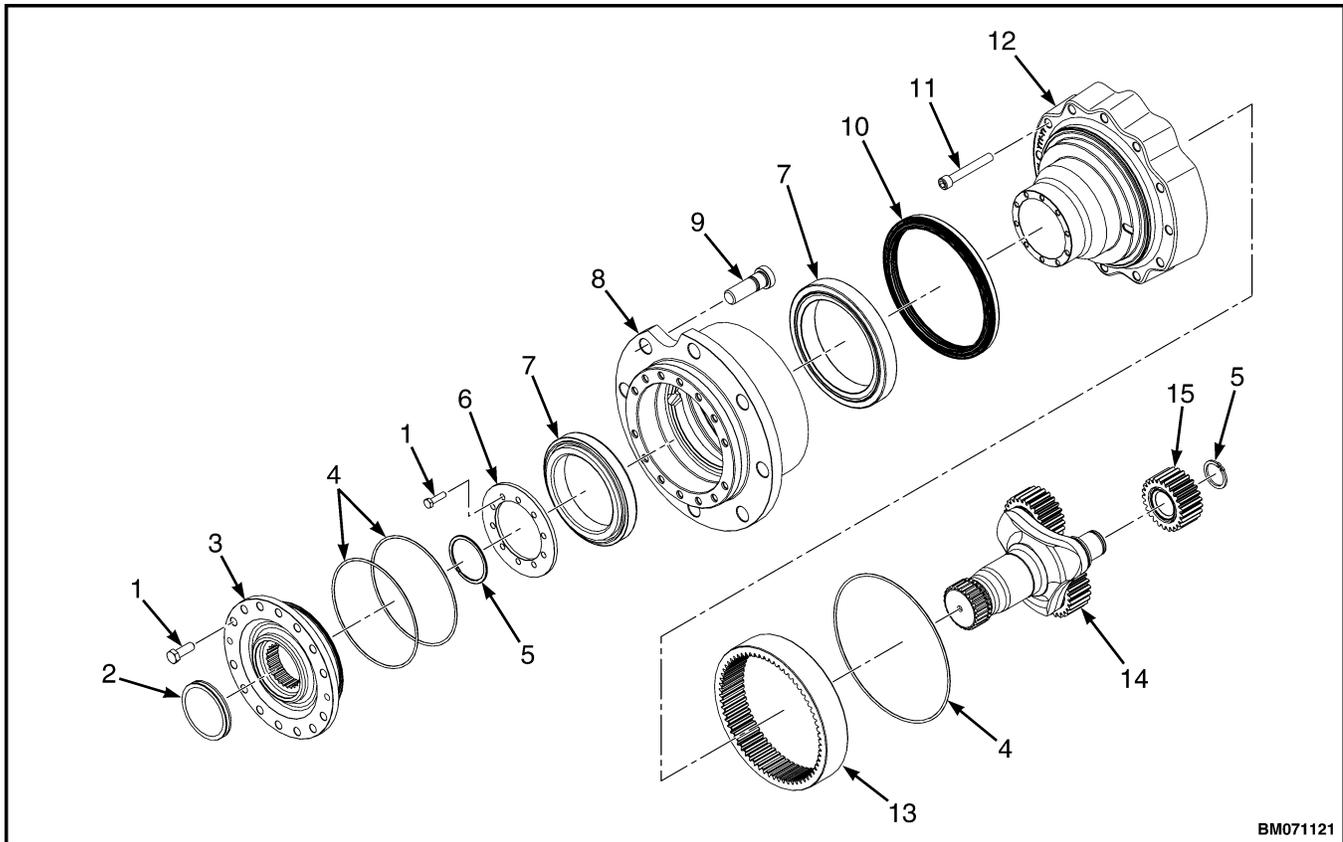
6. Remove ten capscrews holding retaining plate to wheel bearing support. See Figure 11.

7. Rotate wheel hub to access socket head capscrews in wheel bearing support.

8. Remove twelve socket head capscrews in wheel bearing support. See Figure 12.

9. Remove reduction gear assembly from drive axle trumpet arm (left side). See Figure 12.

10. Remove and discard O-ring. See Figure 12 depending on lift truck model.

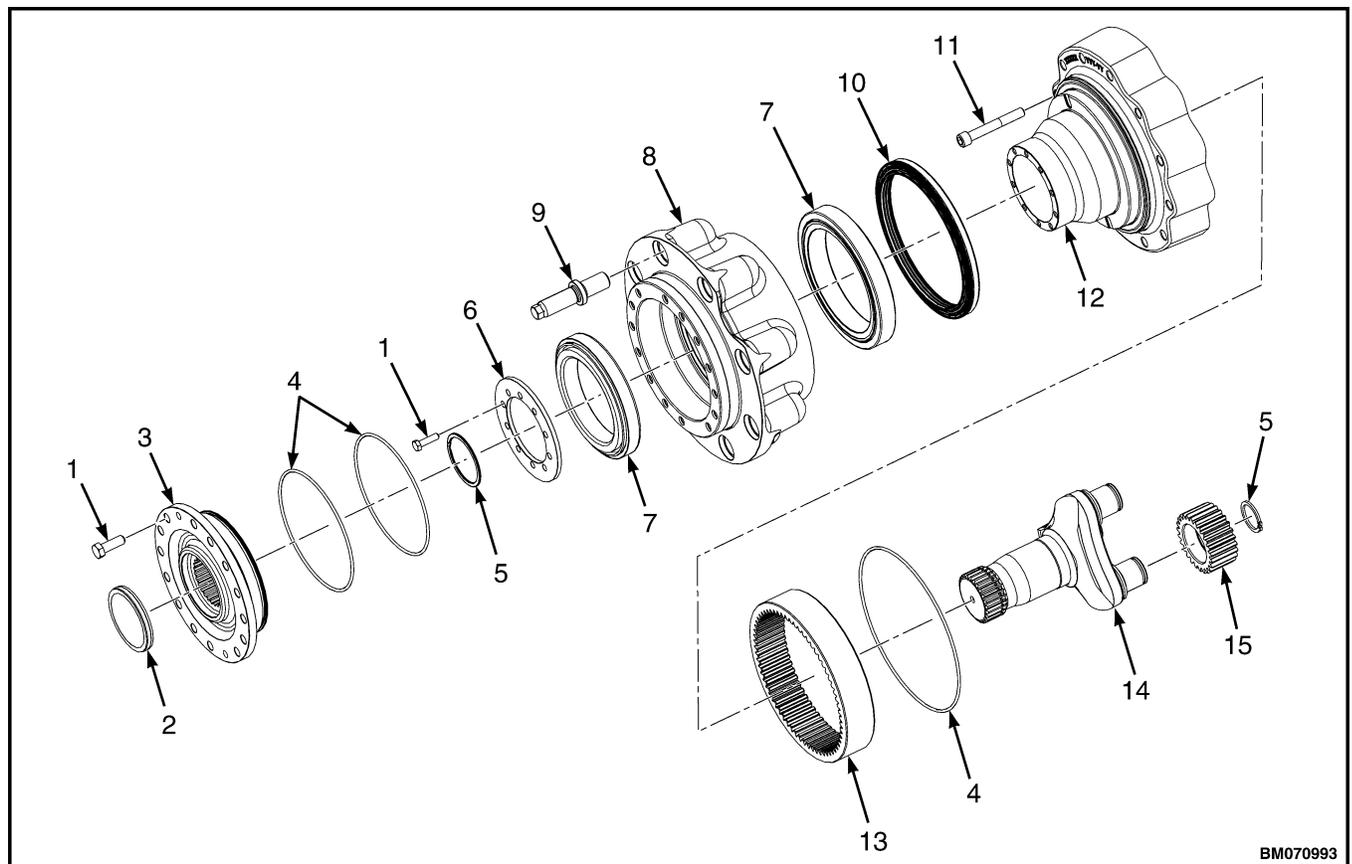


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NOTE: LEFT REDUCTION GEAR SHOWN. THE COMPONENTS FOR RIGHT SIDE ARE SAME.

- | | |
|----------------------|---------------------------|
| 1. CAPSCREW | 9. WHEEL STUD |
| 2. BEARING CAPS | 10. SEAL |
| 3. WHEEL HUB COUPLER | 11. SOCKET HEAD CAPSCREW |
| 4. O-RING | 12. WHEEL BEARING SUPPORT |
| 5. SNAP RING | 13. RING GEAR |
| 6. RETAINER PLATE | 14. PLANETARY CARRIER |
| 7. BEARING SET | 15. PLANETARY GEAR |
| 8. WHEEL HUB | |

Figure 7. Reduction Gear Assembly for Lift Truck Model S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

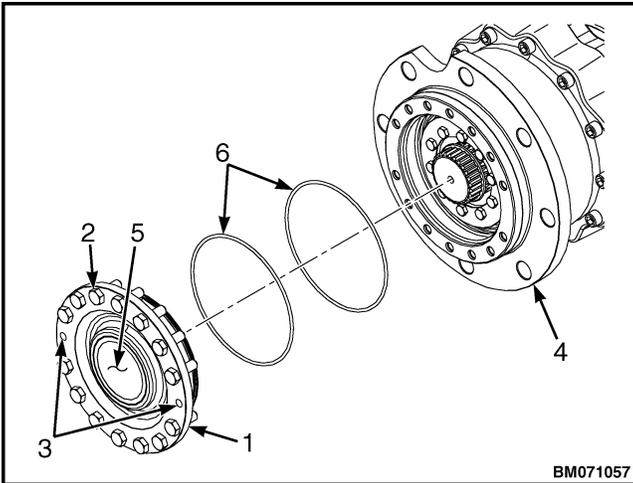


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NOTE: LEFT REDUCTION GEAR SHOWN. THE COMPONENTS FOR RIGHT SIDE ARE SAME.

- | | |
|----------------------|---------------------------|
| 1. CAPSCREW | 9. WHEEL STUD |
| 2. BEARING CAPS | 10. SEAL |
| 3. WHEEL HUB COUPLER | 11. SOCKET HEAD CAPSCREW |
| 4. O-RING | 12. WHEEL BEARING SUPPORT |
| 5. SNAP RING | 13. RING GEAR |
| 6. RETAINER PLATE | 14. PLANETARY CARRIER |
| 7. BEARING SET | 15. PLANETARY GEAR |
| 8. WHEEL HUB | |

Figure 8. Reduction Gear Assembly for Lift Truck Model H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)



1. WHEEL HUB COUPLER
2. CAPSCREWS
3. REMOVAL HOLES
4. WHEEL HUB
5. BEARING CAP
6. O-RING

Figure 9. Wheel Hub Coupler for Lift Truck Models S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

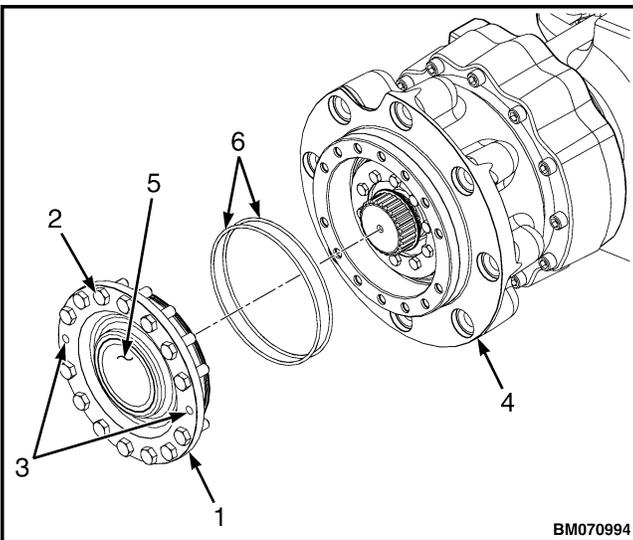
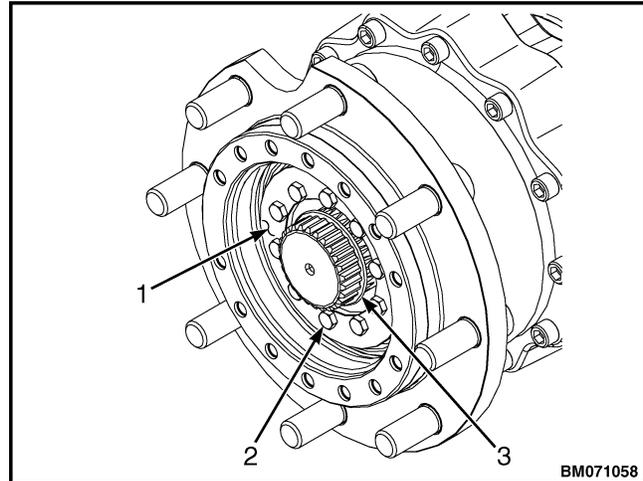


Figure 10. Wheel Hub Coupler for Lift Truck Models H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

Legend for Figure 10

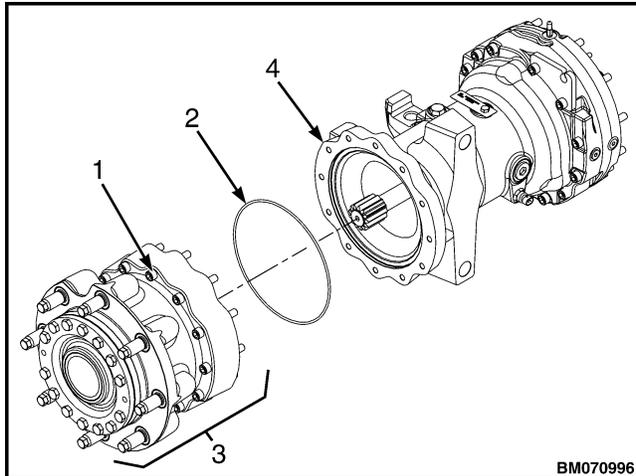
1. WHEEL HUB COUPLER
2. CAPSCREWS
3. REMOVAL HOLES
4. WHEEL HUB
5. BEARING CAP
6. O-RING



NOTE: RETAINING PLATE FOR LIFT TRUCK MODELS S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004) SHOWN. H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005) IS SIMILAR.

1. RETAINING PLATE
2. CAPSCREW
3. SNAP RING

Figure 11. Retaining Plate



NOTE: REDUCTION GEAR FOR H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005) SHOWN. S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004) IS SIMILAR.

1. SOCKET HEAD CAPSCREW
2. O-RING
3. REDUCTION GEAR ASSEMBLY
4. DRIVE AXLE TRUMPET ARM (LEFT SIDE)

Figure 12. Removing Reduction Gear From Drive Axle Trumpet Arm (Left Side) for Lift Truck Models H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

DISASSEMBLE

1. Place reduction gear assembly in a soft jawed vise.
2. Remove planetary gear carrier. See Figure 13.
3. Remove ring gear.

See Figure 13 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

See Figure 14 for lift truck models

- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

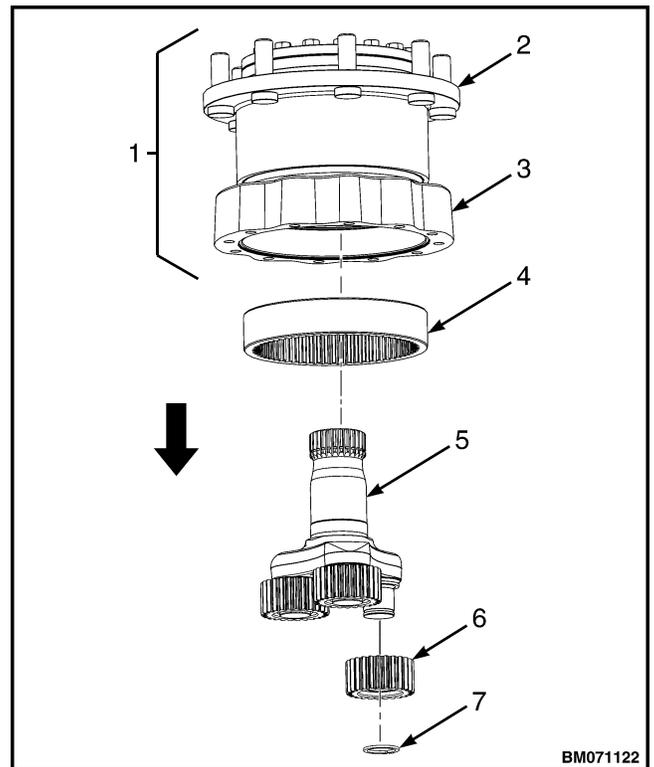
4. Remove snap ring from planetary gear carrier in front of planetary gear.

See Figure 13 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

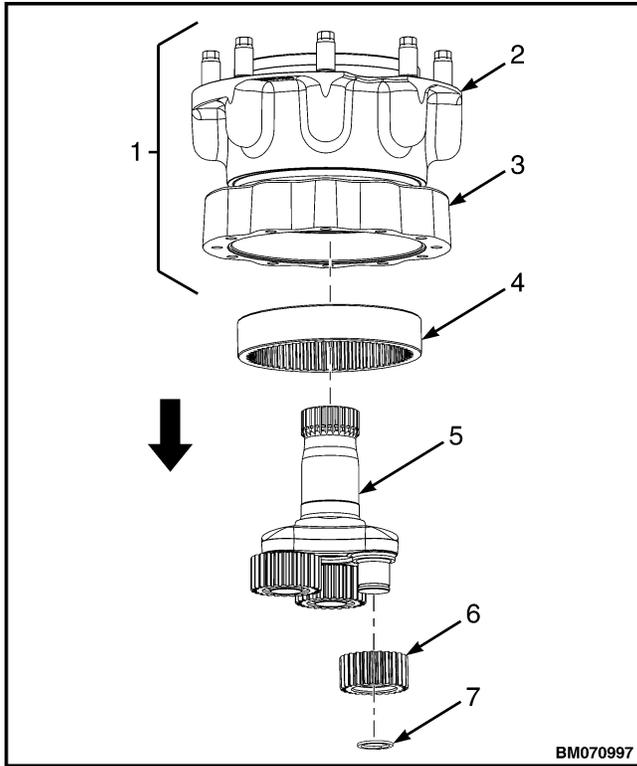
See Figure 14 for lift truck models

- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)



1. REDUCTION GEAR ASSEMBLY
2. WHEEL HUB
3. WHEEL BEARING SUPPORT
4. RING GEAR
5. PLANETARY GEAR CARRIER
6. PLANETARY GEAR
7. SNAP RING

Figure 13. Planetary Gears and Ring Gear Removal for Lift Truck Models S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)



1. REDUCTION GEAR ASSEMBLY
2. WHEEL HUB
3. WHEEL BEARING SUPPORT
4. RING GEAR
5. PLANETARY GEAR CARRIER
6. PLANETARY GEAR
7. SNAP RING

Figure 14. Planetary Gears and Ring Gear Removal for Lift Truck Models H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

5. Remove planetary gear.

See Figure 13 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

See Figure 14 for lift truck models

- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

6. Repeat Step 4 through Step 6 for other two planetary gears and bearings.
7. Remove thrust block if signs of wear are present.

See Figure 13 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

See Figure 14 for lift truck models

- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

NOTE: Perform following step with wheel hub under a press on a suitable support, using appropriate driver.

8. Pull wheel hub from wheel bearing support.

NOTE: The wheel bearing cone will remain on wheel bearing support. The bearing cup will remain in wheel hub.

NOTE: Step 9 and Step 10 need to be performed with wheel hub on a flat surface.

9. Using appropriate bearing puller, remove inboard bearing cone from wheel bearing support.

10. Using a pry bar, remove and discard seal ring. See Figure 15.

11. Place wheel hub in a soft jawed vise.

NOTE: Inspect bearing cups before removal.

12. Using a drift and hammer remove outboard bearing cup from wheel hub.

See Figure 15 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

See Figure 16 for lift truck models

- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

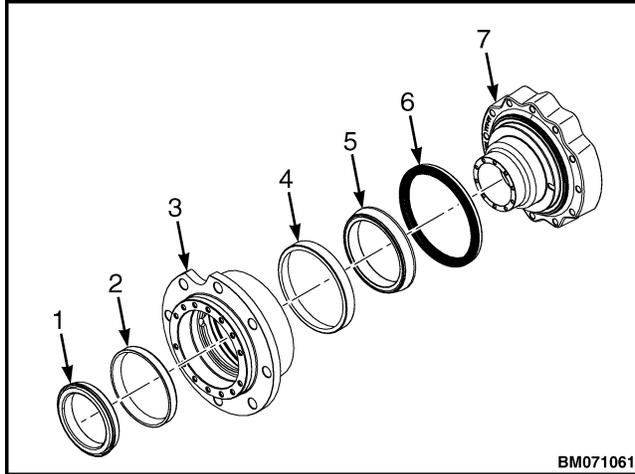
13. Using a drift and hammer drive inboard bearing cone from wheel hub.

See Figure 15 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

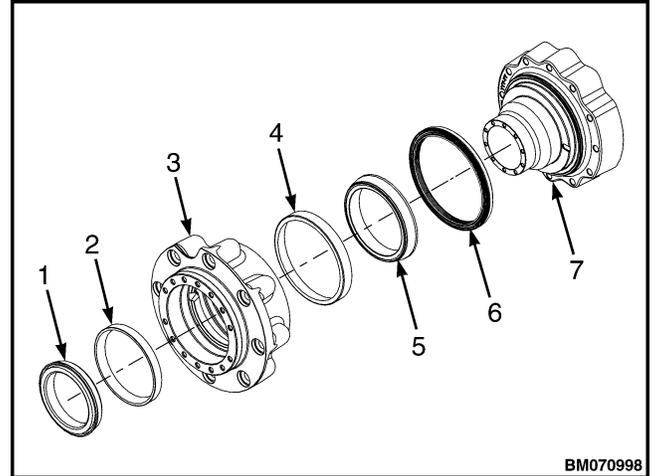
See Figure 16 for lift truck models

- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)



1. OUTBOARD BEARING CONE
2. OUTBOARD BEARING CUP
3. WHEEL HUB
4. INBOARD BEARING CUP
5. INBOARD BEARING CONE
6. SEAL
7. WHEEL BEARING SUPPORT

Figure 15. Wheel Hub Bearings, Seal, and Bearing Support for Lift Truck Models S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)



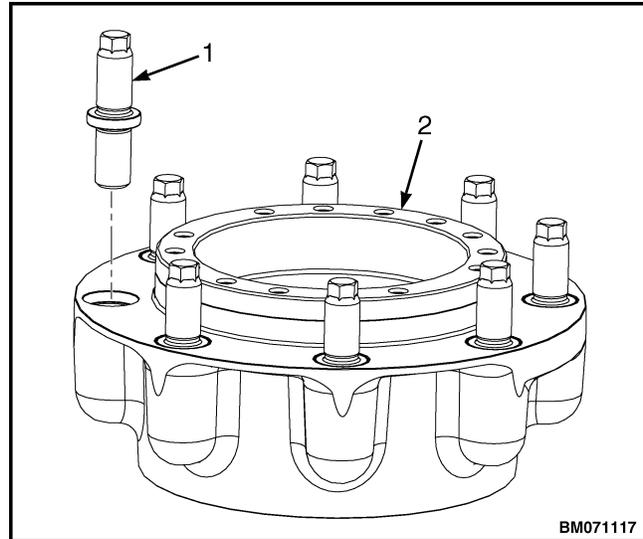
1. OUTBOARD BEARING CONE
2. OUTBOARD BEARING CUP
3. WHEEL HUB
4. INBOARD BEARING CUP
5. INBOARD BEARING CONE
6. SEAL
7. WHEEL BEARING SUPPORT

Figure 16. Wheel Hub Bearings, Seal, and Bearing Support for Lift Truck Models H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

NOTE: Perform Step 14 only if necessary. If wheel studs are removed they will need to be replaced with new wheel studs. It is recommended to place an oversized socket or spacer under wheel stud being removed to support wheel hub's flange and prevent warping during wheel stud removal.

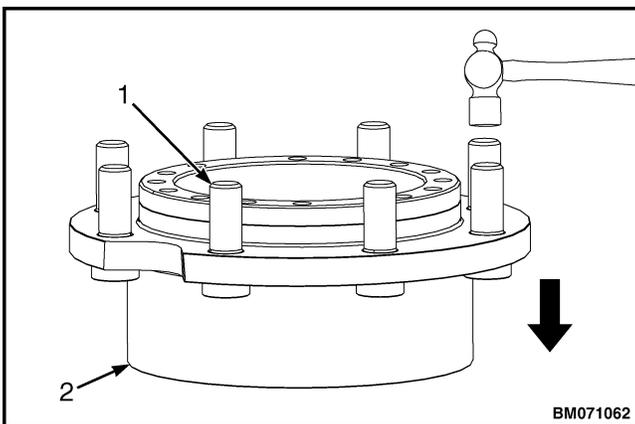
14. For lift truck models S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004), remove wheel studs from wheel hub with a hammer or press. See Figure 17.

Wheel studs for lift truck models H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005) can be removed with correct size socket. See Figure 18.



1. WHEEL STUD
2. WHEEL HUB

Figure 18. Wheel Studs Removal for Lift Truck Models H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)



1. WHEEL HUB
2. WHEEL STUD

Figure 17. Wheel Studs Removal for Lift Truck Models S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

CLEAN AND INSPECT**WARNING**

Cleaning solvents can be flammable and toxic and can cause skin irritation. When using cleaning solvents, always follow the recommendations of the manufacturer.

**WARNING**

Compressed air can move particles so that they cause injury to the user or to other personnel. Make sure that the path of the compressed air is away from all personnel. Wear protective goggles or a face shield to prevent injury to the eyes.

Clean and inspect following parts of reduction gear assembly:

- **Tapered roller bearings**
 - Inspect cup, cone, rollers, and cage of all tapered roller bearings in assembly. If bearings show signs of wear, cracks, or damage, replace with new bearing.
- **Ring gear** - Inspect ring gear for wear or damage. If gear is worn or damaged it must be replaced.
- **Wheel hub and wheel hub support** - Inspect wheel hub and wheel hub support for wear or damage. Parts that are damaged must be replaced.
- **Planetary carrier and parts** - Inspect all parts of planetary carrier for wear or damage. Parts that are damaged must be replaced. If gears are replaced, new needle bearings must be used. If any planet gear needs to be replaced, all planet gears should be replaced.

ASSEMBLE

1. For lift truck models S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004), support wheel hub. It is recommended to use a steel ring (spacer) with dimensions as shown in Figure 19, but blocks may be used as well as long as there is enough clearance to install wheel stud completely. Support wheel hub flange where wheel stud is to be installed with an over sized socket

or spacer (as shown in Figure 20) to prevent warping wheel hub flange.

For lift truck models H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005), place wheel hub as shown in Figure 21.

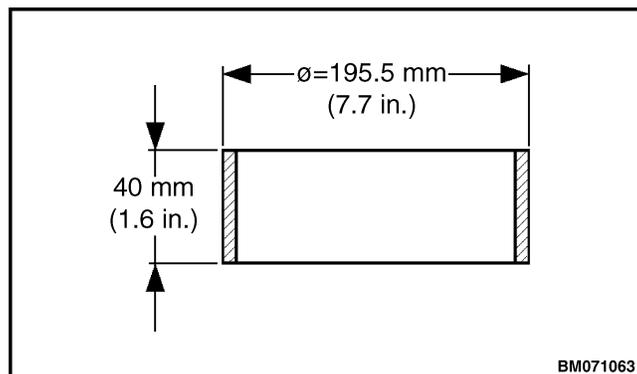


Figure 19. Steel Ring

2. For lift truck models S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004), using a press or hammer, install wheel studs. See Figure 20.

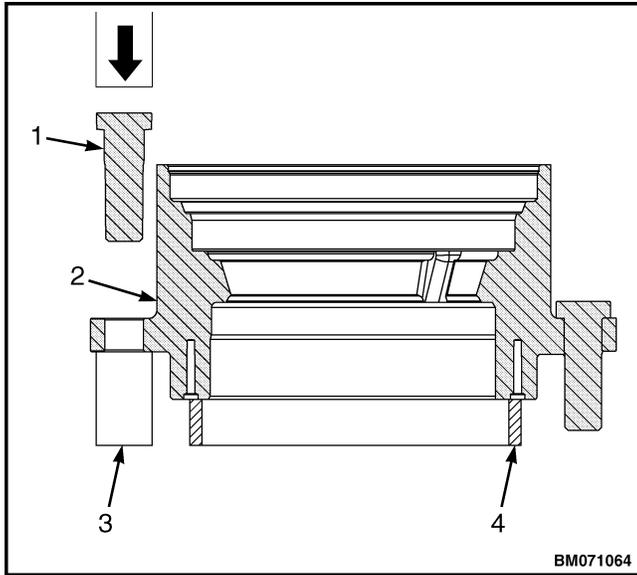
For lift truck models H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005) apply a coat of Loctite 2760™ or Loctite 277™ on to threads of wheel stud ends threading into wheel hub and tighten wheel studs to 245 to 300 N•m (181 to 221 lbf ft). See Figure 21.

3. Using appropriate driver tool install new seal on to wheel bearing support. See Figure 22.

**WARNING**

Hot parts. Wear protective clothing and gloves to prevent burns.

4. Place wheel bearing support on a flat surface. Heat a new inboard bearing cone to 80 to 90°C (176 to 194°F). Using appropriate driver tool install inboard bearing cone on to wheel bearing support. Once inboard bearing cone is cool, lubricate with multipurpose grease.



1. WHEEL STUD
2. WHEEL HUB
3. SOCKET OR SPACER
4. STEEL RING, SPACER, OR BLOCKS

Figure 20. Wheel Studs Install for Lift Truck Models S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

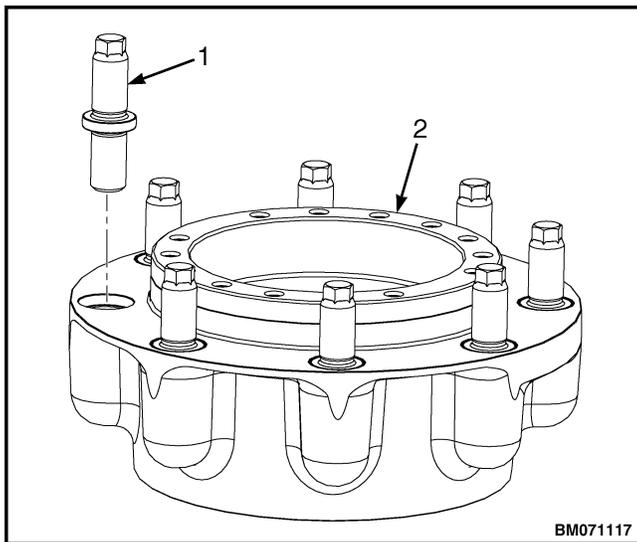
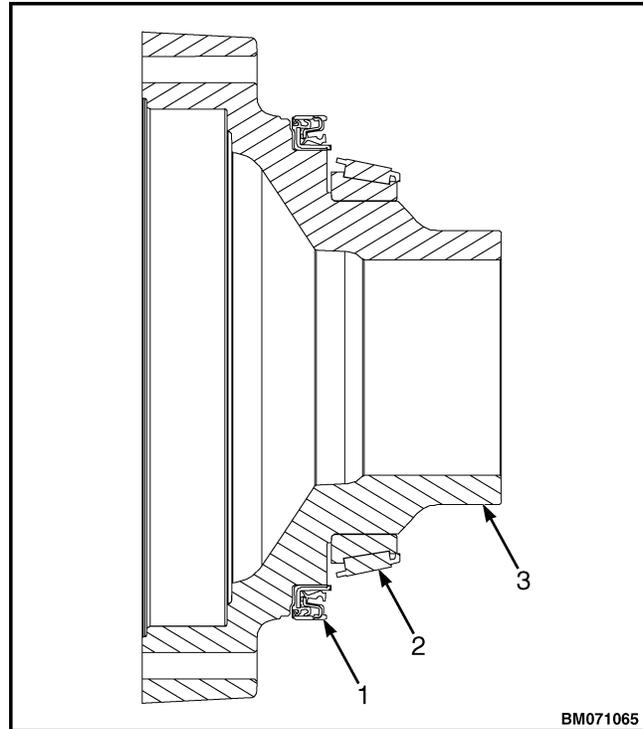


Figure 21. Wheel Studs Install for Lift Truck Models S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

Legend for Figure 21

1. WHEEL STUD
2. WHEEL HUB



1. SEAL
2. INBOARD BEARING CONE
3. WHEEL BEARING SUPPORT

Figure 22. Wheel Bearing Support

NOTE: A press or hammer used with appropriate driver tool will be required for installation of bearings, bearing cones, and bearing cups.

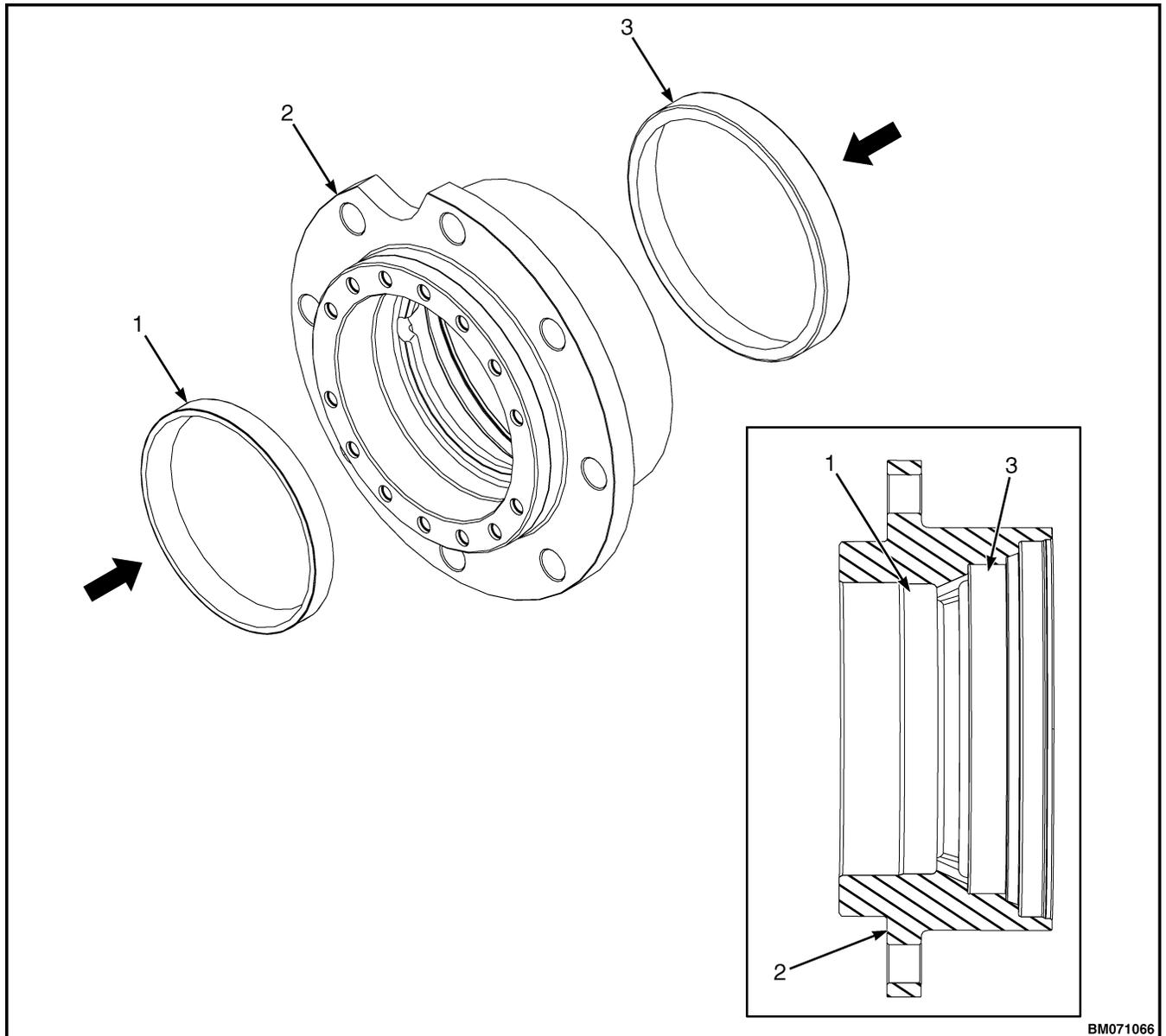
5. With wheel hub on a flat surface, install a new inboard bearing cup into wheel hub.

See Figure 23 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

See Figure 24 for lift truck models

- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)



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- 1. OUTBOARD BEARING CUP
- 2. WHEEL HUB

- 3. INBOARD BEARING CUP

Figure 23. Bearing Cups Install for Lift Truck Models S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

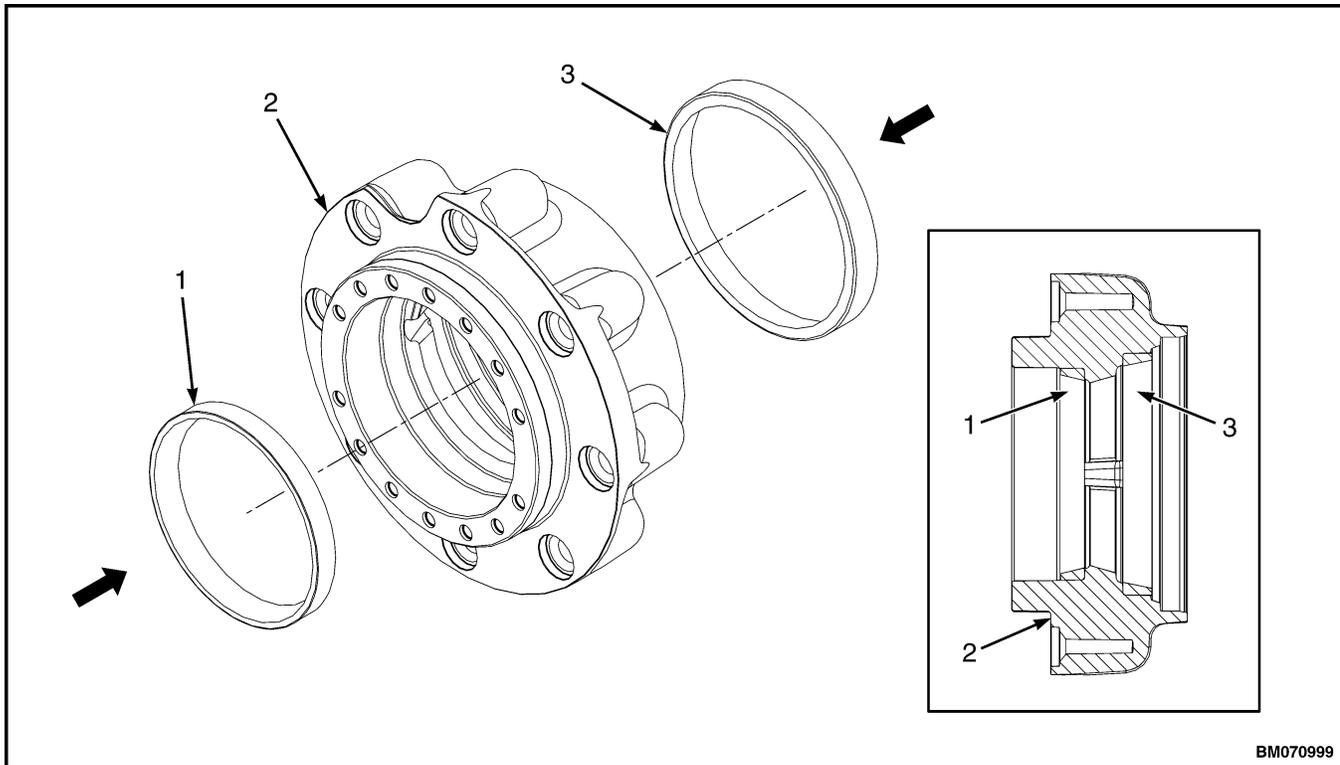
6. Place wheel bearing support on a press with in-board bearing cone facing up. Position wheel hub over wheel bearing support with wheel studs pointing up.
7. Using a press install wheel hub on wheel bearing support.

See Figure 23 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

See Figure 24 for lift truck models

- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

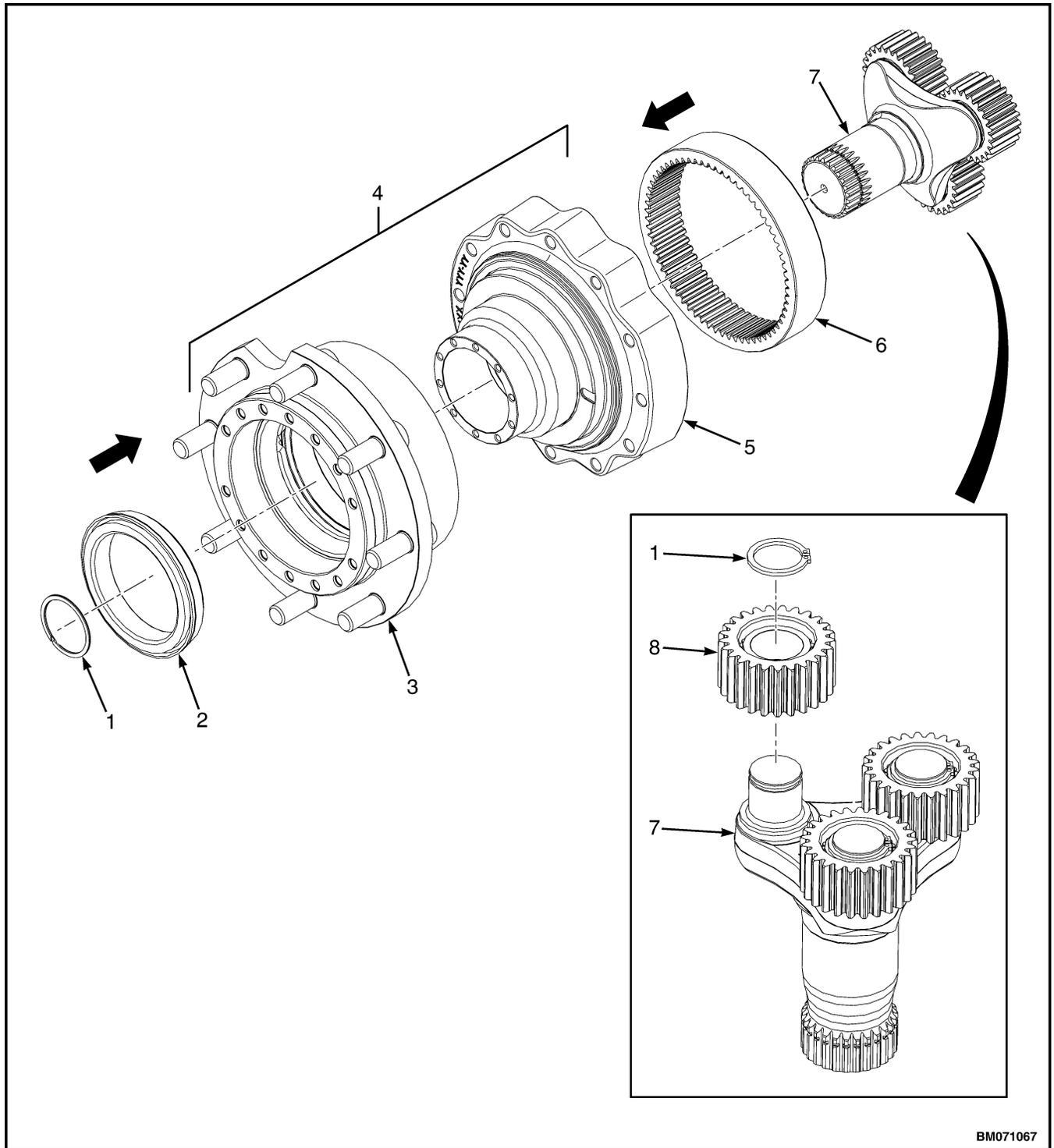


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1. OUTBOARD BEARING CUP
2. WHEEL HUB

3. INBOARD BEARING CUP

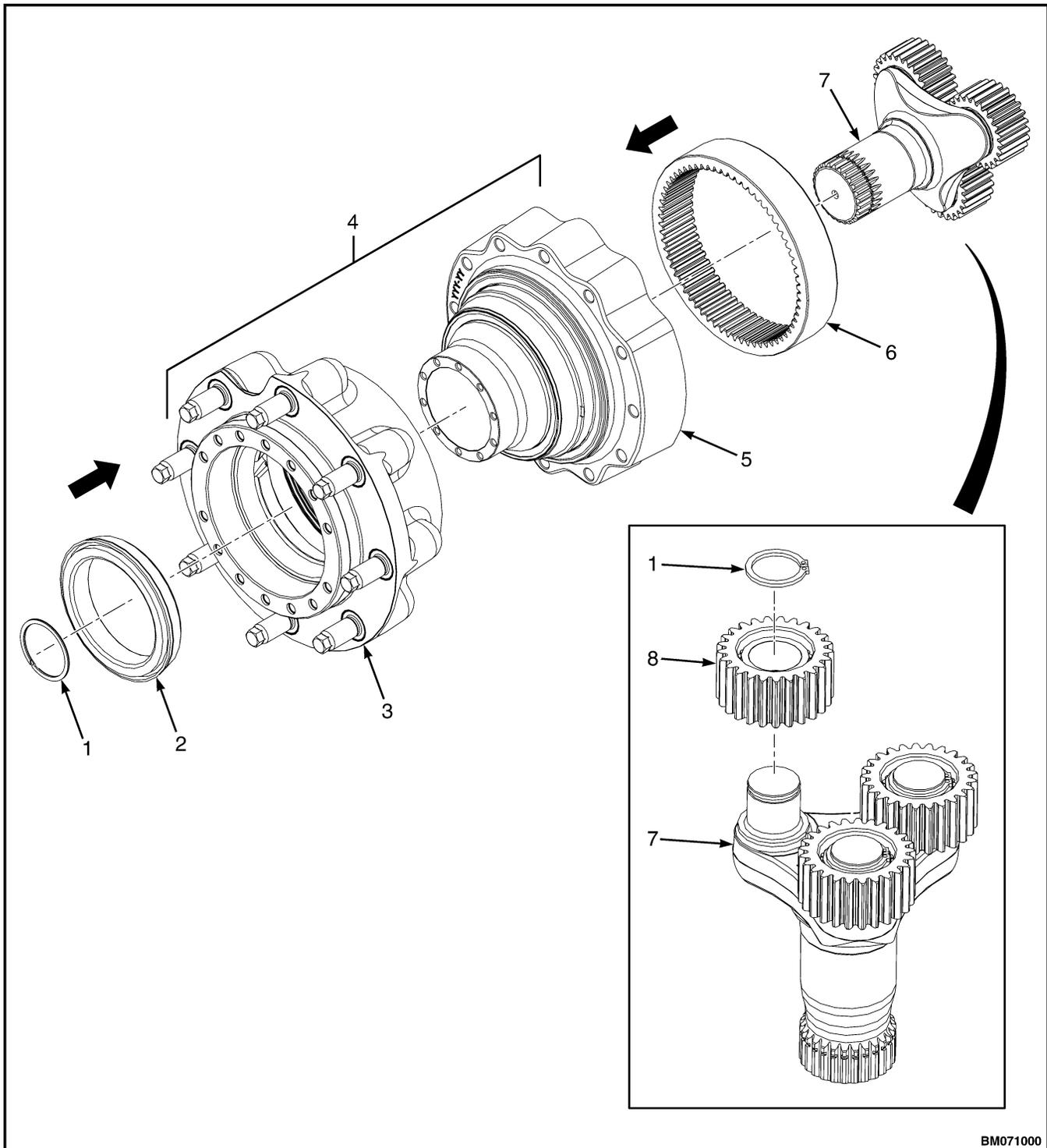
Figure 24. Bearing Cups Install for Lift Truck Models H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)



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- | | |
|----------------------------|---------------------------|
| 1. SNAP RING | 5. WHEEL BEARING SUPPORT |
| 2. OUTBOARD BEARING CONE | 6. RING GEAR |
| 3. WHEEL HUB | 7. PLANETARY GEAR CARRIER |
| 4. REDUCTION GEAR ASSEMBLY | 8. PLANETARY GEAR |

Figure 25. Reduction Gear Assembly for Lift Truck Models S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)



BM071000

- | | |
|----------------------------|---------------------------|
| 1. SNAP RING | 5. WHEEL BEARING SUPPORT |
| 2. FORWARD BEARING CONE | 6. RING GEAR |
| 3. WHEEL HUB | 7. PLANETARY GEAR CARRIER |
| 4. REDUCTION GEAR ASSEMBLY | 8. PLANETARY GEAR |

Figure 26. Reduction Gear Assembly for Lift Truck Models H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

8. With wheel studs pointing up, install a new outboard bearing cup into wheel hub.

**WARNING**

Hot parts. Wear protective clothing and gloves to prevent burns.

9. Heat a new outboard bearing cone to 80 to 90°C (176 to 194°F). Using appropriate driver tool install outboard bearing cone into wheel hub. Once outboard bearing cone is cool, pack bearing with multipurpose grease.
10. Place planetary gear carrier into a soft jawed vise with splined end down.
11. If removed, install thrust block.

See Figure 25 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

See Figure 26 for lift truck models

- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

12. Install planetary gear on to planetary gear carrier.

See Figure 25 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

See Figure 26 for lift truck models

- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

13. Install snap ring.

See Figure 25 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

See Figure 26 for lift truck models

- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

14. Repeat Step 12 through Step 13 for remaining two bearings, planetary gears, and snap rings.

15. Turn and support reduction gear assembly so wheel studs are facing down. Install ring gear into wheel hub.

16. Install planetary gear carrier into ring gear and reduction gear assembly.

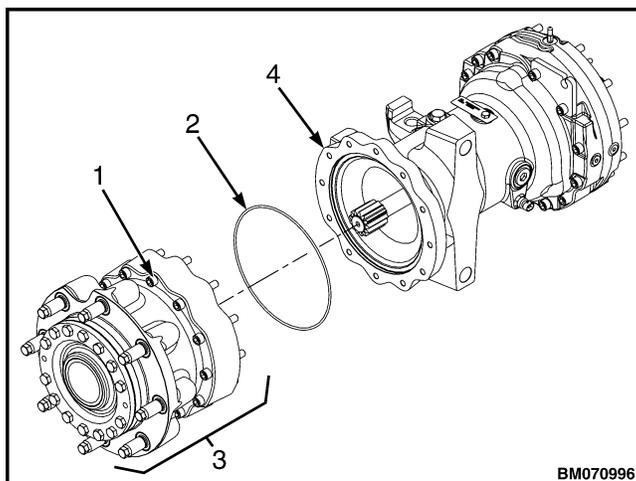
See Figure 25 for lift truck models

- S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004)

See Figure 26 for lift truck models

- H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)

17. Lubricate a new O-ring with multipurpose grease and install in drive axle trumpet arm (left side). See Figure 27.



NOTE: REDUCTION GEAR FOR H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005) SHOWN. S4.0, 4.5, 5.5FT, S5.5FTS (S80, 100, 120FT; S80, 100FTBCS; S120FTS; S120FTPRS) (H004, J004) IS SIMILAR.

1. SOCKET HEAD CAPSCREW
2. O-RING
3. REDUCTION GEAR ASSEMBLY
4. DRIVE AXLE TRUMPET ARM

Figure 27. Installing Reduction Gear to Drive Axle Trumpet Arm (Left Side) for Lift Truck Models H4.0FT5/FT6; H4.5FTS5, H4.5FT6, H5.0-5.5FT (H80, 90, 100, 110, 120FT) (R005, S005, U005)