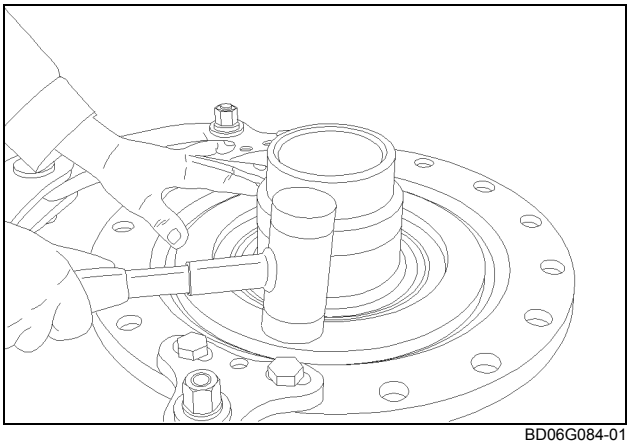
STEP 46



BD06G084-01

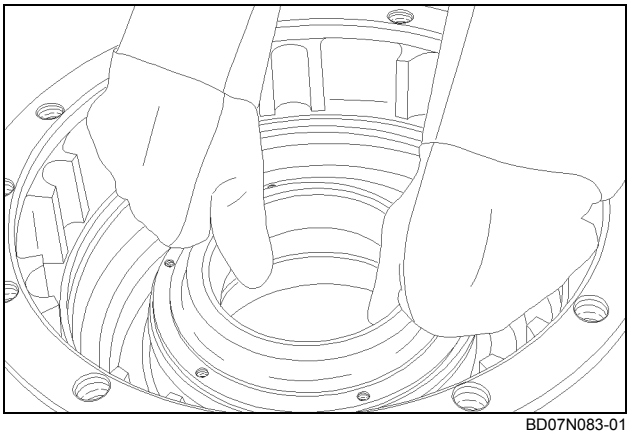
Use acceptable tool to drive seal ring into position on hub.

NOTE: *Be sure the sealing ring is fully seated.*

STEP 47

WARNING: *Always wear gloves to prevent frostbite to your hands when handling frozen parts.*

SM118A



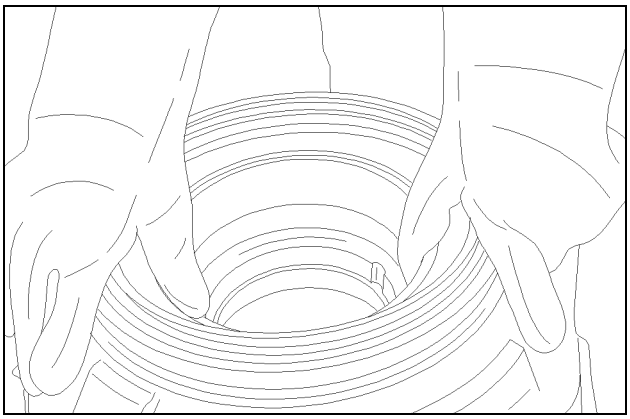
BD07N083-01

Place inner bearing cup in dry ice for several hours to freeze. Install the inner bearing cup into the brake housing until seated against the shoulder in the brake housing.

STEP 48

WARNING: *Always wear gloves to prevent frostbite to your hands when handling frozen parts.*

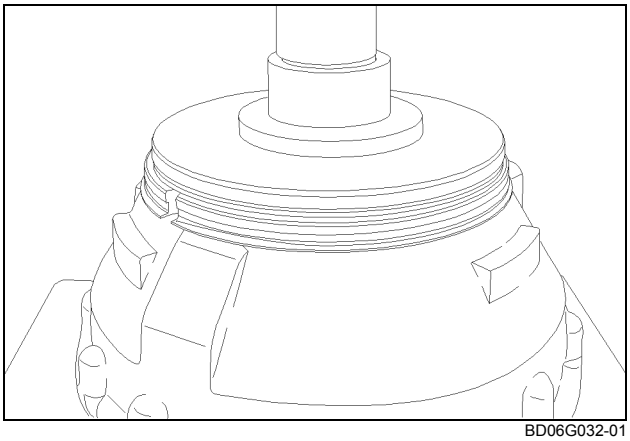
SM118A



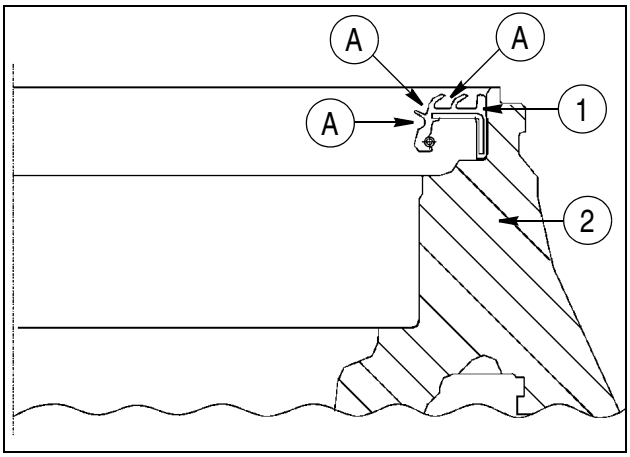
BD07N082-01

Place outer bearing cup in dry ice for several hours to freeze. Install the outer bearing cup into the brake housing until seated against the shoulder in the brake housing.

STEP 49



BD06G032-01



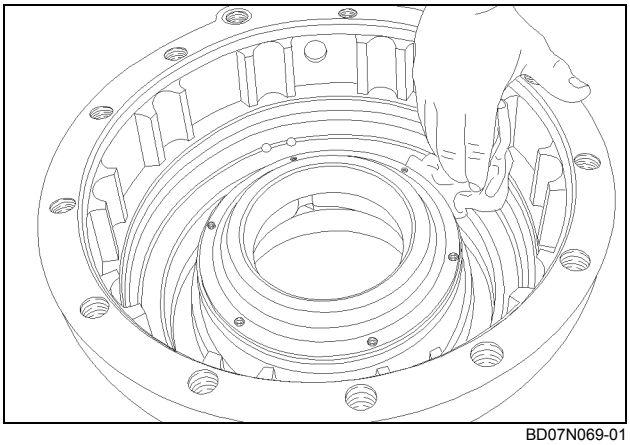
BS00M073

1. FACE SEAL
2. BRAKE HOUSING

A FILL WITH GREASE

Wet the outer diameter of the face seal with a solution of 50% water and 50% mineral spirits. Use suitable tool to install the face seal with the seal lip positioned as shown. Apply grease to seal as indicated by (A) above.

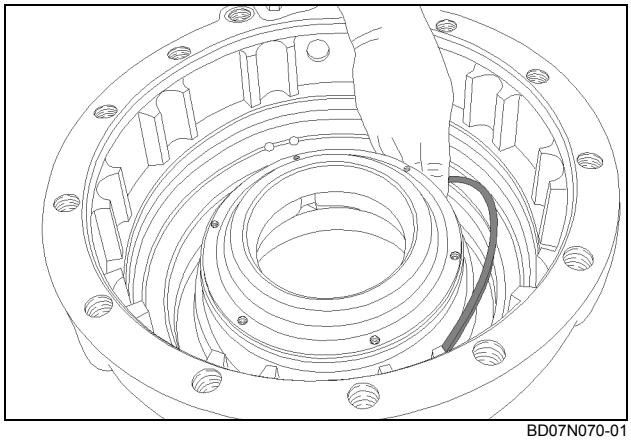
STEP 50



BD07N069-01

Clean seal grooves in brake housing with solvent.

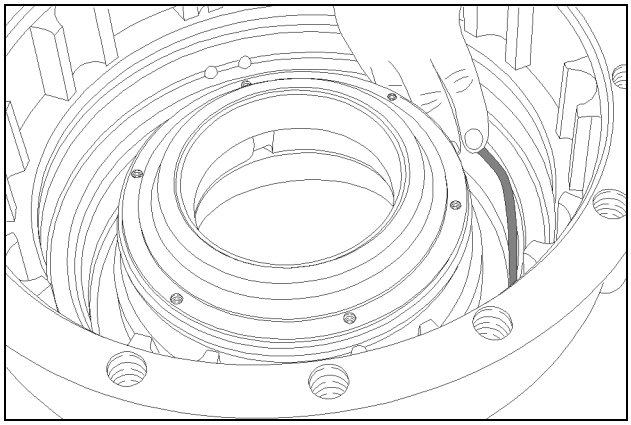
STEP 51



BD07N070-01

Install the lower back-up ring (1) into the brake housing.

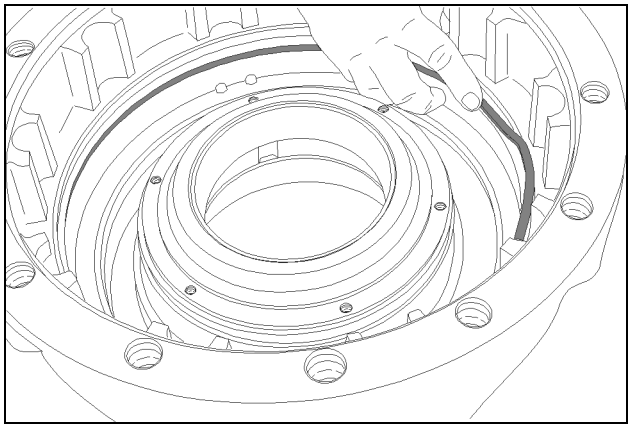
STEP 52



BD07N072-01

Install the lower seal (2) in the same groove as the lower back-up ring (1). Make sure seal is installed as shown in Step 56.

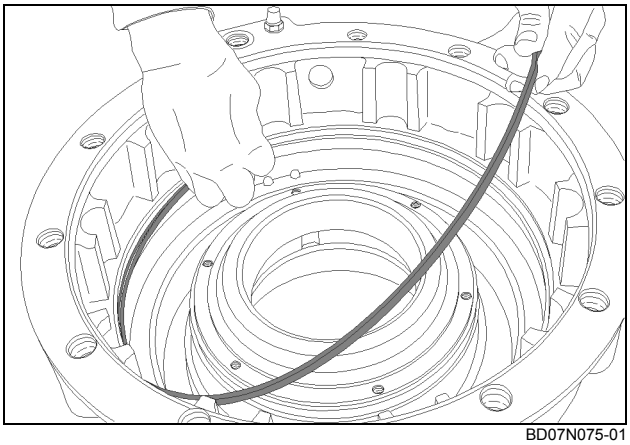
STEP 53



BD07N074-01

Install the upper seal (4) into the brake housing. Make sure seal is installed as shown in Step 56.

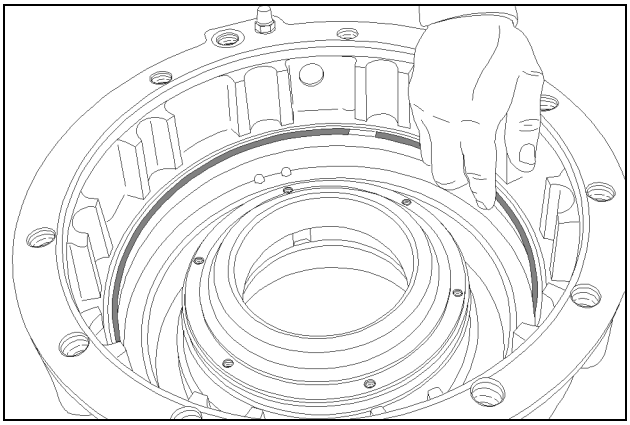
STEP 54



BD07N075-01

Install upper back-up ring (5) into the same groove as the upper seal.

STEP 55



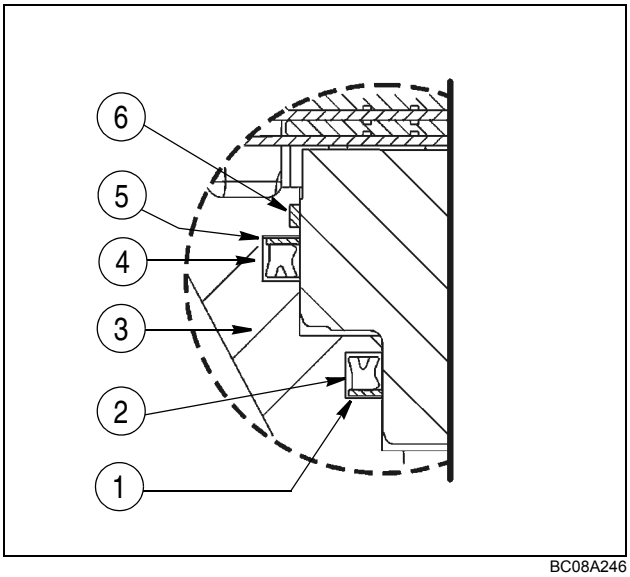
BD07N077-01

Clean the groove of the brake housing with cleaning solvent. Install wear ring (6) into the top groove of the brake housing.

IMPORTANT: *Ensure correct installation position of wear ring end points must be in the 12 o'clock position in the axle when installed in the machine in the area of brake oil supply and vent hole.*

NOTE: *Make sure that the wear ring is installed correctly in the groove around the entire circumference of the brake housing. Then apply Loctite 415 at its end points.*

STEP 56



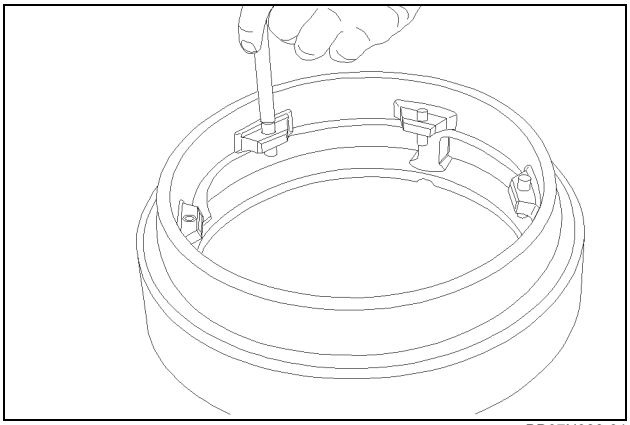
BC08A246

WEAR RING, BACK-UP RINGS AND SEAL LOCATION

1. LOWER BACK-UP RING
2. LOWER SEAL
3. BRAKE HOUSING
4. UPPER SEAL
5. UPPER BACK-UP RING
6. WEAR RING

NOTE: *Install the back-up rings and seals in the grooves of the brake housing as shown in the illustration above.*

STEP 57

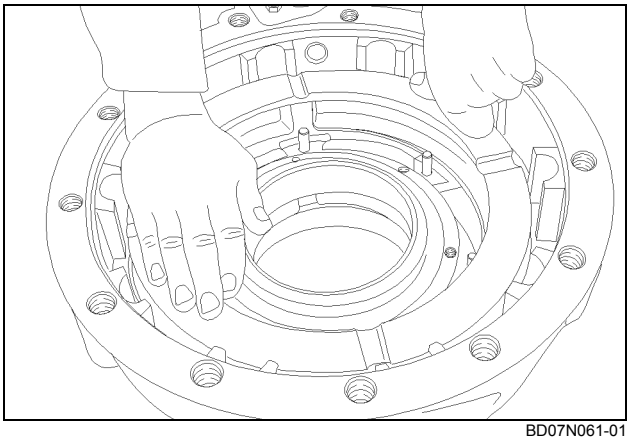


BD07N086-01

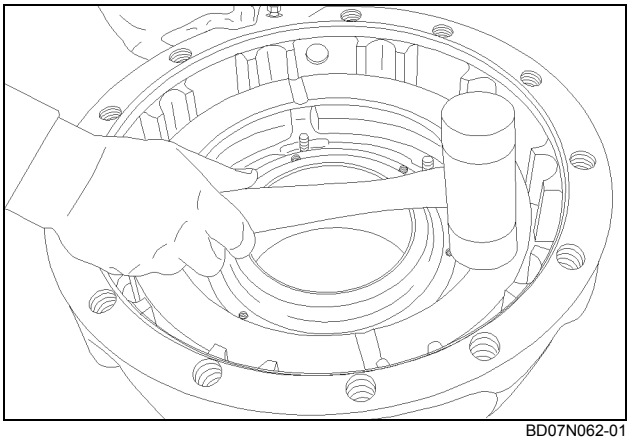
Drive the adjustment pins flush with the surface of the brake piston.

NOTE: *Orientation of brake piston when driving in pins.*

STEP 58



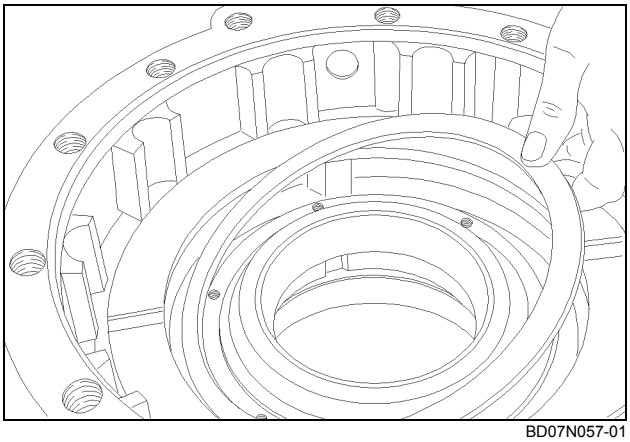
BD07N061-01



BD07N062-01

Apply oil on the sliding surface of the brake piston, Carefully install piston in the brake housing.

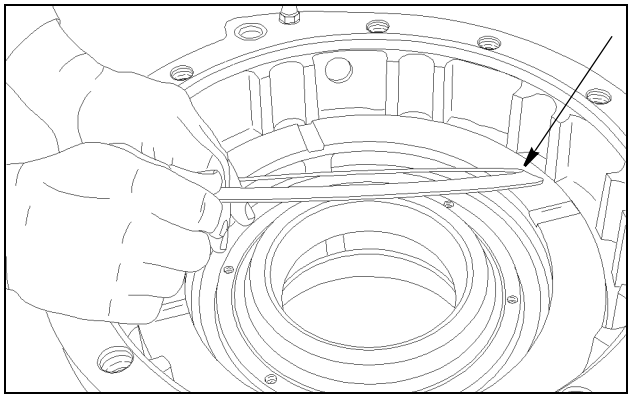
STEP 59



BD07N057-01

Install shim into the brake housing.

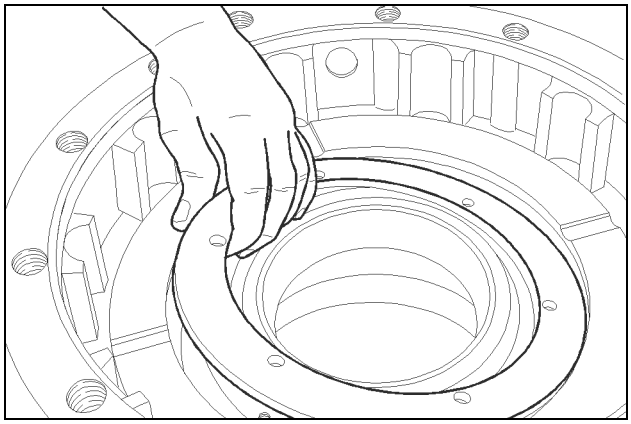
STEP 60



BD00M283

Install return spring in the brake housing. Install with the tapered end facing upward.

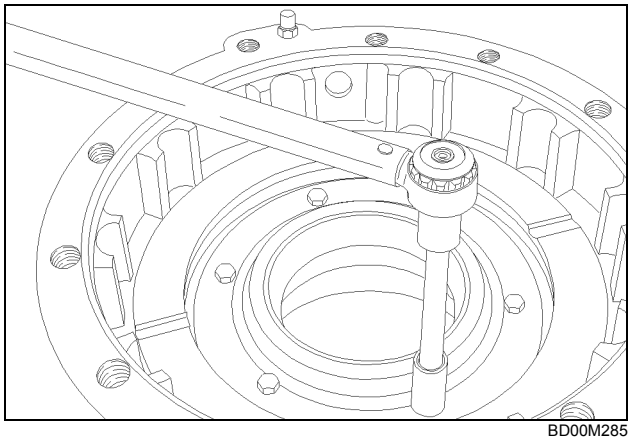
STEP 61



BD07N054-01

Install the return spring retainer into the brake housing.

STEP 62



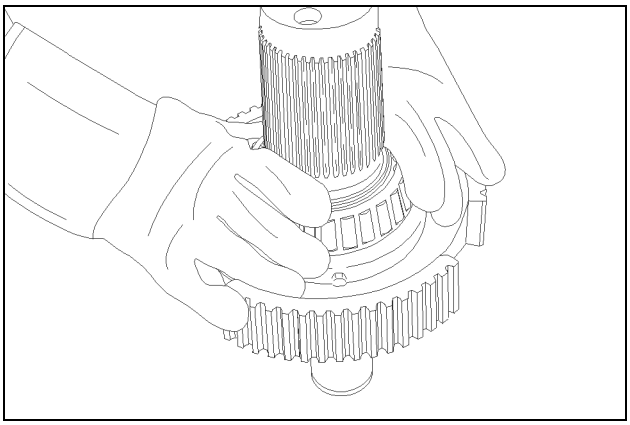
BD00M285

Install the six bolts into the return spring retainer and tighten to 34 Nm (25.1 pound feet).

STEP 63

WARNING: *Always wear heat protective gloves to prevent burning your hand when handling heated parts.*

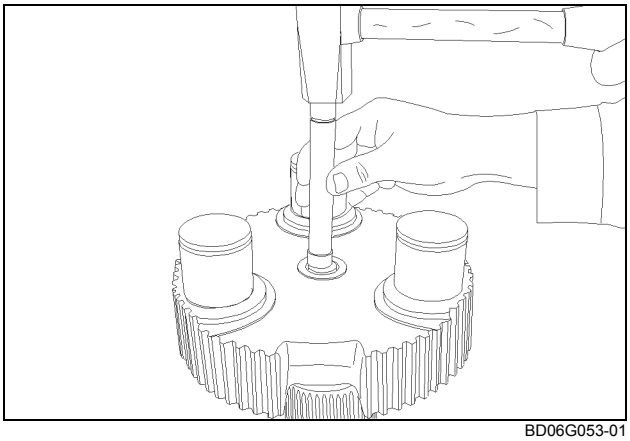
SM121A



BD07N048-01

Heat the carrier output shaft to 120° C (248° F) in a bearing oven. Wearing heat resistant gloves or mittens, install the bearing on the shaft until the bearing is against the carrier gear.

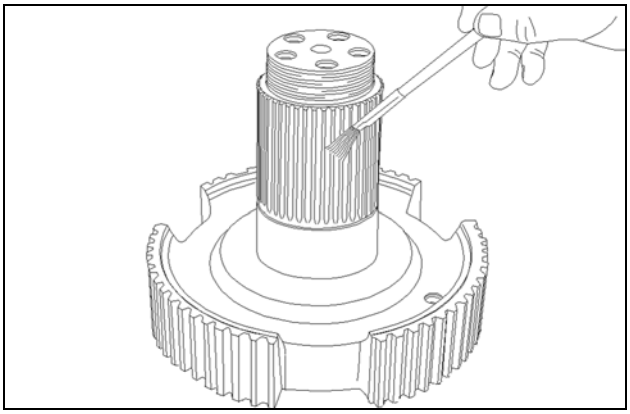
STEP 64



BD06G053-01

Install a new stop pin if it was removed, damaged or worn.

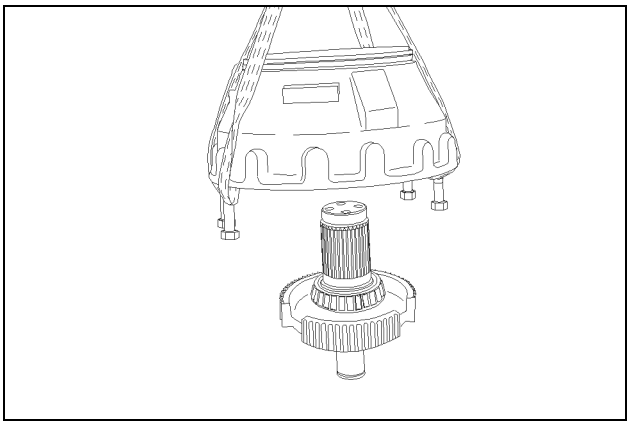
STEP 65



BD08A441-01

Coat the spline of the carrier output shaft with Loctite 767 antiseize lubricant.

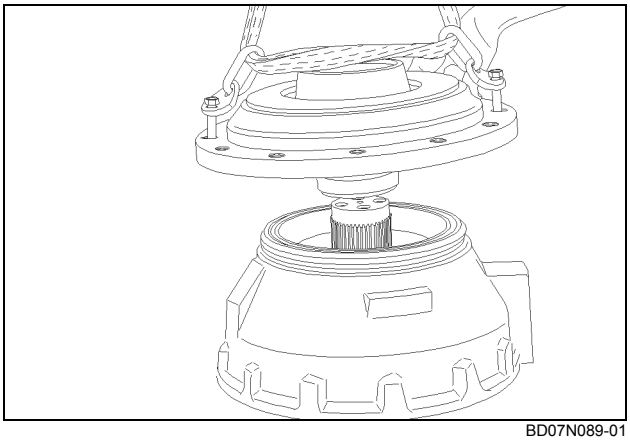
STEP 66



BD07N087-01

Attach an acceptable lifting device to the brake housing and insert the brake housing on to the carrier output shaft.

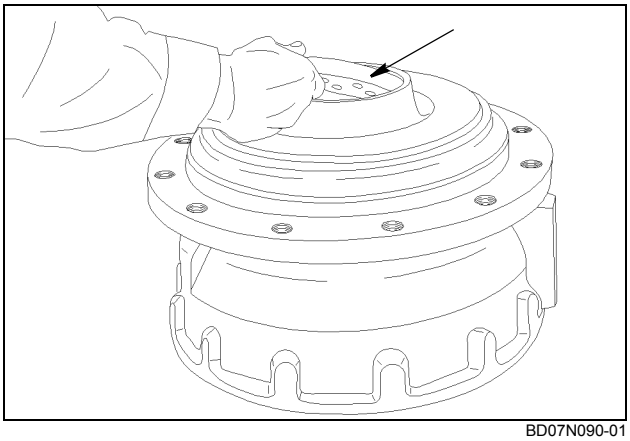
STEP 67



BD07N089-01

Attach an acceptable lifting device to the wheel end and install the wheel end on to the brake housing. A slight rotation of the wheel end maybe necessary to align the splines on the carrier output shaft.

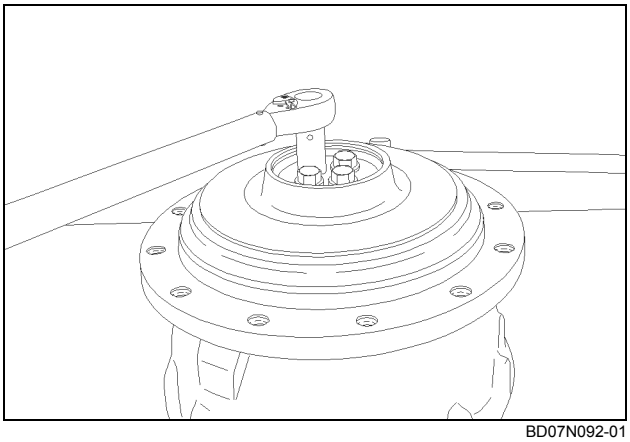
STEP 68



BD07N090-01

Install the retainer into the wheel end on the output shaft of the carrier.

STEP 69

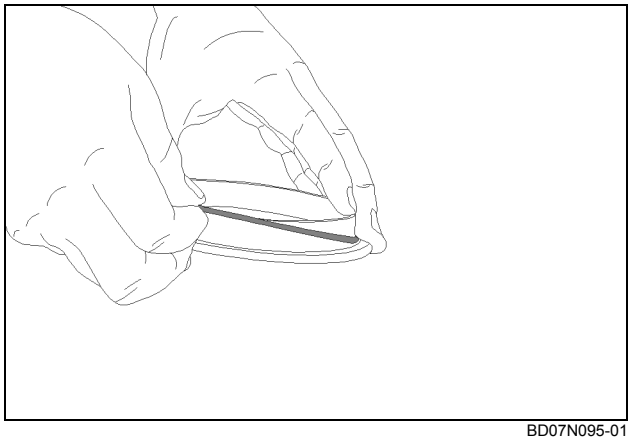


BD07N092-01

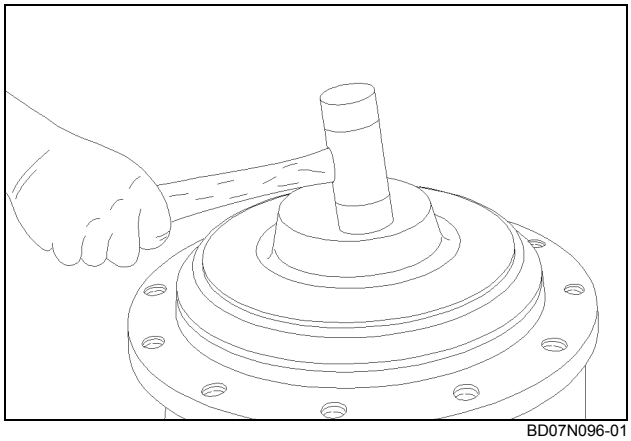
Install the four new bolts holding the wheel end to the output shaft of the carrier. Tighten the bolts to a torque of 500 Nm (368.8 pound feet). Rotate brake housing several times in both directions and recheck torque.

IMPORTANT: *Do not reuse locking bolts, just one time installation is permitted.*

STEP 70

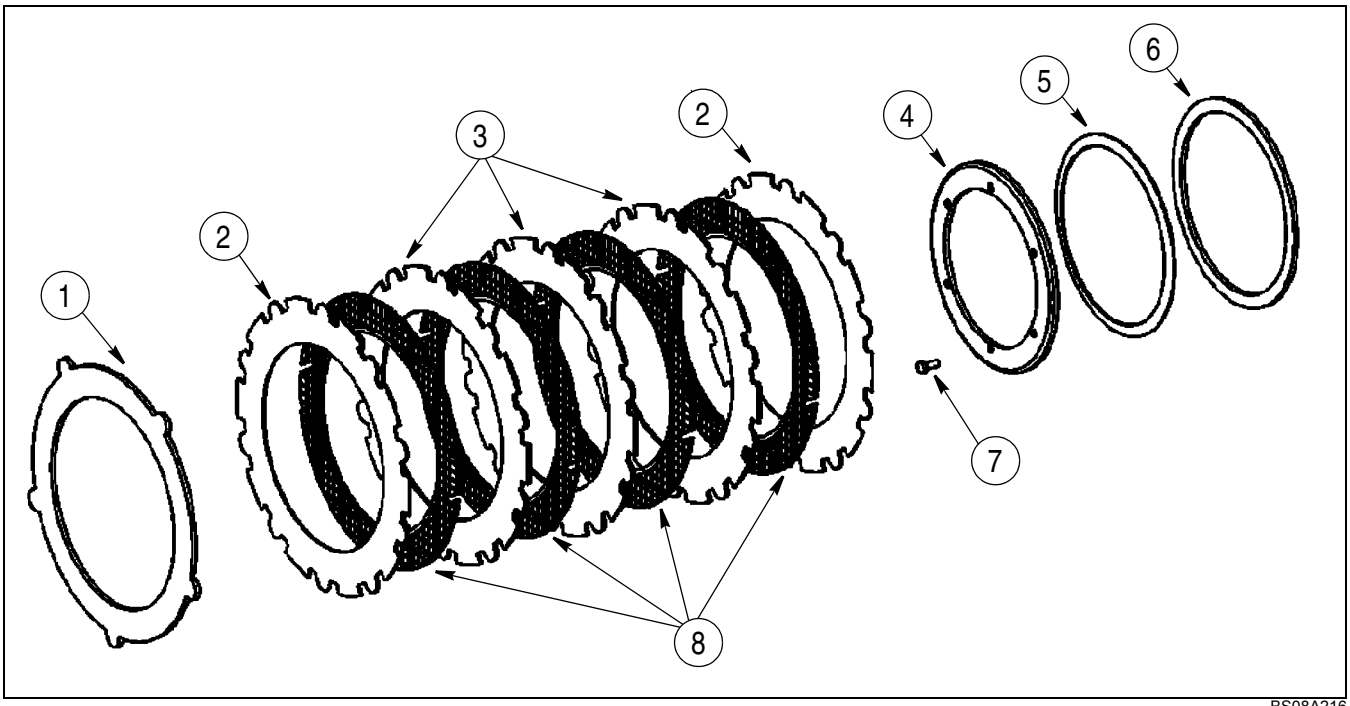


BD07N095-01



BD07N096-01

Install a new O-ring on the cover and use a mallet and install the cover into the wheel end.

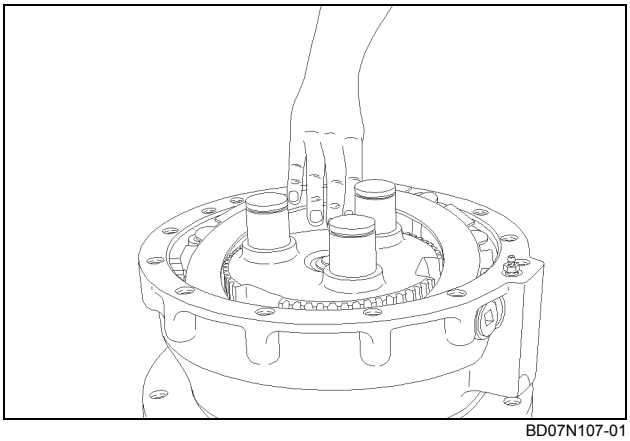


BS08A216

BRAKE DISC ASSEMBLY LAYOUT

1. END SHIM
2. PLATE (2.0 MM)
3. BRAKE PLATE (THICK)
4. SPRING RETAINER
5. RETURN SPRING
6. SHIM
7. BOLT (QUANTITY 6)
8. BRAKE DISK

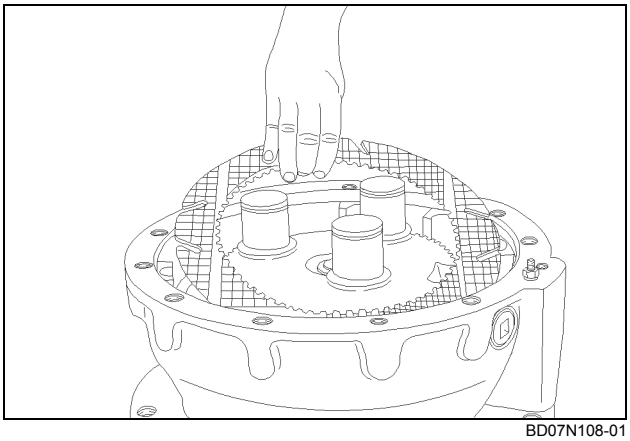
STEP 71



BD07N107-01

Install 2.0 mm plate (2) into the brake housing.

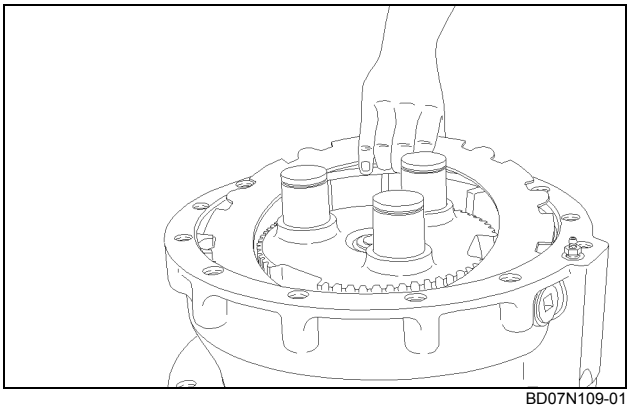
STEP 72



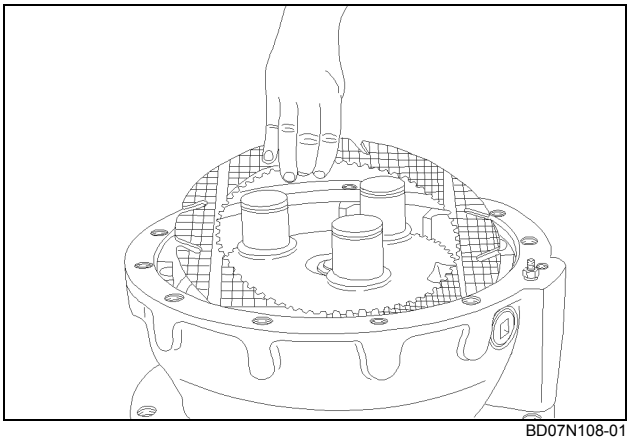
BD07N108-01

Install brake disk (8) into the brake housing.

STEP 73



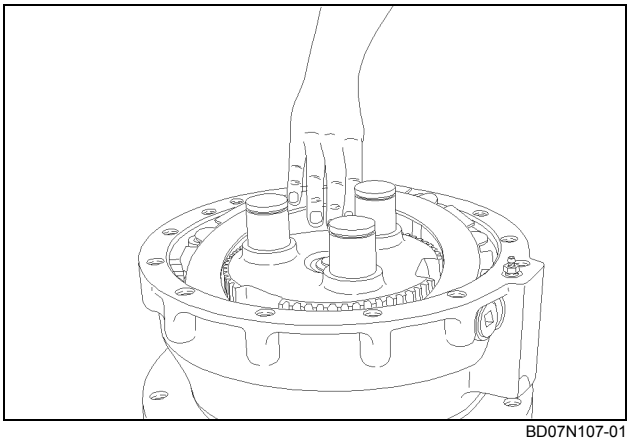
BD07N109-01



BD07N108-01

Install a brake plate (3) and brake disk (8) into brake housing alternately as shown on page 21 until all the brake discs (8) are installed.

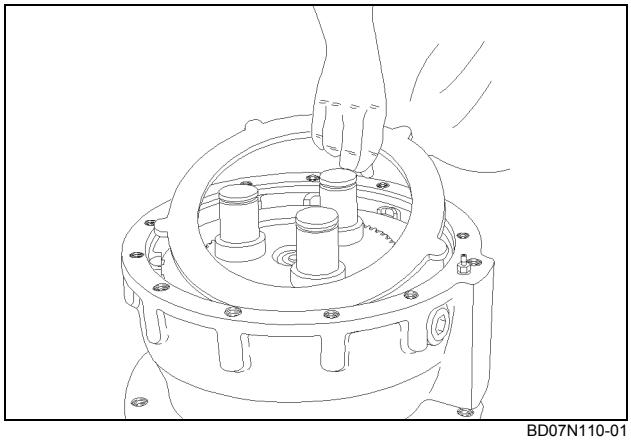
STEP 74



BD07N107-01

Install last 2.0 mm plate (2) into the brake housing.

STEP 75



BD07N110-01

Install end shim (1) on top of the 2.0 mm plate (2).

STEP 76

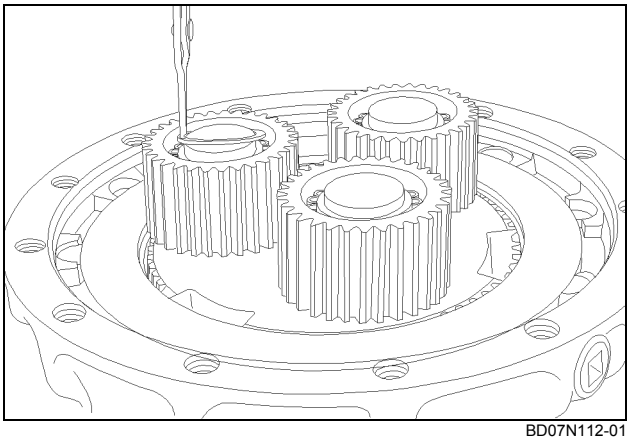
WARNING: *Always wear heat protective gloves to prevent burning your hand when handling heated parts.*

SM121A

BD08B032-01

Heat the sun gears to 120° C (248° F) in a bearing oven. Wearing heat resistant gloves or mittens, install the sun gears on the shaft until the bearing is against the carrier gear.

STEP 77



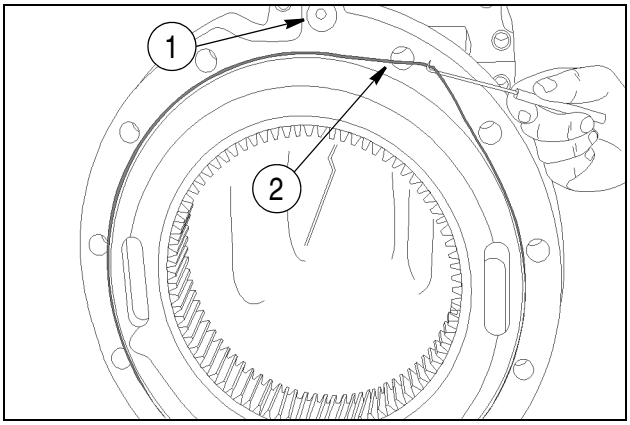
BD07N112-01

Install the snap rings on planetary gear shafts with snap ring pliers.

Sun Gear Shaft End Play Adjustment

NOTE: *Tools and axle shown in the following photographs may appear slightly different than the tools and axle you may have. The use of the tools and disassembly/assembly of axle is the same regardless of appearance.*

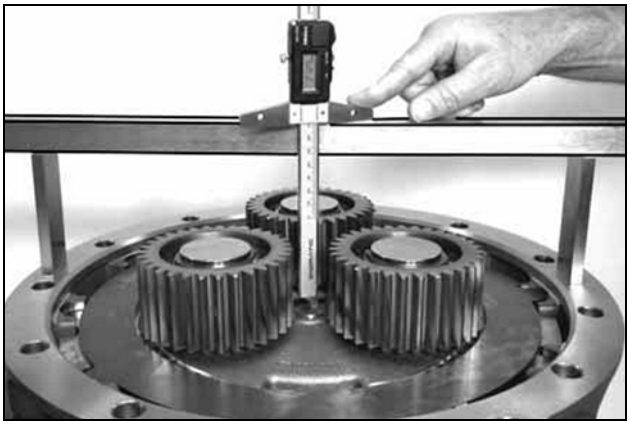
STEP 78



BD07N013-01

Install a new O-ring onto the axle housing (2) and a new O-ring in brake port (1) in axle housing.

STEP 79



BD08B036-01

Take a measurement from the straight edge to the face of the brake housing, the difference between this measurement and the next measurement will be dimension A.

Mount the sun gear into the planet gears. Then, determine dimension A, from the inner face of the sun gear to the face of the brake housing.

Example:

Dimension A . . . . . 97.90 mm (3.85 inch)

STEP 80

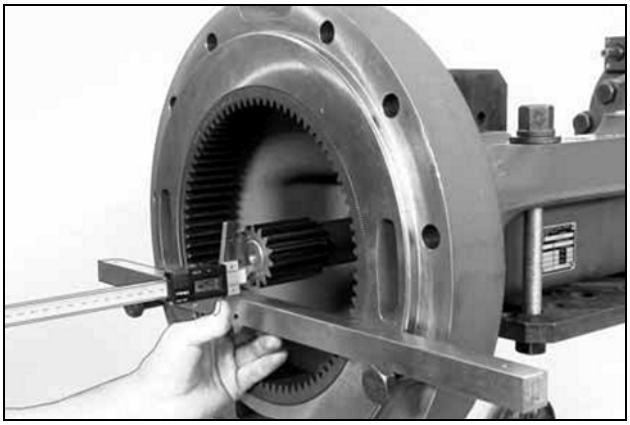
Install the stub shaft in the spline of the axle bevel gear. Make sure the stub shaft is installed all the way into the axle bevel gear.

STEP 81

BD08B033-01

Install the sun gear onto the stub shaft with out the shims.

STEP 82



BD08B034-01

Determine dimension B from the face of the sun gear to the mounting face of the axle housing.

Example:

Dimension B . . . . . 100.20 mm (3.95 inch)

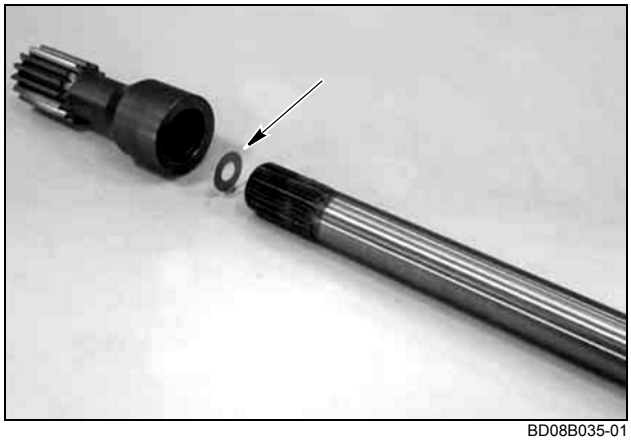
STEP 83

Subtract dimension A from dimension B. Then subtract 1.30 mm (0.05 inch) from the difference. The difference is the required shim size.

Example:

Dimension B	100.20 mm (3.94 inch)
Dimension A	–97.90 mm (3.85 inch)
Difference	2.30 mm (0.09 inch)
Required end play	–1.30 mm (0.05 inch)
Difference = shim size	**1.00 mm (0.04 inch)**

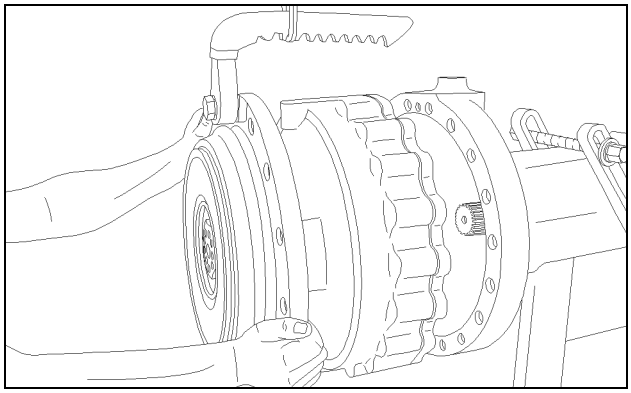
STEP 84



BD08B035-01

Install the sun gear shaft into the stub shaft with the determined shim set. (size as determined in Step 83) into the sun gear shaft with grease.

STEP 85

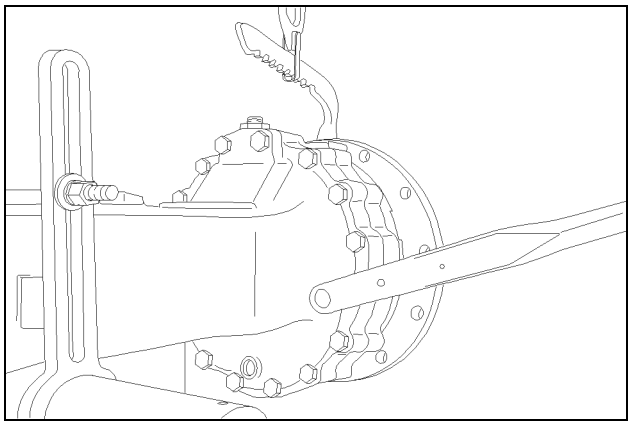


BD06G072-01

Use lifting bracket, and install the assembled wheel end onto the axle housing.

NOTE: *Turn the input flange to align splines of the stub shaft into the sun gear.*

STEP 86



BD02D154-01

Install the washers and bolts to secure the wheel end to the axle housing. Tighten the bolts to a torque of 390 Nm (287.7 pound feet).