

Product: EXCAVATOR

Model: 325B L EXCAVATOR 8RR

Configuration: 325B & 325B L TRACK-TYPE EXCAVATORS 8RR00001-UP (MACHINE) POWERED BY 3116 ENGINE

## Disassembly and Assembly 325B Excavator Machine Systems

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i02201834

# Final Drive - Assemble

SMCS - 4050-016

## Assembly procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-2420	Transmission Repair Stand	1
B	138-7573	Link Bracket	2
C	1P-1860	Retaining Ring Pliers	1
D	1U-5933	Seal Installer	1
E	138-7574	Link Bracket	2
F	5P-3931	Anti-Seize Compound	1
G	9S-3263	Thread Lock Compound	1
H	1U-8846	Gasket Sealant	1

**Note:** Make sure that all of the parts of the final drive are thoroughly clean and free of dirt and debris prior to assembly.

1. Check the condition of all the O-ring seals that are used in the final drive. If any of the O-ring seals are damaged, use new parts for replacement.

**Note:** If the final drive sprocket was removed from the main housing, refer to Disassembly and Assembly, "Final Drive Sprocket - Remove and Install" in this manual. Follow the installation procedure in order to install the final drive sprocket on the main housing.

2. Assemble the final drive on Tooling (A).

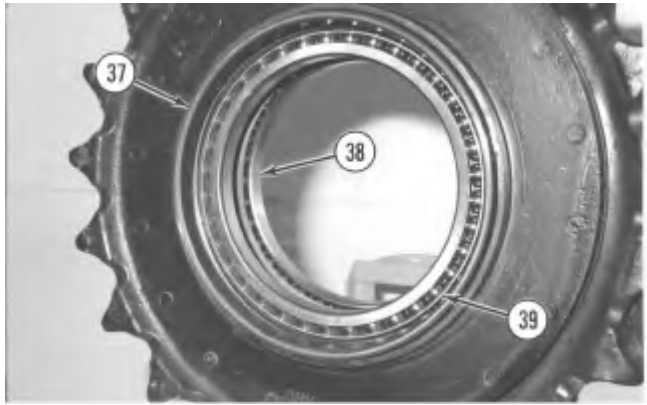


Illustration 1

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3. Apply Tooling (F) to the surfaces inside the main housing that contact bearings (38) and (39). Install bearings (38) and (39) in the original locations in the main housing with a press. Install bearings (38) and (39) until the bearings contact the counterbore in the main housing.



Illustration 2

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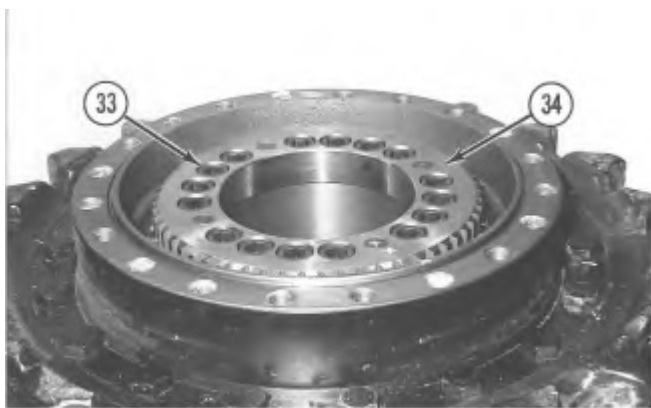


Illustration 3

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4. Use the following procedure to determine the correct bearing preload and the correct thickness of shims (35) that are used under gear (34).
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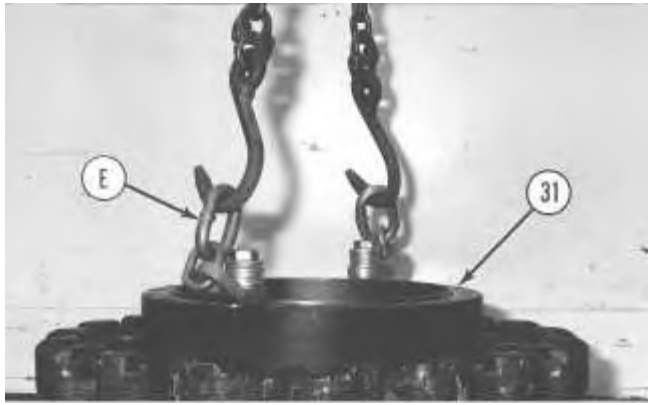


Illustration 4

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- a. Fasten Tooling (E) and a suitable lifting device to main housing (31), as shown. Install main housing (31) on the motor housing.
- b. Use a suitable press and a spacer to apply a load of 4000 kg (8820 lb) on bearing (38).
- c. Rotate the main housing in order to seat the bearings.
- d. Reduce the load on bearing (38) to  $1000 \pm 100$  kg ( $2200 \pm 220$  lb).



Illustration 5

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- e. Maintain the load on bearing (38). Measure the distance between the top face of the motor housing and the bearing inner race. Use a depth micrometer to take this measurement in several locations around the bearing. Compute the average of the measured dimensions and record the number. Call this dimension (Y).

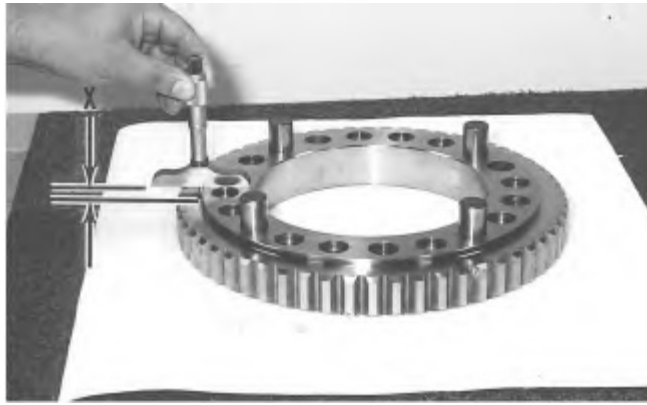


Illustration 6

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- f. Use a depth micrometer and measure the distance between the hub face and the gear face of gear (34). Take measurements at several locations around the gear. Compute the average of the measured dimensions and record the number. Call this dimension (X).
- g. Determine the correct thickness of the shim pack which is made up of shims (35). The shim pack is used between the motor housing and gear (34). Use the following equation to determine the shim pack thickness.

Shim pack thickness ...  $(X) - (Y) \pm 0.05 \text{ mm (0.002 inch)}$

**Note:** If two shims are required, install the thinner shim next to gear (34) when the gear is installed.

5. Remove the main housing from the motor housing.

**Note:** The rubber seals and all surfaces that contact the seals must be clean and dry. After installation of the seals, apply clean SAE 30 oil on the contact surfaces of the metal seals. For more information concerning the assembly and installation of Conventional Duo-Cone Seals, refer to Disassembly and Assembly, "Duo-Cone Conventional Seals - Install" in this manual.



Illustration 7

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6. Install Duo-Cone seal (37) in the main housing with Tooling (D).

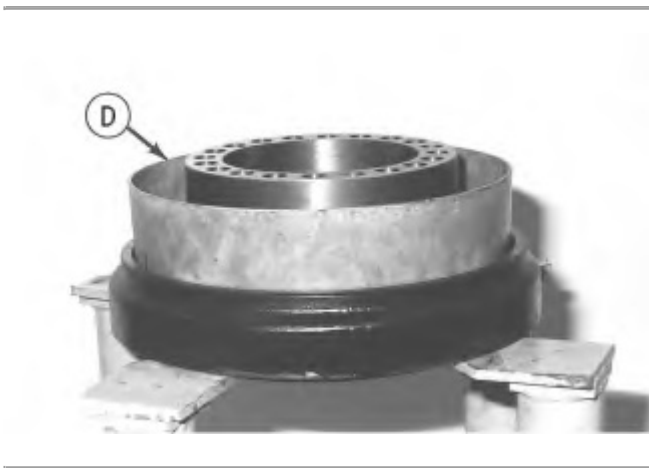


Illustration 8

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7. Use Tooling (D) in order to install Duo-Cone seal (36) in the motor.

**Note:** Be sure that the Duo-Cone seals are not scratched or damaged during the assembly of the main housing or during the assembly of the motor housing. After installation of the main housing on the motor housing, there will be a small gap between the components. The gap is caused by the Duo-Cone seals. The gap will be eliminated during installation of gear (34).

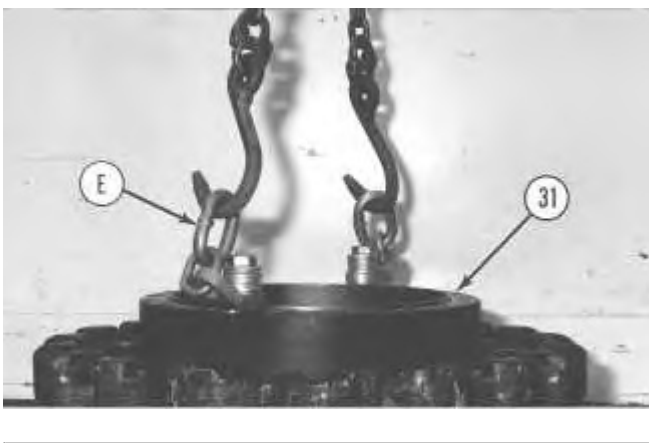


Illustration 9

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8. Fasten Tooling (E) and a suitable lifting device to main housing (31). Position the main housing and the final drive sprocket on the motor housing. Make sure that the Duo-Cone seals are not scratched or damaged during installation.
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Illustration 10

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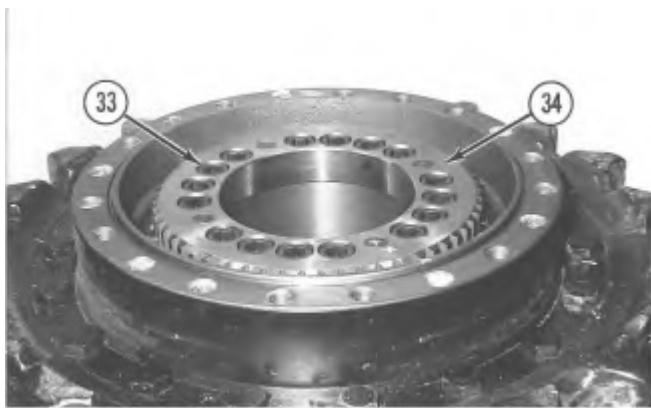


Illustration 11

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9. Apply Tooling (F) on the four pins in gear (34).
10. Place shim pack (35), which was determined in Step 4.a through 4.g, and gear (34) in the correct position on the motor housing. If two shims were required, put the thinner shim in contact with gear (34). Make sure that all of the holes in the components are in alignment with each other.
11. Apply Tooling (G) on the threads of socket head bolts (33). Install the socket head bolts (33) in order to hold gear (34) in place. Tighten bolts (33) evenly and tighten the bolts in diagonally opposite pairs.



12. Install O-ring seal (32) in main housing (31).

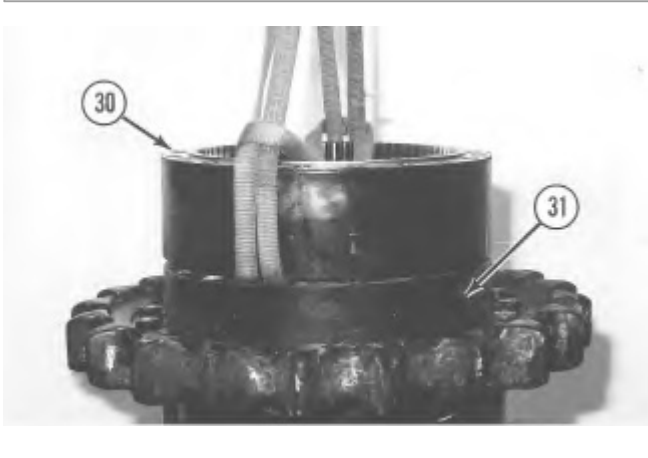


Illustration 13

13. Thoroughly clean the mating surface of main housing (31) that contacts ring gear (30). Apply a bead of Tooling (H) on the mating surface of ring gear (30). Fasten a suitable lifting device to ring gear (30). Place ring gear (30) in position on the main housing. Make sure that the alignment mark on the main housing and the alignment mark on the ring gear line up with each other. It may be necessary to use a soft faced hammer to seat the ring gear on the main housing.

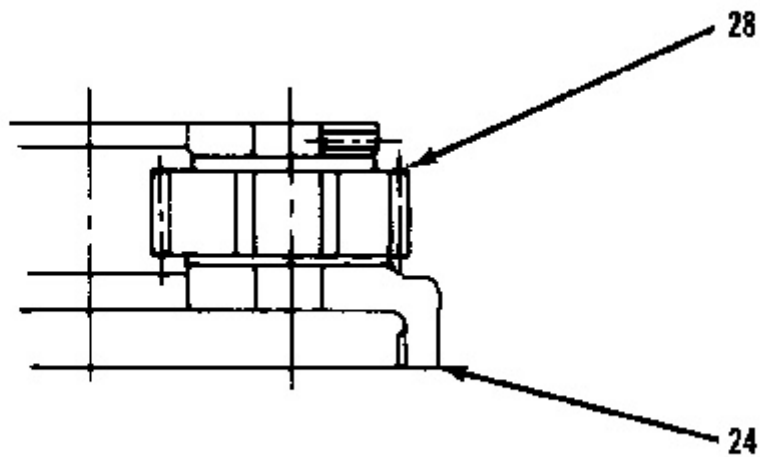
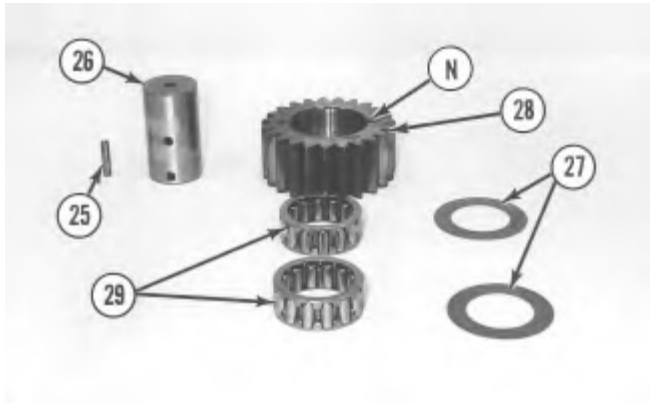


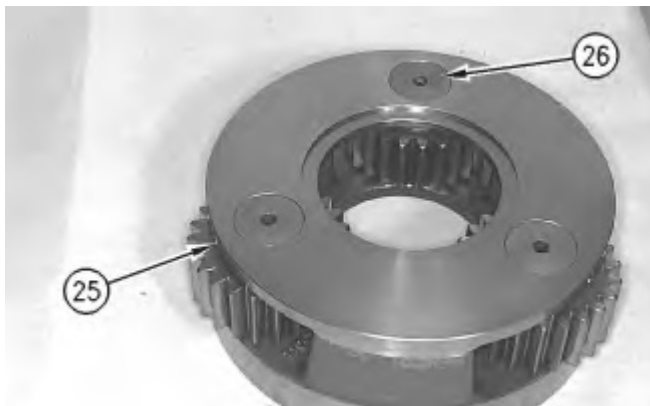
Illustration 14



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Illustration 15

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Illustration 16

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14. Use the following procedure to assemble carrier assembly (24).
    - a. Apply clean SAE 30 oil on bearings (29). Install bearings (29) in planetary gear (28).
    - b. Install thrust washer (27) on each side of planetary gear (28).
    - c. Install planetary gear (28) and thrust washers (27) in carrier (24).

**Note:** If planetary gear (28) has oil grooves "N", make sure that the planetary gear's oil grooves are facing in the correct direction, which was noted during the disassembly of carrier assembly (24).
    - d. Install planetary shaft (26) in carrier (24) and through planetary gear (28). Make sure that the spring pin hole in the planetary shaft is in alignment with the spring pin hole in the carrier.
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