Disassembly and Assembly
538 LL GF Forest Machine Machine Systems
Media Number -M0071454-01 **Publication Date -01/08/2017** **Date Updated -02/08/2017**

i06723435

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	439-3938	Link Bracket	2
C	1P-1863	Retaining Ring Pliers	1
E	439-3939	Link Bracket As	2
G	1U-5933	Duo-Cone Seal Installer As	1
H	-	Loctite C5A Copper Anti-Seize	-
J	-	Loctite 5188	-
K	369-9451	Grease	-
L	-	Loctite 243	-
M	FT-2770	Leak Down Test Tool	1

Note: Cleanliness is an important factor. Before assembly, all parts should be thoroughly cleaned in cleaning fluid. Allow the parts to air dry. Wiping cloths or rags should not be used to dry parts. Lint may be deposited on the parts which may cause later trouble. Inspect all parts. If any parts are worn or damaged, use new parts for replacement. All disassembly and all assembly procedures must be performed on a clean work surface and in a clean hydraulic area. Always keep cleaned parts covered and protected.

Note: O-rings, gaskets, and seals should always be replaced. A used O-ring may not have the same sealing properties as a new O-ring. Use Tooling (K) during the assembly procedure.

Note: Apply a light film of hydraulic oil to all components before assembly.

1. If necessary, install the sprocket.

Illustration 1 g01760833

2. Lower the temperature of bearings (44) and (46).
3. Use a suitable press to install bearings (44) and (46). Make sure that bearings (44) and (46) contact the counterbore in housing (39).
4. Use the following procedure to preload the bearings and determine the correct thickness of shims.

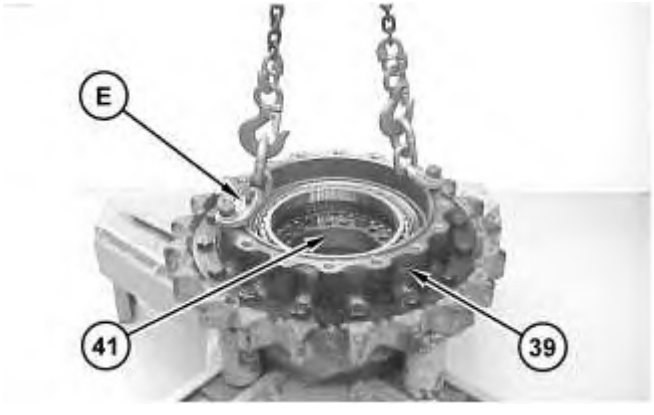

Illustration 2 g01760875

   a. Attach Tooling (E) and a suitable lifting device to housing (39). Install housing (39) onto motor housing (41).
   b. Position housing (39) and motor housing (41) onto a suitable press. The combined weight of housing (39) and motor housing (41) is approximately 82 kg (180 lb).

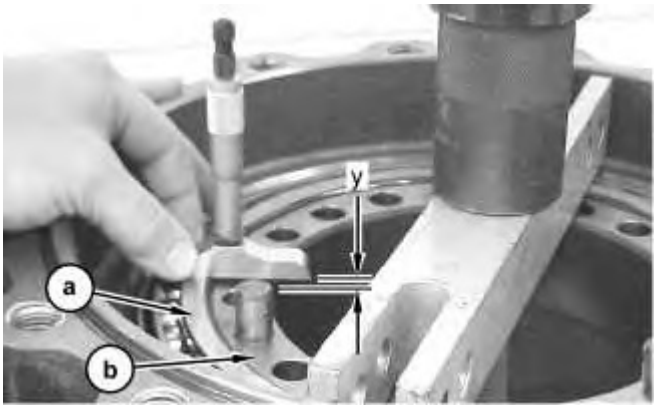

Illustration 3 g01760892

(a) Bearing surface
(b) Housing surface

c. Use a suitable press and a spacer to apply a load of 4000 kg (8820 lb) on the bearings. Rotate the housing to seat the bearings.

d. Reduce the load on the bearings to 1000 ± 100 kg (2200 ± 220 lb).

e. Use a depth micrometer to measure the step length between the bearing surface and the housing surface. Take measurements at several different locations around the housing. Compute the average of the measured dimensions and record the number. Call this Dimension (Y).

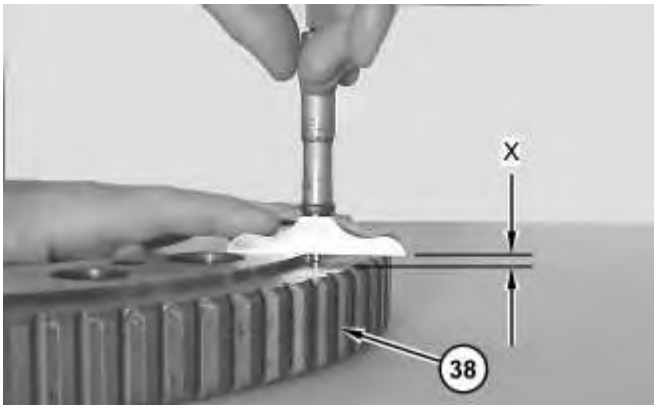

Illustration 4 g01761534

f. Use a depth micrometer to measure the step length of coupling gear (38). Take measurements at several different locations around coupling gear (38). Compute the average of the measured dimensions and record the number. Call this Dimension (X).

g. The thickness of the shims is equal to (X − Y) ± 0.05 mm (0.002 inch).

Note: Use no more than two shims. If two shims are required, install the thinner shim next to coupling gear (38).

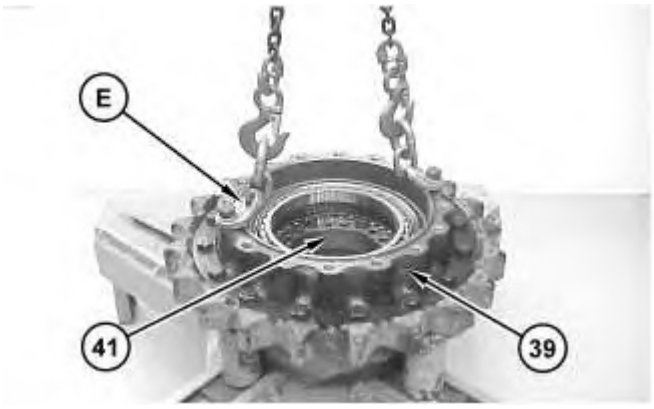

Illustration 5 g01760875

h. Use Tooling (E) and the suitable lifting device to remove housing (39) from motor housing (41).

Illustration 6 g01761876

Note: The rubber seals and sealing surfaces must be clean and dry. Apply a thin film of clean SAE 30 oil on the contact surfaces of the metal seals prior to assembly.

5. Use Tooling (G) to install Duo-Cone seal (45) in housing (39). Refer to Disassembly and Assembly, "Duo-Cone Conventional Seals - Install".

Illustration 7 g01761954

6. Use Tooling (G) to install Duo-Cone seal (43) in motor housing (41).

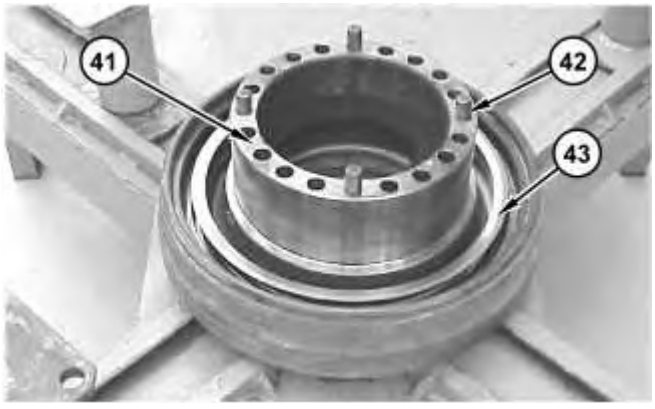

Illustration 8 g01760513

7. Apply Tooling (H) to the surfaces that contact dowel pins (42).
8. Install dowel pins (42).

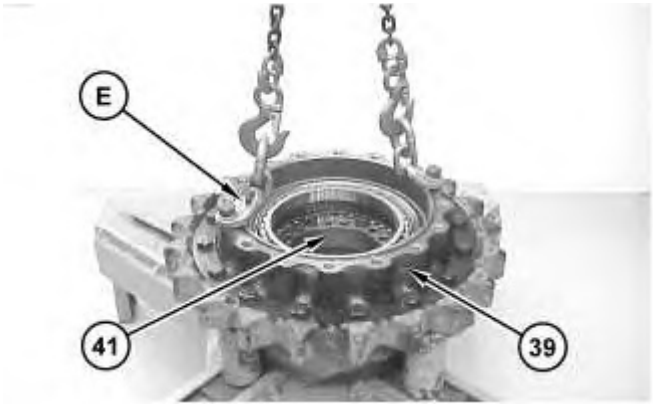

Illustration 9 g01760875

Note: Do not damage the Duo-Cone seals in the housing or in motor housing (41) during the assembly of the two components. After installation of the housing on motor housing (41), there will be a small gap between the components. The gap is caused by the Duo-Cone seals. This gap will be eliminated during installation of coupling gear (26) (not shown).

9. Attach Tooling (E) and a suitable lifting device to housing (39). The combined weight of housing (39) and the final drive sprocket is approximately 82 kg (180 lb).
10. Install housing (39) on motor housing (41).

Illustration 10 g01760477

11. Install shims (40) that were determined in Step 4.g in the housing.

    Note: If two shims are required, install the thinner shim next to the coupling gear.

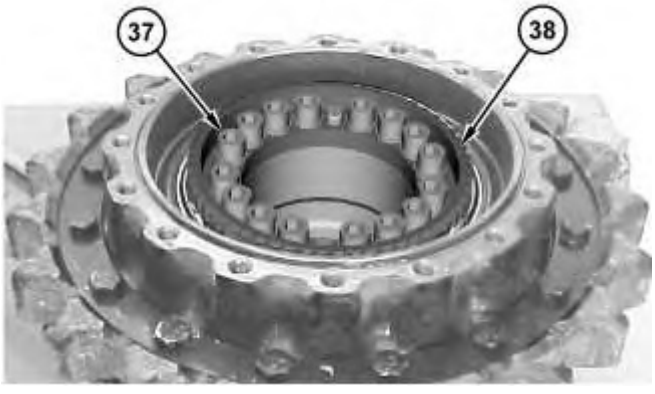

Illustration 11 g01760374

12. Install coupling gear (38).
13. Apply Tooling (L) to the clean threads and dry threads of bolts (37).
14. Install bolts (37) in an even pattern until coupling gear (38) is seated against the bearing. Tighten bolts (37) in a crisscross pattern to a torque of 570 ± 80 N·m (420 ± 60 lb ft).

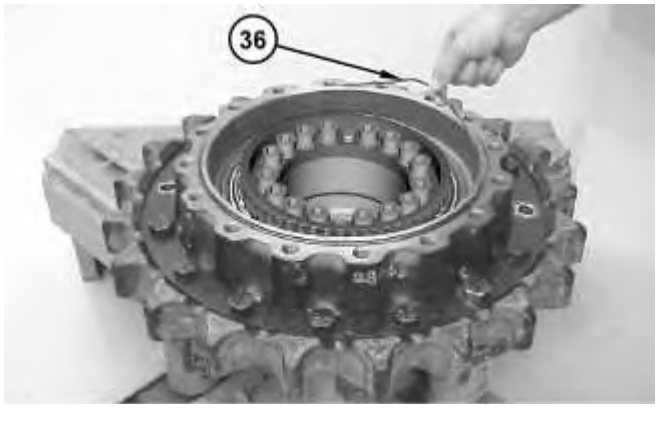

Illustration 12 g01760357

15. Install O-ring seal (36).

Illustration 13 g01760259

16. Use two people to install ring gear (35). The weight of ring gear (35) is approximately 41 kg (90 lb).

Illustration 14 g01760160

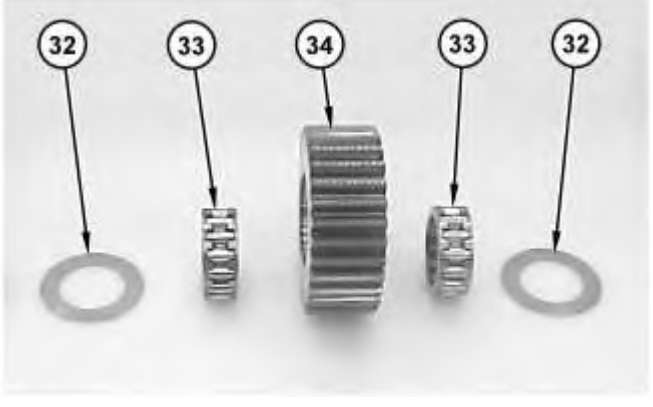

Illustration 15 g01760167

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