

Product: WHEEL LOADER

Model: 966G II WHEEL LOADER AXJ

Configuration: 966G II Wheel Loader AXJ00001-UP (MACHINE) POWERED BY 3176 Engine

Disassembly and Assembly 966G Series II and 972G Series II Wheel Loaders Power Train

Media Number -REN4365-07

Publication Date -01/08/2008

Date Updated -14/08/2008

i02299289

Torque Converter (Freewheel Stator) - Disassemble

SMCS - 3101-015

Disassembly Procedure

Table 1

| Required Tools | | | |
|----------------|-------------|-----------------------|-----|
| Tool | Part Number | Part Description | Qty |
| A | 138-7575 | Link Bracket | 2 |
| B | 1P-0510 | Driver Gp | 1 |
| C | 2P-8312 | Retaining Ring Pliers | 1 |

Start By:

- A. Separate the torque converter from the transmission and from the output transfer gears. Refer to Disassembly and Assembly, "Torque Converter from Transmission, Output Transfer Gears - Separate".

Note: Cleanliness is an important factor. Before the disassembly procedure, the exterior of the component should be thoroughly cleaned. This will help to prevent dirt from entering the internal mechanism.

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Refer to Special Publication, NENG2500, "Caterpillar Tools and Shop Products Guide" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.



Illustration 1

g00456063

1. Use Tooling (A) and a suitable lifting device to position the torque converter assembly on suitable blocking, as shown. The weight of the torque converter assembly is approximately 191 kg (420 lb).

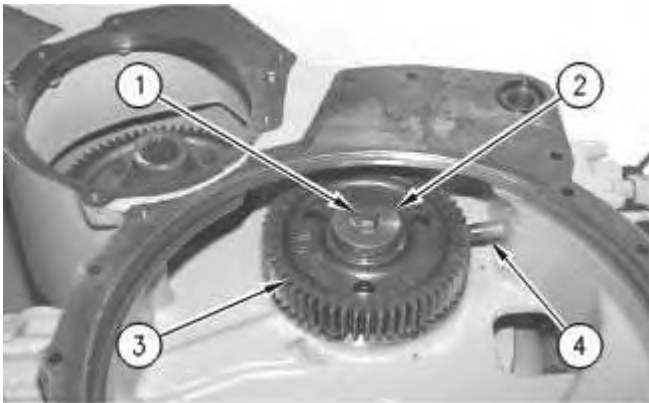


Illustration 2

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2. Remove torque converter speed sensor (4) , the seal, and the washer.
 3. Remove bolt (1) and retainer (2) . Remove gear (3) from the torque converter housing.
-

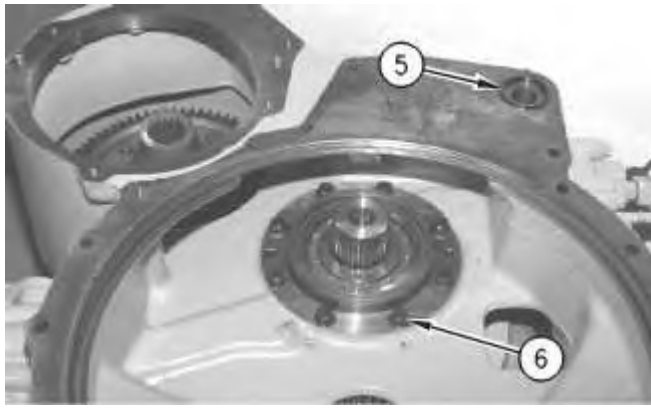


Illustration 3

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4. Remove bolts (6) and the washers that hold the torque converter to the torque converter housing.
5. Remove O-ring seal (5) .

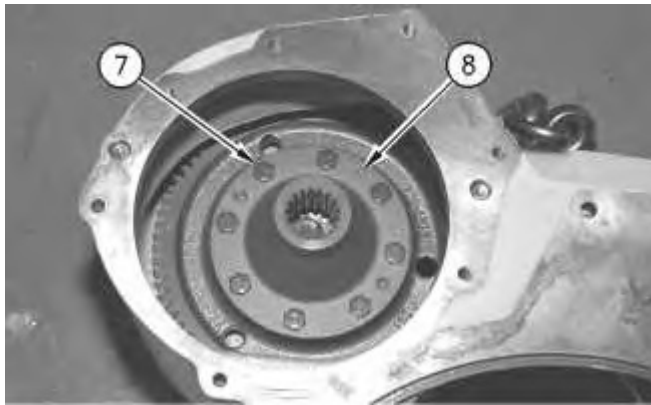
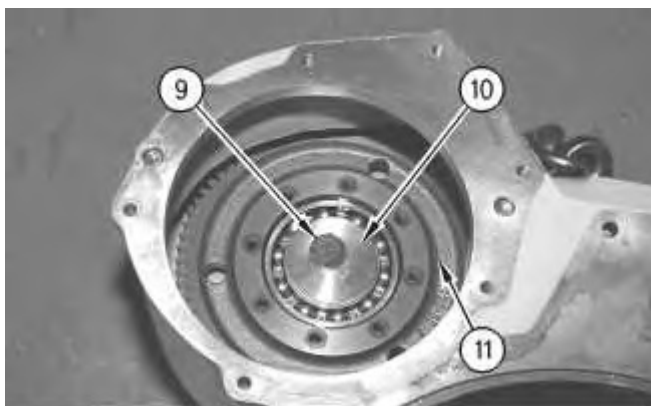


Illustration 4

g00456148

6. Remove bolts (7) and pump drive flange (8) .



7. Remove bolt (9) and the washer that holds drive gear shaft (10) to the torque converter housing.
8. Remove pump drive gear (11) and drive gear shaft (10) .
9. Remove drive gear shaft (10) from pump drive gear (11) .



Illustration 6

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10. Use Tooling (A) and a suitable lifting device to remove the torque converter housing. The weight of the torque converter housing is approximately 113 kg (250 lb).



Illustration 7

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11. Remove bearing (12) from pump drive gear (11) . Use Tooling (B) in order to remove the bearing.
-

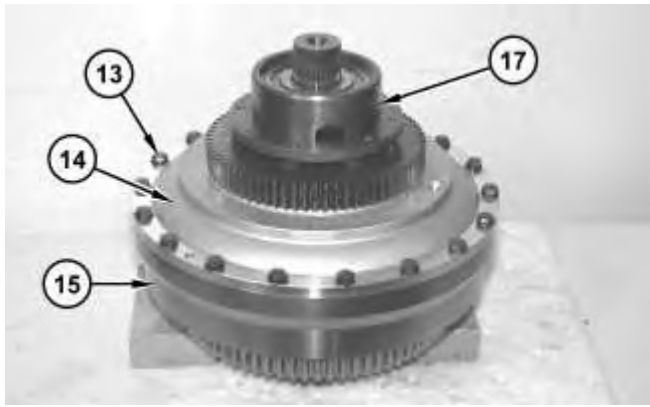


Illustration 8

g01152648

Note: For the disassembly of carrier shaft (17) , refer to Steps 30 through 34.

12. Remove bolts (13) and the washers. Use a suitable lifting device to remove impeller (14) from rotating housing (15) . The weight of the impeller assembly is approximately 36 kg (80 lb).

Note: If the torque converter is equipped with a freewheel stator, continue with Steps 13 through 19.

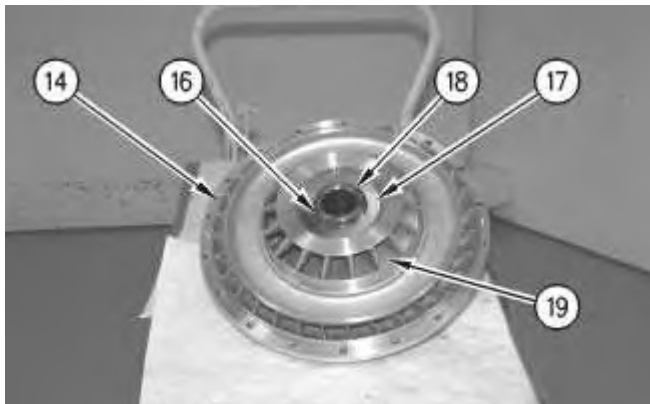


Illustration 9

g00878581

13. Turn impeller (14) to the opposite side.
 14. Remove retaining ring (16) and spacer (18) from carrier shaft (17) .
 15. Remove stator (19) .
-

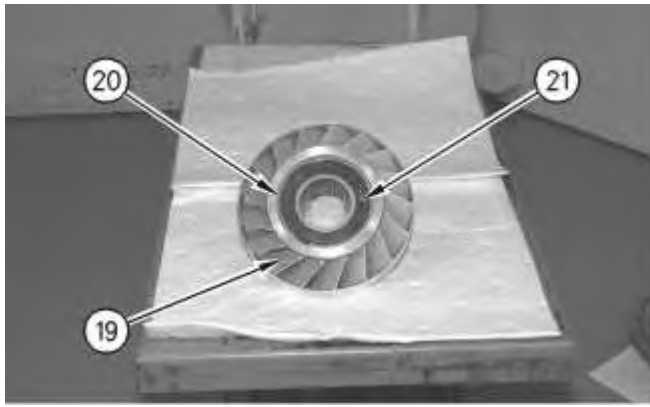


Illustration 10

g00878584

16. Remove retaining ring (20) and washer (21) from stator (19) . Repeat the procedure for the opposite side of stator (19) .

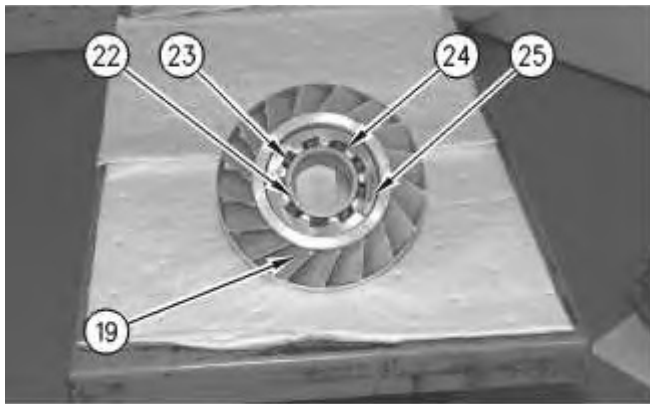


Illustration 11

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Note: If necessary, raise the temperature of the stator to a maximum temperature of 135 °C (275 °F) for approximately fifteen minutes.

17. Remove bearing race (22) , freewheel rollers (23) , freewheel springs (24) , and freewheel cam (25) from stator (19) .

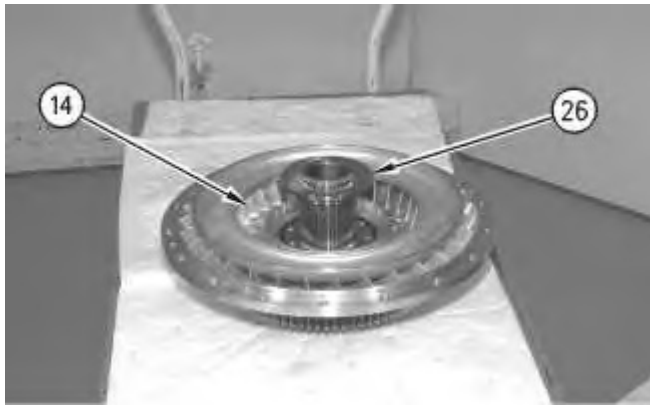


Illustration 12

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18. Remove spacer (26) from impeller (14) .

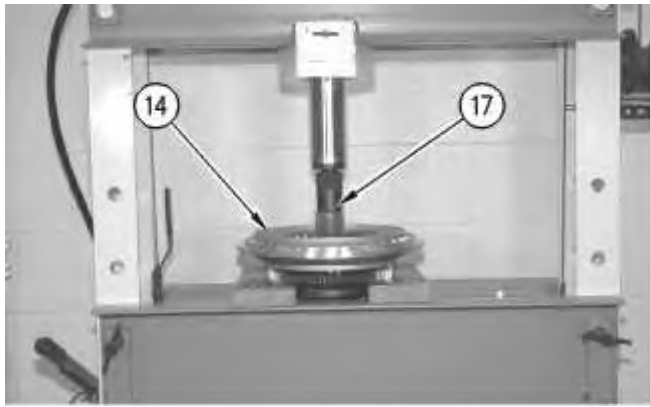


Illustration 13

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19. Use a suitable press to remove carrier shaft (17) from impeller (14) .



Illustration 14

g00878778

20. Remove bolts (27) and drive gear (28) .



Illustration 15

g00878780

21. Remove bearing (29) from impeller (14) .



Illustration 16

g00878781

22. Remove retaining ring (30) and end cover (31) from rotating housing (15) .



23. Remove O-ring seal (32) .
24. Use Tooling (C) to remove retaining ring (33) .
25. Remove bearing spacer (34) from rotating housing (15) .



Illustration 18

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26. Turn rotating housing (15) onto the opposite side. Remove turbine (35) .

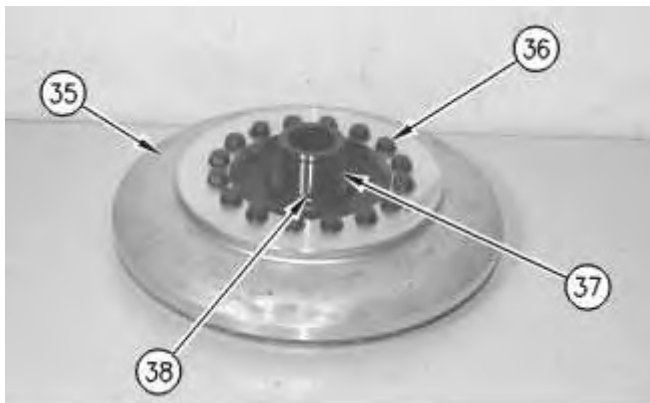


Illustration 19

g00878808

27. Remove bolts (36) and the washers. Separate turbine (35) from turbine hub assembly (37) .
 28. If necessary, remove locating dowel (38) .
-

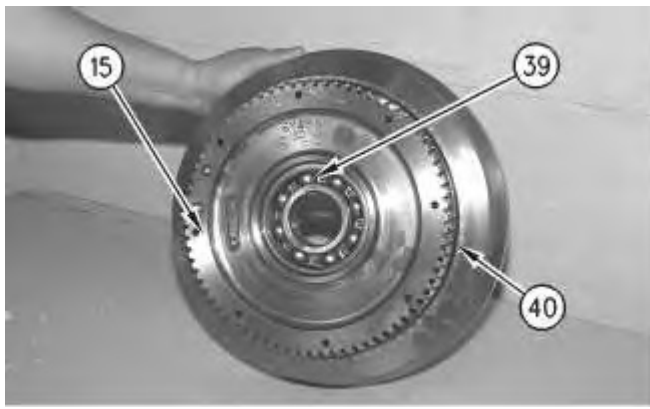


Illustration 20

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29. Remove bearing (39) and ring (40) from rotating housing (15) .

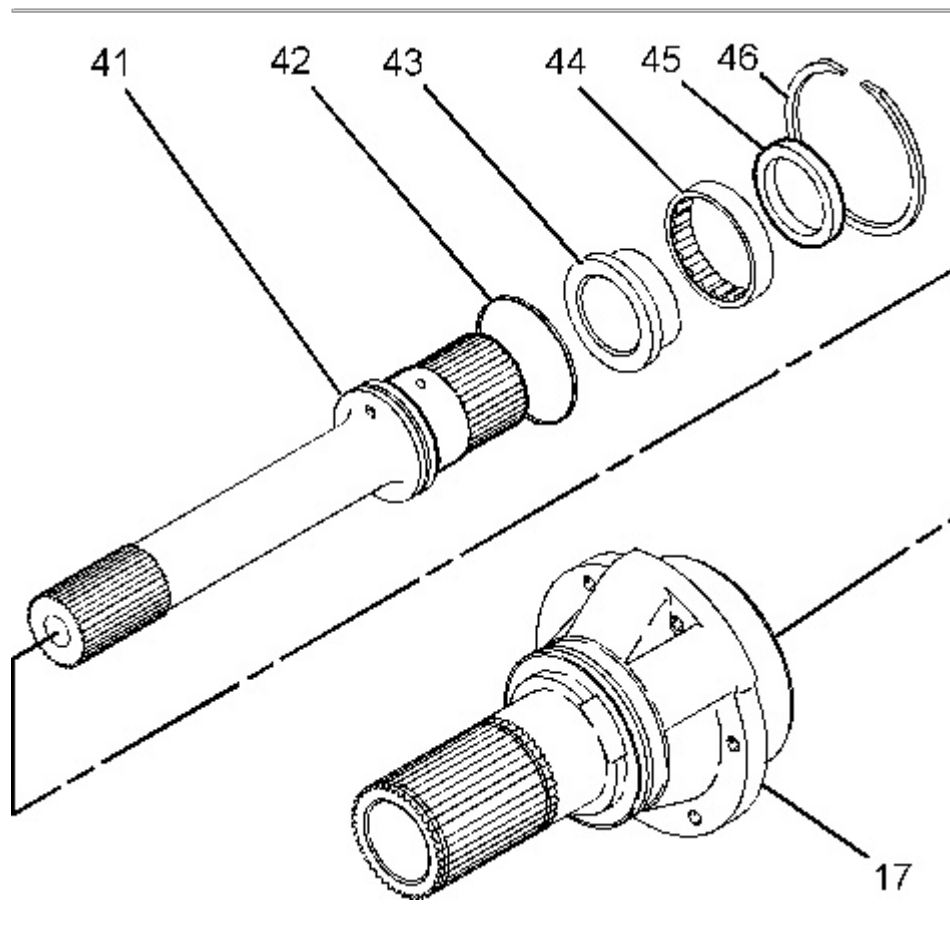


Illustration 21

g01152618

30. Remove retaining ring (46) and plate (45) .
31. Use a soft faced hammer to remove shaft assembly (41) from carrier shaft (17) .
32. Remove outer bearing (44) .
33. Use a suitable press to remove inner race (43) from shaft (41) .

34. Remove ring (42) from shaft (41) .

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Disassembly and Assembly 966G Series II and 972G Series II Wheel Loaders Power Train

Media Number -REN4365-07

Publication Date -01/08/2008

Date Updated -14/08/2008

i07399197

Torque Converter (Freewheel Stator) - Assemble

SMCS - 3101-016

Assembly Procedure

Table 1

| Required Tools | | | |
|----------------|-------------|-----------------------|-----|
| Tool | Part Number | Part Description | Qty |
| A | 138-7575 | Link Bracket | 2 |
| B | 1P-0510 | Driver Gp | 1 |
| C | 2P-8312 | Retaining Ring Pliers | 1 |
| D | 7F-6068 | Sleeve | 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.

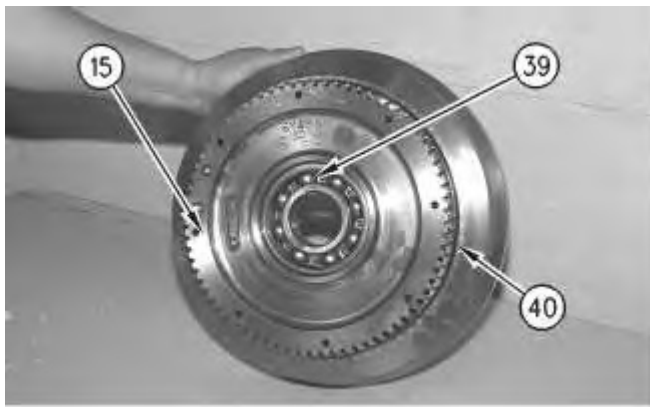


Illustration 1

g00878809

1. Install bearing (39) and ring (40) on rotating housing (15).

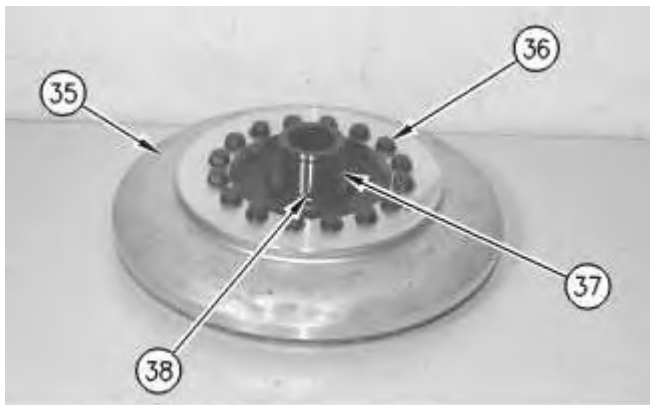


Illustration 2

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1. Install locating dowel (38) in turbine hub assembly (37).
2. Install turbine hub assembly (37) to turbine (35). Install bolts (36) and the washers. The torque for bolts (36) is 60 ± 7 N·m (44 ± 5 lb ft).



Illustration 3

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3. Turn rotating housing (15) onto opposite side. Install turbine (35).



Illustration 4

g00878783

4. Install bearing spacer (34).
5. Use Tooling (C) to install retaining ring (33) on turbine hub assembly (37). Retaining ring (33) must be securely seated in the groove.
6. Install O-ring seal (32).

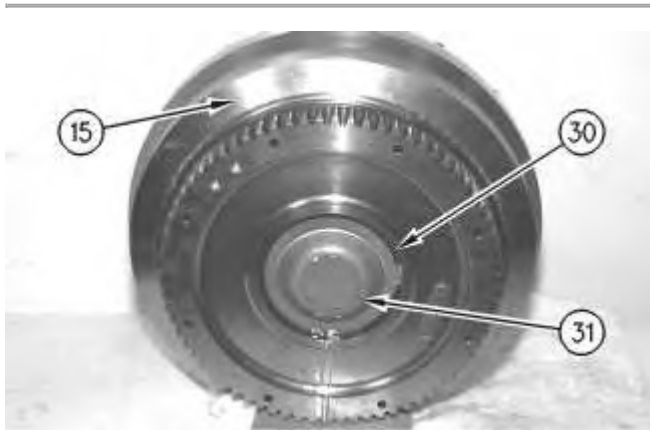


Illustration 5

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7. Install end cover (31) and retaining ring (30) in rotating housing (15).



8. Lower the temperature of bearing (29).
9. Install bearing (29) in impeller (14).

Note: The notch in bearing (29) must face downward, as shown.

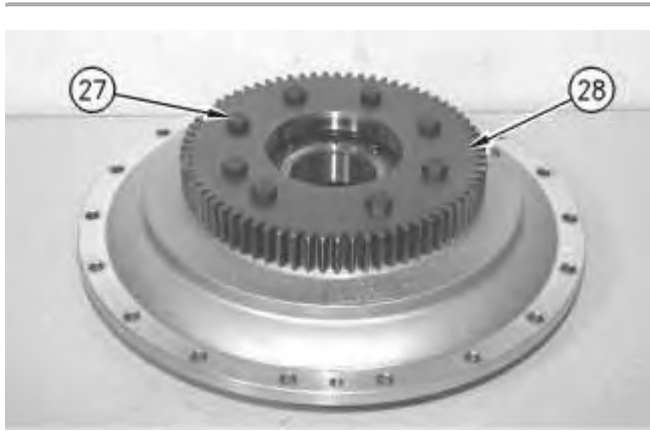


Illustration 7

10. Install drive gear (28) and bolts (27). The torque for bolts (27) is 105 ± 15 N·m (75 ± 11 lb ft).

Note: If the torque converter is equipped with a freewheel stator, continue with Steps 11 through 16.

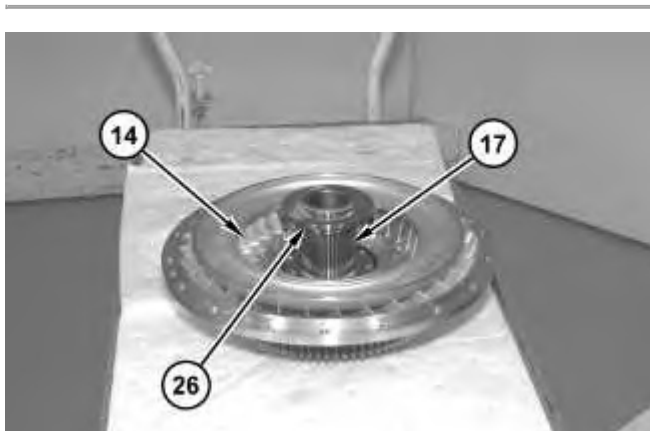


Illustration 8

11. Install the seal ring (not shown) onto carrier shaft (17). Use a suitable press to install carrier shaft (17) in impeller (14).
 12. Install spacer (26) over shaft (17).
-

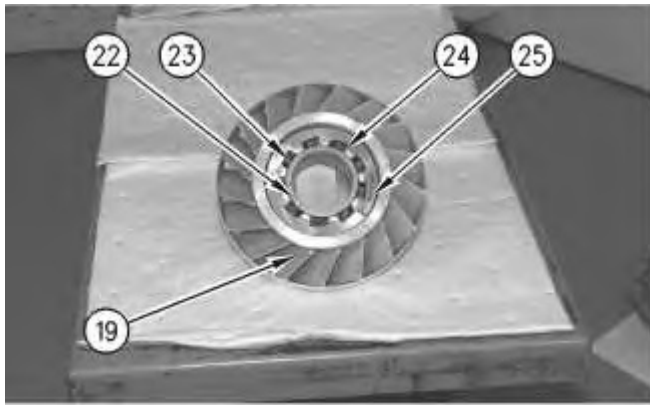


Illustration 9

g00878585

13. Install freewheel cam (25), freewheel springs (24), freewheel rollers (23), and bearing race (22) in stator (19).

Note: If necessary, raise the temperature of stator (19) to a maximum temperature of 135 °C (275 °F). Install the cam with the IMPELLER SIDE facing downward. Continue with the installation until freewheel cam (25) contacts the retaining ring (not shown).

Note: Install freewheel springs (24) with the maximum number of loops toward the outside diameter of freewheel cam (25).

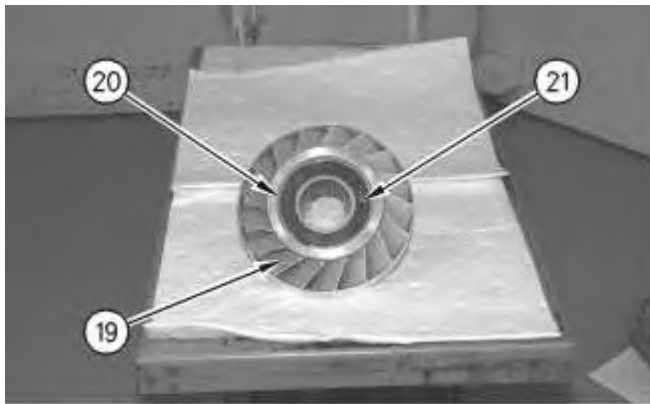


Illustration 10

g00878584

14. Install washer (21) and retaining ring (20) on stator (19). Repeat the procedure for the opposite side of stator (19).

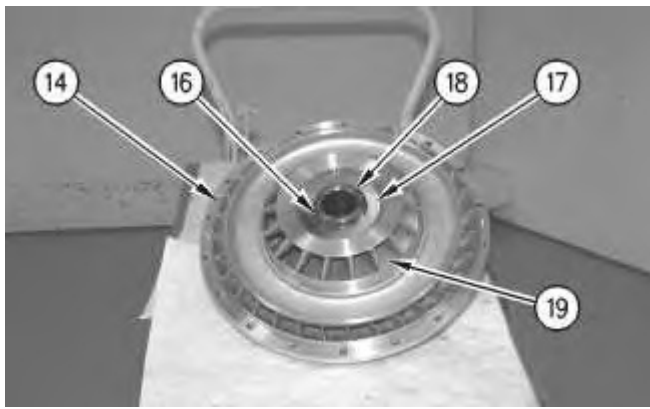


Illustration 11

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15. Install stator (19) on impeller (14).
16. Install plate (18) and retaining ring (16) on carrier shaft (17).

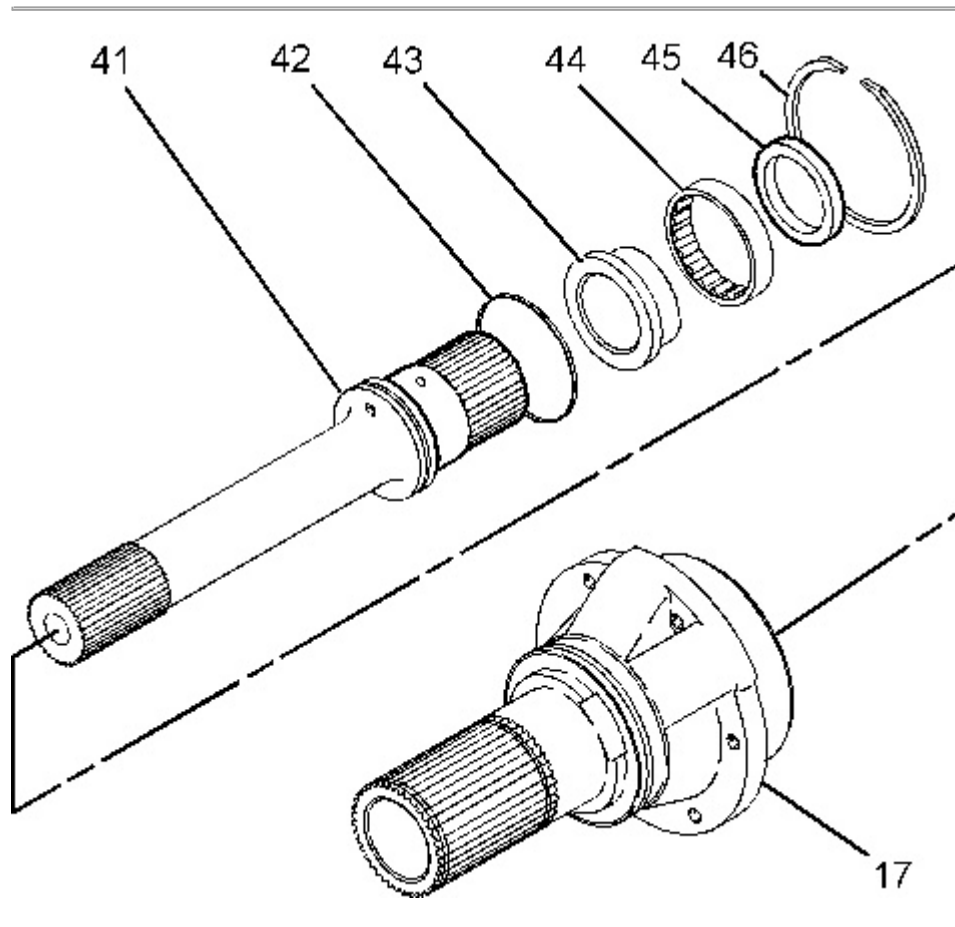


Illustration 12

g01152618

17. Assemble carrier shaft (17), as follows.
18. Install ring (42) on shaft (41).
19. Use a suitable press to install inner race (43) onto shaft (41).
20. Install outer bearing (44).

21. Use Tooling (B), Tooling (D), and a suitable press to install shaft assembly (41) and outer bearing (44) into carrier shaft (17).
22. Install plate (45) and retaining ring (46).



Illustration 13

g00456243

23. Install impeller (14) on rotating housing (15). The weight of the impeller assembly is approximately 36 kg (80 lb).
24. Install bolts (13) and the washers. The torque for bolts (13) is $60 \pm 7 \text{ N}\cdot\text{m}$ ($44 \pm 5 \text{ lb ft}$).



Illustration 14

g00456176

25. Use Tooling (B) to install bearing (12) in pump drive gear (11).

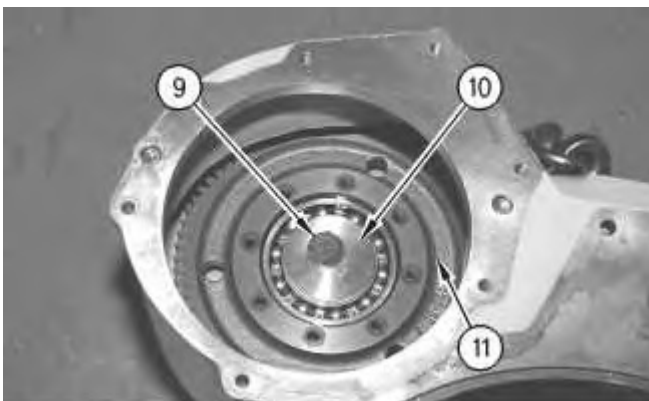




Illustration 16

g00456172

26. Install pump drive gear (11) and drive gear shaft (10).
27. Use Tooling (A) and a suitable lifting device to install the torque converter housing over the torque converter. The weight of the torque converter housing is approximately 113 kg (250 lb).
28. Install bolt (9) and the washer that holds drive gear shaft (10) to the torque converter housing. The torque for bolt (9) is 240 ± 40 N·m (180 ± 30 lb ft).

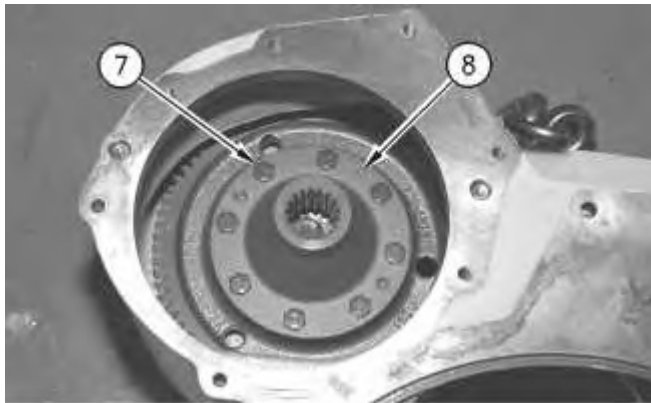


Illustration 17

g00456148

29. Install pump drive flange (8) and bolts (7). The torque for bolts (7) is 60 ± 12 N·m (44 ± 9 lb ft).
-

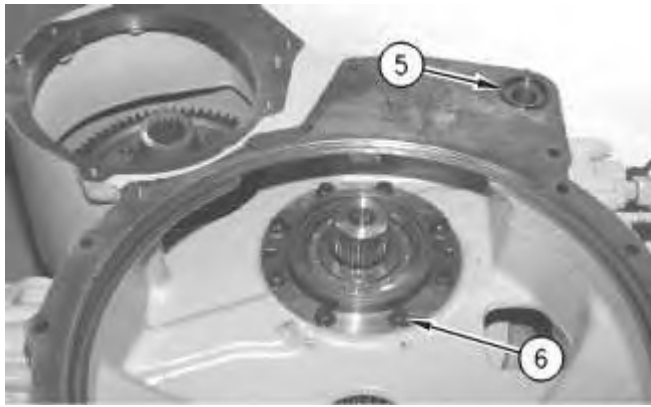


Illustration 18

g00563276

30. Install bolts (6) and the washers that hold the torque converter to the torque converter housing. The torque for bolts (6) is $50 \pm 10 \text{ N}\cdot\text{m}$ ($37 \pm 7 \text{ lb ft}$).
31. Install O-ring seal (5).

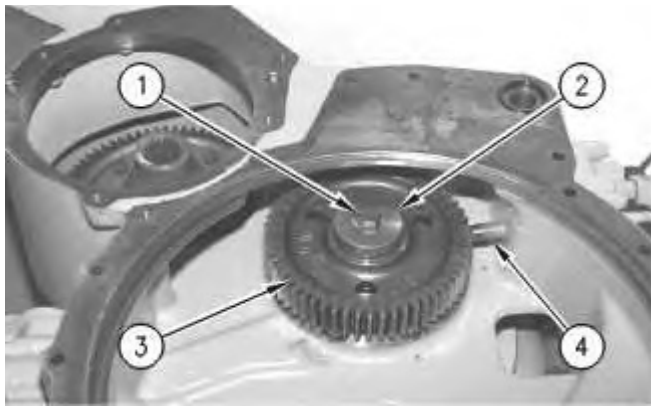


Illustration 19

g00563249

32. Install gear (3), retainer (2), and bolt (1). The torque for bolt (1) is $120 \pm 20 \text{ N}\cdot\text{m}$ ($90 \pm 15 \text{ lb ft}$).
33. Install torque converter speed sensor (4), the seal, and the washer. Adjust torque converter speed sensor (4) to maintain an air gap of $0.71 \pm 0.18 \text{ mm}$ ($0.028 \pm 0.007 \text{ inch}$). The torque for torque converter speed sensor (4) is $25 \pm 5 \text{ N}\cdot\text{m}$ ($18 \pm 4 \text{ lb ft}$).

End By:

- a. Connect the torque converter to the transmission and to the output transfer gears. Refer to Disassembly and Assembly, "Torque Converter to Transmission, Output Transfer Gears - Connect".

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