

Product: WHEEL LOADER

Model: 814K WHEEL LOADER LW4

Configuration: 814K Wheel Dozer LW400001-UP (MACHINE) POWERED BY C7.1 Engine

Disassembly and Assembly 814K Wheel Dozer Power Train

Media Number -M0090625-00

Publication Date -01/04/2018

Date Updated -13/04/2018

i07346277

Torque Converter - Assemble

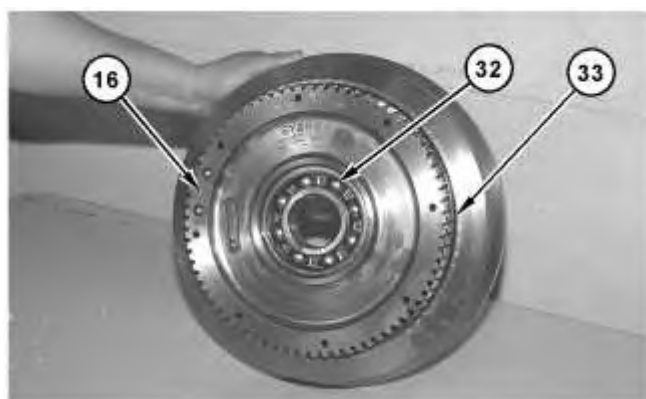
SMCS - 3101-016

Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	439-3940	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.



1. Lower the temperature of bearing (32).
2. Install bearing (32) and ring (33) on rotating housing (16).

Note: The notch in bearing (32) must face toward the turbine.

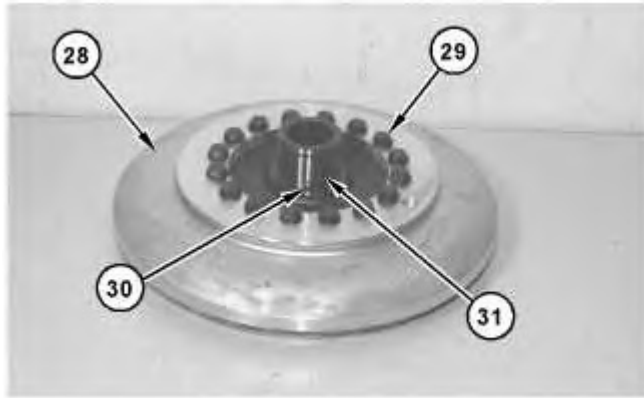


Illustration 2

g06289394

1. Install locating dowel (30) in turbine hub assembly (31), if necessary.
2. Install turbine hub assembly (31) to turbine (28). Install the washers and bolts (29). Tighten bolts (29) to a torque of 60 ± 7 N·m (44 ± 5 lb ft).



Illustration 3

g06289389

3. Turn rotating housing (16) onto opposite side. Install turbine (28).



Illustration 4

g06289384

4. Use Tooling (C) to install retaining ring (26). Install bearing spacer (27) and retaining ring (26).
5. Install O-ring seal (25).



Illustration 5

g06289379

6. Use Tooling (C) to install retaining ring (23). Install end cover (24) and retaining ring (23) in rotating housing (16).

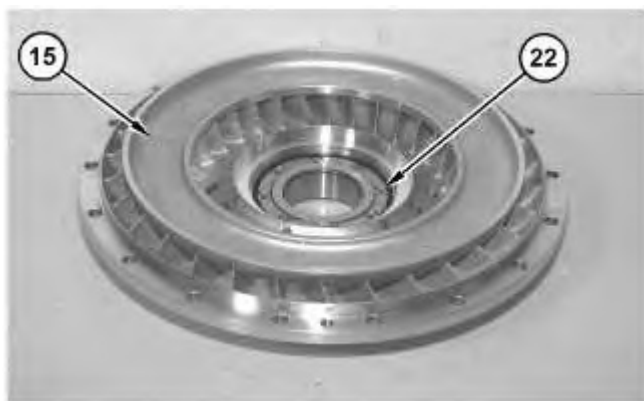


Illustration 6

g06289376

7. Lower the temperature of bearing (22).

8. Install bearing (22) to impeller (15).

Note: The notch in bearing (22) must face downward.



Illustration 7

g06289374

9. Install drive gear (21) and bolts (20). Tighten bolts (20) to a torque of $105 \pm 15 \text{ N}\cdot\text{m}$ ($75 \pm 11 \text{ lb ft}$).

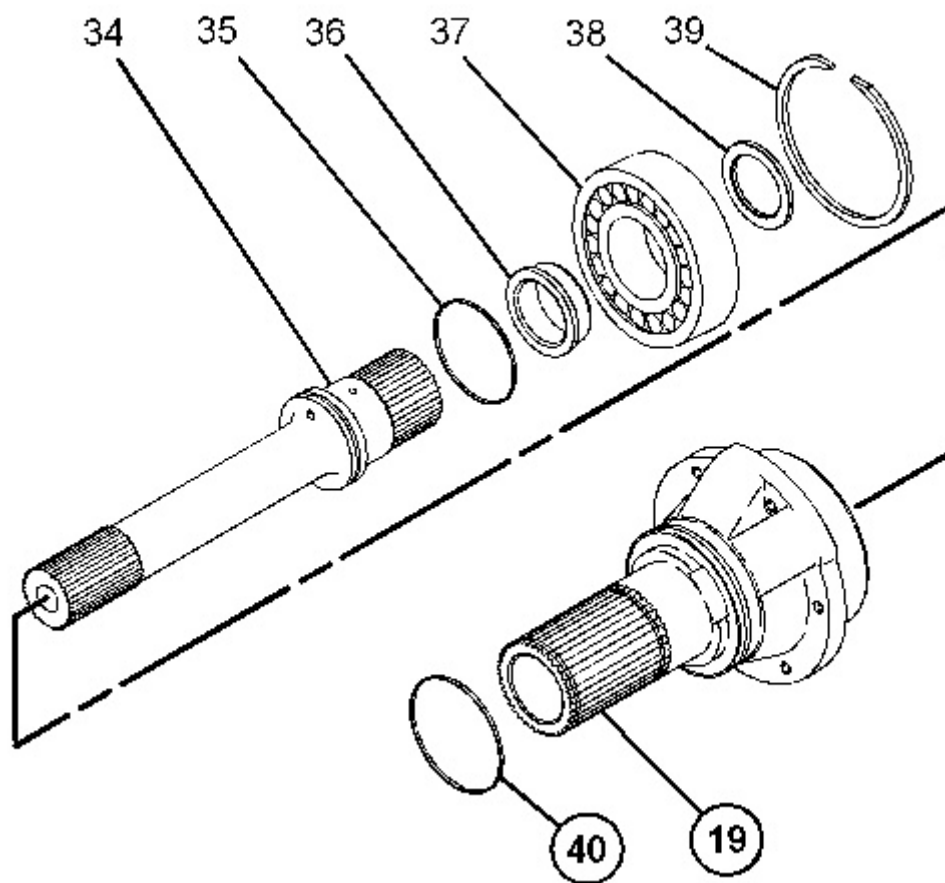


Illustration 8

g06289423

10. Install seal ring (40) onto carrier shaft (19).
11. Install seal ring (35) onto shaft (34).
12. Raise the temperature of inner race (36). Install inner race (36) onto shaft (34).
13. Install outer bearing (37).
14. Use Tooling (B), Tooling (D), and a suitable press to install shaft (34) and outer bearing (37) into carrier shaft (19).
15. Install plate (38) and retaining ring (39).

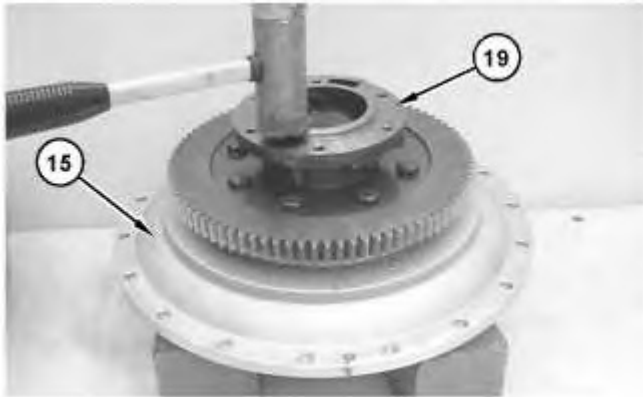


Illustration 9

g06289462

16. Use a suitable soft faced hammer to install carrier shaft (19) into impeller (15).



Illustration 10

g06289319

17. Turn impeller (15) onto the opposite side.
 18. Use Tooling (C) to install retaining ring (17). Install stator (18) and retaining ring (17).
-

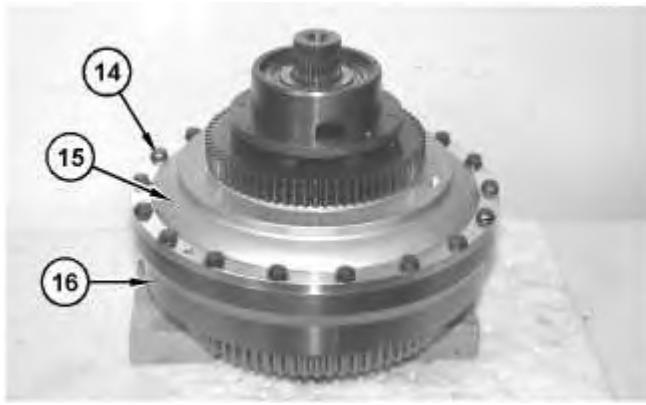


Illustration 11

g06289315

19. Use a suitable lifting device to install impeller (15) on rotating housing (16). The weight of impeller (15) is approximately 36 kg (80 lb).
20. Install impeller (15) and bolts (14). Tighten bolts (14) to a torque of $60 \pm 7 \text{ N}\cdot\text{m}$ ($44 \pm 5 \text{ lb ft}$).



Illustration 12

g06289340

21. Use Tooling (B) to install bearing (13). Install bearing (13) to pump drive gear (11).



Illustration 13

g06289336

22. Use Tooling (A) and a suitable lifting device to install torque converter housing (12) over the torque converter. The weight of torque converter housing (12) is approximately 95 kg (209 lb). Install torque converter housing (12).

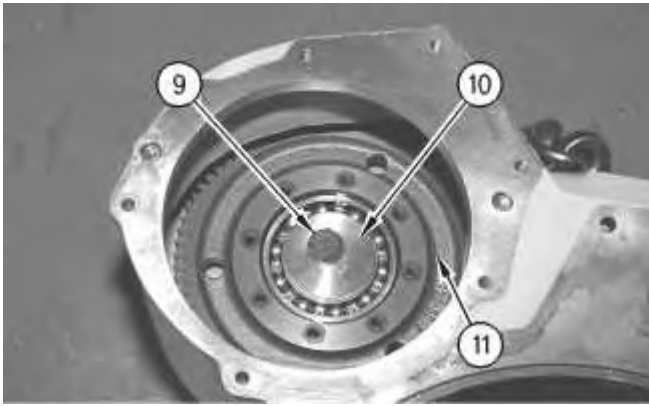


Illustration 14

g00456168

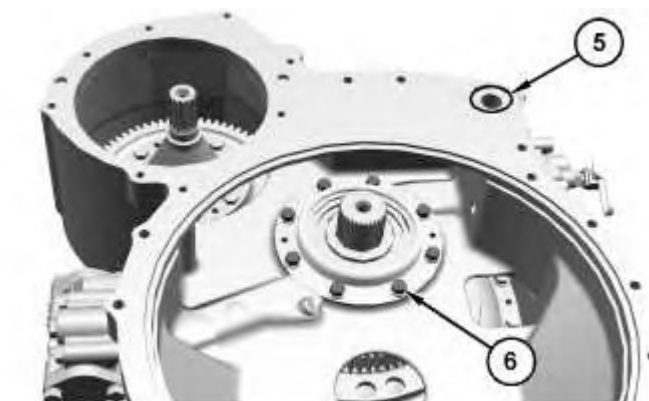
23. Install pump drive gear (11) and drive gear shaft (10).
24. Install the washer and bolt (9). Tighten bolt (9) to a torque of $240 \pm 40 \text{ N}\cdot\text{m}$ ($180 \pm 30 \text{ lb ft}$).



Illustration 15

g06289318

25. Install pump drive flange (8) and bolts (7). Tighten bolts (7) to a torque of $60 \pm 12 \text{ N}\cdot\text{m}$ ($44 \pm 9 \text{ lb ft}$).



26. Install the washer and bolts (6). Tighten bolts (6) to a torque of 55 ± 10 N·m (41 ± 7 lb ft).
27. Install O-ring seal (5).

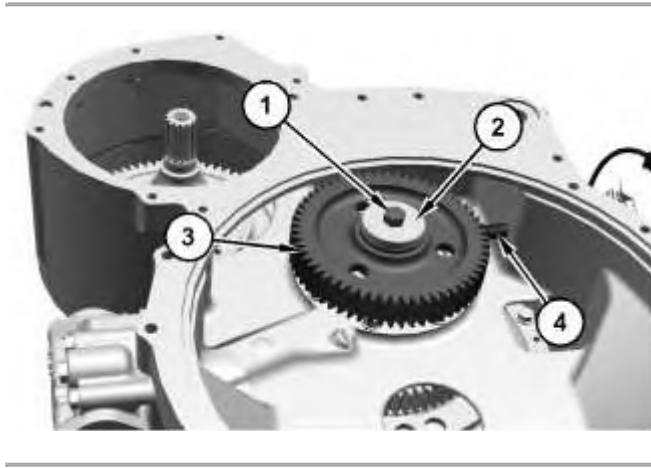


Illustration 17

g06289316

28. Install gear (3), retainer (2), and bolt (1). Tighten bolt (1) to a torque of 120 ± 20 N·m (90 ± 15 lb ft).
29. Install the washer, the seal, and torque converter speed sensor (4). Adjust torque converter speed sensor (4) to maintain an air gap of 0.78 ± 0.18 mm (0.031 ± 0.007 inch). Tighten torque converter speed sensor (4) to a torque of 25 ± 5 N·m (18 ± 4 lb ft).

End By:

- a. Connect the torque converter to the transmission and to the output transfer gears.
-

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Media Number -M0090625-00

Publication Date -01/04/2018

Date Updated -13/04/2018

i07349000

Transmission from Output Transfer Gears - Separate

SMCS - 3002-076

Separation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	439-3940	Bracket As	3

Start By:

- Separate the torque converter from the transmission, output transmission gears.

Note: Put identification marks on all harness assemblies for installation purposes. Plug all tube assemblies to prevent fluid loss and to keep contaminants from entering the system.

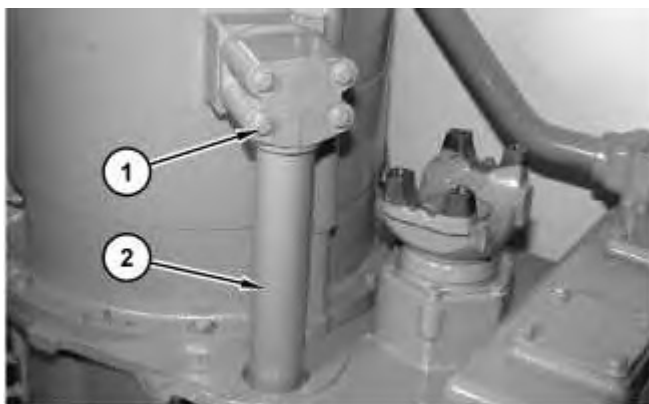


Illustration 1

g01325525

1. Remove bolts (1) and remove drain tube assembly (2).

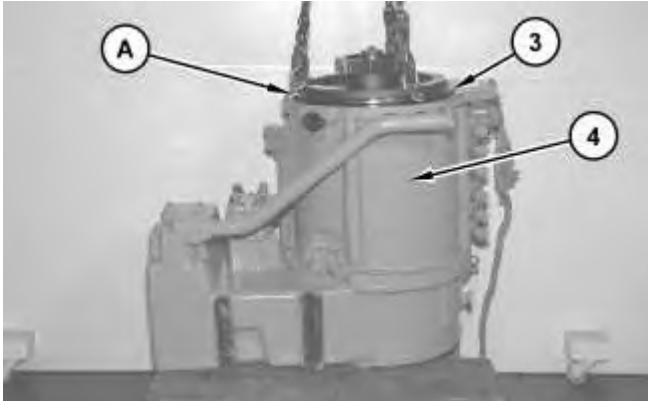


Illustration 2

g01325543

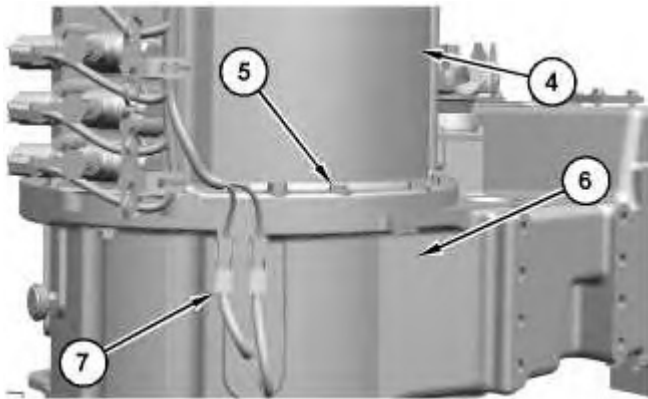


Illustration 3

g06289842

2. Remove O-ring seal (3). Disconnect harness assemblies (7).
3. Attach Tooling (A) and the suitable lifting device to separate transmission planetary (4) from output transfer gear case (6). The weight of transmission planetary (4) is approximately 520 kg (1146 lb). Remove bolts (5) and transmission planetary (4).

Note: If necessary, use forcing screws to separate transmission planetary (4) from output transfer gear case (6).

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i06707438

Transmission Planetary - Disassemble

SMCS - 3160-015

Disassembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	439-3940	Link Bracket	3
B	1P-0520	Driver Gp	1
C	8H-0663	Bearing Puller	1
D	1P-1863	Retaining Ring Pliers	1
E	1P-1861	Retaining Ring Pliers	1
F	2P-8312	Retaining Ring Pliers	1
G	6V-4035	Sleeve	1

Start By:

- Separate the transmission from the output transfer gears.
-

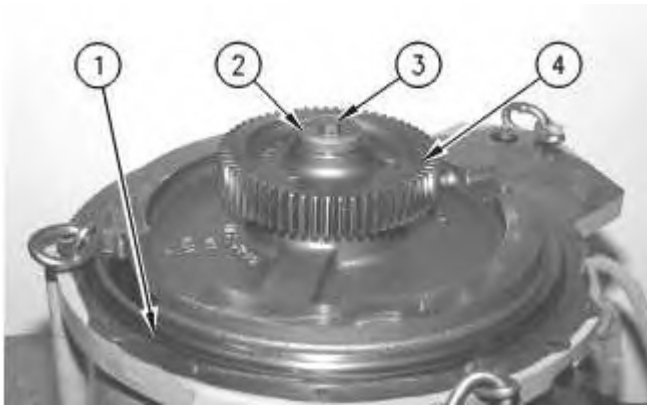


Illustration 1

g00458960

1. Remove O-ring seal (1) from the housing.
2. Remove bolt (3), retainer (2), and drive gear (4) from the end of the input shaft.

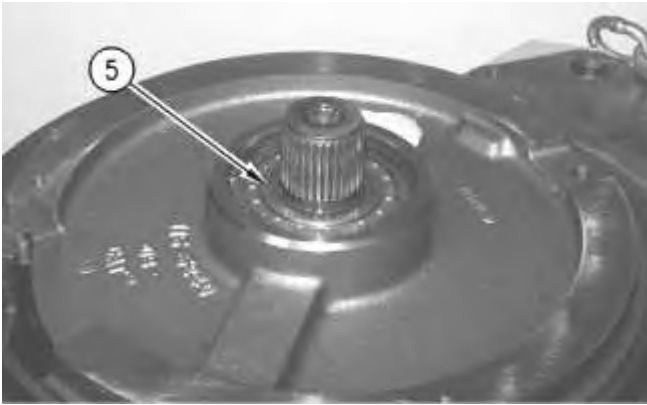


Illustration 2

g00459007

3. Remove plate (5).

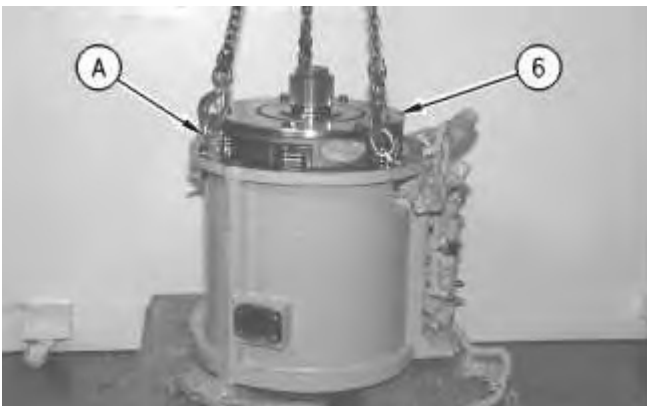


Illustration 3

g00459030

4. Attach Tooling (A) and a suitable lifting device to the transmission planetary. The weight of the transmission planetary is approximately 545 kg (1200 lb).

5. Carefully place the transmission planetary on the opposite end so that No. 6 clutch housing (6) is facing upward.

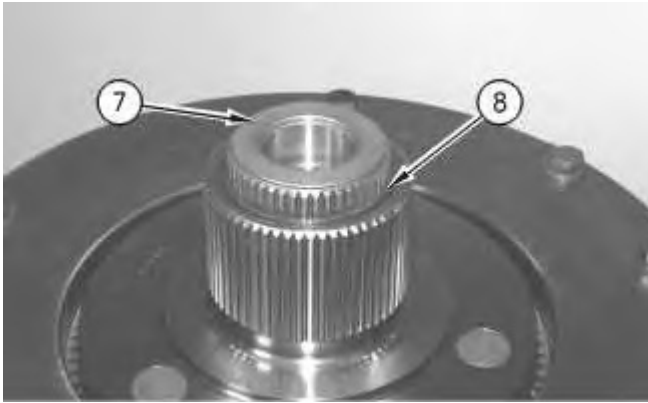


Illustration 4

g00459073

6. Use Tooling (D) to remove retaining ring (8) from output shaft (7).



Illustration 5

g00459075



WARNING

Personal injury can result from being struck by parts propelled by a released spring force.

Make sure to wear all necessary protective equipment.

Follow the recommended procedure and use all recommended tooling to release the spring force.

-
7. Remove bolts (9) and No. 6 clutch housing (6). Mark the location of the long bolts.
-

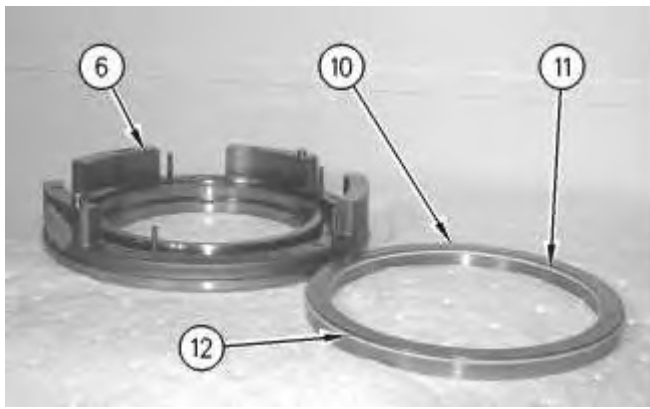


Illustration 6

g00459079

8. Remove clutch piston (10) from No. 6 clutch housing (6).
9. Remove seal rings (11) and (12) from clutch piston (10).



Illustration 7

g00459087

10. Remove clutch plate (14) and springs (13).



Illustration 8

g00459090

11. Remove clutch plates (15) and friction discs (16).



Illustration 9

g06293571

12. Remove ring gear (17).

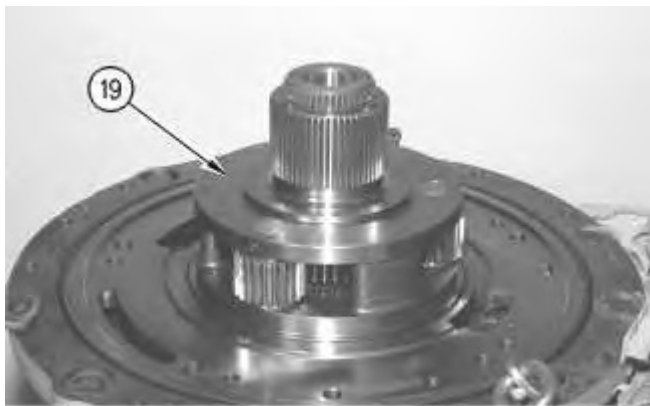


Illustration 10

g00459133

13. Remove carrier assembly (19).



Illustration 11

g00459138

14. Remove metal seal ring (20) from carrier assembly (19).

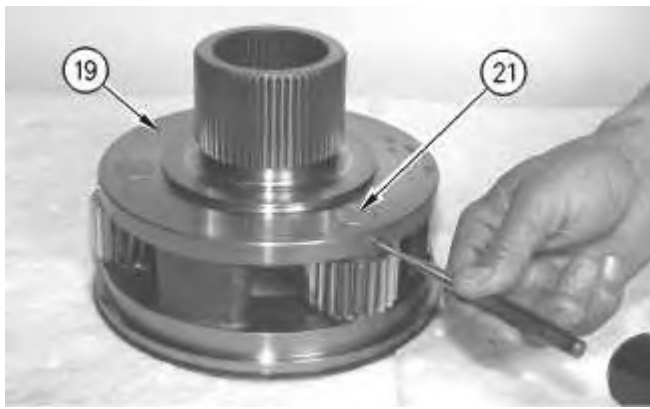


Illustration 12

g00459150

15. Use a hammer and a suitable punch to push the spring pins through carrier assembly (19) and into planetary shafts (21).

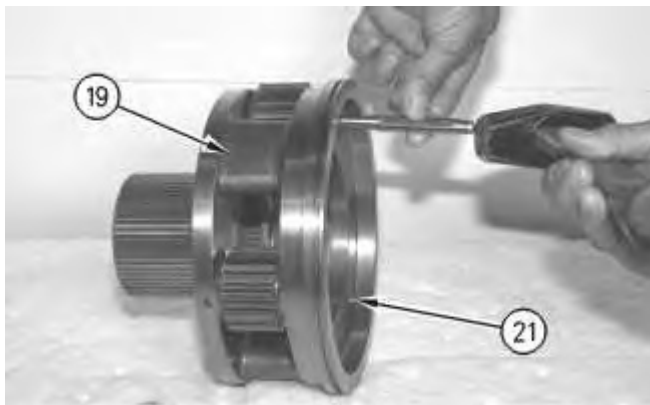


Illustration 13

g00459151

16. Use a hammer and a suitable punch to remove planetary shafts (21) from carrier assembly (19).

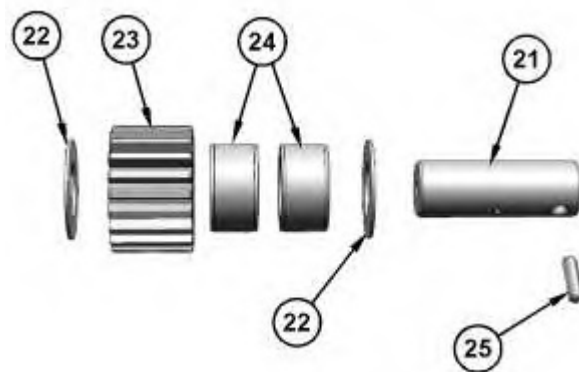


Illustration 14

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17. Remove thrust discs (22), planetary gears (23), and bearings (24) from the carrier assembly. Remove spring pins (25) from planetary shafts (21).



Illustration 15

g00459161

18. Remove O-ring seal (26). Remove bolts (27) from manifold (28).

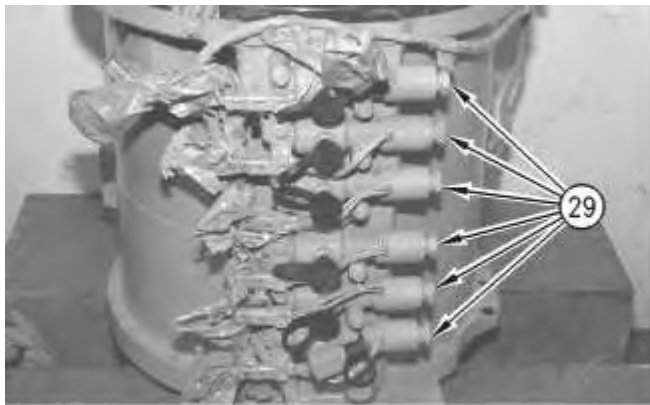


Illustration 16

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19. Disconnect the harness assemblies which are attached to transmission modulating valves (29). Remove transmission modulating valves (29) from the transmission housing.



Illustration 17

g00459316

20. Remove retaining ring (32) and gear (30).
21. Use Tooling (D) to remove retaining ring (31).



Illustration 18

g00459322

WARNING

Personal injury can result from being struck by parts propelled by a released spring force.

Make sure to wear all necessary protective equipment.

Follow the recommended procedure and use all recommended tooling to release the spring force.

22. Attach Tooling (A) and a suitable lifting device to manifold (28). The weight of manifold (28) is approximately 85 kg (190 lb).
23. Use Tooling (A) and the suitable lifting device to remove manifold (28).
24. Remove bolt (33) which holds the harness assembly in place.

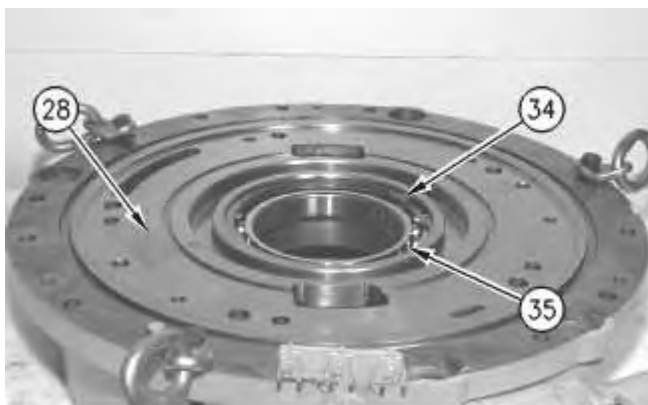


Illustration 19

g00459352

25. Use Tooling (E) to remove retaining ring (34). Remove bearing (35) from manifold (28).

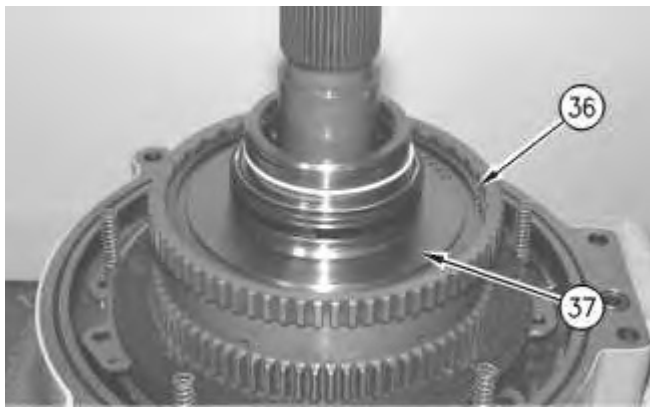


Illustration 20

g00459369

26. Use Tooling (E) to remove retaining ring (36). Remove clutch housing (37).



Illustration 21

g00459372

27. Remove O-ring seal (38) from clutch housing (37).

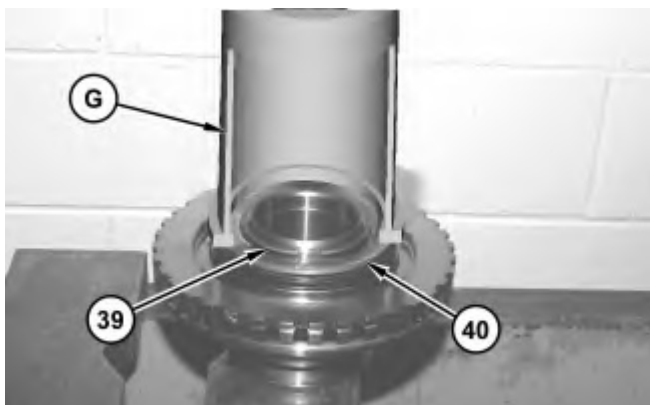


Illustration 22

g01331281

 **WARNING**

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