

Product: TRACK-TYPE TRACTOR

Model: D6G2 LGP TRACK-TYPE TRACTOR P6X

Configuration: D6G2 TRACK-TYPE TRACTOR LGP P6X00001-UP (MACHINE) POWERED BY 3306 Engine

## Disassembly and Assembly D6G Series II Track-Type Tractor Power Train

Media Number -KENR6344-02

Publication Date -01/09/2018

Date Updated -14/09/2018

i02604941

# Torque Divider - Disassemble

SMCS - 3113-015

## Disassembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	9S-9152	Bearing Puller Attachment	1
B	8H-0663	Bearing Puller Attachment	1
C	1P-0510	Driver Group	1
D	1P-0520	Driver Group	1
E	2P-8312	Retaining Ring Pliers	1
F	-	3/8 inch - 16 NC Forcing Bolt	2
G	1P-7405	Eyebolt	2

### Start By:

- a. Remove the torque divider. Refer to Disassembly and Assembly, "Torque Divider - Remove".

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### 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 Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Caterpillar products.**

**Dispose of all fluids according to local regulations and mandates.**

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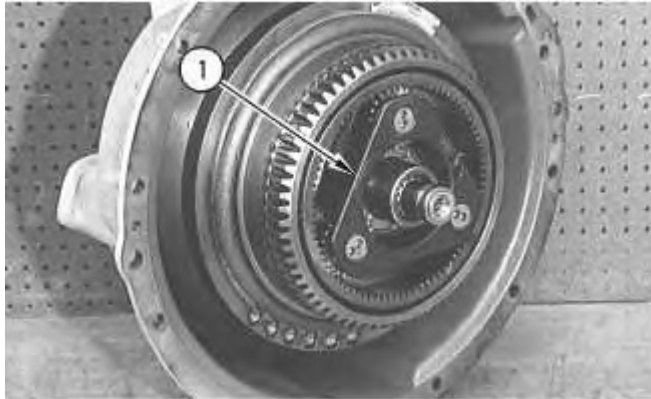


Illustration 1

g00330195

1. Remove carrier assembly (1).

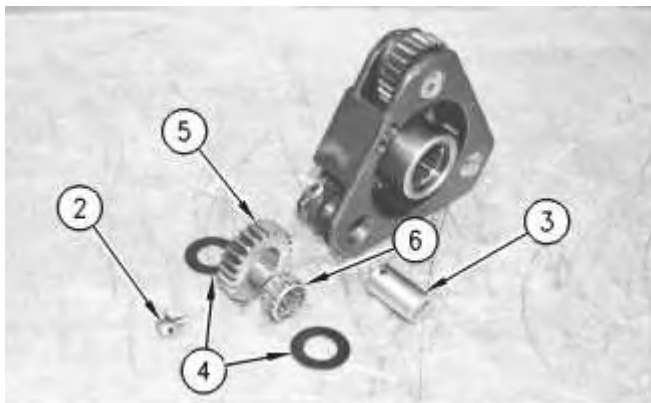


Illustration 2

g00330196

2. Disassemble the carrier assembly. Use the following steps.
    - a. Remove bolt (2), the lock and shaft assembly (3).
    - b. Remove gear (5). Remove washer (4) from the top and bottom of the gear. Remove needle bearing (6).
    - c. Remove the other two gears from the carrier. Use Steps 2.a and 2.b.
-



Illustration 3

g00330197

3. Place torque divider (7) on suitable blocks.
4. Remove shaft assembly (8).

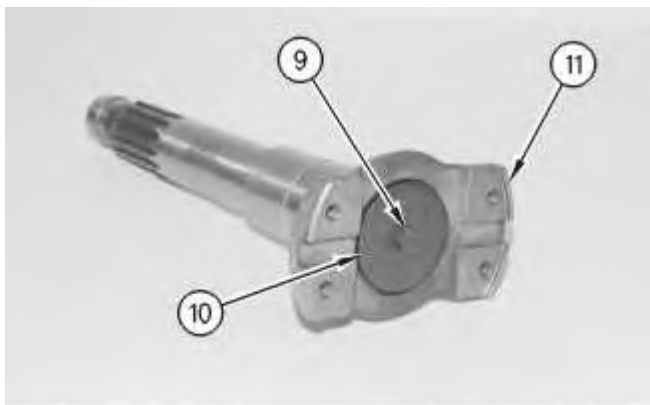


Illustration 4

g00330198

5. Remove bolt (9), washer (10) and flange (11).

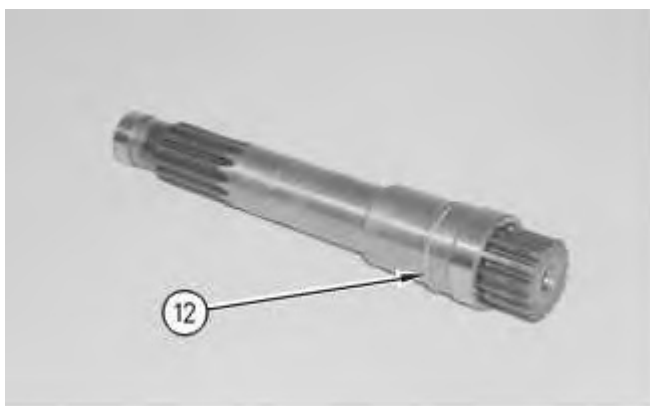


Illustration 5

g00330200

6. Remove ring (12).

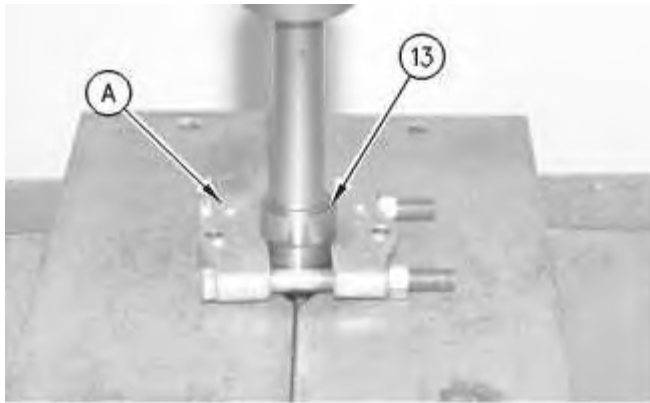


Illustration 6

g00330201

7. Remove bearing race (13) by using Tooling (A) and a suitable press.

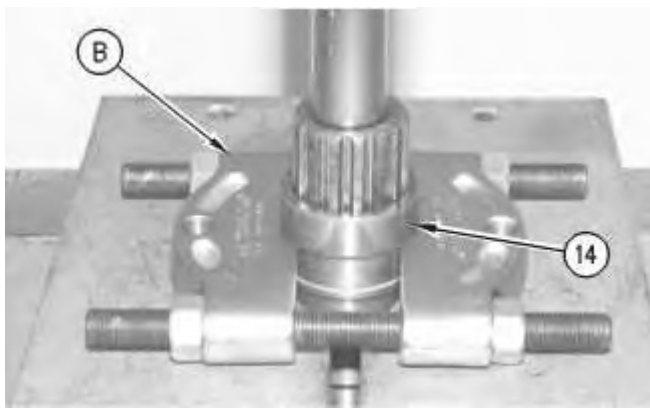


Illustration 7

g00330202

8. Remove bearing race (14) by using Tooling (B) and a suitable press.



Illustration 8

g00330303

9. Remove bolts (15).

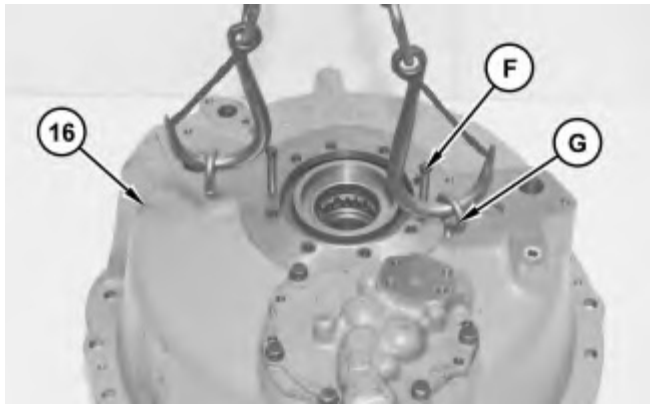


Illustration 9

g01303900

10. Install Tooling (G) and a suitable lifting device to cover assembly (16). The weight of cover assembly (16) is approximately 52 kg (115 lb).
11. Use Tooling (F) in order to loosen cover assembly (16). Remove cover assembly (16).

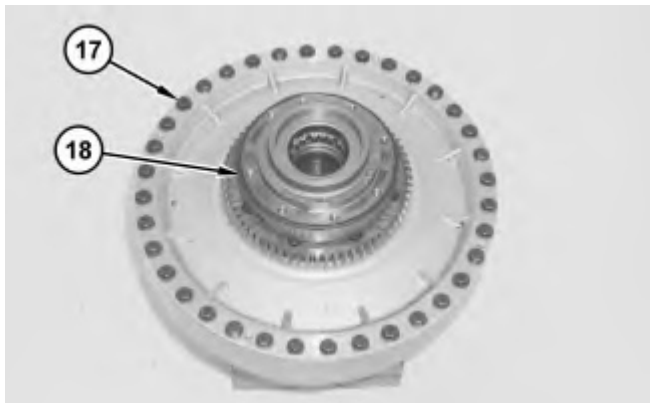


Illustration 10

g01303908

12. Remove O-ring seal (18).
13. Remove bolt (17) and washers. Remove another bolt and another washer that is 180 degrees from bolt (17). Drain the oil from the torque divider through the bolt holes.
14. Remove remaining bolts (17).



15. Install Tooling (F) in impeller wheel (19). Attach Tooling (G) and a suitable lifting device to impeller wheel (19). The weight of the impeller wheel (19) is approximately 24 kg (53 lb). Use Tooling (F) in order to loosen impeller wheel (19). Use the suitable lifting device in order to remove impeller wheel (19).

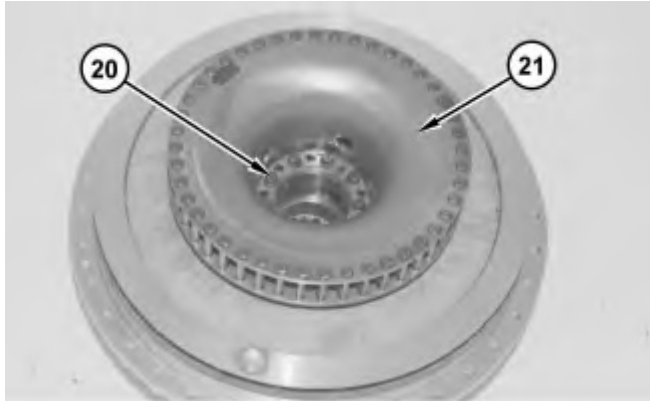


Illustration 12

g01303923

16. Remove bolts (20) and stator assembly (21).

**Note:** Do not use a large amount of force when the stator assembly is removed from the impeller wheel. Use an equal amount of force around the stator in order to loosen the stator assembly.

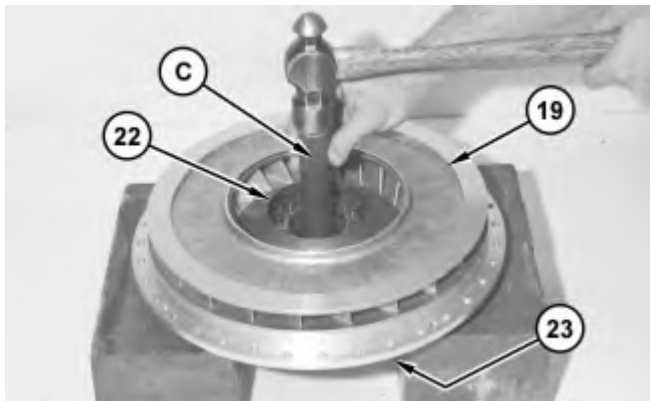


Illustration 13

g01303933

17. Put the impeller wheel on suitable blocks. Use Tooling (C) in order to remove carrier assembly (22) from impeller wheel (19).
18. Remove lip seal (23) from the carrier assembly.



Illustration 14

g00330629

19. Remove ring (24).



Illustration 15

g00330630

20. Turn the carrier assembly upside-down. Remove bearing (25) with a hammer and with a suitable punch.
21. Remove seal rings (26).
22. Remove sleeve (27). The sleeve is the oil distributor.

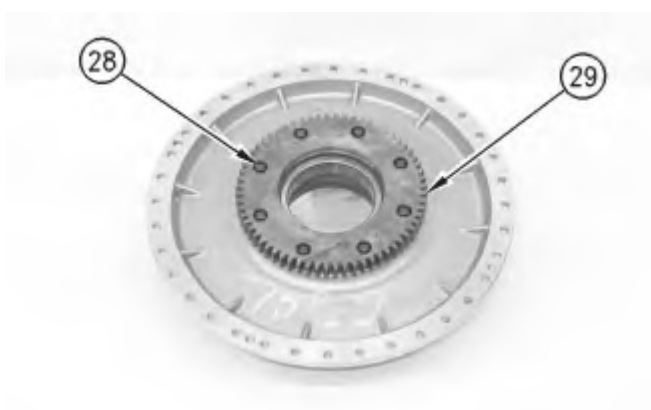


Illustration 16

g00330631

23. Remove bolts (28) and gear (29).

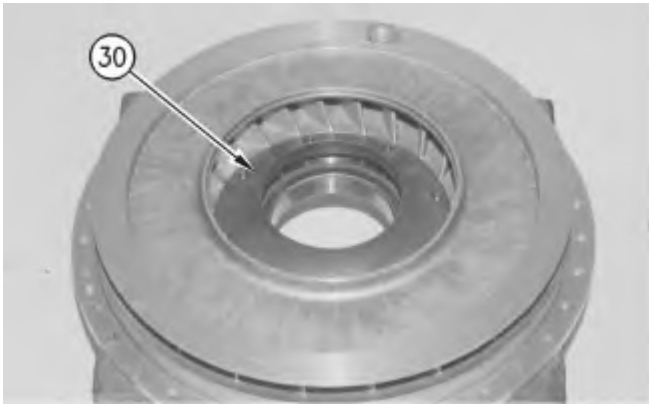


Illustration 17

g00330632

24. Invert the impeller and remove carrier assembly (30).

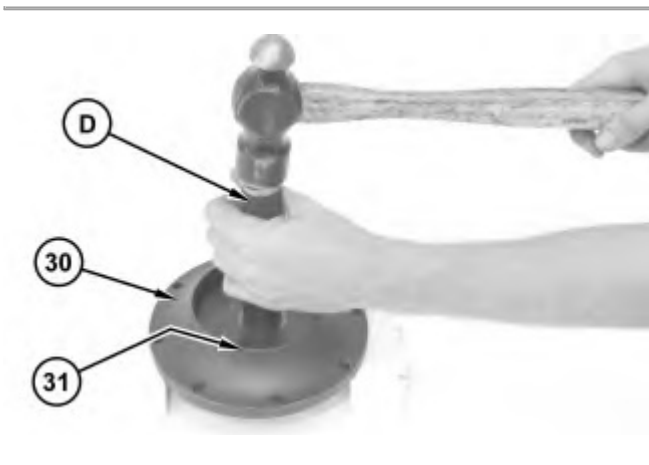


Illustration 18

g01303945

25. Use Tooling (E) in order to remove bearing (31) from carrier (30).



Illustration 19

g01303962

26. Remove retaining ring (32) by using Tooling (E).

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Illustration 20

g01303965

27. Invert the housing assembly.
28. Use Tooling (F) in order to make a separation of the turbine from the housing.

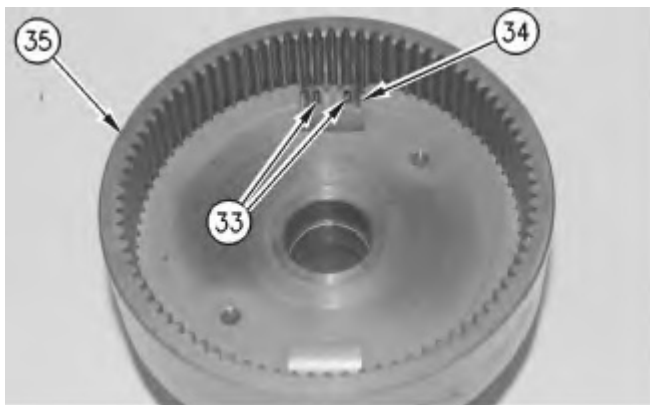


Illustration 21

g00330637

29. Remove pins (33) with a hammer and a suitable punch. Put ring (34) under compression and remove gear (35).

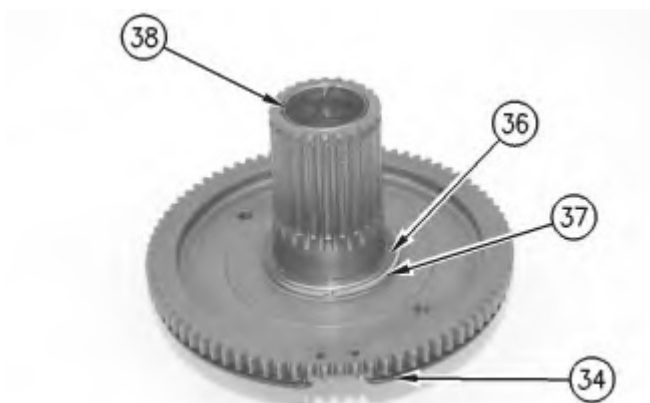


Illustration 22

g00330638

30. Remove ring (34).

31. Remove carrier (36) and seal ring (37).

32. Remove bearings (38).

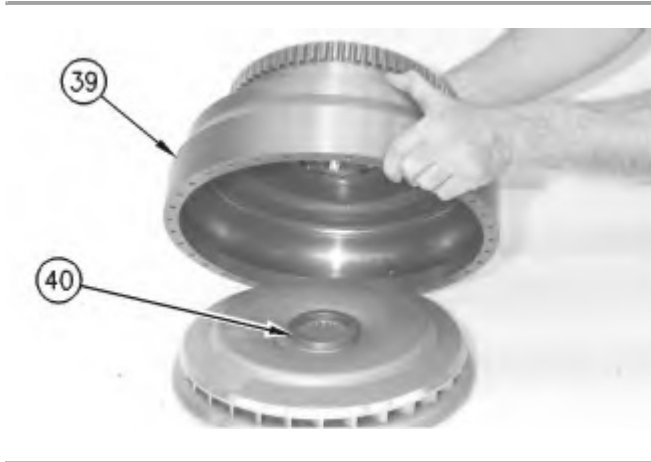


Illustration 23

g00330639

33. Remove housing (39). Remove spacer (40).

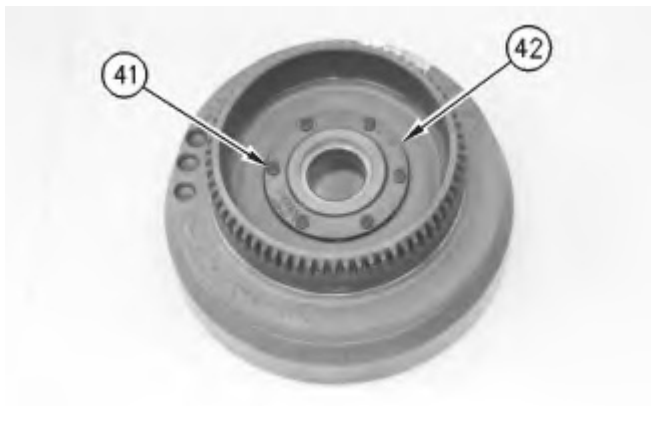


Illustration 24

g00330683

34. Remove bolts (41) and retainer (42).

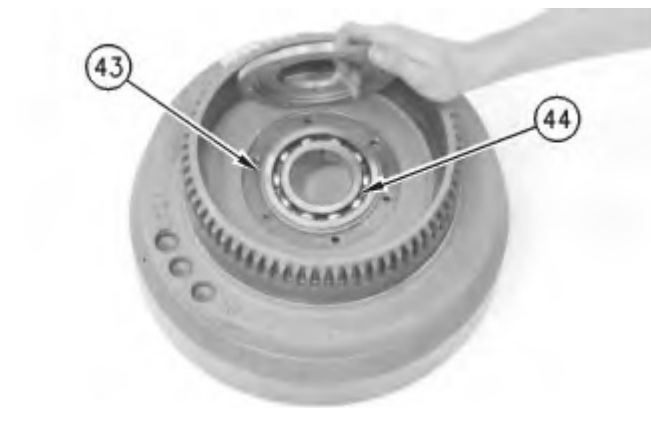


Illustration 25

g00330684

35. Remove retaining ring (43) that holds bearing (44) in position.

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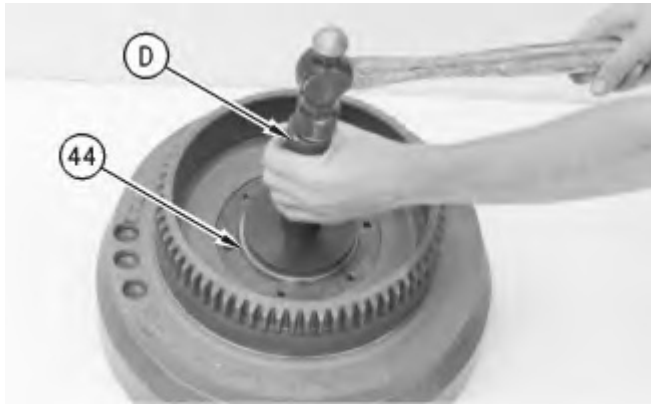


Illustration 26

g00330685

36. Use Tooling (D) in order to remove bearing (44).

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Model: D6G2 LGP TRACK-TYPE TRACTOR P6X

Configuration: D6G2 TRACK-TYPE TRACTOR LGP P6X00001-UP (MACHINE) POWERED BY 3306 Engine

## Disassembly and Assembly D6G Series II Track-Type Tractor Power Train

Media Number -KENR6344-02

Publication Date -01/09/2018

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i02605138

# Torque Divider - Assemble

SMCS - 3113-016

## Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
C	1P-0510	Driver Group	1
D	1P-0520	Driver Group	1
E	2P-8312	Retaining Ring Pliers	1
H	-	12.7 mm (0.5 inch) Steel Rods 457.2 mm (18 inch) Long	2
J	-	3/8 - 16 Guide Studs	2
K	8S-2328	Indicator Group	1
L	1P-0808	Multipurpose Grease	1

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### NOTICE

**Keep all parts clean from contaminants.**

**Contaminants may cause rapid wear and shortened component life.**

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**Note:** Check the condition of all seals and of all components. If any parts are worn or damaged, use new parts for replacement.

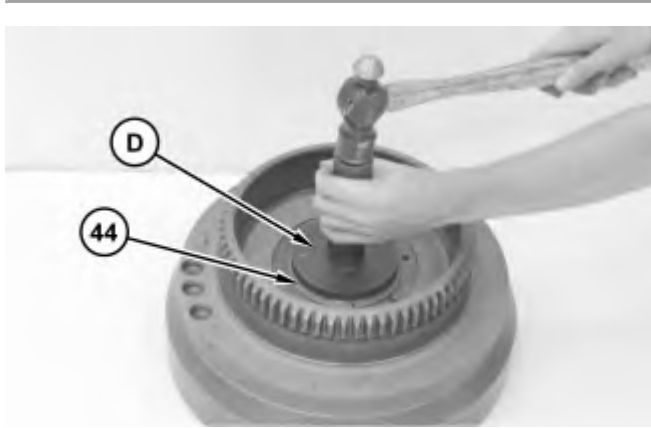


Illustration 1

g01303994



Illustration 2

g00330684

1. Install retaining ring (43) in bearing (44) for the housing. Install bearing (44) in the housing by using Tooling (D).

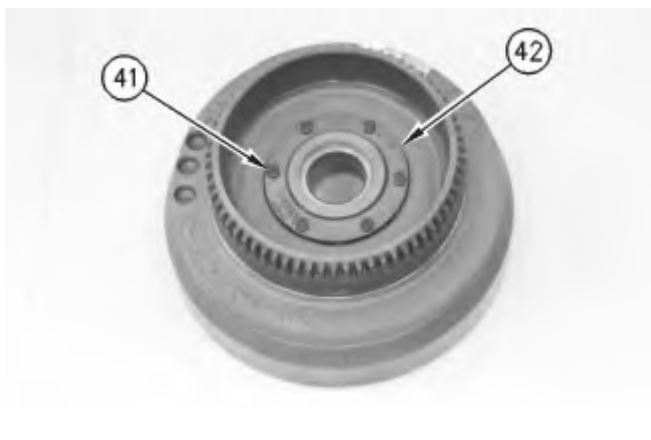


Illustration 3

g00330683

2. Position retainer (42) and install bolts (41). Tighten the bolts to a torque of  $46 \pm 3 \text{ N}\cdot\text{m}$  ( $34 \pm 2 \text{ lb ft}$ ).



Illustration 4

g01303997

3. Check the clearance between the housing and the turbine. Use the following steps.
  - a. Put spacer (40) in position on the bearing in the housing.



Illustration 5

g01303998

- b. Put the turbine in position in the housing. Fasten Tooling (K) to the housing.
      - c. Move the turbine 180 degrees away from Tooling (K) until the turbine makes contact with the housing. Adjust the dial indicator to zero. Move the turbine in order to make contact with the opposite side of the housing. Measure the distance and record the distance between the two positions.
      - d. Check the clearance between the housing and the turbine at three additional locations on the housing. Use Steps 3.a through 3.c to check the clearance. Record each of the measurements. The clearance across the new diameter must be 1.02 to 1.52 mm (0.040 inch to .060 inch). The maximum permissible clearance across the diameters must not exceed 2.29 mm (0.090 inch).
      - e. The running clearance is half of the measured distances in Steps 3.a through 3.c.
-



Illustration 6

g01304004

4. Check the clearance between the impeller wheel and the stator assembly. Use the following steps.
  - a. Put the impeller wheel on a flat surface. Place Tooling (H) across the impeller wheel.
  - b. Put the stator assembly on the steel rods.



Illustration 7

g01304007

- c. Put Tooling (K) in the position. Hold the impeller wheel and turn the stator assembly to 180 degrees. Adjust the dial indicator to zero. Move the stator assembly to the opposite side of the impeller wheel until the stator assembly makes contact with the impeller wheel. Make a record of the distance measured.
    - d. Check the clearance in two additional positions around the impeller wheel. Move the stator assembly around the impeller wheel approximately 60 degrees at each check. Record each measurement. The clearance across the new diameter must be 1.17 mm to 1.32 mm (0.046 inch to 0.052 inch). The maximum permissible clearance across the diameter must not exceed 1.54 mm (0.061 inch).

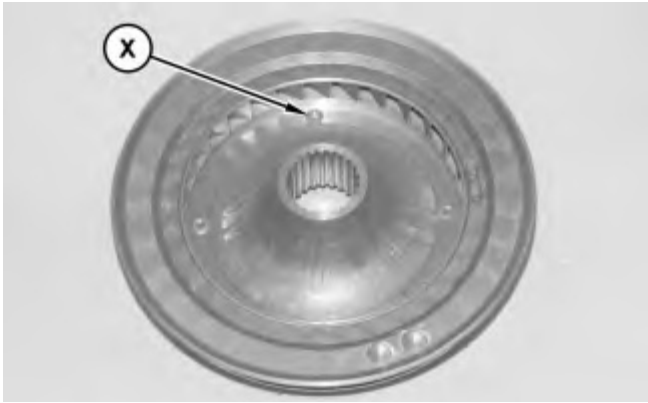


Illustration 8

g01304070

5. Check the clearance between the turbine and stator assembly. Use the following steps.
  - a. Install four 6.35 mm (0.250 inch) flat washers in Location (X) .

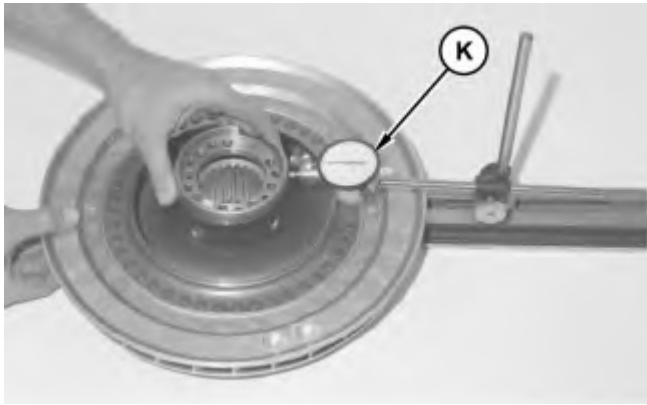


Illustration 9

g01304071

- b. Position the stator assembly on the washers and position Tooling (K).
    - c. Hold the turbine in position and move the stator assembly away from Tooling (K) until the stator assembly makes contact with the turbine. Adjust Tooling (K) to zero. Move the stator assembly toward Tooling (K) until the stator assembly makes contact with the turbine. Make a record of the distance measured.
    - d. Check the clearance in two additional positions around the turbine. Move the turbine around the stator assembly approximately 60 degrees at each check. Record each measurement. The clearance across the new diameter must be 1.76 mm to 1.94 mm (0.069 inch to 0.076 inch). The maximum permissible clearance across the diameter must not exceed 2.15 mm (0.085 inch).



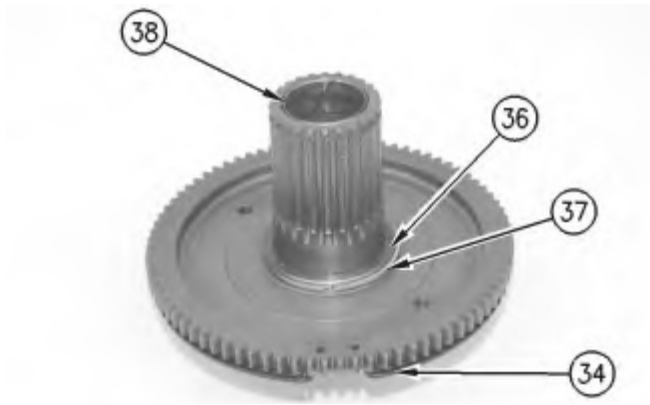


Illustration 10

g00330638



Illustration 11

g00331526

6. Raise the temperature of carrier (36). Install carrier (36). Install seal ring (37) on the carrier.

Use Tooling (C) in order to install bearing (38). Install bearing (38) so that bearing (38) is flush with the outside of the flange assembly. Install ring (34).



Illustration 12

g00331526

7. Use Tooling (C) to install the upper bearing in the flange assembly. Install the bearing so that the bearing is flush with the outside edge of the flange assembly.

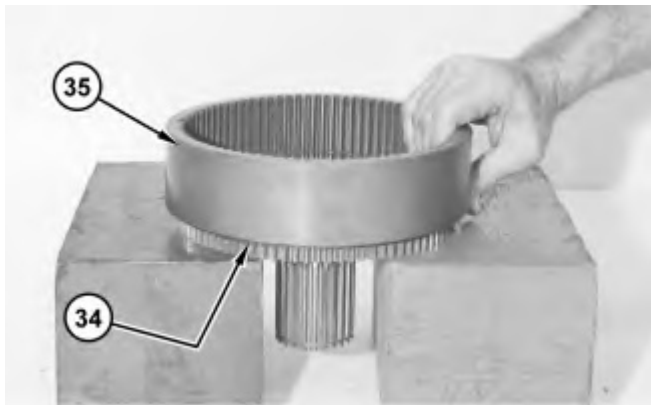


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Illustration 13

g00331527

8. Use Tooling (C) in order to install the lower bearing in the flange assembly . Install the bearing so that the bearing is 25.4 mm (1.00 inch) below the outside machined surface of the flange assembly.



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Illustration 14

g01304084

9. Compress ring (34) and install gear (35). Make sure that ring (34) is in the groove of gear (35).
-

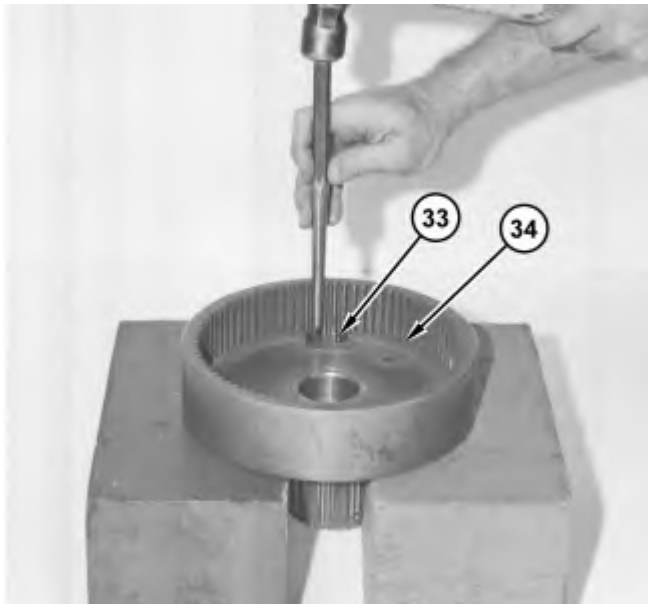


Illustration 15

g01304088

10. Use a hammer and a punch to install two pins (33) in order to hold ring (34) in position.

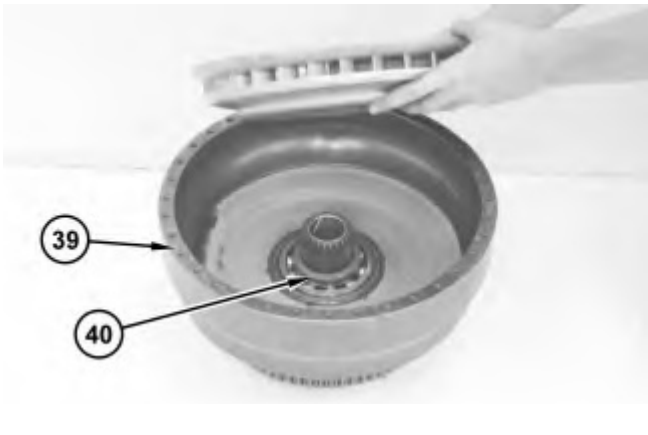
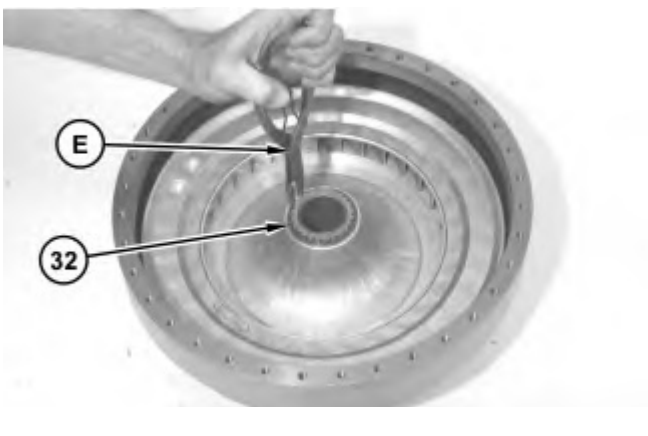


Illustration 16

g01304098

11. Put the flange assembly on a suitable block. Fasten a suitable lifting device to housing (39) and position housing (39) over the flange assembly. Use a hammer and a brass punch to seat the bearing. Install spacer (40) and the turbine.



12. Install ring (32) with Tooling (E).

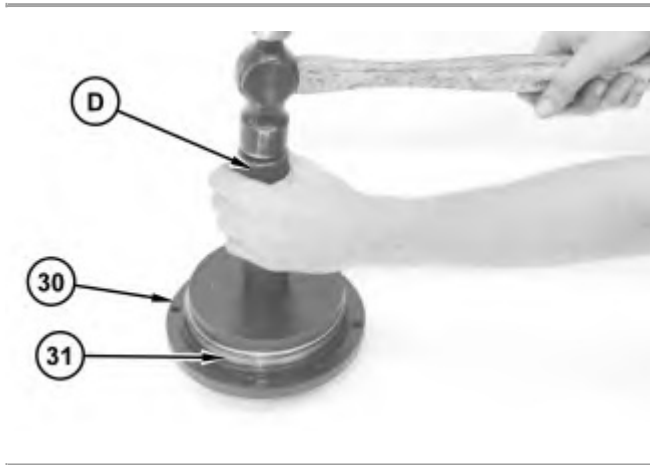


Illustration 18

13. Install the retaining ring on bearing (31).

**Note:** The retaining ring is not in the center of bearing (31).

14. Install bearing (31) in the carrier (30) by using Tooling (D). The bearing is installed with the longest distance from the retaining ring to the edge of the bearing first. Make sure that the retaining ring contacts the carrier after installation.



Illustration 19

15. Position carrier (30) in position in the impeller wheel.
-



Illustration 20

g01304143

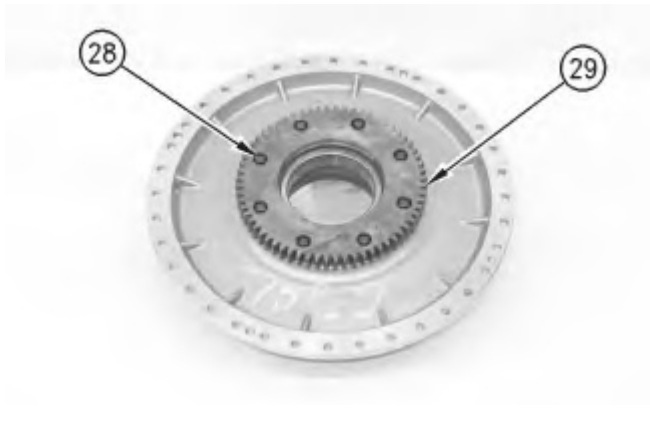


Illustration 21

g00330631

16. Invert the impeller wheel. Position drive gear (29) and install bolts (28). Tighten bolts (28) to torque of  $46 \pm 3 \text{ N}\cdot\text{m}$  ( $34 \pm 2 \text{ lb ft}$ ).

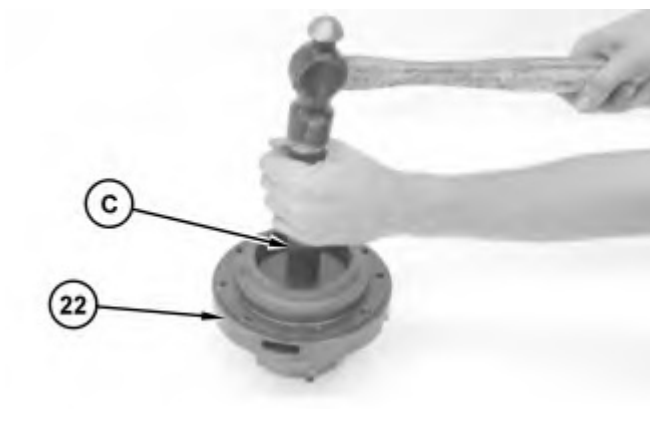


Illustration 22

g01304148

17. Lower the temperature of the bearing . Use Tooling (C) to install the bearing in carrier (22). Make sure that the bearing makes contact with the bottom of the counterbore in the carrier. Install the retaining ring that holds the bearing in position in the carrier.

18. Use Tooling (C) to install the seal. Make sure that the lip is toward the oil passages in the carrier. Also make sure that the seal makes contact with the ring that holds the bearing in position.
  19. Make sure that all the oil passages in the carrier are clean.
- 



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Illustration 23

g01304150

20. Install sleeve (27). Make sure that the notch in the sleeve is in the notch of the carrier.
  21. Install new seal rings (26).
- 



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Illustration 24

g00331557

22. Make a mark or a stake in the notch of the sleeve in order to hold the sleeve in position.

**Note:** When you are installing the carrier in the impeller wheel, be careful to not damage seal rings .

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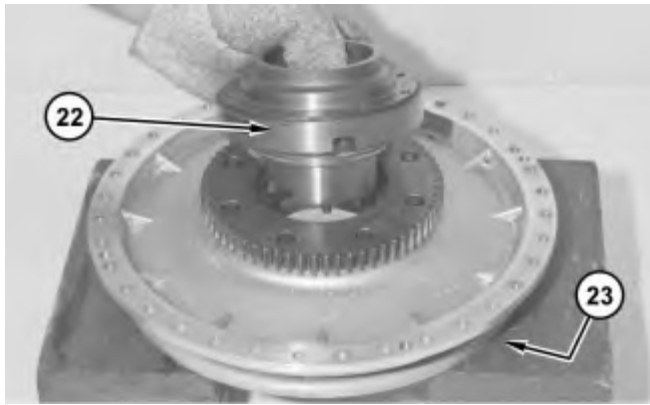


Illustration 25

g01304151

23. Lower the temperature of carrier (22). Apply Tooling (L) on the seal rings. Install the carrier in the impeller wheel. Install lip seal (23).

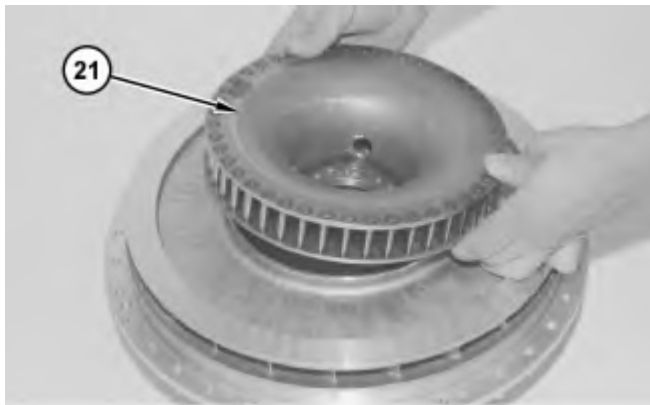


Illustration 26

g01304154

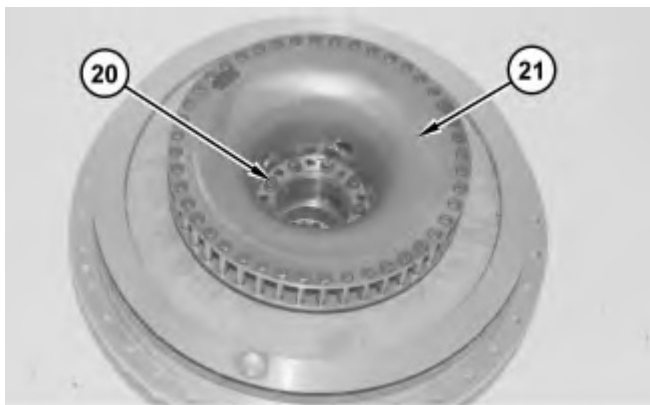


Illustration 27

g01303923

24. Turn impeller wheel upside-down. Position stator assembly (21) and install bolts (20). Tighten bolts (20) to a torque of  $25 \pm 1 \text{ N}\cdot\text{m}$  ( $18 \pm 1 \text{ lb ft}$ ).

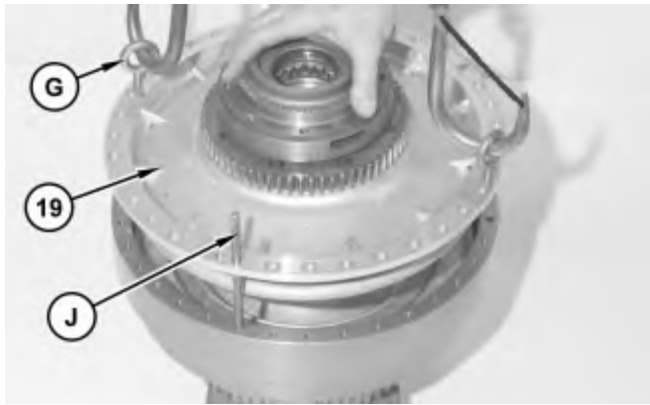


Illustration 28

g01304160

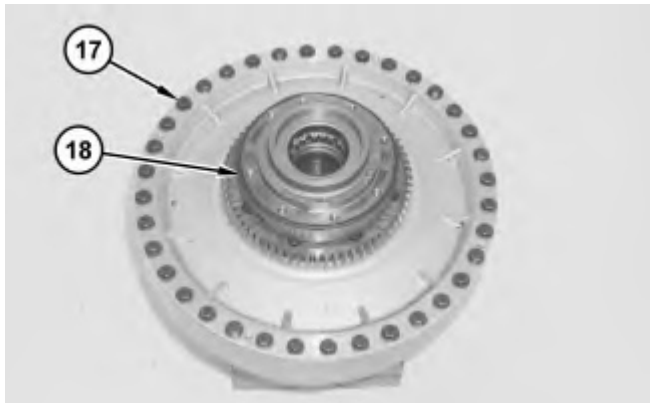


Illustration 29

g01303908

25. Install Tooling (J). Attach Tooling (G) and a suitable lifting device to impeller wheel (19). The weight of impeller wheel (19) is approximately 24 kg (53 lb). Install impeller wheel (19). Remove Tooling (J).
26. Install bolts (17) that hold impeller wheel (19) to the housing. Tighten bolts (17) to a torque of  $30 \pm 5 \text{ N}\cdot\text{m}$  ( $22 \pm 3 \text{ lb ft}$ ). Install O-ring seal (18). Apply Tooling (E) to the seal.

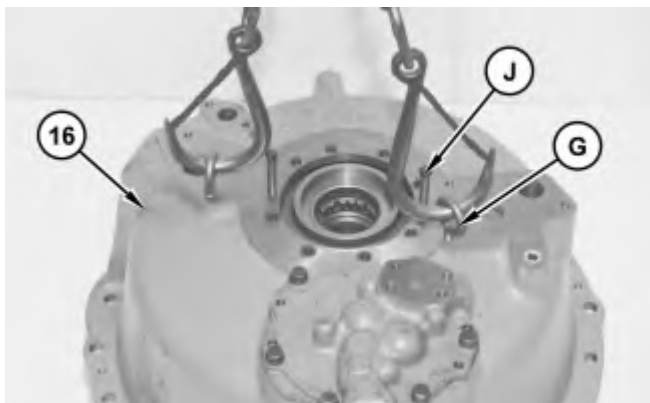


Illustration 30

g01306296





Illustration 31

g00330303

27. Install Tooling (J). Install Tooling (G) and a suitable lifting device to cover assembly (16) and put the cover assembly. The weight of cover assembly (16) is approximately 52 kg (115 lb). Make sure that the oil pump drive gear correctly engages the scavenge pump for the torque divider. Install bolts (15).

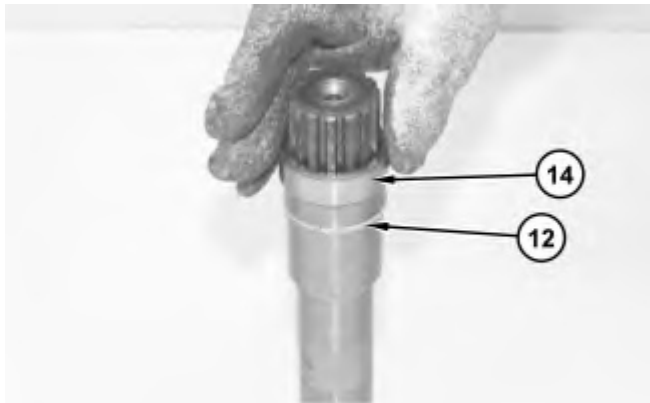


Illustration 32

g01304186

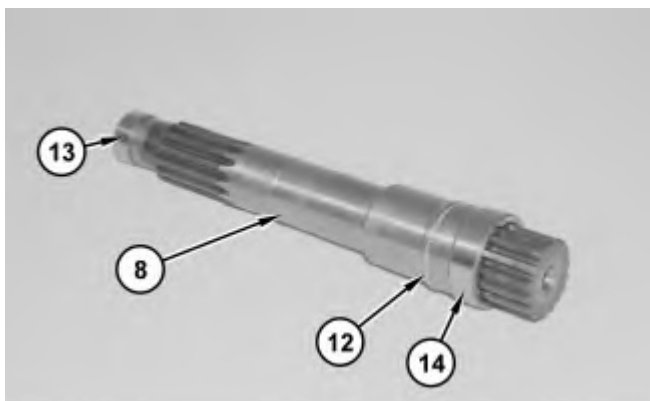


Illustration 33

g01304206

28. Raise the temperature of bearing races (14) and (13). Install bearing races (14) and (13) on shaft assembly (8).

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