

Product: WHEEL SKIDDER

Model: 535B WHEEL SKIDDER AAE

Configuration: 535B Wheel Skidder AAE00001-UP (MACHINE) POWERED BY 3126 Engine

Disassembly and Assembly 525B and 535B Wheel Skidders Power Train

Media Number -REN4336-05

Publication Date -01/04/2016

Date Updated -20/04/2016

i01305800

Torque Converter from Transmission - Separate

SMCS - 3001-076

Separation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	138-7574	Link Bracket	2
	6V-6146	Load Leveler	1
B	1U-5750	Repair Stand	1
	9U-5161	Adapter Plate	1
C	138-7573	Link Bracket	3

Start By:

- Remove the torque converter and the transmission from the machine. Refer to Disassembly and Assembly, "Torque Converter and Transmission - Remove" for the machine that is being serviced.

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.

Note: Put identification marks on all lines, on all hoses, on all wires, and on all tubes for installation purposes. Plug all lines, hoses, and tubes. This helps to prevent fluid loss and this helps to keep contaminants from entering the system.

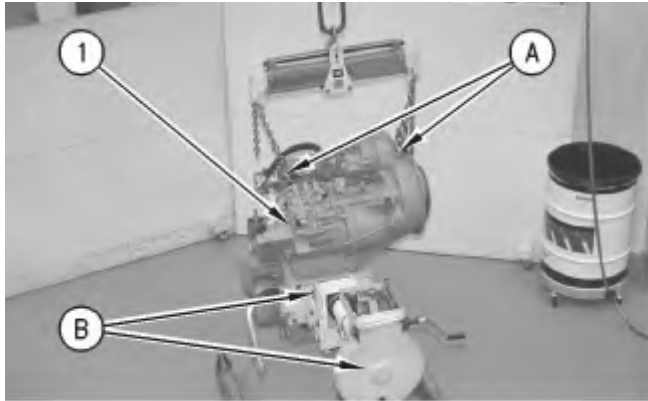


Illustration 1

g00589496

1. Install Tooling (A) to transmission (1). Attach a hoist and suitable lifting chains to Tooling (A).
2. Use Tooling (A) to attach transmission (1) to Tooling (B). The weight of the transmission and the torque converter as a unit is 815 kg (1800 lb).

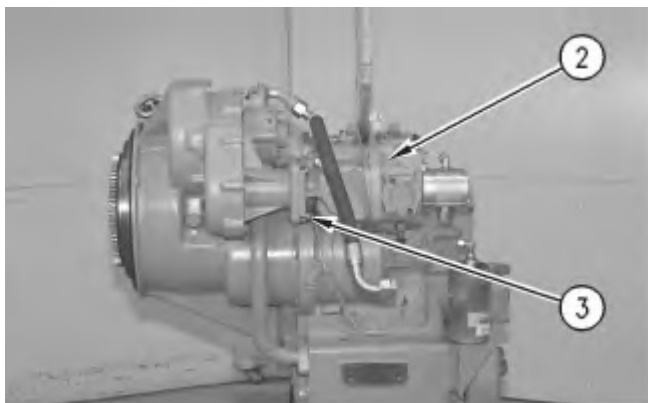


Illustration 2

g00589498

3. Attach a hoist and a suitable lifting sling around piston pump (2).
4. Remove four bolts (3) and the washers.

5. Use the hoist to carefully remove piston pump (2) and the gear pump for the winch. The combined weight of the piston pump and the gear pump is 59 kg (130 lb).

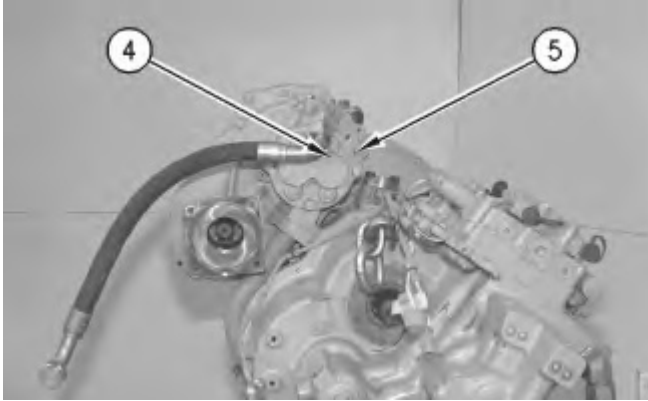


Illustration 3

g00589499

6. Remove two socket head bolts (5).
7. Remove transmission oil pump (4).

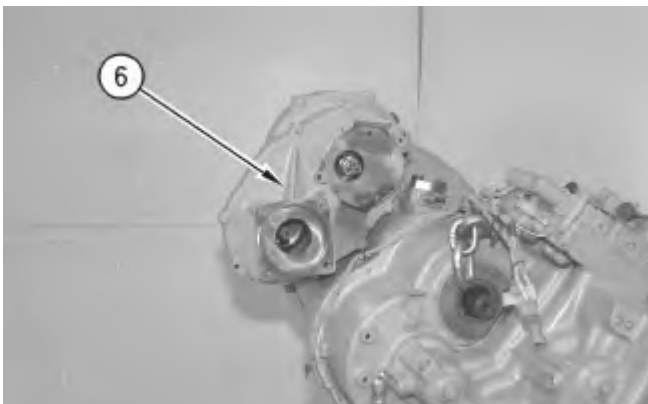
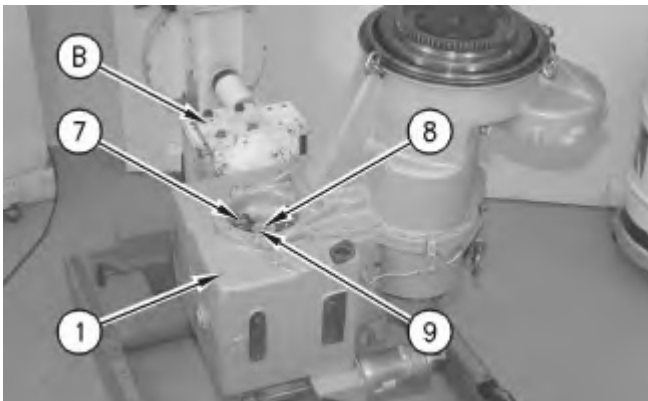


Illustration 4

g00589500

8. Remove pump drive housing (6).

Reference: Disassembly and Assembly, "Transmission Pump Drive Housing - Remove"



9. Use Tooling (B) to rotate transmission (1) to the side.
10. Remove bolt (8) and retainer (9).
11. Remove yoke (7).

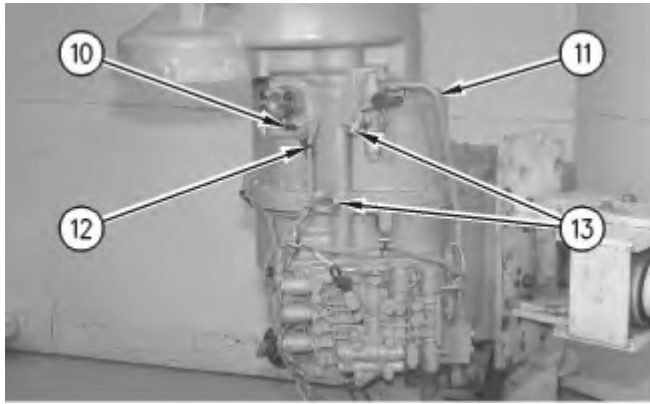


Illustration 6

g00589502

12. Cut cable tie (12) and disconnect wire (10).
13. Disconnect tube (11).
14. Disconnect wire connector (13).

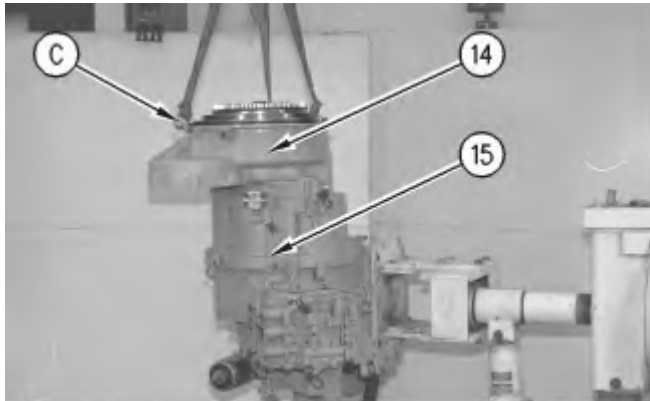


Illustration 7

g00589504

15. Install Tooling (C) to cover (14). Attach a hoist and suitable lifting slings to Tooling (C).
16. Remove 25 bolts (15).

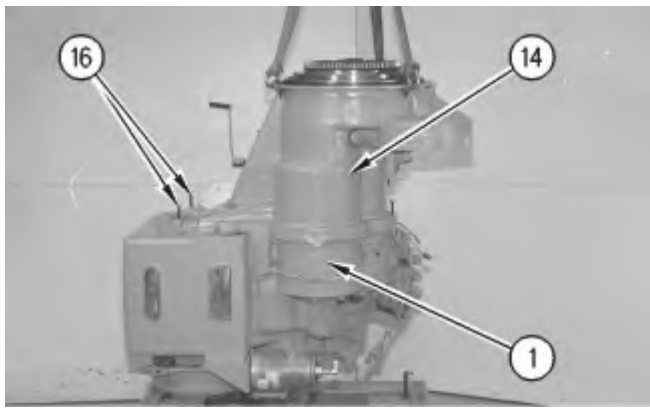


Illustration 8

g00589505

17. Use three forcing screws (16) to loosen cover (14) from transmission (1).

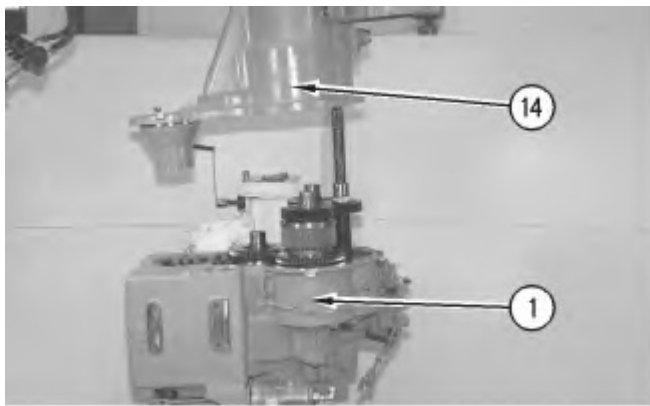


Illustration 9

g00589506

18. Use the hoist to carefully separate cover (14) from transmission (1). The weight of the torque converter and the cover as a unit is 210 kg (465 lb).
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Disassembly and Assembly 525B and 535B Wheel Skidders Power Train

Media Number -REN4336-05

Publication Date -01/04/2016

Date Updated -20/04/2016

i06512853

Torque Converter - Disassemble

SMCS - 3101-015

Disassembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	439-3938	Link Bracket	3
B	1P-0074	Slide Hammer Puller	1
C	439-3938	Link Bracket	2
D	6V-7981	Bolt	2

Start By:

- a. Separate the torque converter from the transmission. Refer to Disassembly and Assembly, "Torque Converter from Transmission - Separate".
 1. Place the torque converter and the cover on a clean, level work area.
-

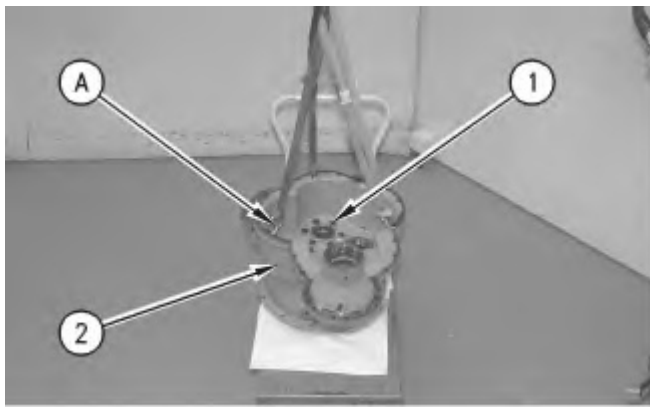


Illustration 1

g00590050

2. Install Tooling (A) and a suitable lifting device to cover (2). The weight of cover (2) is approximately 125 kg (275 lb).
3. Remove bolts (1) and cover (2).

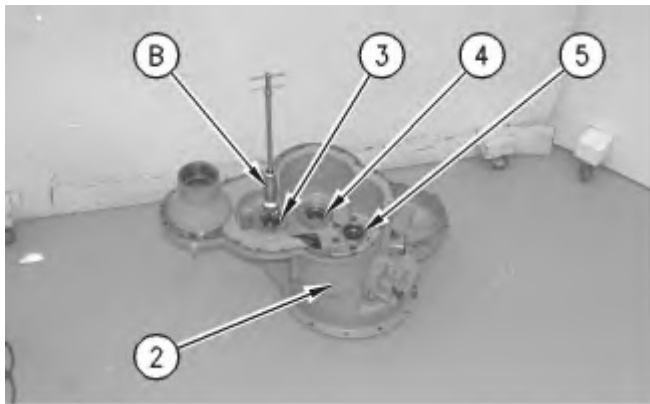


Illustration 2

g00590052

4. Use Tooling (B) to remove bearings (3), (4), and (5) from cover (2).

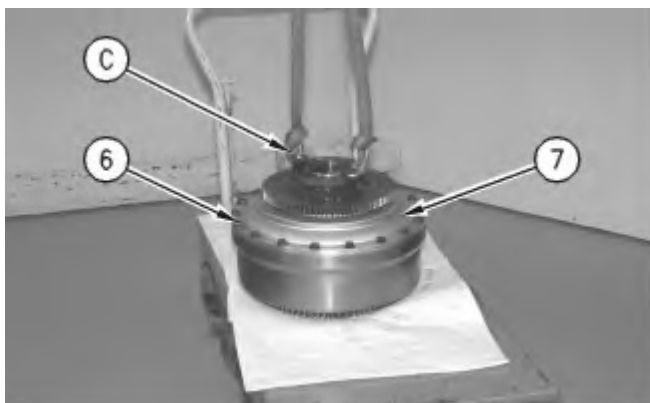


Illustration 3

g00590054

5. Install Tooling (C) and a suitable lifting device to the carrier assembly and impeller (7). The weight of the carrier assembly and impeller (7) is approximately 28 kg (62 lb).
6. Remove bolts (6), the carrier assembly, and impeller (7).



Illustration 4

g00590057

7. Turn impeller (7) to the opposite side.
8. Remove retaining ring (8) and plate (10) from carrier assembly (9).
9. Remove stator (11).

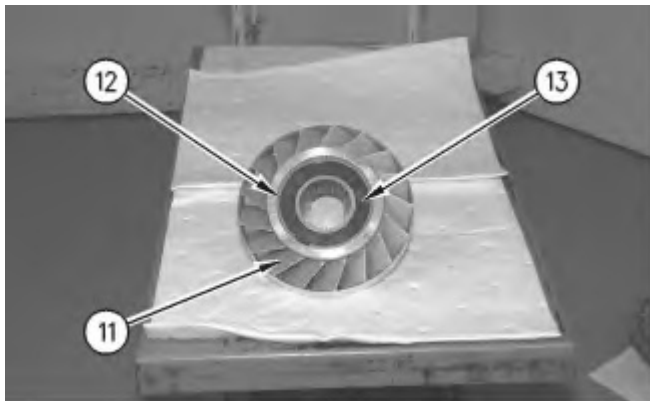


Illustration 5

g00590058

10. Remove retaining ring (12) and washer (13) from stator (11). Repeat the procedure for the opposite side of stator (11).
-

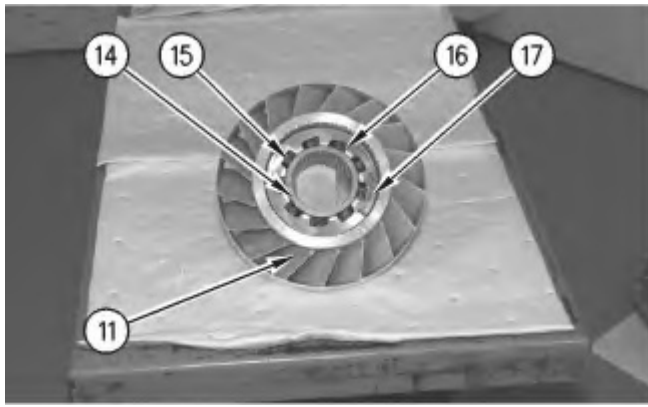


Illustration 6

g00590059



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.

-
11. Remove race (14), rollers (15), springs (16), and cam (17) from stator (11).

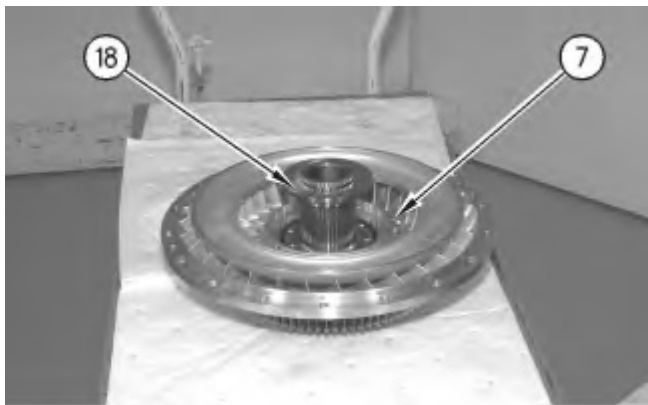


Illustration 7

g00590062

-
12. Remove plate (18) from impeller (7).
-

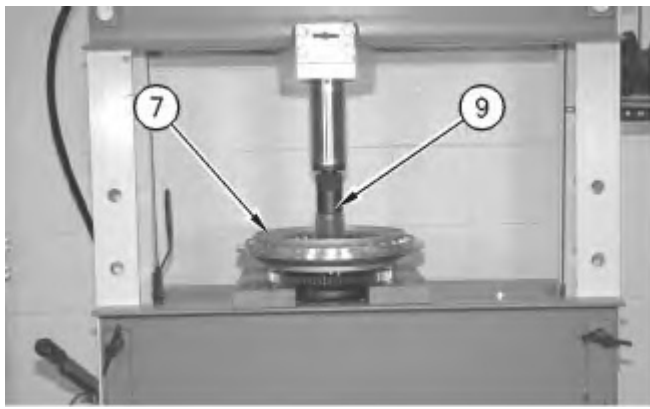


Illustration 8

g00590063

13. Use a suitable press to remove carrier assembly (9) from impeller (7).

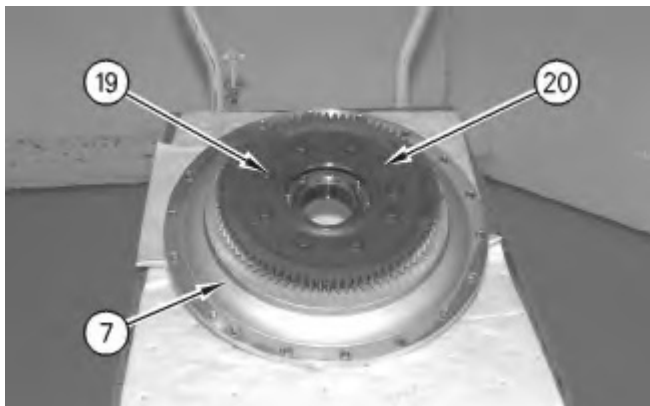


Illustration 9

g00590066

14. Turn impeller (7) to the opposite side.
15. Remove bolts (19) from gear (20).
16. Remove gear (20) from impeller (7).

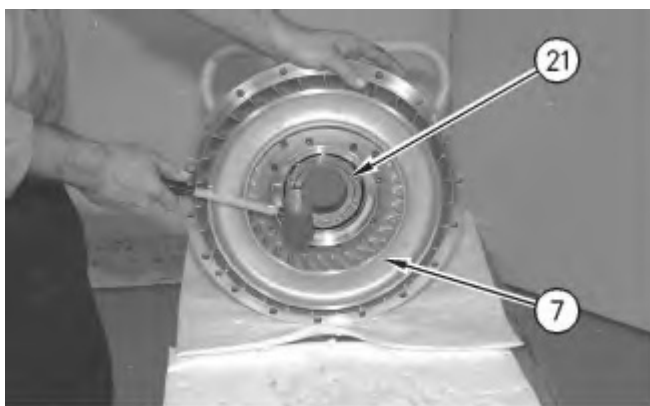


Illustration 10

g00590068

17. Use a soft faced hammer to remove bearing (21) from impeller (7).



Illustration 11

g00590070

18. Remove bolts (22).

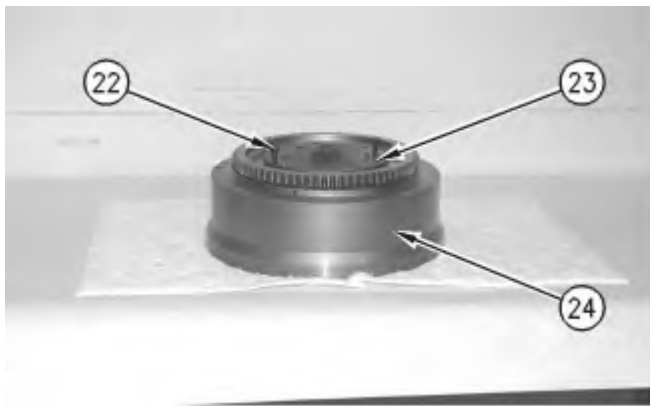


Illustration 12

g00590071

19. Use two bolts (22) as forcing screws to remove cover (23) from housing (24).

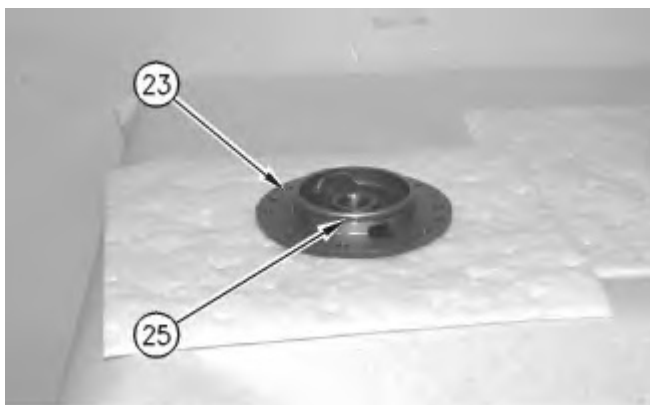


Illustration 13

g00590073

20. Remove O-ring seal (25) from cover (23).
-

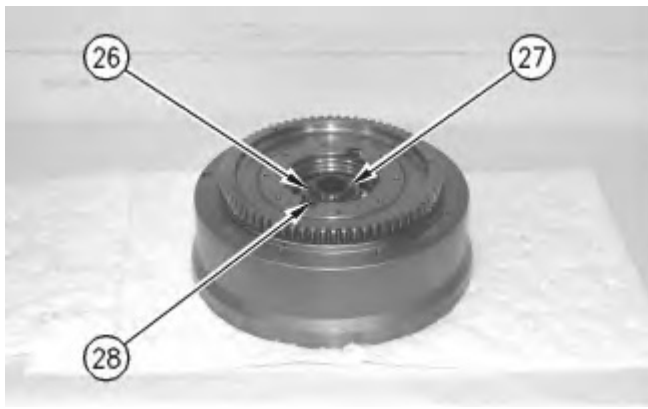


Illustration 14

g00590074

21. Remove retaining ring (26) and spacer (27) from turbine hub (28).

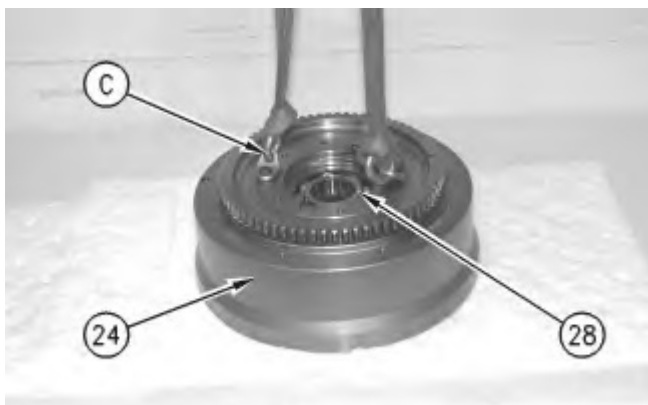


Illustration 15

g00590077

22. Install Tooling (C) to housing (24). Attach a hoist and suitable lifting slings to Tooling (C).
23. Use Tooling (C) to carefully remove housing (24) from turbine hub (28). The weight of housing (24) is approximately 45 kg (100 lb).

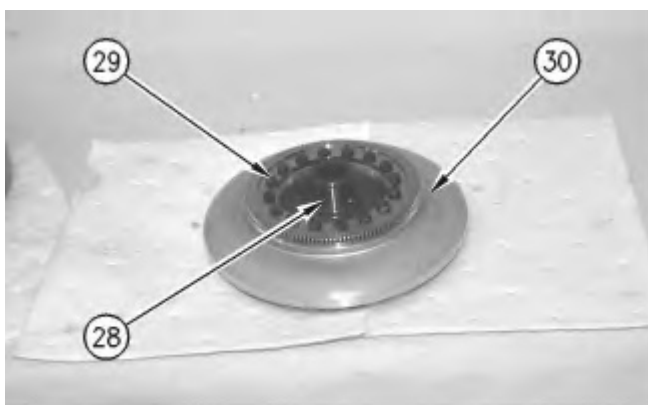


Illustration 16

g00590079

24. Remove bolts (29).

25. Remove turbine (30) from turbine hub (28).

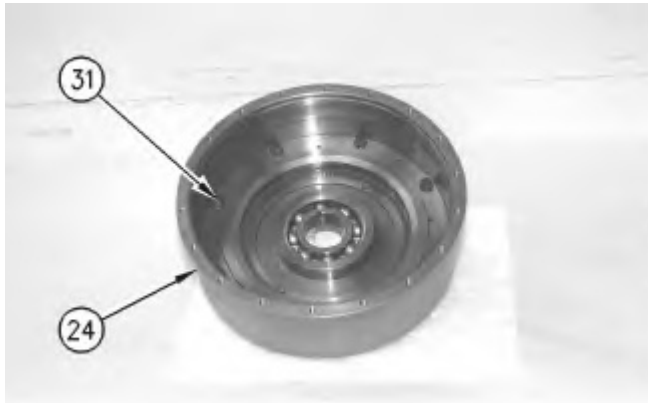


Illustration 17

g00590083

26. Turn housing (24) to the opposite side.

27. Remove bolts (31).

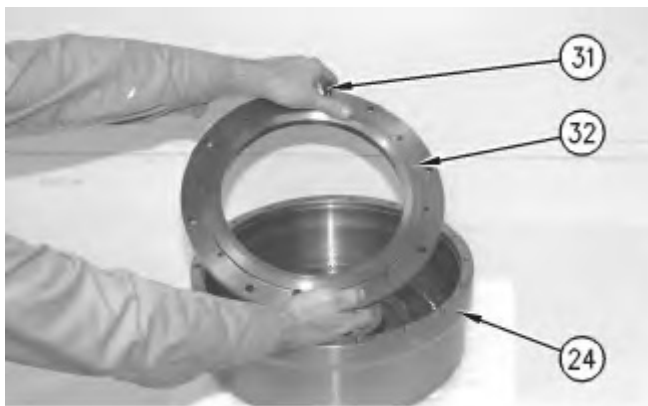


Illustration 18

g00590084

28. Use two bolts (31) as forcing screws to remove plate (32) from housing (24).

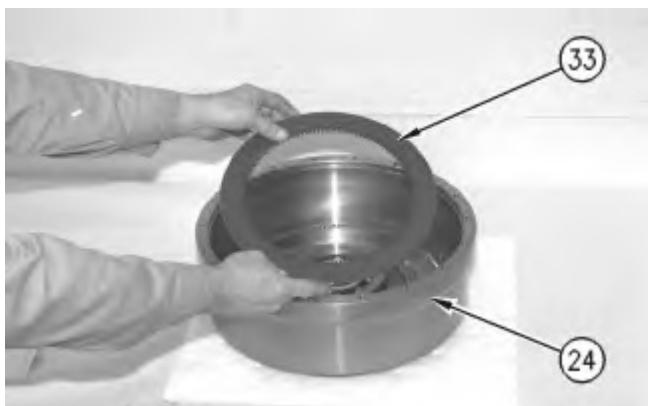


Illustration 19

g00590085

29. Remove friction disc (33) from housing (24).

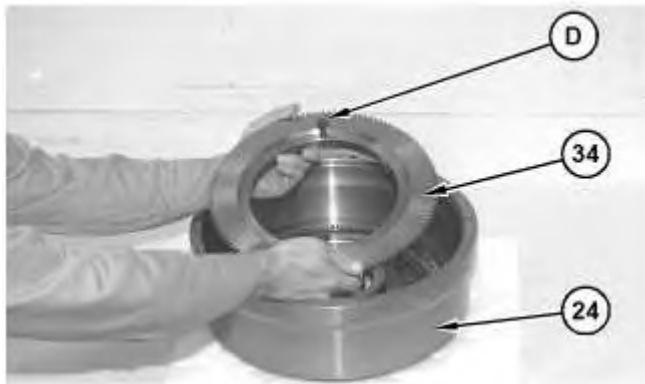


Illustration 20

g06004154

30. Use Tooling (D) to remove piston (34) from housing (24).

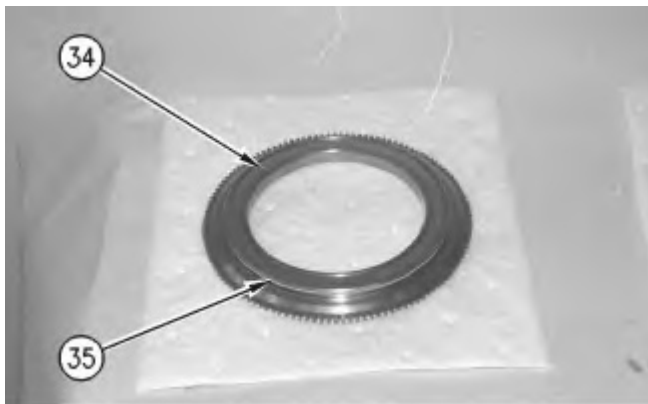


Illustration 21

g00590088

31. Remove seal ring (35) from piston (34).



Illustration 22

g00590089

32. Remove seal ring (36) from housing (24).

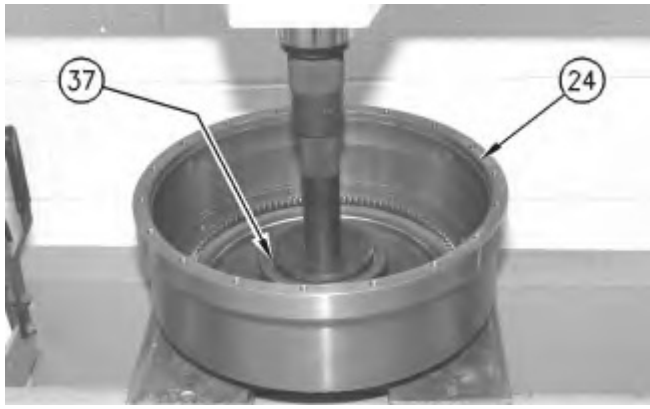


Illustration 23

g00590091

33. Use a suitable press to remove bearing (37) from housing (24).
-

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Disassembly and Assembly 525B and 535B Wheel Skidders Power Train

Media Number -REN4336-05

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i06512989

Torque Converter - Assemble

SMCS - 3101-016

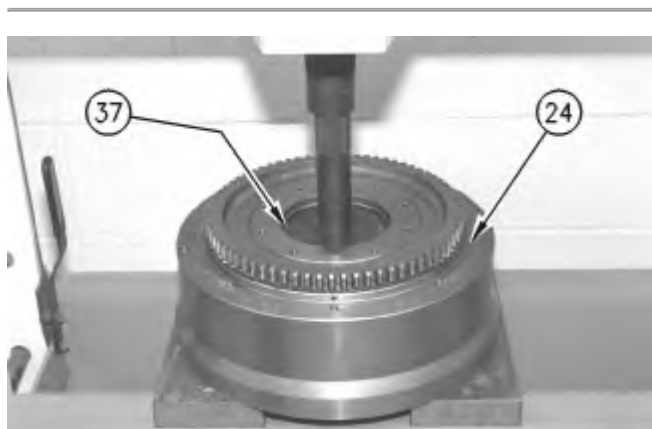
Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	439-3938	Link Bracket	3
C	439-3938	Link Bracket	2

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.

Note: Apply oil to the bearings before assembly.



1. Lower the temperature of bearing (37) and install bearing (37) in housing (24). If necessary, use a suitable press to install bearing (37) in housing (24).

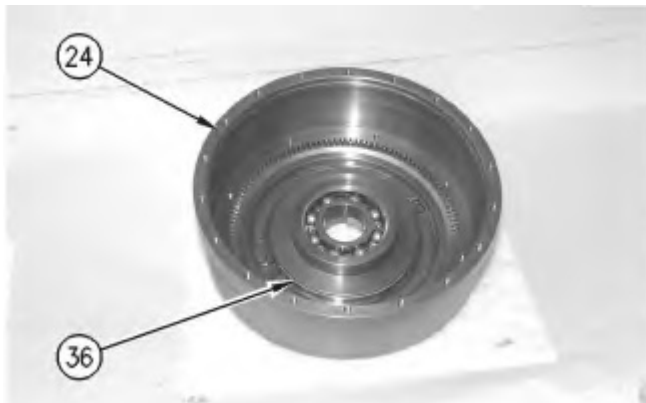


Illustration 2

2. Install seal ring (36) in housing (24).

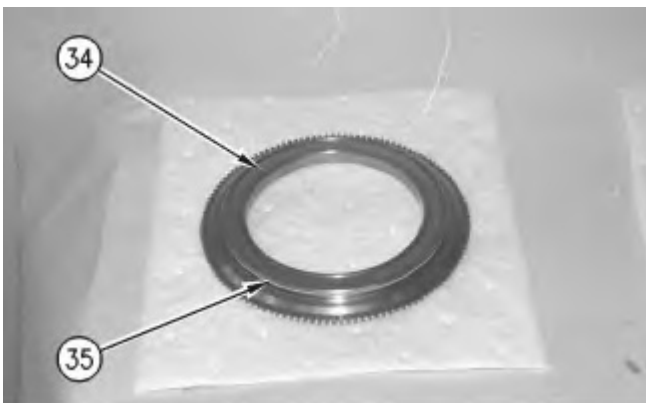


Illustration 3

3. Install seal ring (35) to piston (34).

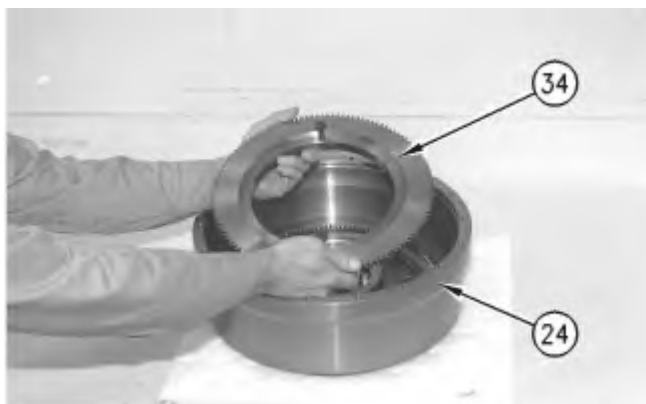


Illustration 4

4. Install piston (34) in housing (24).

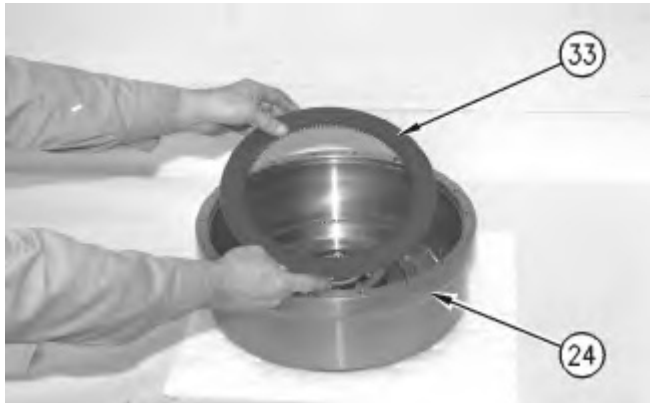


Illustration 5

g00590085

5. Install friction disc (33) in housing (24).

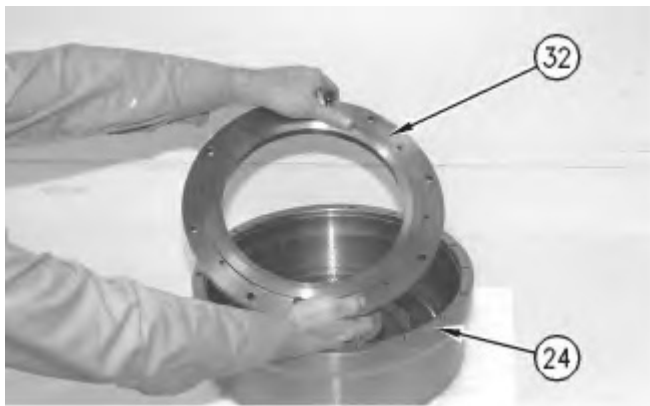


Illustration 6

g00590916

6. Install plate (32) in housing (24).

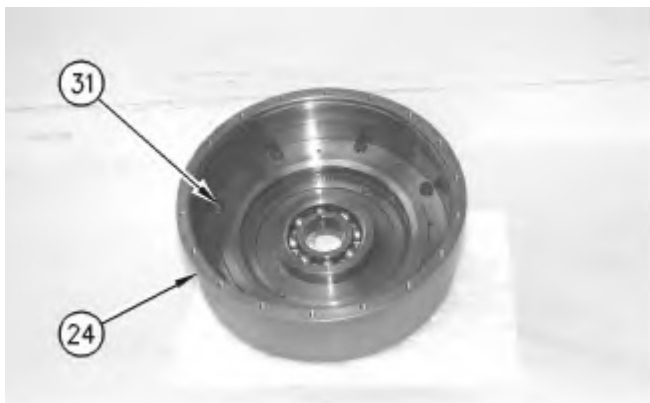


Illustration 7

g00590083

7. Install bolts (31). Tighten bolts (31) to a torque of 60 ± 7 N·m (44 ± 5 lb ft).
-

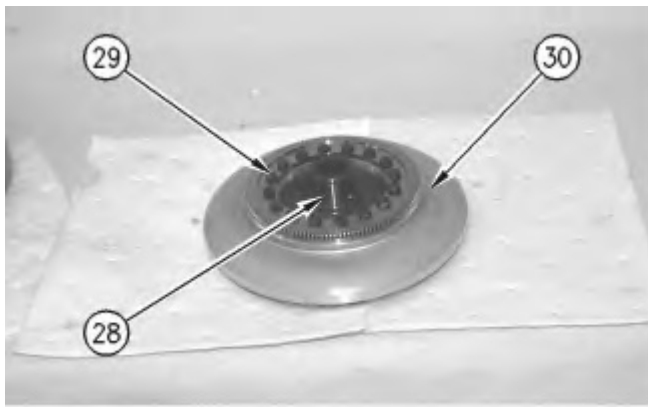


Illustration 8

g00590079

8. Install turbine (30) on turbine hub (28).
9. Install bolts (29). Tighten bolts (29) to a torque of $60 \pm 7 \text{ N}\cdot\text{m}$ ($44 \pm 5 \text{ lb ft}$).

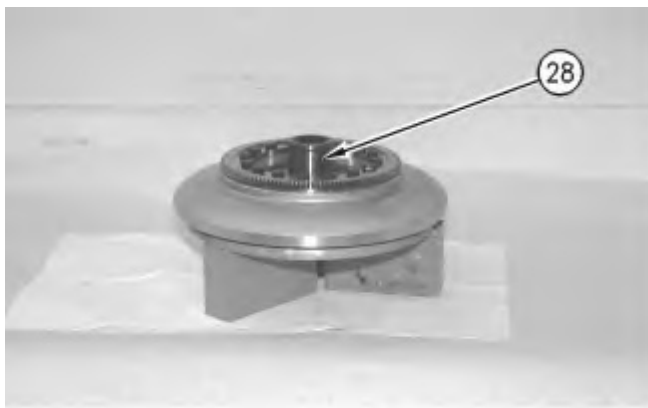


Illustration 9

g00590954

10. Place turbine hub (28) on suitable blocking.

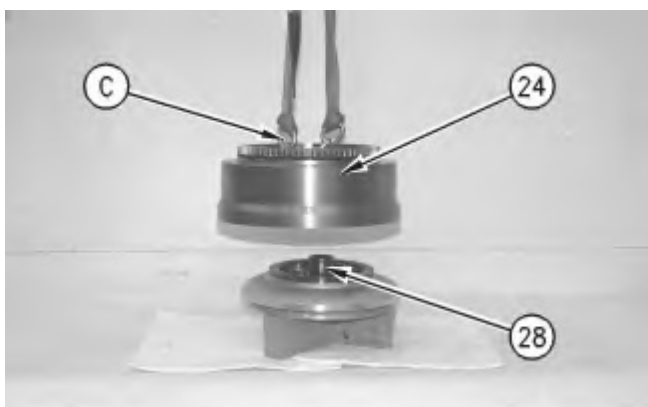


Illustration 10

g00590960

11. Use Tooling (C) and a suitable lifting device to install housing (24) to turbine hub (28). The weight of housing (24) is approximately 45 kg (100 lb).

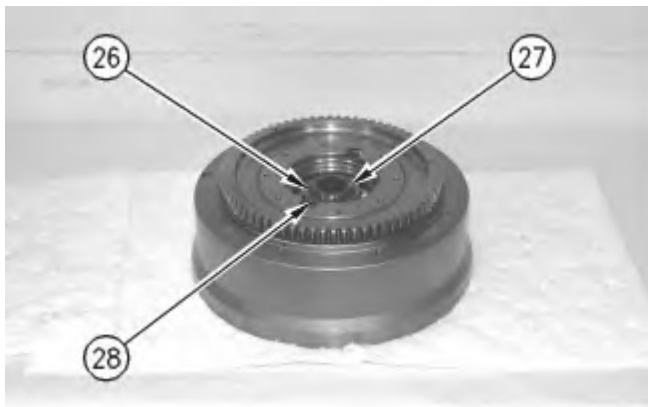


Illustration 11

g00590074

12. Install spacer (27) and retaining ring (26) on turbine hub (28).

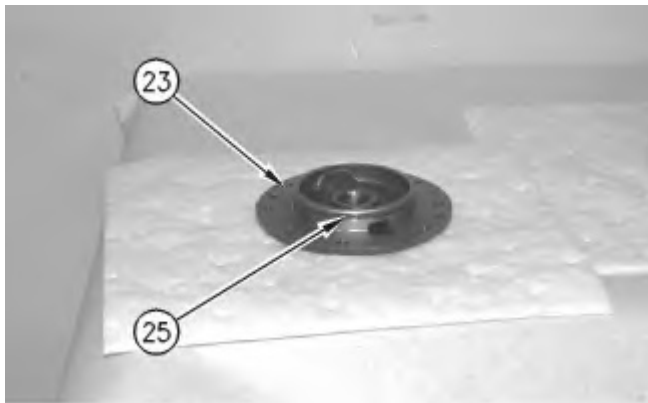


Illustration 12

g00590073

13. Install O-ring seal (25) on cover (23).

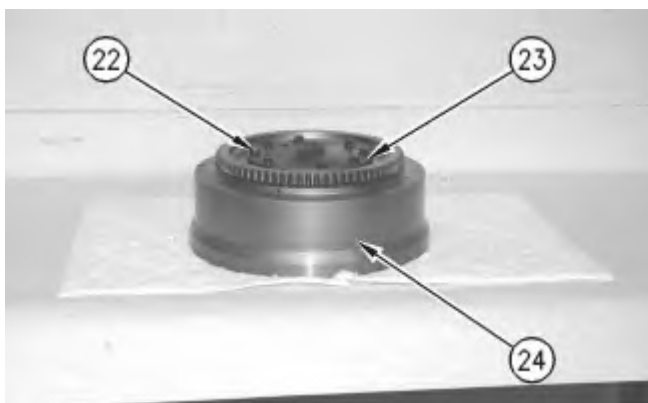


Illustration 13

g00590980

14. Install cover (23) on housing (24).
15. Install bolts (22).

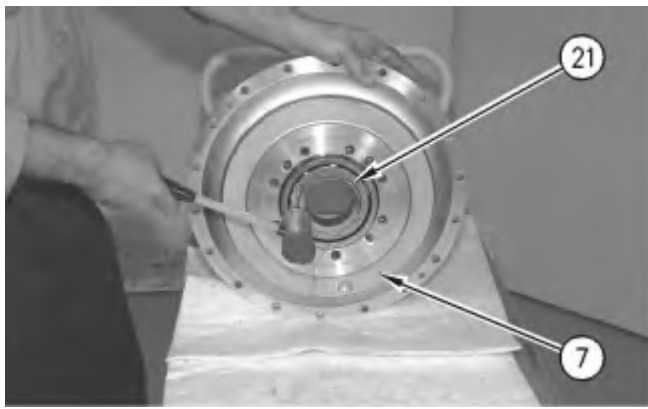


Illustration 14

g00590983

16. Use a soft faced hammer to install bearing (21) in impeller (7).

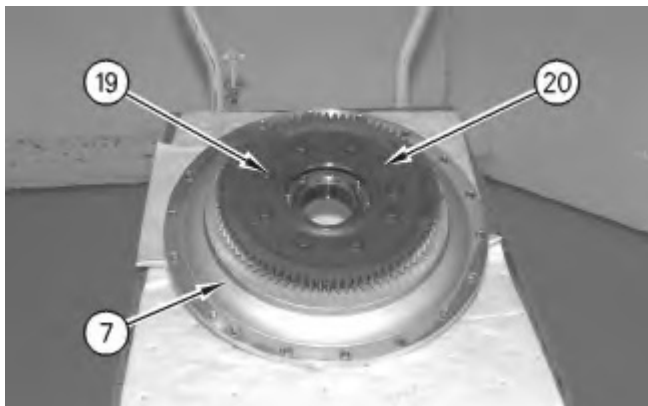


Illustration 15

g00590066

17. Install gear (20) on impeller (7).
18. Install bolts (19). Tighten bolts (19) to a torque of $105 \pm 15 \text{ N}\cdot\text{m}$ ($75 \pm 11 \text{ lb ft}$).

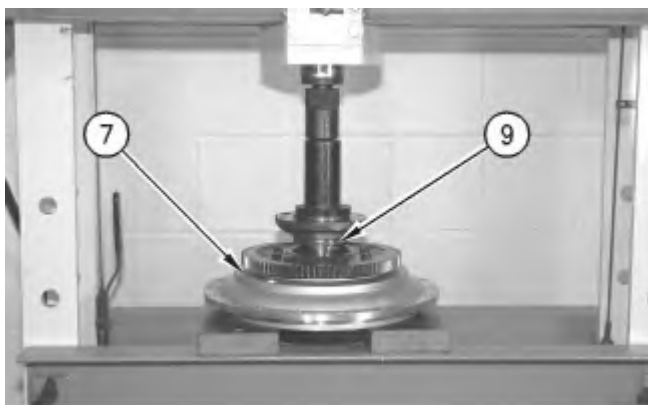


Illustration 16

g00590988

19. Lower the temperature of carrier assembly (9) and install carrier assembly (9) in impeller (7). If necessary, use a suitable press to install carrier assembly (9) in impeller (7).

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