

Product: WHEEL LOADER  
Model: 990 II WHEEL LOADER BCR  
Configuration: 990 Series II Wheel Loader BCR00001-UP (MACHINE)

## Disassembly and Assembly 990 Series II Wheel Loader and 844 Wheel Tractor Power Train

Media Number -REN6265-01

Publication Date -01/04/2004

Date Updated -18/04/2004

i01664401

# Torque Converter - Disassemble

SMCS - 3101-015

S/N - BBN1-UP

S/N - BCR1-UP

## Disassembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	138-7575	Link Bracket	1
B	138-7573	Link Bracket	2
C	1H-3110	Bearing Puller Attachment	1

### Start By:

- A. Remove the torque converter. Refer to Disassembly and Assembly, "Torque Converter - Remove" for the machine that is being serviced.
- B. Remove the transmission oil pump. Refer to Disassembly and Assembly, "Transmission Oil Pump - Remove" for the machine that is being serviced.
- C. Remove the torque converter outlet relief valve. Refer to Disassembly and Assembly, "Relief Valve (Torque Converter Outlet) - Remove" for the machine that is being serviced.
- D. Remove the modulating valve for the torque converter impeller clutch. Refer to Disassembly and Assembly, "Modulating Valve (Torque Converter Impeller Clutch) - Remove" for the machine that is being serviced.
- E. Remove the modulating valve for the torque converter lockup clutch. Refer to Disassembly and Assembly, "Modulating Valve (Torque Converter Lockup Clutch) - Remove" for the machine that is being serviced.

1. Use a suitable hoist and lifting chains in order to place the torque converter on suitable wood blocks. The weight of the torque converter is 363 kg (800 lb).

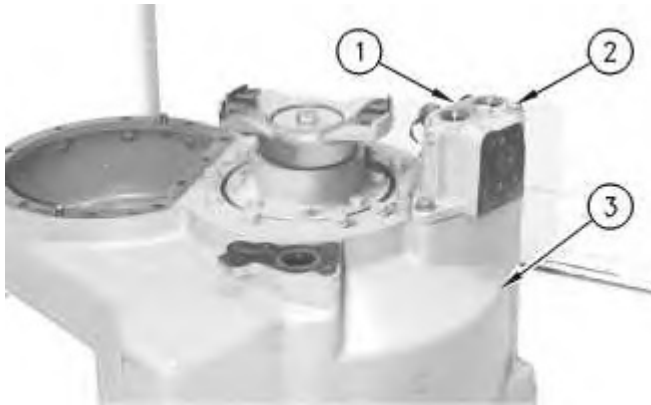


Illustration 1

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2. Remove three bolts (2) and the washers.
3. Remove housing (1) from housing assembly (3) .

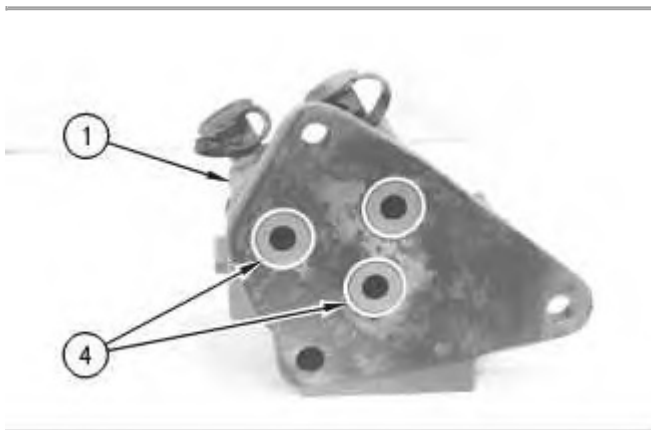


Illustration 2

g00859461

4. Remove three O-ring seals (4) from housing (1) .
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Illustration 3

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5. Remove ten bolts (5) and the washers.



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Illustration 4

g00859463

6. Attach Tooling (B) to housing assembly (3) .
  7. Attach a suitable hoist and lifting chains to Tooling (B), as shown.
  8. Use two M12 X 1.75mm forcing screws in order to separate the housing assembly.
  9. Use the hoist in order to remove the housing assembly from the torque converter. The weight of the housing assembly is 127 kg (280 lb).
  10. Remove two dowel pins (6) .
-



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Illustration 5

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11. Remove bolt (7), retainer (9), and yoke (8) .



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Illustration 6

g00859466

12. Remove O-ring seal (10) from yoke (8) .



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Illustration 7

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13. Remove bolts (11) and the washers.

14. Remove the gasket and retainer (12) .

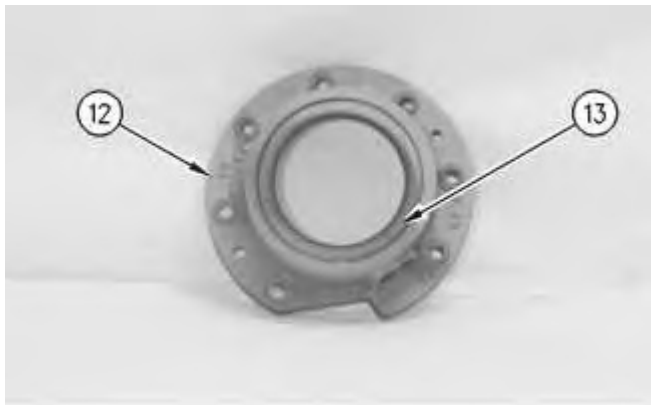


Illustration 8

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15. Remove lip seal (13) from retainer (12) .

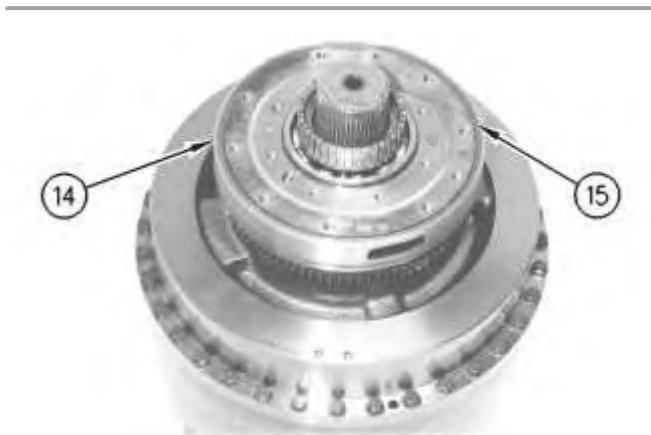
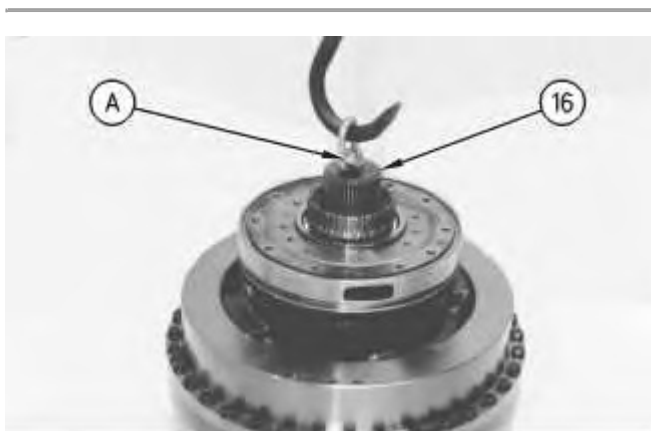


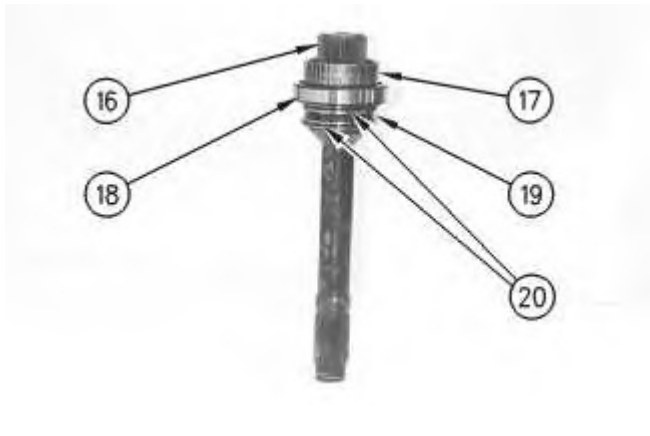
Illustration 9

g00859470

16. Remove O-ring seal (16) from stator support assembly (14) .



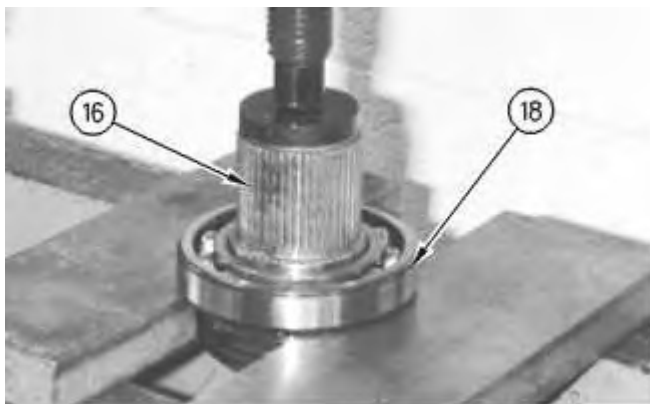
17. Attach Tooling (A) to shaft (16), as shown.
18. Attach a suitable hoist and a suitable lifting chain to Tooling (B), as shown.
19. Use the hoist in order to remove shaft (16) from the torque converter. The weight of shaft (16) is 15 kg (33 lb).



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Illustration 11

20. Remove rotor (17) from shaft (16) .



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Illustration 12

21. Use a suitable press in order to push shaft (16) out of bearing (18) .
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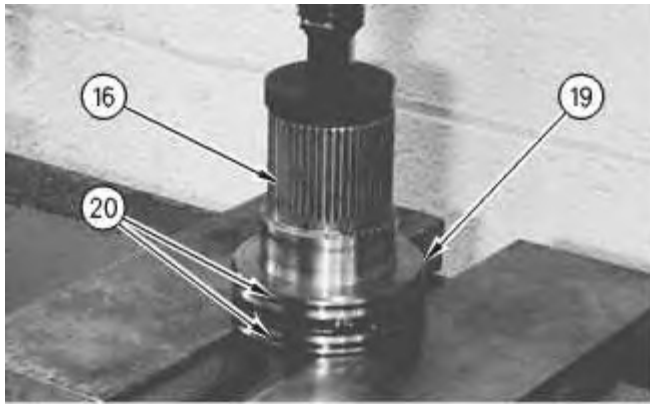


Illustration 13

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22. Remove rings (20) from carrier (19) .
23. Use a suitable press in order to push shaft (16) out of carrier (19) .

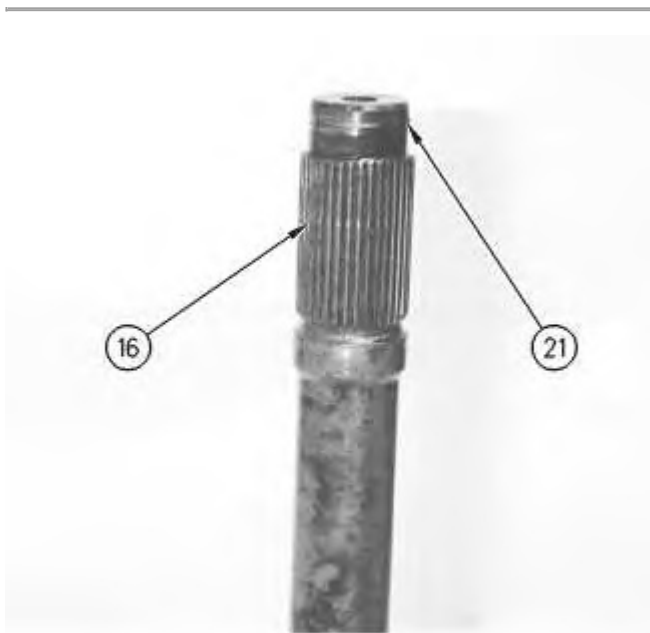


Illustration 14

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24. Remove ring (21) from shaft (16) .



Illustration 15

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25. Remove 38 bolts (22) and the washers from the housing assembly.

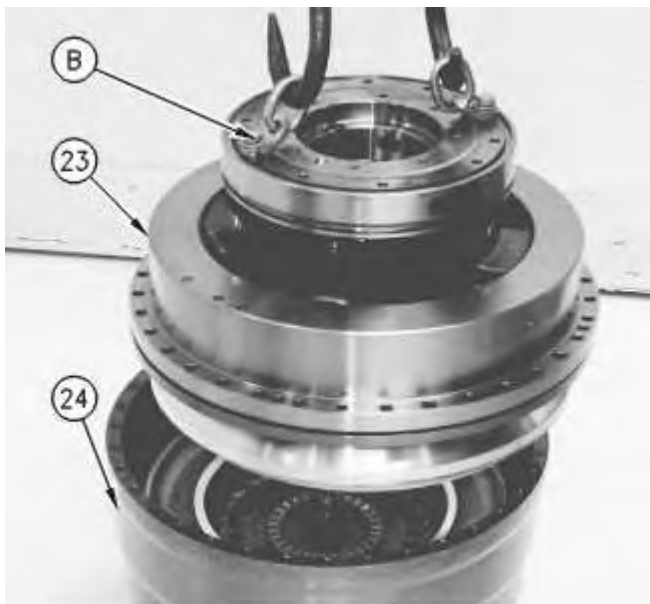


Illustration 16

g00859496

26. Attach Tooling (B) to housing (23) .
27. Attach a suitable hoist and a suitable lifting chain to Tooling (B), as shown.
28. Use the hoist in order to separate housing (23) from housing assembly (24). The weight of housing (23) and the components is 133 kg (295 lb). The weight of housing assembly (24) and the components is 68 kg (150 lb).



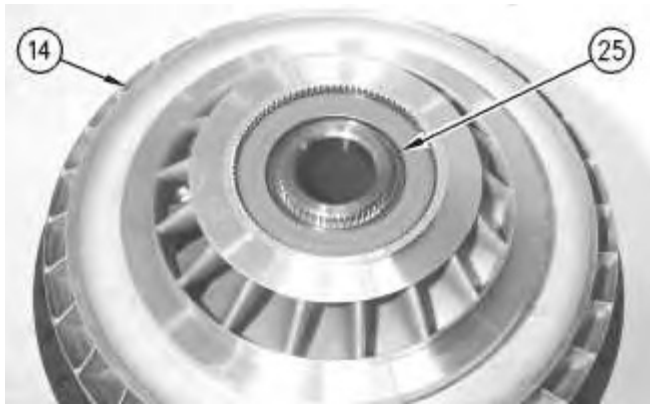


Illustration 17

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29. Turn over housing (23) .
30. Remove retaining ring (25) from stator carrier (14) .



Illustration 18

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31. Remove stator (26) .

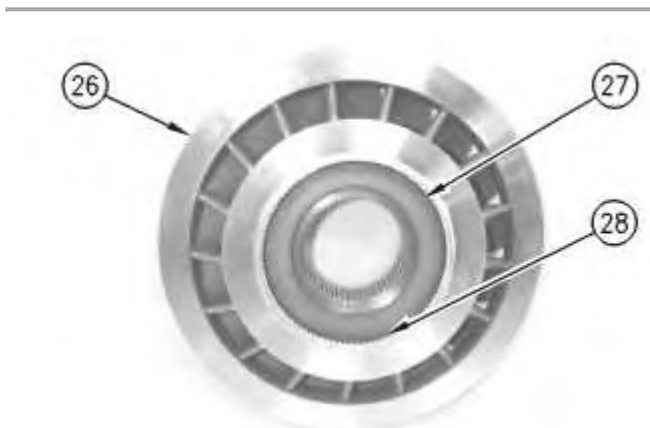


Illustration 19

g00859506

32. Remove retaining ring (28) from stator (26) .

33. Remove splined adapter (27) .

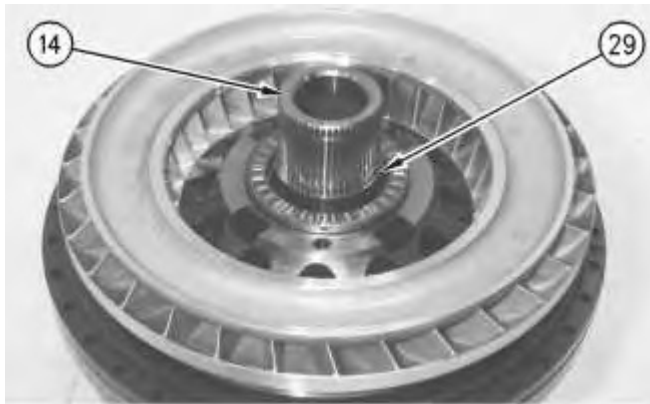


Illustration 20

g00859508

34. Remove retaining ring (29) from stator carrier (14) .



Illustration 21

g00859509

35. Remove impeller hub (30) and the adapter assembly as a unit.

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Illustration 22

g00859511

36. Remove the bearing, the race, and retainer (31) .



Illustration 23

g00859514

37. Remove 12 bolts (33) and the washers.

38. Remove hub (32) from impeller (34) .



Illustration 24

g00859515

39. Remove race (35) from the back of hub (32) .



Illustration 25

g00859517

40. Lift impeller (34) from clutch adapter assembly (36) .

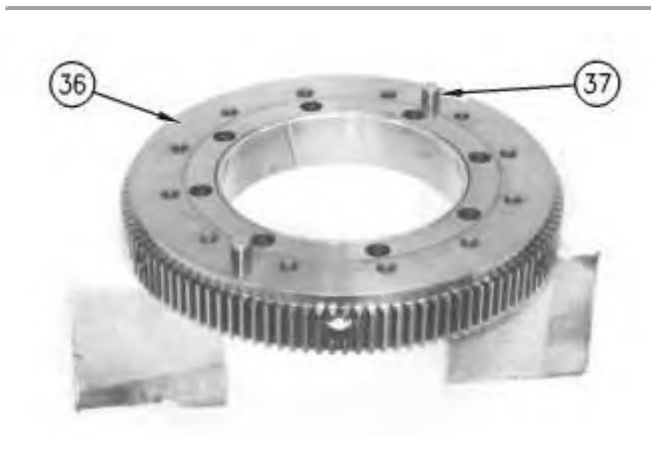


Illustration 26

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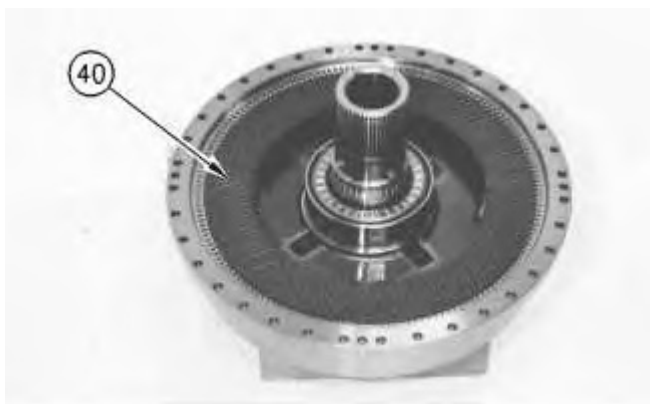
41. Remove two dowel pins (37) from clutch adapter assembly (36) .



42. Remove seal ring (38) from stator carrier (14) .



43. Remove clutch plate (39) .



44. Remove three clutch discs and two clutch plates (40) .
-



Illustration 30

g00859651

45. Remove lockup clutch piston (41) .



Illustration 31

g00859652

46. Remove the bearing, the race, and retainer (42) .

47. Remove two O-ring seals (43) .

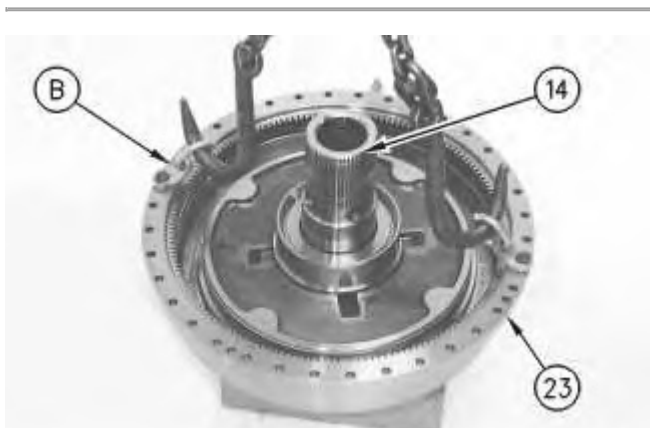


Illustration 32

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48. Attach Tooling (B) to housing (23) .
49. Attach a suitable hoist and suitable lifting chains to Tooling (B), as shown.
50. Use the hoist in order to remove housing (23) from stator carrier (14) .

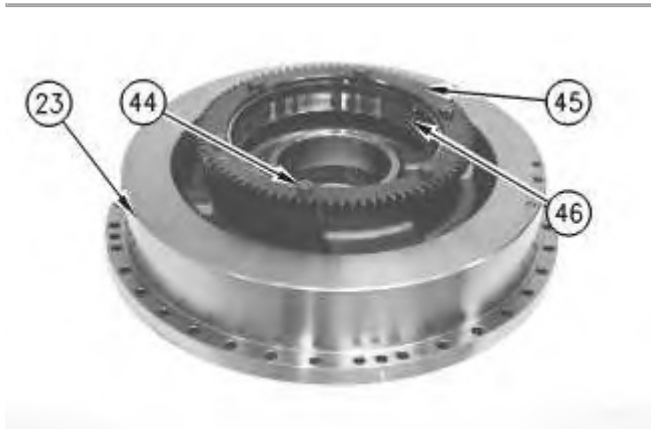


Illustration 33

g00859655

51. Remove six bolts (44), drive gear (45), and bearing (46) from housing (23) .

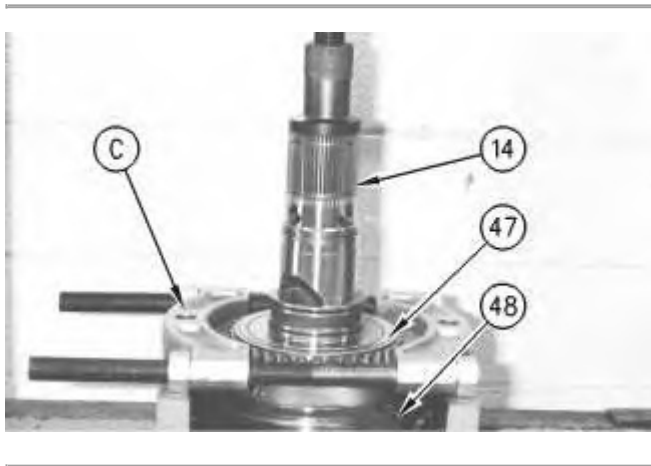


Illustration 34

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52. Use Tooling (C) and a suitable press in order to remove stator carrier (14) from inner bearing (47) .
  53. Remove O-ring seal (48) .
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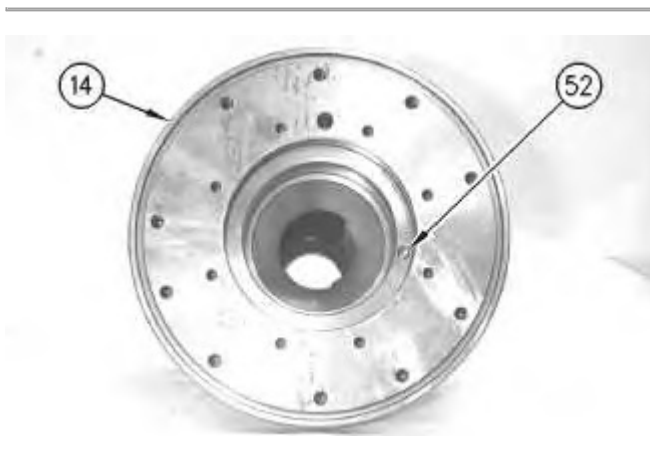
Illustration 35

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54. Remove rings (50) from seal ring carrier (51) .

**Note:** In order to prevent damage, do not remove seal ring carrier (51) if it is not necessary.

55. Remove dowel pin (49) and seal ring carrier (51) from stator carrier (14) .



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Illustration 36

g00859661

56. Remove orifice plug (52) from stator carrier (14) .

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Illustration 37

g00859663

57. Remove the bearing, the race, and retainer (53) from the housing assembly.



Illustration 38

g00859664

58. Remove the turbine hub, the converter turbine, and clutch adapter (54) as a unit from housing assembly (24) .



Illustration 39

g00859666

59. Remove 24 bolts (55) .

60. Remove turbine hub (56) from converter turbine (57) .

61. Remove the race from the back of turbine hub (56) .



Illustration 40

g00859667

62. Remove converter turbine (57) from clutch adapter (58) .



Illustration 41

g00859668

63. Remove the bearing, the race, and retainer (59) from the housing assembly.

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Illustration 42

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64. Remove retaining ring (60) from the housing assembly.
65. Remove clutch plate (61) from the housing assembly.



Illustration 43

g00859672

66. Remove three clutch discs and two clutch plates (62) .
67. Remove bearing (63) from housing assembly (24) .



68. Turn over housing assembly (24) .
  69. Put the housing assembly on suitable wood blocks.
  70. Remove two plugs (64) and the seals.
  71. Remove rubber ring (65) .
  72. Remove six bolts (66) and the washers.
  73. Remove cover (67) .
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Model: 990 II WHEEL LOADER BCR  
Configuration: 990 Series II Wheel Loader BCR00001-UP (MACHINE)

## Disassembly and Assembly 990 Series II Wheel Loader and 844 Wheel Tractor Power Train

Media Number -REN6265-01

Publication Date -01/04/2004

Date Updated -18/04/2004

i03518967

## Torque Converter - Assemble

SMCS - 3101-016

S/N - BBN1-UP

S/N - BCR1-UP

## Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	138-7575	Link Bracket	1
B	138-7573	Link Bracket	2
C	1P-0520	Driver Group	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.

**Note:** Apply oil to all of the bearings before assembly.

1. Check the condition of the O-ring seals that are used in the torque converter and torque converter housing. If any of the seals are damaged, use new parts for replacement.
-



Illustration 1

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2. Install six bolts (66) and the washers in cover (67) . Tighten bolts (66) to a torque of  $60 \pm 7$  N·m ( $45 \pm 5$  lb ft).
3. Install O-ring seal (65) .
4. Install two plugs (64) and the seals into housing assembly (24) .



Illustration 2

g00859672

5. Turn over housing assembly (24) . Place the housing assembly on suitable wood blocks.
6. Install bearing (63) into housing assembly (24) .
7. Install three clutch discs and two clutch plates (62) in alternating order.

**Note:** Start with a clutch disc and end with a clutch disc.



Illustration 3

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8. Install clutch plate (61) into the housing assembly.
9. Install retaining ring (60) in the housing assembly.



Illustration 4

g00859668

10. Install the bearing, the race, and retainer (59) in the housing assembly.



Illustration 5

g00859667

11. Install the converter turbine on clutch adapter (58) .



Illustration 6

g00859666

12. Install the race to the back of turbine hub (56) .

13. Install 24 bolts (55) in order to install turbine hub (56) to converter turbine (57) . Tighten bolts (55) to a torque of  $105 \pm 15 \text{ N}\cdot\text{m}$  ( $80 \pm 10 \text{ lb ft}$ ).



Illustration 7

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14. Install converter turbine (54) into housing assembly (24) .

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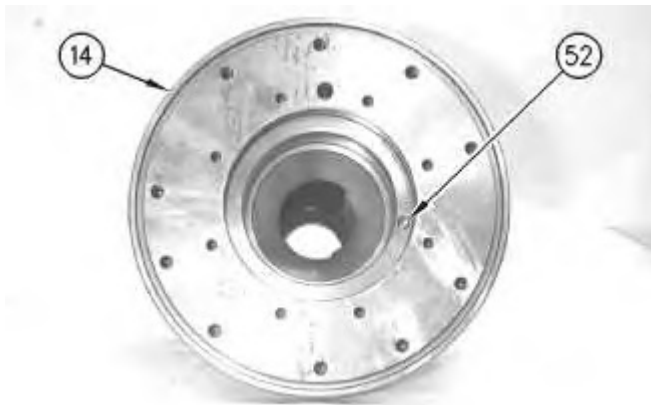


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Illustration 8

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15. Install the retainer, the race, and bearing (53) in the housing assembly.



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Illustration 9

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16. Install orifice plug (52) into stator carrier (14) .
-

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