

Product: WHEEL LOADER

Model: 966F II WHEEL LOADER 9YJ

Configuration: 966F Series II Wheel Loader 9YJ00001-UP (MACHINE) POWERED BY 3306 Engine

## Disassembly and Assembly 966F Series II Wheel Loader Power Train

Media Number -SEN5923-05

Publication Date -01/10/2004

Date Updated -07/10/2004

i00961675

# Transmission Planetary - Disassemble

SMCS - 3160-015

## Disassembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	5P-9736	Link Bracket	3
B	6V-2156	Link Bracket	3
C	FT-0833	Clamp	2
D	1P-1863	Pliers	1
E	5P-4758	Pliers	1
F	2P-8312	Pliers	1
G	FT-0947	Clamp	2
H	1P-0520	Driver	1
J	1P-1862	Pliers	1
K	8H-0663	Bearing Puller	1
L	1P-1861	Pliers	1

### Start By:

- A. Remove the transmission hydraulic control valve. Refer to Disassembly and Assembly, "Transmission Hydraulic Control Valve - Remove".

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

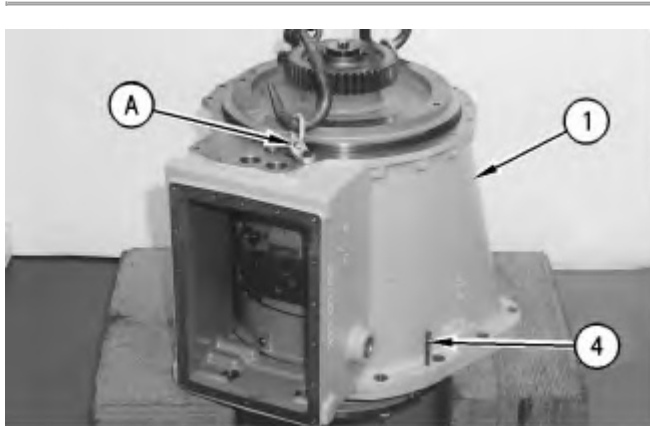


Illustration 1

g00490174

1. Fasten Tooling (A) and a hoist to case (1), as shown. Remove the bolts that hold case (1) to the manifold. Use two 3/8" - 16 NC forcing screws to separate case (1) from the manifold. Remove case (1) from the transmission. The weight of the case is 91 kg (200 lb).

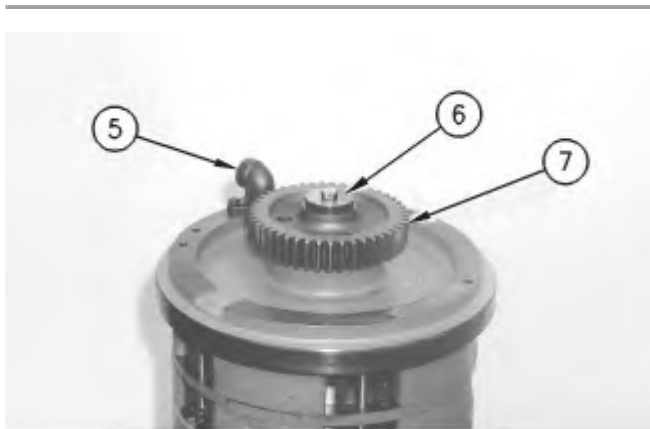
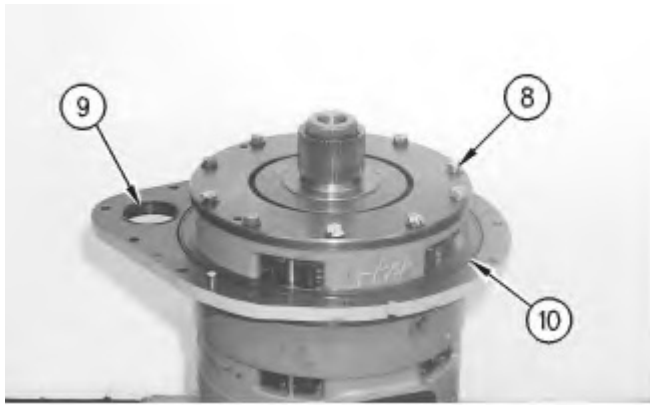


Illustration 2

g00490206

2. Remove elbow (5) and the O-ring seal from the reverse clutch housing.
  3. Remove the bolt, retainer (6) and gear (7) from the transmission input shaft.
-



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Illustration 3

g00490222

4. Use a hoist to turn the transmission, as shown. The weight of the transmission is 453 kg (1000 lb).
5. Remove O-ring seal (10) and two O-ring seals (9) .

**Note:** Put alignment marks across the clutch housings for assembly purposes.



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Illustration 4

g00490238

6. Install Tooling (C) in order to hold the piston in the No. 6 clutch housing (11) .
  7. Fasten Tooling (B) and a hoist to clutch housing (11). Remove bolts (8). Remove clutch housing (11) from the transmission. The weight of the clutch housing is 27 kg (60 lb).
-



Illustration 5

g00490267

8. Remove clutch piston (12) from clutch housing (11). Remove the seal rings from the clutch piston.

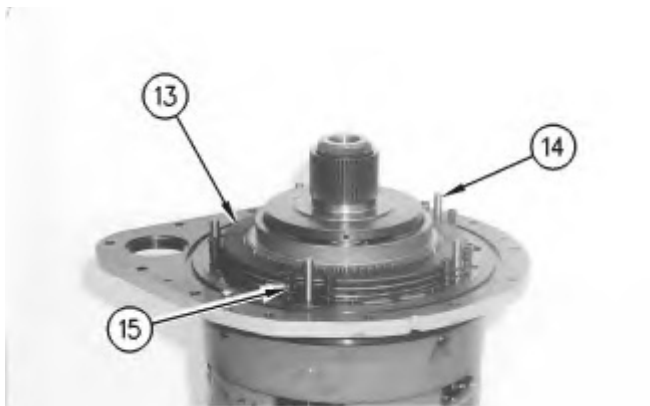


Illustration 6

g00490270

9. Remove reaction dowels (14), springs (15), three friction discs (13) and the two clutch plates from the manifold.



Illustration 7

g00490271

10. Remove ring gear (16) from the carrier.

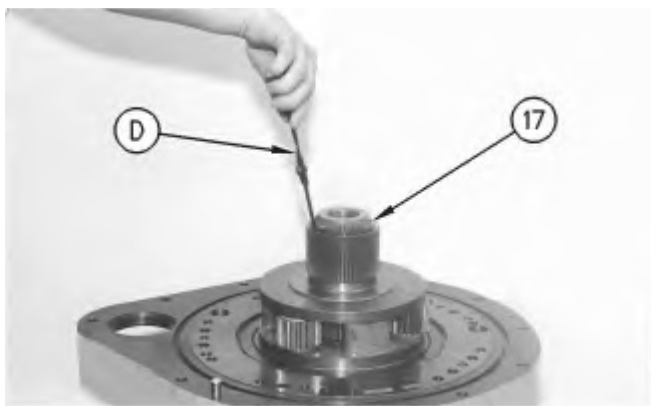


Illustration 8

g00490275

11. Use Tooling (D) to remove retaining ring (17) from the transmission shaft.

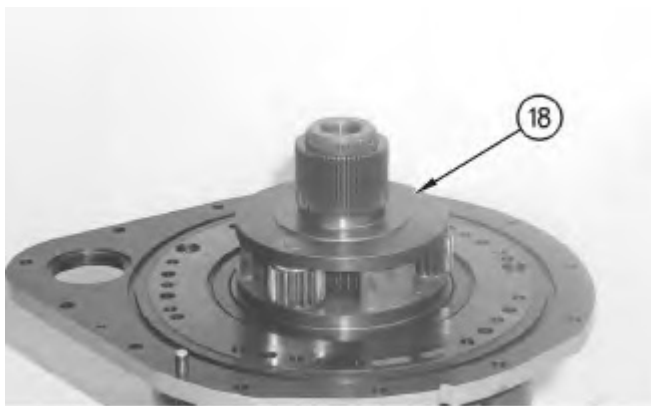


Illustration 9

g00490277

12. Remove carrier assembly (18) from the manifold.

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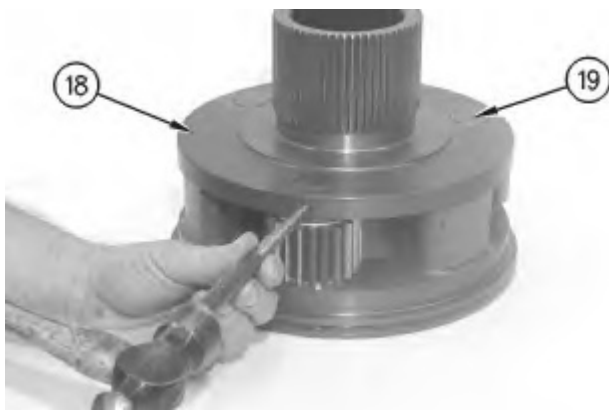


Illustration 10

g00490287

13. Disassemble carrier assembly (18) by the following steps:
  - a. Remove the ring seal from the outside of the carrier assembly.
  - b. Use a hammer and a punch to push the spring pin through carrier (18) into planetary shaft (19). Remove planetary shaft (19) from carrier (18) .

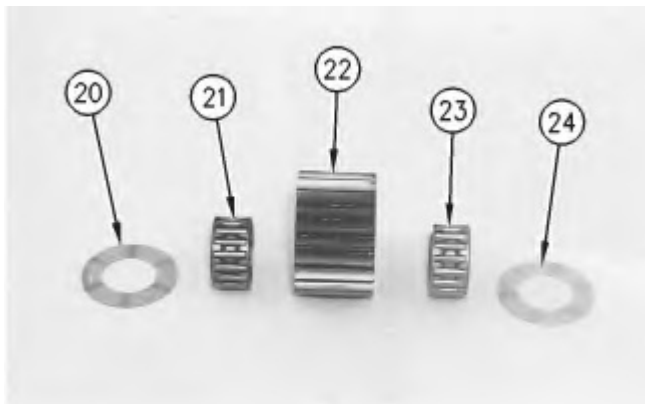


Illustration 11

g00490289

- c. Remove thrust discs (20) and (24), bearings (21) and (23) and planetary gear (22) .
- d. Repeat steps 13.b through 13.c for the removal of the other two planetary gears.

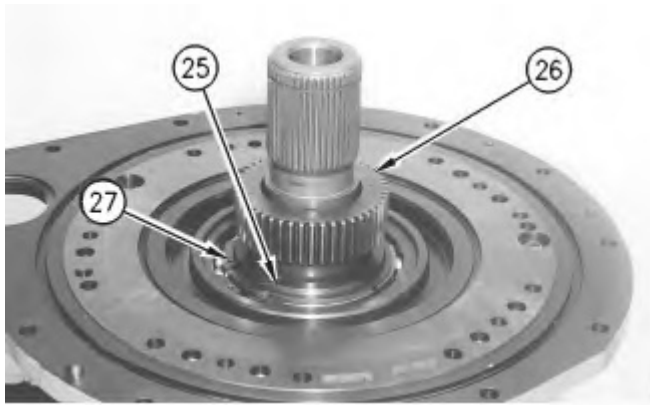


Illustration 12

g00490302

14. Remove retaining ring (25) and sun gear (26) from the output shaft.
15. Use Tooling (D) to remove retaining ring (27) from the housing.

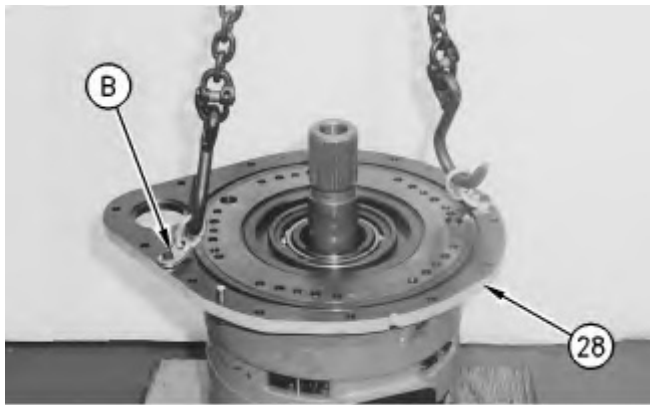


Illustration 13

g00490365

16. Fasten Tooling (B) and a hoist to manifold assembly (28), as shown. Remove manifold assembly (28) from the transmission. The weight of the manifold assembly is 64 kg (140 lb). Remove the large O-ring seal from the manifold assembly.



17. Use Tooling (E) to remove retaining ring (29) from the manifold. Remove bearing (30) from the manifold.

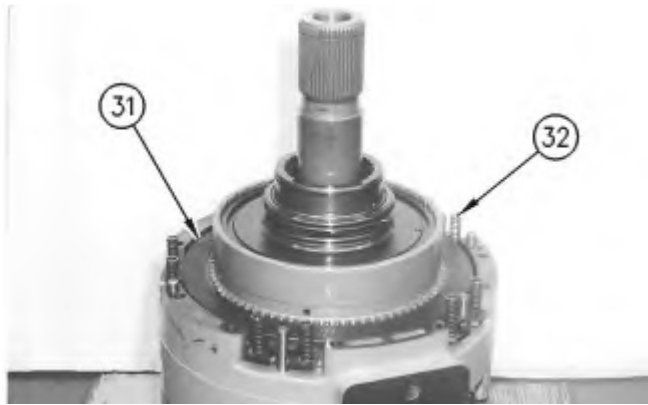


Illustration 15

18. Remove clutch springs (32), two friction discs (31) and one clutch plate from the No. 3 and No. 4 clutch housing.

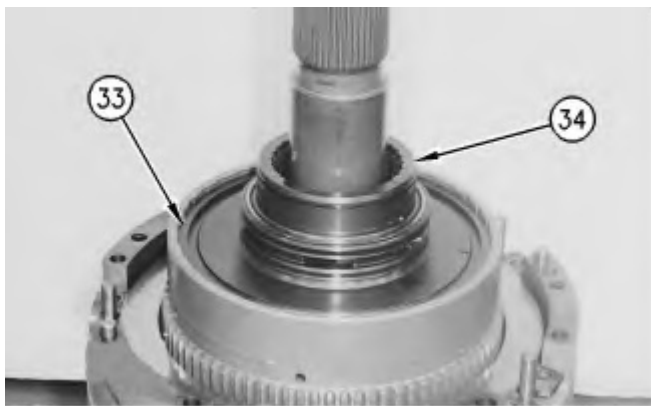


Illustration 16

19. Remove retaining ring (33) and housing assembly (34) from the ring gear for the No. 4 clutch.
-



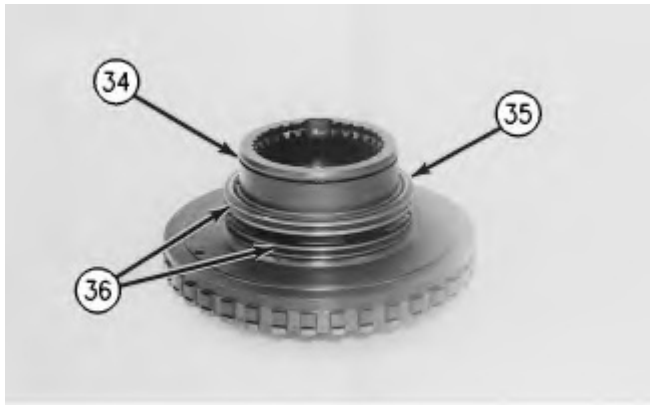


Illustration 17

g00490387

20. Remove seal rings (36) from ring carrier (35) .
21. Check the condition of ring carrier (35). If ring carrier (35) is worn or damaged, use new parts for replacement. If ring carrier (35) is not worn or damaged, do not remove the ring carrier. Use a hammer and a chisel in order to replace ring carrier (35). Remove the ring carrier and the pin that holds the ring carrier in position on housing (34) .

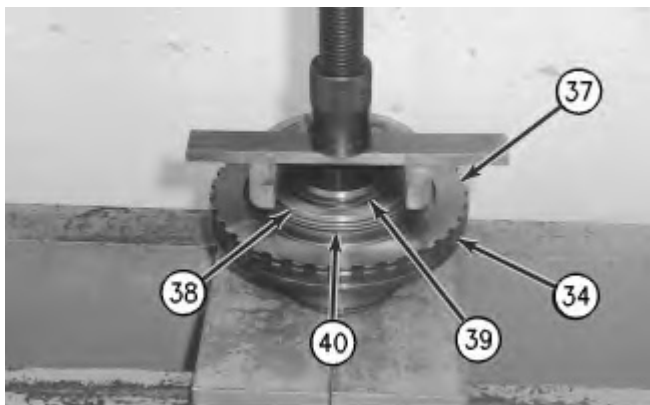


Illustration 18

g00490393

22. Use steel spacers and a press to push retainer plate (38). Put three disc springs (40) under compression.  
**Note:** Mark the location of three disc springs (40) for assembly purposes.
23. Use Tooling (F) to remove retaining ring (39) from housing (34). Release the pressure on plate (38). Remove the retainer plate, three disc springs (40) and No. 5 piston (37) from housing (34) .
24. Remove the two seal rings from piston (37) .

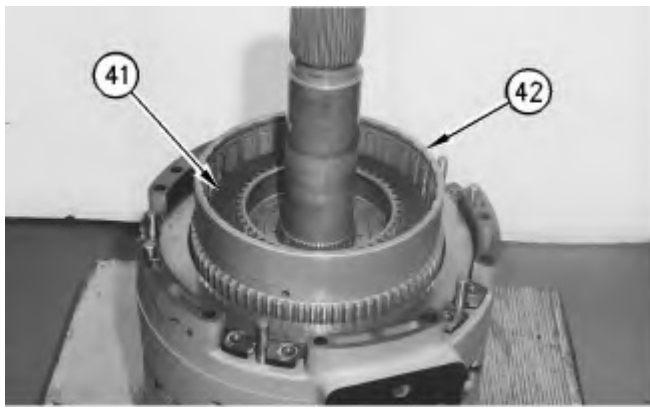


Illustration 19

g00490423

25. Remove ring gear (42) from the No. 3 and No. 4 clutch housing. Remove three friction discs (41) and two clutch plates from ring gear (42). Remove the clutch plate from the ring gear.

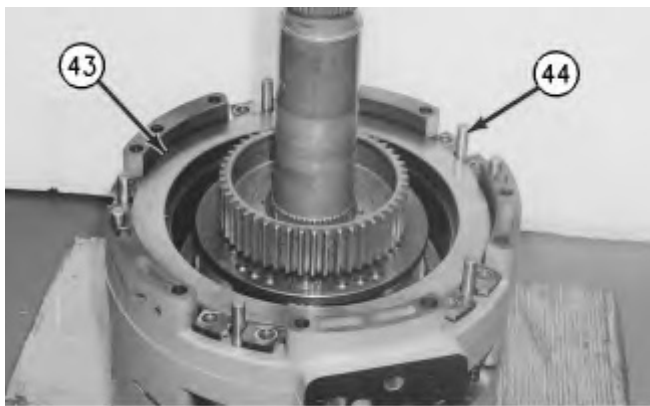


Illustration 20

g00490427

26. Remove No. 4 clutch piston (43) from the clutch housing. Remove reaction dowels (44) from the clutch housing.

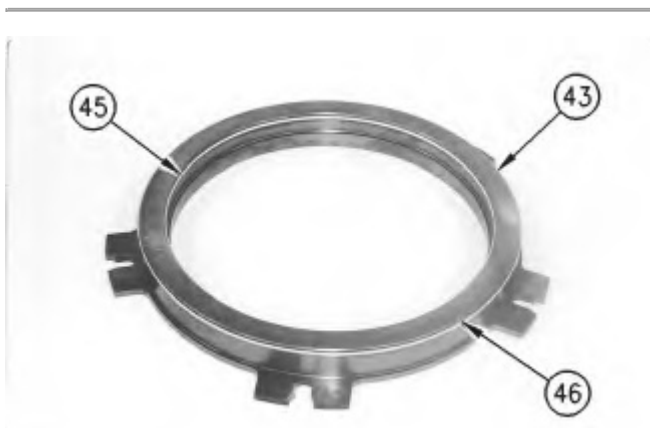


Illustration 21

g00490431

27. Remove seal rings (45) and (46) from clutch piston (43) .

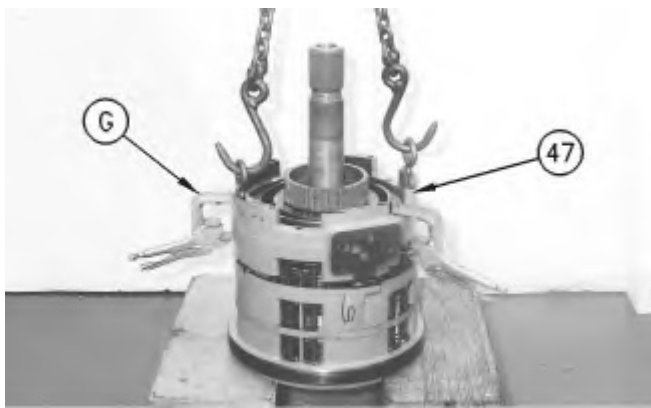


Illustration 22

g00490483

28. Install Tooling (G) in order to hold No. 3 clutch piston in clutch housing (47). Install two 5/8" - 11 NC forged eyebolts in clutch housing (47), as shown. Fasten a hoist to the eyebolts. Remove clutch housing (47) and the clutch piston. The weight of the unit is 41 kg (90 lb).

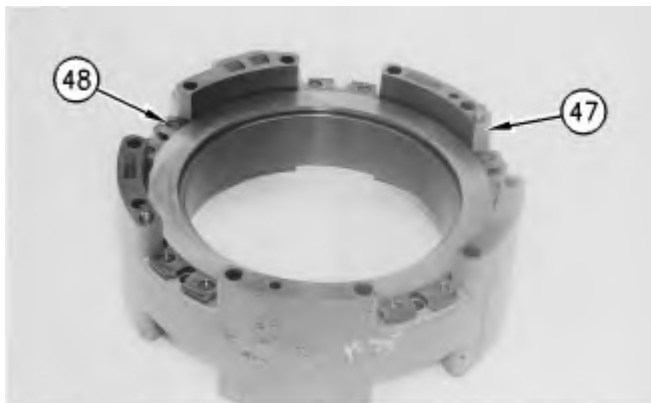


Illustration 23

g00490484

29. Remove clutch piston (48) from clutch housing (47). Remove the seal rings from clutch piston (48) .

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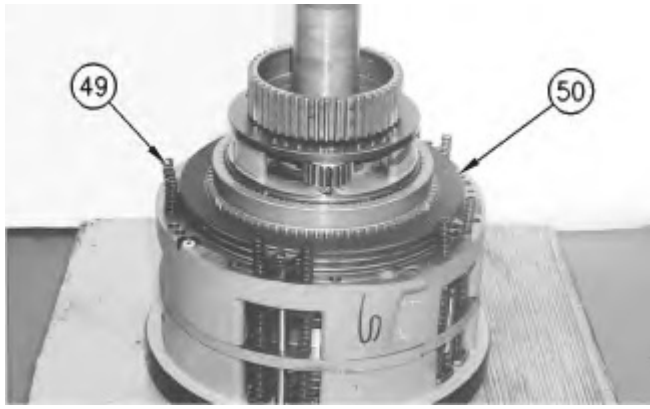


Illustration 24

g00491248

30. Remove springs (49), three friction discs (50) and the two clutch plates from the No. 2 clutch housing.

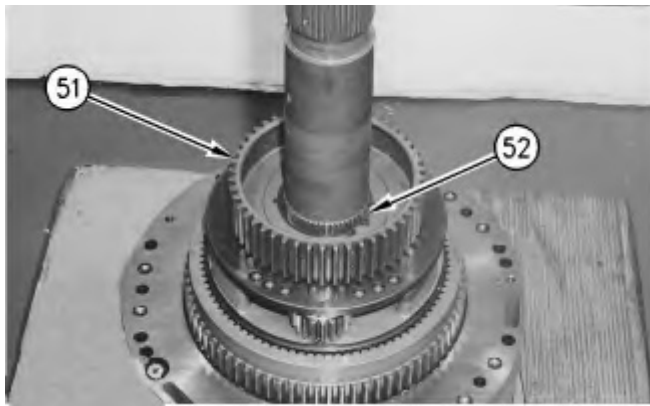


Illustration 25

g00491257

31. Use Tooling (D) to remove retaining ring (52). Remove clutch hub (51).

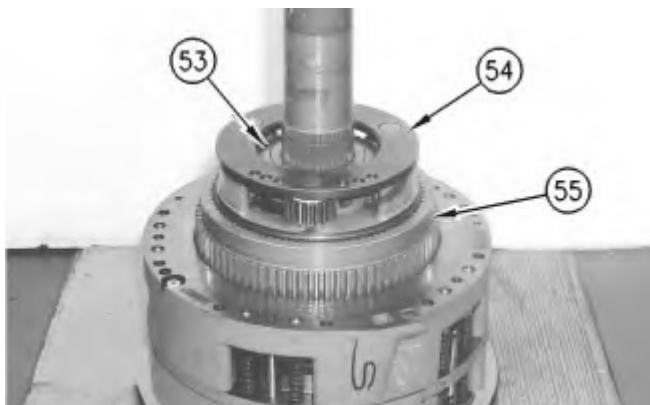


Illustration 26

g00491295

32. Remove sun gear (53), carrier assembly (54) and ring gear (55) from the transmission shaft as a unit.
33. Remove sun gear (53) from carrier assembly (54) .
34. Disassemble carrier assembly (54) by the following steps:



Illustration 27

g00491296

- a. Put the lock ring under compression. Remove carrier assembly (54) from ring gear (55). Several short lengths of 3.175 mm (.125 inch) rod (56) with a point ground on one end can be used to put the ring under compression.

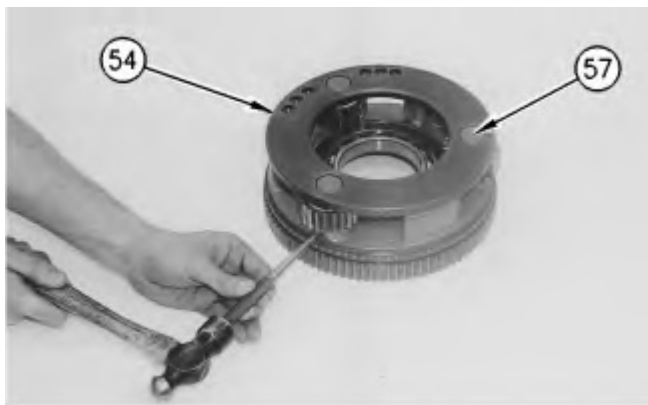


Illustration 28

g00491322

- b. Use a hammer and a punch to push the spring pin through carrier (54) into planetary shaft (57). Remove planetary shaft (57) from carrier (54) .
-

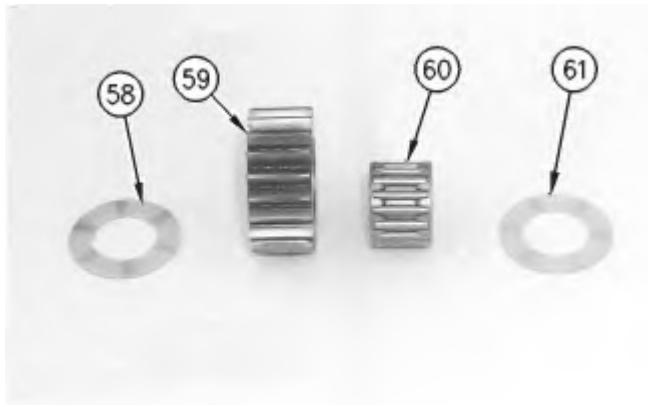


Illustration 29

g00491323

- c. Remove thrust discs (58) and (61), bearing (60) and planetary gear (59) from carrier (54) .
- d. Repeat steps 34.b through 34.c for the removal of the other two planetary gears.

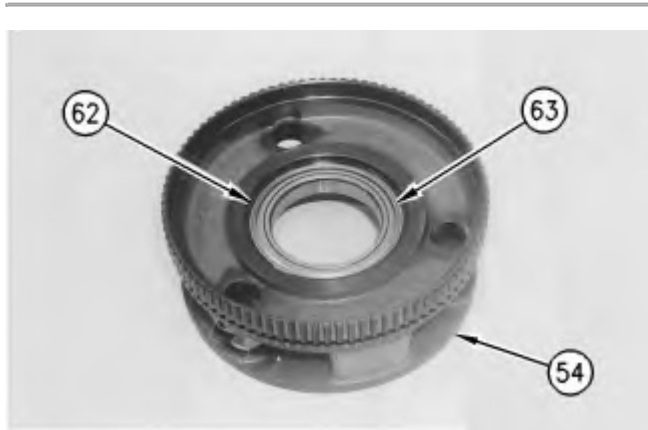


Illustration 30

g00491381

- e. Remove retaining ring (62) that holds bearing (63) in carrier (54) .

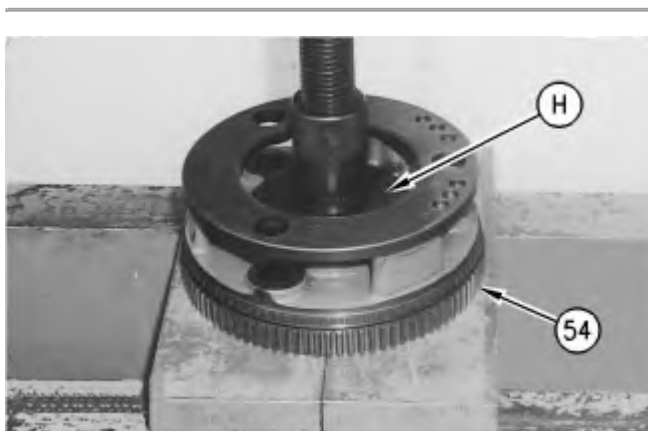


Illustration 31

g00491429

f. Use Tooling (H) and a press to push bearing (63) out of carrier (54) .

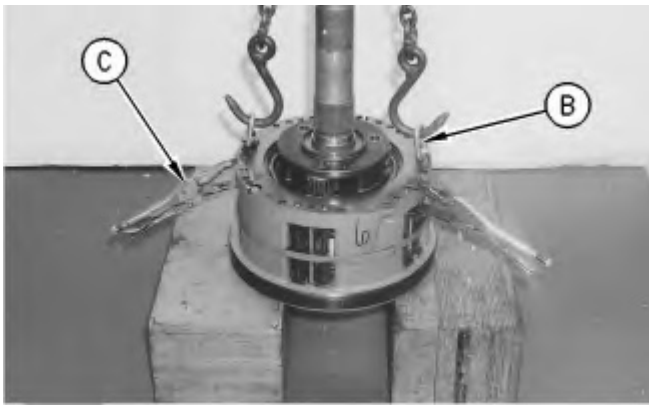


Illustration 32

g00491433

35. Install Tooling (C) in order to hold the forward clutch piston in the clutch housing.
36. Fasten Tooling (B) and a hoist to the No. 2 clutch housing. Remove the bolts and the clutch housing with the clutch piston. The weight of the unit is 27 kg (60 lb).

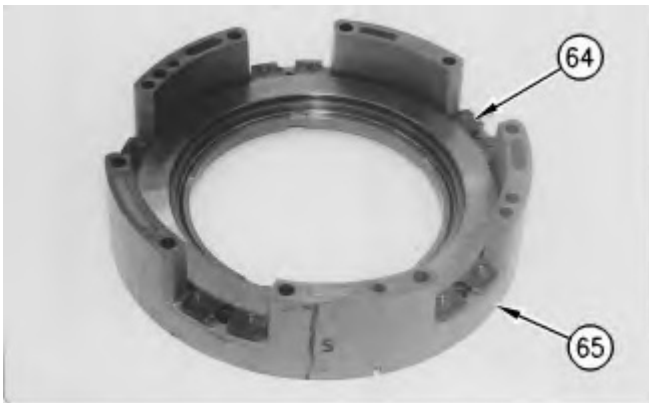


Illustration 33

g00491437

37. Remove clutch piston (64) from the No. 2 clutch housing (65). Remove the seal rings from clutch piston (64) .
-

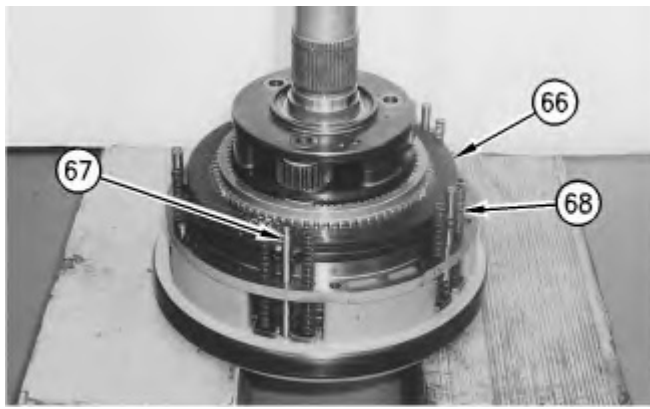


Illustration 34

g00491460

38. Remove springs (68) and reaction dowels (67) .
39. Remove three friction discs (66) and the two clutch plates.

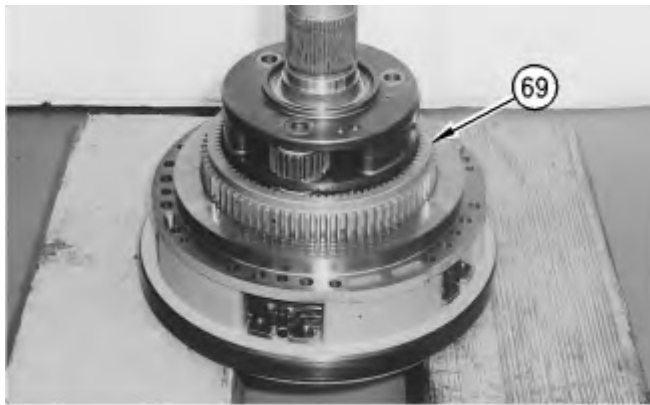


Illustration 35

g00491463

40. Remove ring gear (69) from the carrier assembly and the shaft.

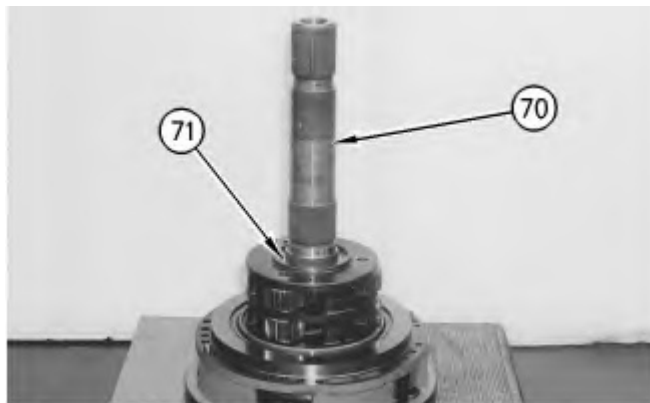


Illustration 36

g00491464



41. Remove retaining ring (71) that holds the bearing in the carrier assembly. Remove shaft (70) from the carrier assembly and the inner shaft.

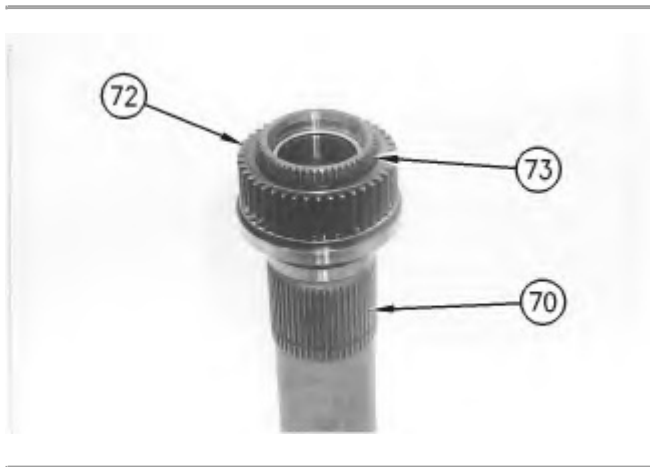


Illustration 37

g00491465

42. Use Tooling (D) to remove retaining ring (73) from the end of shaft (70). Remove gear (72) from shaft (70) .

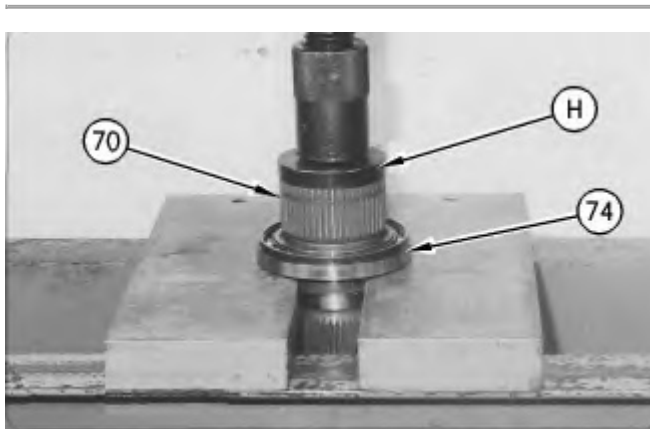


Illustration 38

g00491466

43. Use Tooling (H) and a press to push shaft (70) out of bearing (74), as shown.
-

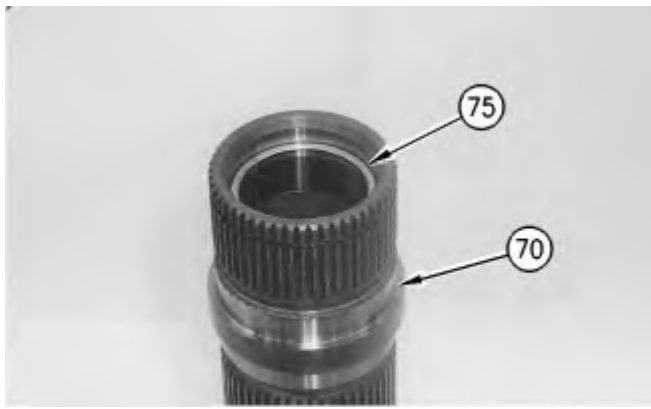


Illustration 39

g00491467

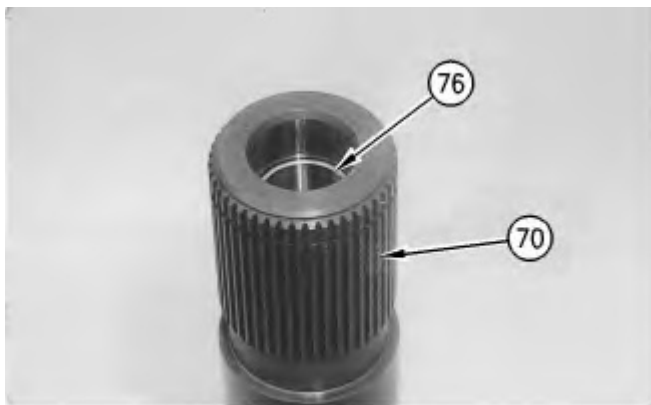


Illustration 40

g00491468

44. Remove bearings (75) and (76) from the ends of shaft (70) .

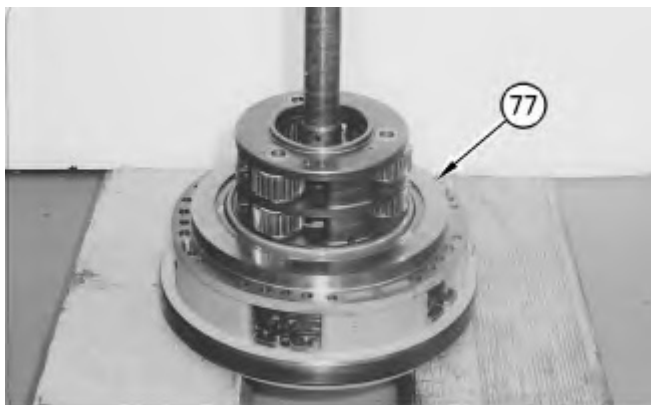


Illustration 41

g00491470

45. Remove plate assembly (77) from the reverse clutch housing.

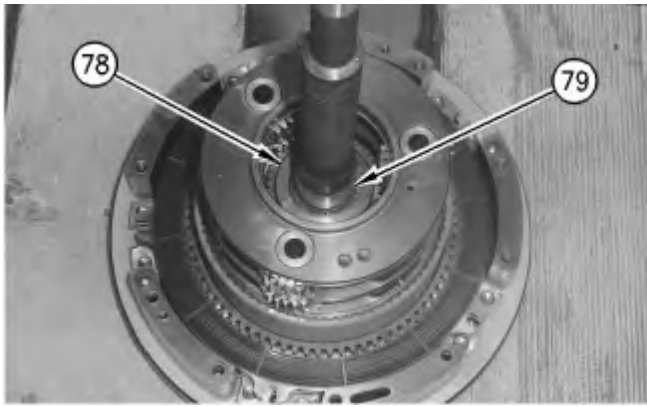


Illustration 42

g00491483

46. Use Tooling (J) to remove retaining ring (79) that holds sun gear (78) .

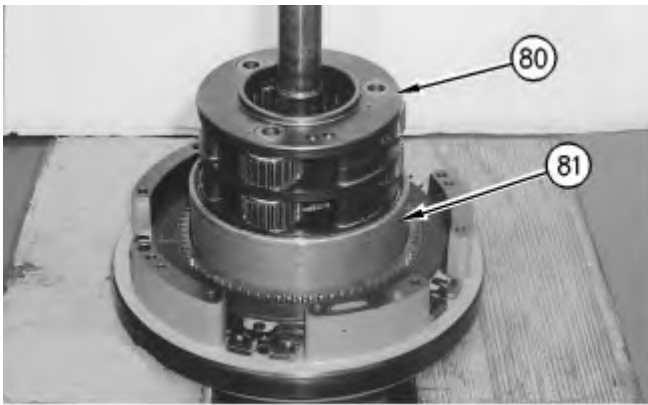


Illustration 43

g00491484

47. Remove carrier assembly (80) and ring gear (81) .
48. Disassemble carrier assembly (80) by the following steps:

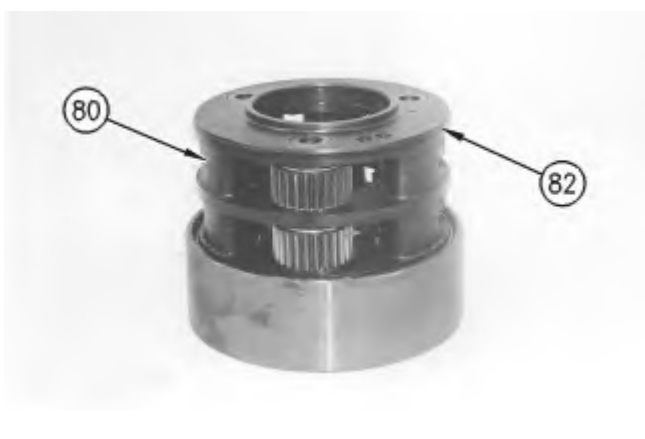


Illustration 44

g00491836

- a. Remove the sun gear from carrier assembly (80) .
- b. Remove seal ring (82) from carrier assembly (80) .

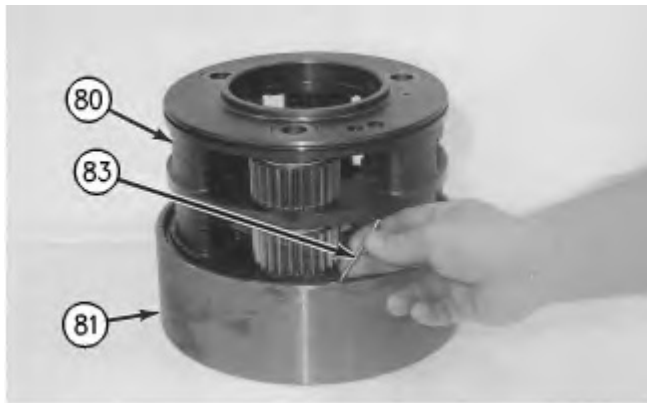


Illustration 45

g00491842

- c. Compress the retaining ring. Remove carrier assembly (80) from ring gear (81). Several short lengths of 3.175 mm (.125 inch) rod (56) with a point ground on one end can be used to put the retaining ring under compression.



Illustration 46

g00491844

- d. Use a hammer and a punch to push the spring pins through carrier assembly (80) and into planetary shafts (84). Remove planetary shafts (84) from carrier assembly (80) .
-

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