Model: CS-44B VIBRATORY COMPACTOR CS3

Configuration: CS44B, CP44B Vibratory Soil Compactor CS300001-UP (MACHINE) POWERED BY C3.4 Engine

#### **Disassembly and Assembly**

#### **CP44B and CS44B Vibratory Soil Compactors Machine Systems**

Media Number -UENR6599-05

Publication Date -01/08/2015

Date Updated -23/05/2017

i07021168

# Axle (with Brakes) - Disassemble

**SMCS -** 3260-015; 3278-015

# **Disassembly Procedure**

Table 1

Required Tools				
Tool	Part Number	Part Description	Qty	
A	8B-7551	Bearing Puller Gp	1	
В	220-8428	Spanner Wrench	1	
С	1P-0523	Driver Gp.	1	
D	-	Loctite 270	-	

#### **Start By:**

- a. Remove the axle.
- 1. Drain the oil from the differential into a suitable container. The capacity of the differential is approximately 12 L (3 US gal).
- 2. Remove the bolts and the axle propel motor from the gearbox. Install the cover and the bolts.



Illustration 1 g06164352

- 3. Drain the oil from the wheel hub into a suitable container. The capacity of the wheel hub is approximately 1.3 L (0.3 US gal).
- 4. Remove screws (2) and end cover (1).

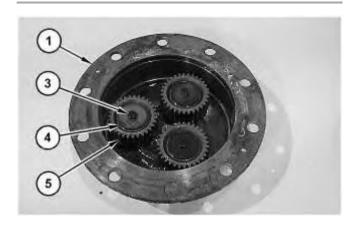


Illustration 2 g06164360

5. Remove bolts (3), washers (4), planetary gears (5), and the 84 needle bearings from end cover (1).

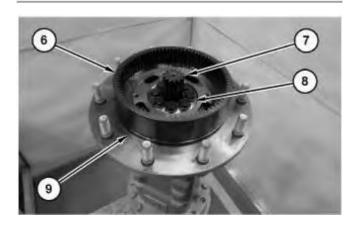


Illustration 3 g06164369

- 6. Remove O-ring seal (9) from ring gear (6).
- 7. Remove shaft (7).
- 8. Remove bolts (8).

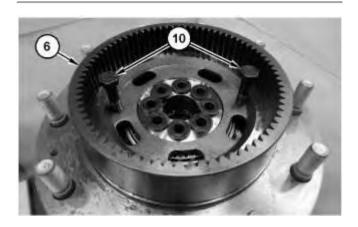


Illustration 4 g06164370

9. Install two bolts (10) to ring gear (6), as shown. Turn the bolts evenly in order to remove the ring gear (6). Discard bolts (10).

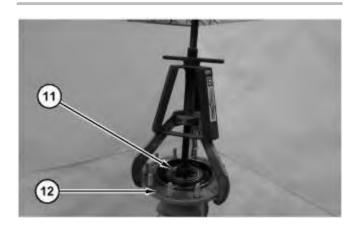


Illustration 5 g06164377

- 10. Using Tooling (A) remove hub (12).
- 11. Remove the lip seal and bearing (11) from hub (12).

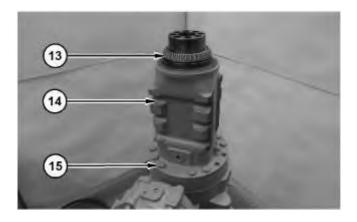
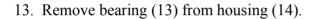


Illustration 6

12. Use two people to remove housing (14). The weight of housing (14) is approximately 41 kg (90 lb). Remove bolts (15) and housing (14).

g06164394



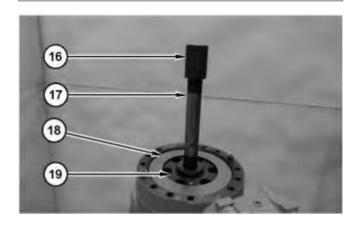


Illustration 7 g06164409

- 14. Remove coupling (16) from shaft (17).
- 15. Remove steel discs (18), friction discs (19), and shaft (17) from the axle.

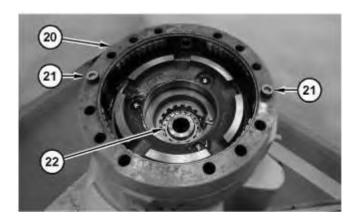


Illustration 8 g06164431

- 16. Attach a suitable lifting device to housing (20). The weight of housing (20) is approximately 50 kg (110 lb). Remove bolts (21) and remove housing (20).
- 17. Remove gear assembly (22).

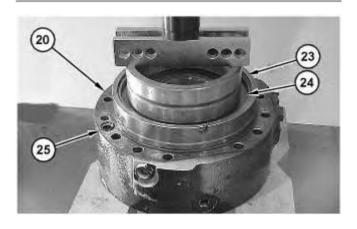


Illustration 9 g06164758



Illustration 10 g06164764



Sudden release of spring force can cause injury.

To prevent the possibility of injury, follow the procedure to relieve the spring pressure.

- 18. Remove O-ring seal (25) from housing (20).
- 19. Put housing (20) in a suitable press. Apply pressure on spring washers (24). Remove retaining ring (23).
- 20. Release the pressure on spring washers (24) and remove the spring washers (24) from housing (20).

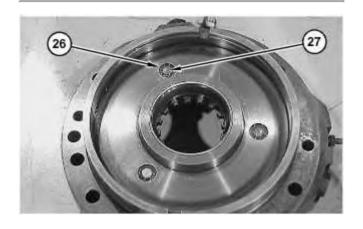


Illustration 11 g06164772

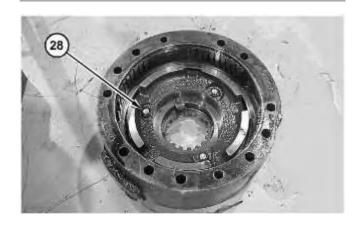


Illustration 12 g06164775

# **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.

21. Remove retaining rings (26). Remove bolts (28) and piston assemblies (27).

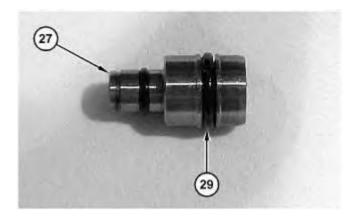


Illustration 13 g06164802

#### 22. Remove O-ring seals (29) from piston assemblies (27).



Illustration 14 g06164853

#### 23. Remove bolt (30) and retainer (31).



Illustration 15 g06164858

- 24. Remove O-ring seals (33) from brake piston (32).
- 25. Repeat steps to the other side of the axle.



Illustration 16

g06164285

- 26. Drain the oil from the gearbox into a suitable container. The capacity of the gearbox is approximately 1.2 L (0.3 US gal).
- 27. Remove eight bolts (36) and cover assembly (37).
- 28. Remove bolts (34) and cover (35).



Illustration 17

g06203548

29. Remove O-ring seal (38) from cover (37).

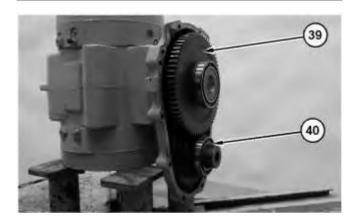


Illustration 18

g06203561

- 30. Remove gear (40).
- 31. Remove gear (39).

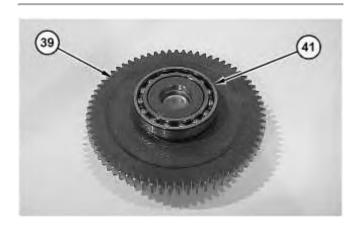


Illustration 19 g06203698

32. Use Tooling (A) and a suitable press to remove bearing (41) from gear (39).

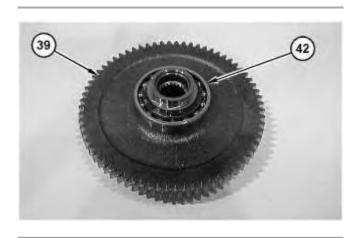


Illustration 20 g06203701

33. Use Tooling (A) and a suitable press to remove bearing (42) from gear (39).

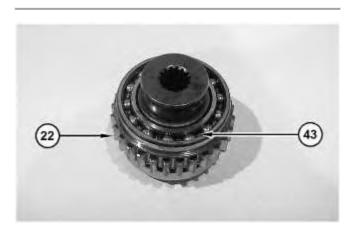


Illustration 21 g06203705

34. Use Tooling (A) and a suitable press to remove bearing (43) from gear (22).

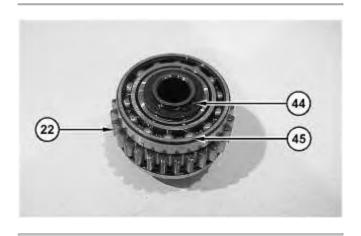


Illustration 22 g06204036



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.

35. Remove retaining ring (45). Use Tooling (A) to remove bearing (44) from gear (22).

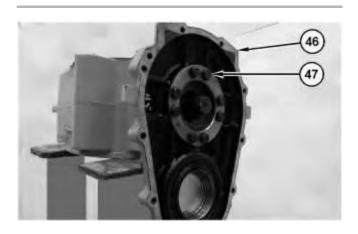


Illustration 23 g06203707

36. Remove bolts (47) and remove cover (46).



Illustration 24 g06203934

## 37. Remove the differential (48).

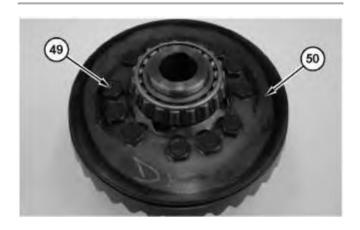


Illustration 25 g06201230

## 38. Remove bolts (49) and ring gear (50).



Illustration 26 g06201273

# 39. Separate the differential (48).

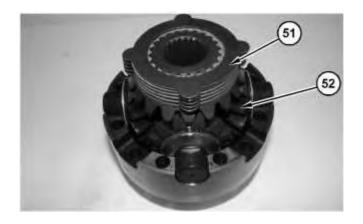


Illustration 27 g06201325

## 40. Remove clutch pack (51) and spider gear (52).



Illustration 28 g06201333

## 41. Remove spider gear assembly (53).

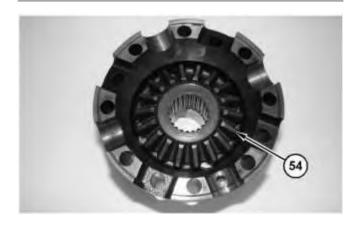


Illustration 29 g06201374

# 42. Remove spider gear (54).



Illustration 30

g06201632

## 43. Remove clutch pack (55).

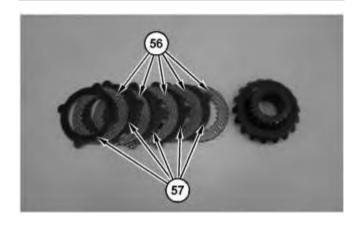


Illustration 31

g06201650

## 44. Note the orientation of friction discs (56) and clutch plates (57).

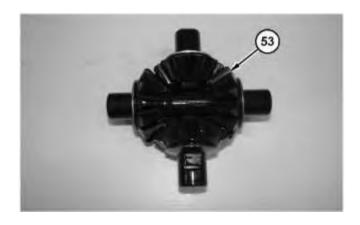


Illustration 32

g06201692

# 45. Disassemble spider gears (53).

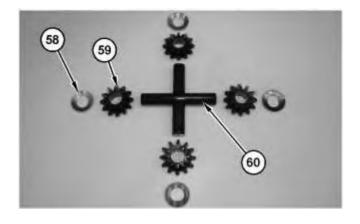


Illustration 33 g06201696

46. Remove washers (58), spider gears (59), and shaft (60).

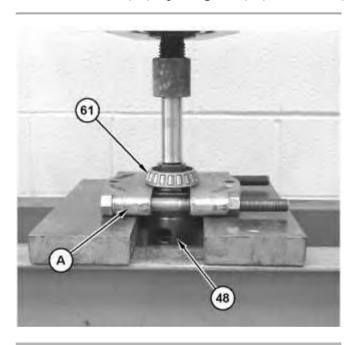


Illustration 34 g06201773

47. Use Tooling (B) and a suitable press to remove bearing (61) from differential (48).

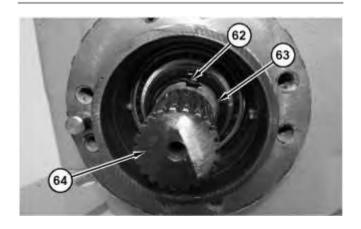


Illustration 35 g06198590

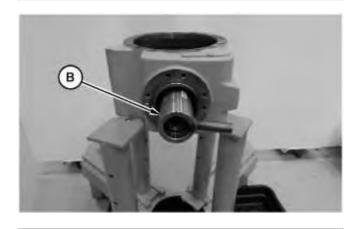


Illustration 36 g06198613

48. Straighten tab (62) on locking nut (63). Use Tooling (E) to remove locking nut (63).

49. Remove pinion shaft (64).

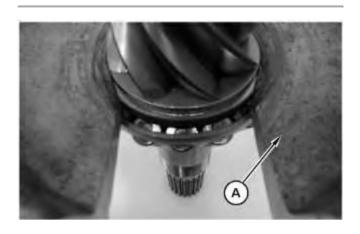


Illustration 37 g06201825

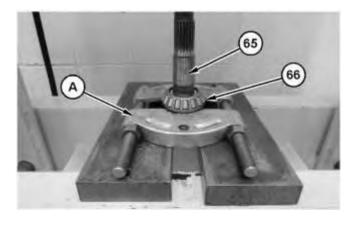


Illustration 38 g06201831

50. Use Tooling (A) and a suitable press to remove bearing cone (66) from the pinion shaft (65)

**Note:** Tooling (A) is on the bearing race.

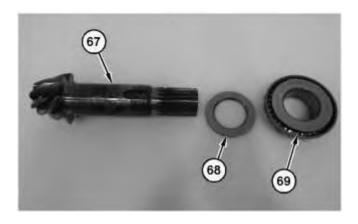


Illustration 39 g06201883

51. Remove shim (68) and bearing (69) from shaft (67). Note the orientation of the shim for assembly procedure.

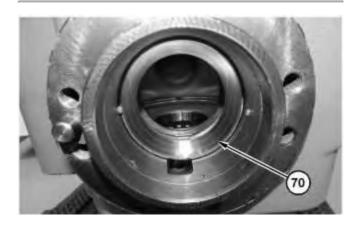


Illustration 40 g06201889



Illustration 41 g06201891

52. Remove bearing cups (70) and (71).

Model: CS-44B VIBRATORY COMPACTOR CS3

Configuration: CS44B, CP44B Vibratory Soil Compactor CS300001-UP (MACHINE) POWERED BY C3.4 Engine

#### **Disassembly and Assembly**

#### **CP44B and CS44B Vibratory Soil Compactors Machine Systems**

Media Number -UENR6599-05

Publication Date -01/08/2015

Date Updated -23/05/2017

i07021374

# **Axle (with Brakes) - Assemble**

**SMCS -** 3260-016; 3278-016

# **Assembly Procedure**

Table 1

Required Tools				
Tool	Part Number	Part Description	Qty	
A	8B-7551	Bearing Puller Gp	1	
В	220-8428	Spanner Wrench	1	
С	1P-0523-	Driver Gp.	1	
D	_	Loctite 270	_	

- 1. Inspect all parts and clean all parts. If any parts are worn or damaged, use new Caterpillar parts for replacement.
- 2. Inspect all seals. Damaged seals must be replaced. Use new Caterpillar seals for replacement.



Illustration 1 g06201891



Illustration 2 g06201889

3. Install bearing cups (71) and (70).

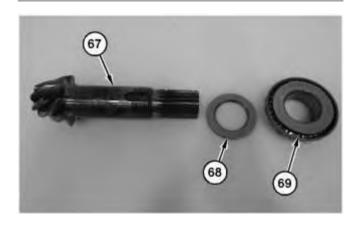


Illustration 3 g06201883

4. Install bearing (69) and shim (68) onto shaft (67). Heat the bearing (69) to install.

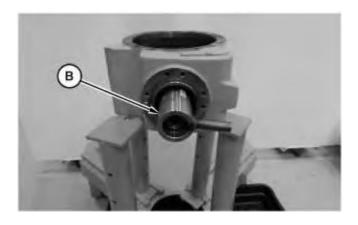


Illustration 4 g06198613

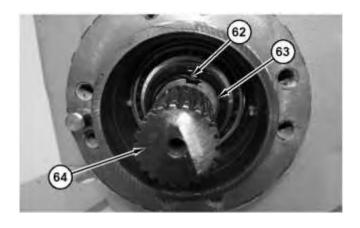


Illustration 5 g06198590

- 5. Install pinion shaft (52).
- 6. Use Tooling (E) to install locking nut. Bend tab (50) on the locking nut.

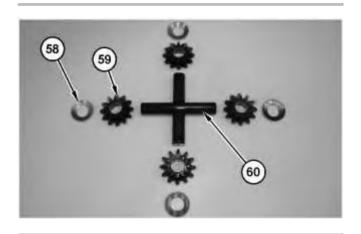


Illustration 6 g06201696

7. Install spider gears (59) and washers (58) onto shaft (60).

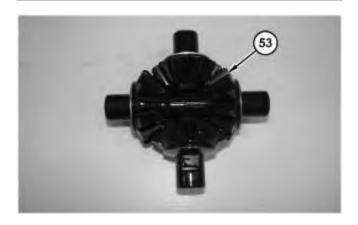


Illustration 7 g06201692

8. Assemble spider gears (53).

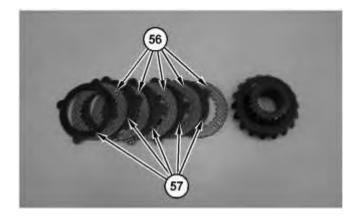


Illustration 8 g06201650

9. Install clutch plates (57) and friction discs (56).



Illustration 9 g06201632

10. Install clutch pack (55).

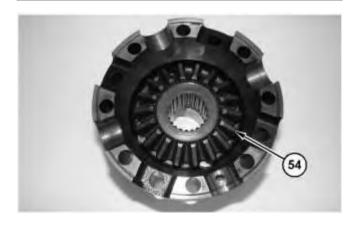


Illustration 10 g06201374

11. Install spider gear (54).



Illustration 11 g06201333

#### 12. Install spider gear assembly (53).

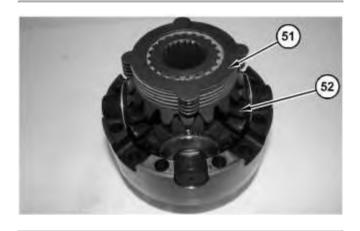


Illustration 12 g06201325

## 13. Install spider gear (52) and clutch pack (51).



Illustration 13 g06201273

14. Heat bearing (69) to install onto differential (48). Connect the differential (48).



Illustration 14 g06201230

15. Install ring gear (50) and install bolts (49).



Illustration 15 g06203934

16. Install the differential (49).

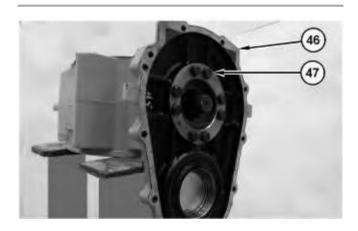


Illustration 16 g06203707

17. Apply Tooling (E) to the axle housing. Install cover (47) and bolts (48). Tighten bolts (48) to a torque of 120 N·m (89 lb ft).

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