CATERPILLAR®

Service Repair Manual

Models

725C Articulated Truck

Product: ARTICULATED TRUCK
Model: 725C ARTICULATED TRUCK TFB
Configuration: 725C Articulated Truck TFB00001-UP (MACHINE) POWERED BY C9.3 Engine

Disassembly and Assembly
725C Articulated Truck
Machine Systems
Media Number -UENR2386-00 **Publication Date -01/10/2014** **Date Updated -01/10/2014**

i05878737

Piston Pump (Brake, Fan, Hoist) - Assemble

SMCS - 5070-016

Assembly Procedure

Table 1

Required Tools			
Tool	**Part Number**	**Part Description**	**Qty**
A	1P-1857	Retaining Ring Pliers	1
B	1P-1858	Retaining Ring Pliers	1
C	1P-0510	Driver Group	1
D	8T-5096	Dial Indicator Gp	1
E	9S-3263	Thread Lock Compound	1

Note: Apply a light film of 10W oil to all components before assembly.

1. Check all of the O-ring seals and the components for wear or damage. Replace the components, if necessary.

2. Lubricate all of the O-ring seals lightly with the lubricant that is being sealed.

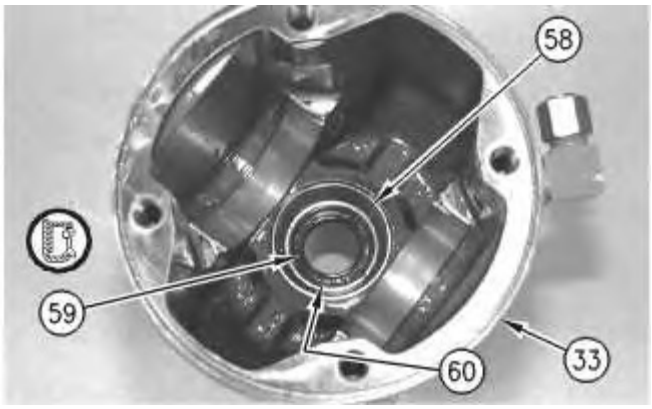

Illustration 1 g00789075

3. Position the gap in ring (60) over the weep hole. Use Tooling (A) to install ring (60) into pump housing (33) .
4. Install roller bearing cup (58) into pump housing (33) .
5. Install shaft seal (59) into pump housing (33). Install lip seal (59) .
6. Invert pump housing (33) .

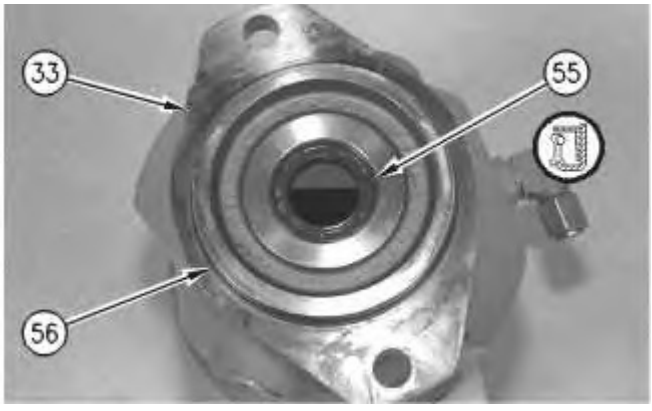

Illustration 2 g00603861

7. Install shaft seal (55) into pump housing (33). Install lip seal (55) .
8. Install O-ring seal (56) onto pump housing (33).
9. Invert pump housing (33) and support the pump housing on suitable cribbing.

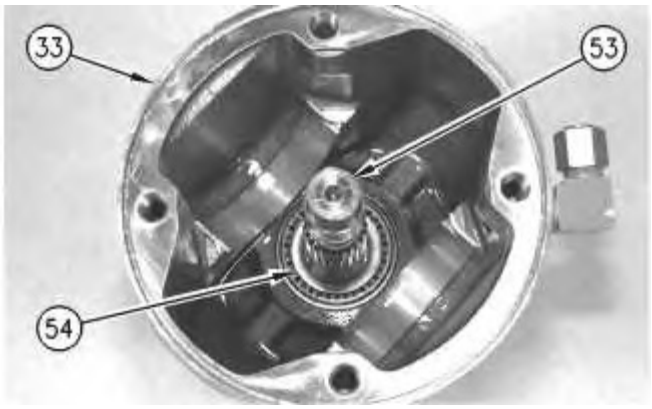

Illustration 3 g00551343

10. Install bearing cone (54) onto pump shaft (53). Install roller bearing cone (54) and pump shaft (53) into pump housing (33) .

11. Use the following steps to determine the preload on the bearing of the pump assembly.

Illustration 4 g00789125

a. Install adjustment spacer (48) and roller bearing cone (42) on pump shaft (53) .

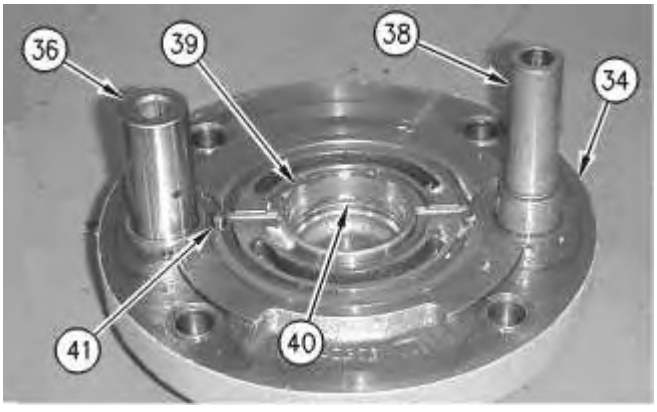

Illustration 5 g00789089

b. Install spacer (40) and bearing cup (39) into break off plug (34). Install pin (41) into brake off plug (34) .

c. Apply Tooling (E) to the threads on piston guide (36) and plunger guide (38). Install the piston guide and the plunger guide into break off plug (34) and tighten to a torque of 130 N·m (96 lb ft).

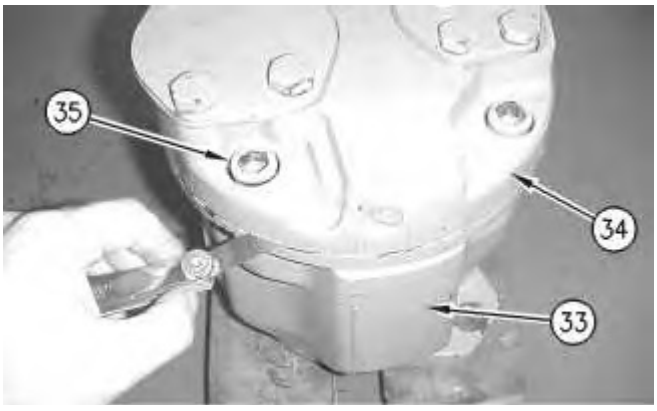

Illustration 6 g00789138

d. Position break off plug (34) onto pump housing (33). Install four socket head bolts (35) but do not tighten at this point.

e. Use a feeler gauge to measure the distance between the break off plug and the pump housing. Take measurements at three equal locations on the surface between the break off plug and the pump housing.

f. The average of the three dimensions should be zero to 0.050 mm (0.0020 inch).

g. Adjustment spacer (48) must be replaced or ground to this dimension.

h. When the correct dimension is achieved tighten bolts (35) to 165 ± 30 N·m (122 ± 22 lb ft).

i. Invert the pump.

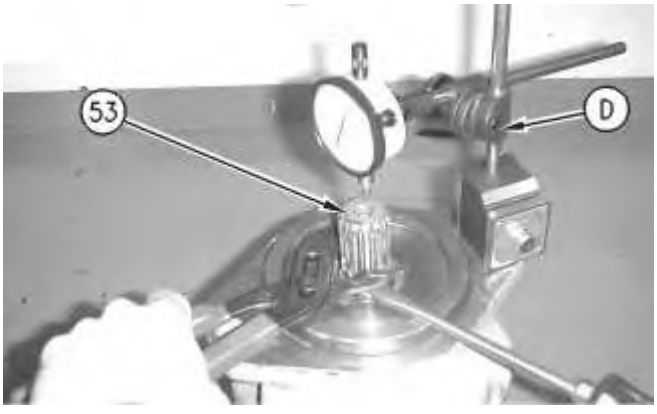

Illustration 7 g00789180

j. Use Tooling (D), a suitable screwdriver, and a set of slip joint pliers to check the end play on shaft (53). If end play exists on the shaft assembly, repeat step 11 until the correct dimension is reached.

k. Remove socket head bolts (35) and break off plug (34) from the pump housing (33). Remove bearing (42) and adjustment spacer (48) from shaft (53) .

l. Proceed with the assembly of the piston pump.

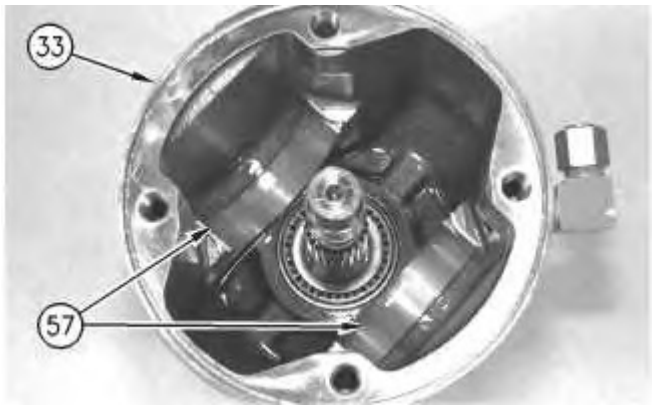

Illustration 8 g00789206

12. Install bearings (57) into pump housing (33) .

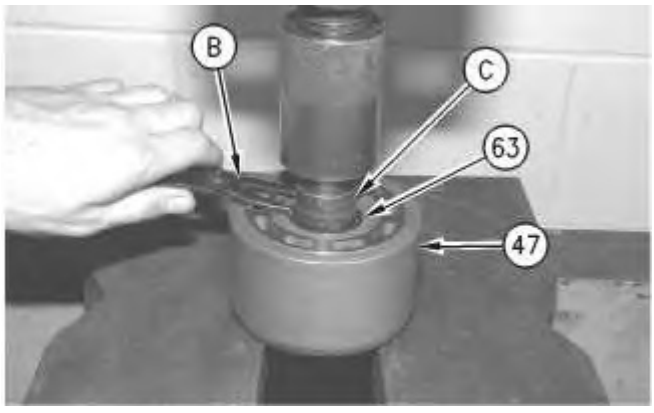

Illustration 9 g00551364

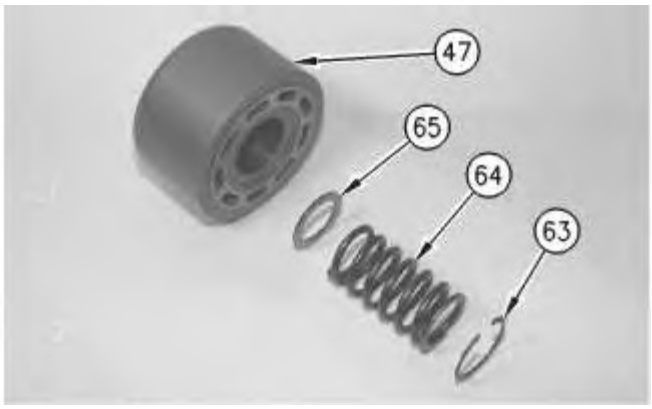

Illustration 10 g00551373

WARNING

Improper assembly of parts that are spring loaded can cause bodily injury.

To prevent possible injury, follow the established assembly procedure and wear protective equipment.

13. Install spring seat (65) and spring (64) into barrel (47), as shown.
14. Position barrel (47) onto a suitable press, as shown. Use Tooling (C) and the press to compress spring (64). Use Tooling (B) to install retaining ring (63) .

Illustration 11 g00551360

15. Install pin (62) into barrel assembly (47) .

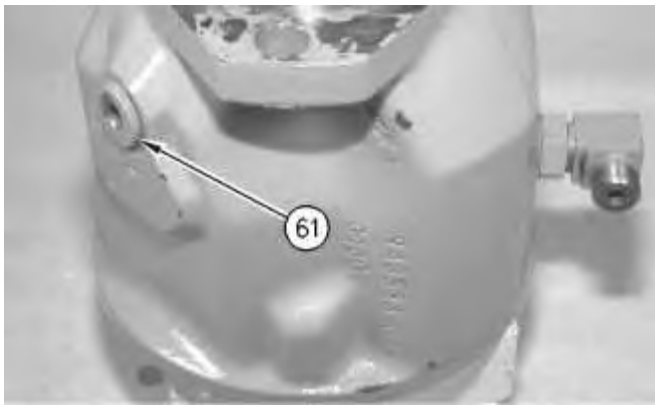

Illustration 12 g00551357

16. Install plug (61) and the O-ring seal. Tighten plug (61) to a torque of 105 ± 10 N·m (77 ± 7 lb ft).

Illustration 13 g00551339

17. Install swashplate assembly (51) into pump housing (33) .

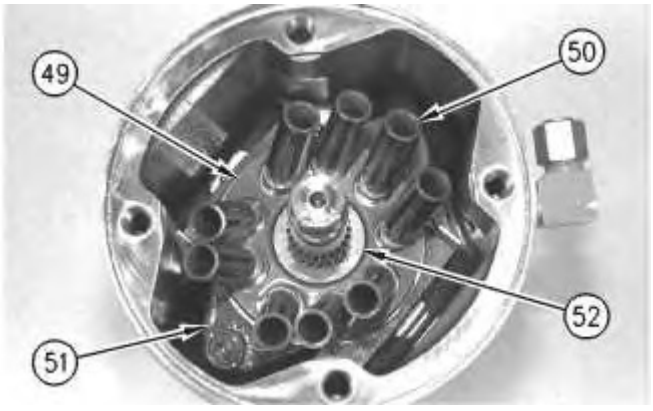

Illustration 14 g00551336

18. Install piston assemblies (50), retraction plate (49), and bearing (52) onto swashplate assembly (51) .

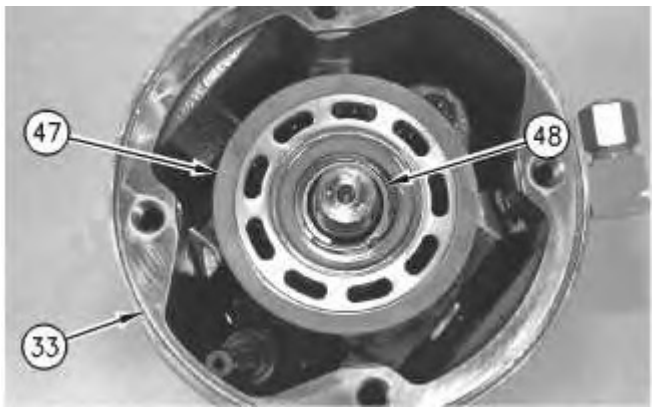

Illustration 15 g00551331

19. Install barrel assembly (47) and spacer (48) into pump housing (33) .

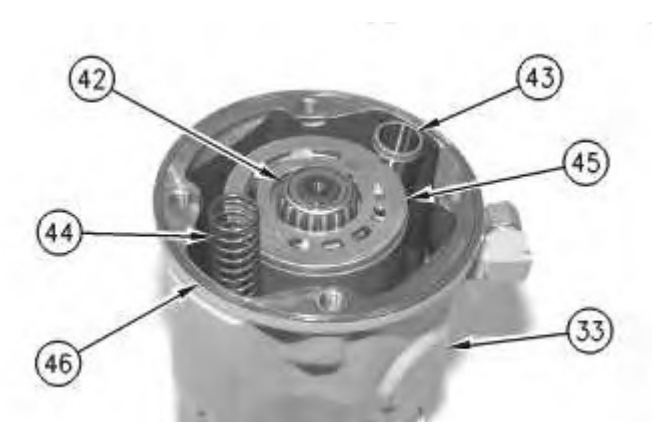

Illustration 16 g00551327

20. Install bearing cone (42) onto the pump shaft.
21. Install valve plate (45) onto the barrel assembly.
22. Position spring (44) and control piston (43) onto the swashplate assembly.
23. Install O-ring seal (46) onto pump housing (33) .

Illustration 17 g00789469

24. Install O-ring seals (37) onto break off plug (34) .

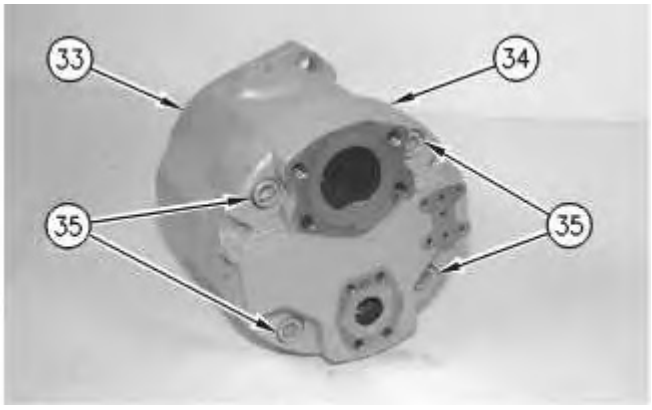

Illustration 18 g00551321

WARNING

Improper assembly of parts that are spring loaded can cause bodily injury.

To prevent possible injury, follow the established assembly procedure and wear protective equipment.

25. Position break off plug (34) on pump housing (33), as shown. Install socket head bolts (35). Tighten socket head bolts (35) to a torque of 165 ± 30 N·m (122 ± 22 lb ft).

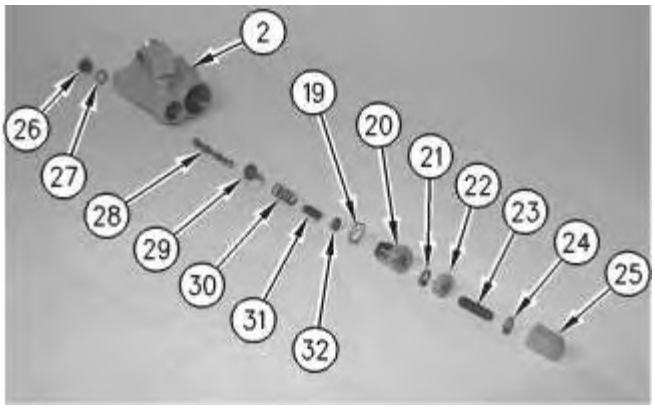

Illustration 19 g00551260

26. Install valve stem (28), spring retainer (29), spring (30), spring (31) and seat (32) into pressure and flow compensator valve (2) .

27. Install O-ring seal (19) onto plug (20) .

28. Install adjustment screw (23), seal (21), adjustment nut (22), seal (24) and cap nut (25) into plug (20) .

WARNING

Improper assembly of parts that are spring loaded can cause bodily injury.

To prevent possible injury, follow the established assembly procedure and wear protective equipment.

29. Install plug (20) into pressure and flow compensator valve (2) .

30. Install seal (27) and plug (26) into pressure and flow compensator valve (2) .

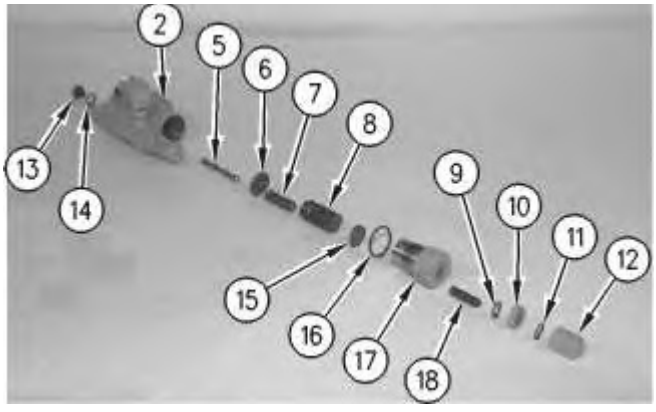

Illustration 20 g00551252

31. Install valve stem (5), spring retainer (6), spring (7), spring (8), and seat (15) into pressure and flow compensator valve (2) .

WARNING

Improper assembly of parts that are spring loaded can cause bodily injury.

To prevent possible injury, follow the established assembly procedure and wear protective equipment.

32. Install O-ring seal (16) onto plug (17) .
33. Install adjustment screw (18), seal (9), adjustment nut (10), seal (11) and cap nut (12) onto plug (17) .
34. Install plug (17) into pressure and flow compensator valve (2) .
35. Install seal (14) and plug (13) into pressure and flow compensator valve (2) .

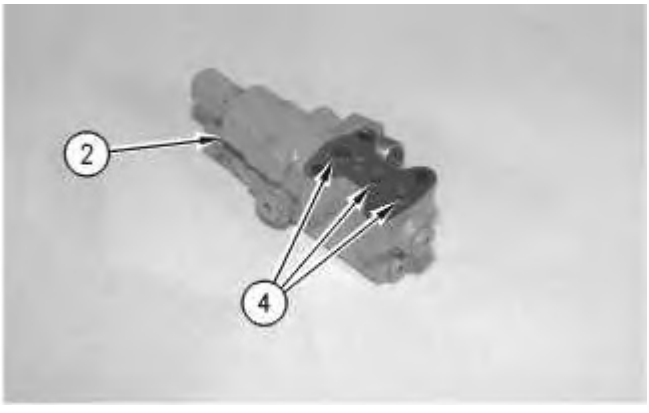

Illustration 21 g00551251

36. Install O-ring seals (4) onto pressure and flow compensator valve (2) .

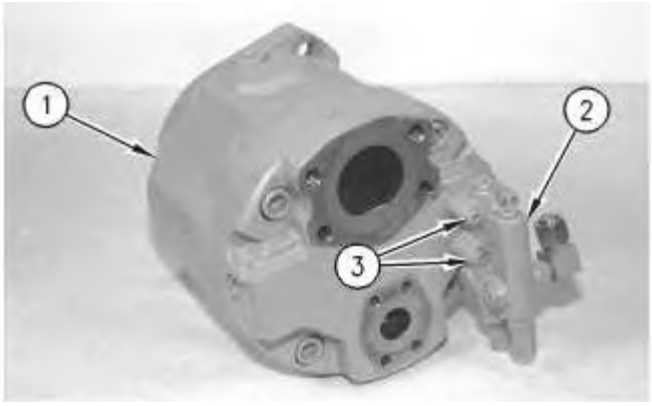

Illustration 22 g00551023

37. Position pressure and flow compensator valve (2) on steering piston pump (1), as shown. Install socket head bolts (3) .

End By: Install the piston pump.

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Disassembly and Assembly
725C Articulated Truck
Machine Systems

Media Number -UENR2386-00 **Publication Date -01/10/2014** **Date Updated -01/10/2014**

i05879517

Piston Pump (Hoist, Steering) - Remove and Install

SMCS - 5070-010

Removal Procedure

Start By:

A. Remove the cab.

WARNING

Personal injury or death can result from improper lifting or blocking.

When a hoist or jack is used to lift any part or component, stand clear of the area. Be sure the hoist or jack has the correct capacity to lift a component. Install blocks or stands before performance of any work under a heavy component.

Approximate weights of the components are shown. Clean all surfaces where parts are to be installed.

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, "Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Cat products.

Dispose of all fluids according to local regulations and mandates.

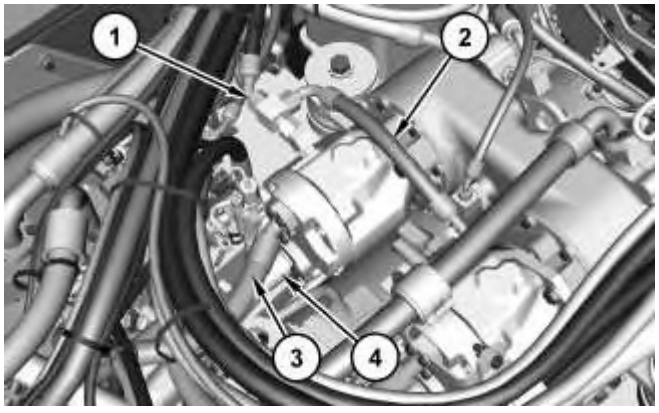

Illustration 1 g03730249

1. Disconnect hose assembly (1) and remove hose assembly (2) .
2. Disconnect hose assembly (3) and tube (4) .

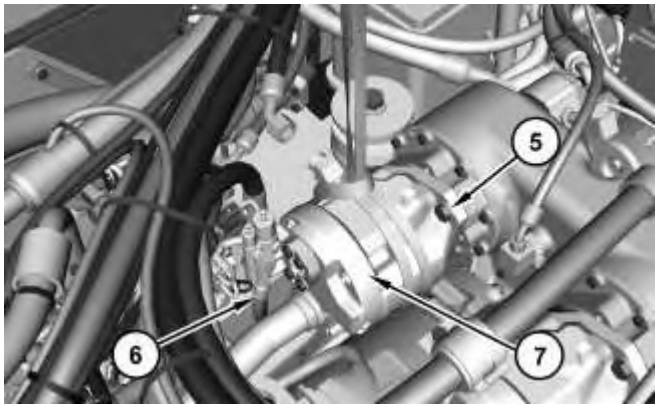

Illustration 2 g03730247

3. Disconnect hose assembly (6) .
4. Attach a suitable lifting device to piston pump (7). The weight of piston pump (7) is approximately 33 kg (73 lb). Remove bolts (5) and piston pump (7).

Installation Procedure

1. Install piston pump (7) in the reverse order of removal.

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Disassembly and Assembly
725C Articulated Truck
Machine Systems

Media Number -UENR2386-00 **Publication Date -01/10/2014** **Date Updated -01/10/2014**

i05879566

Piston Pump (Hoist, Steering) - Disassemble

SMCS - 5070-015

Disassembly Procedure

Table 1

Required Tools			
Tool	**Part Number**	**Part Description**	**Qty**
A	1P-1857	Retaining Ring Pliers	1
B	1P-1858	Retaining Ring Pliers	1
C	1P-0510	Driver Group	1

Start By:

A. Remove the piston pump (steering and hoist).

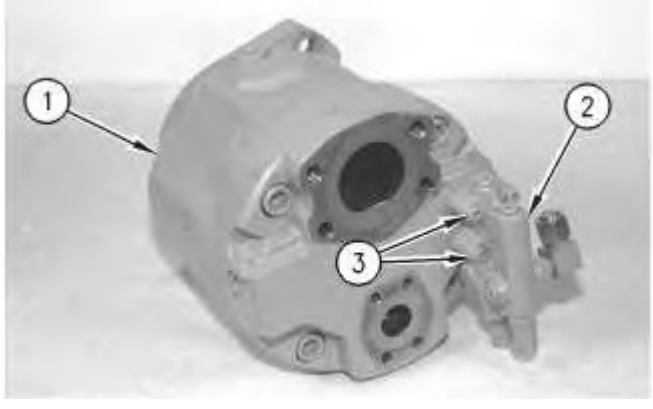

Illustration 1 g00551023

1. Remove four socket head bolts (3). Remove pressure and flow compensator valve (2) from steering piston pump (1) .

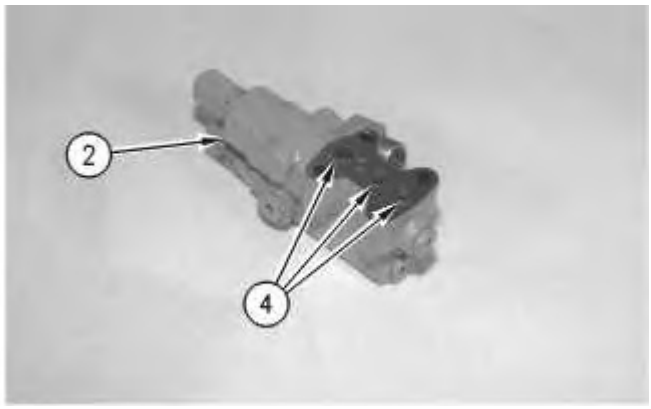

Illustration 2 g00551251

2. Remove three O-ring seals (4) from pressure and flow compensator valve (2) .

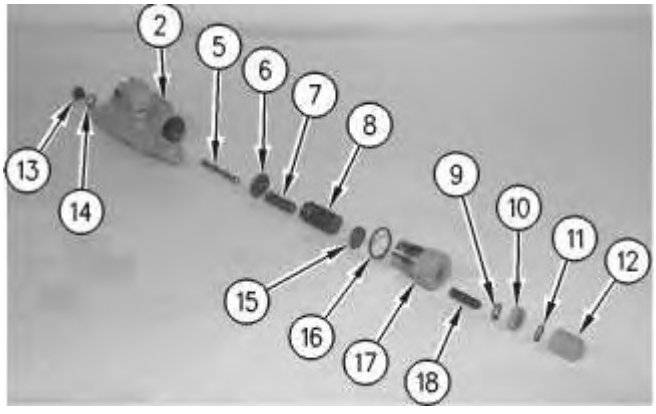

Illustration 3 g00551252

3. Position flow compensator valve (2) in a soft jawed vise.

4. Remove plug (13) and seal (14) from pressure and flow compensator valve (2) .

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.

5. Remove plug (17) from pressure and flow compensator valve (2) .
6. Remove cap nut (12), seal (11), adjustment nut (10), seal (9) and adjustment screw (18) from plug (17) .
7. Remove O-ring seal (16) from plug (17) .
8. Remove seat (15), spring (8), spring (7), spring retainer (6), and valve stem (5) from pressure and flow compensator valve (2) .

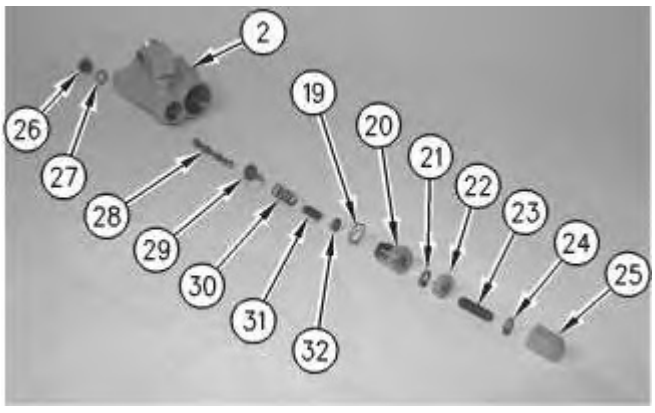

Illustration 4 g00551260

9. Remove plug (26) and seal (27) from pressure and flow compensator valve (2) .

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.

10. Remove plug (20) from pressure and flow compensator valve (2) .
11. Remove cap nut (25), seal (24), adjustment nut (22), seal (21) and adjustment screw (23) from plug (20) .
12. Remove O-ring seal (19) from plug (20) .

13. Remove seat (32), spring (31), spring (30), spring retainer (29), and valve stem (28) from pressure and flow compensator valve (2) .

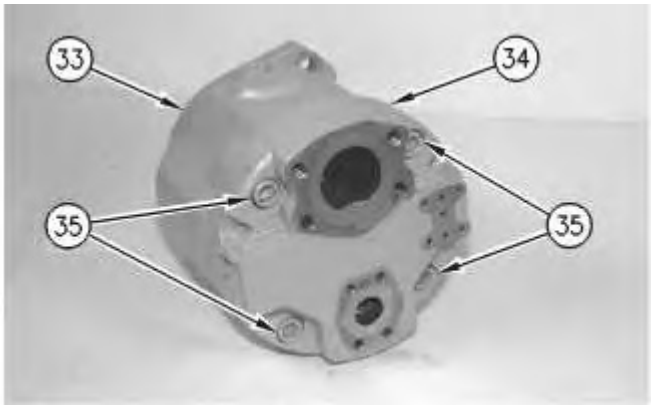

Illustration 5 g00551321

WARNING

Personal injury can result from parts and/or covers under spring pressure.

Spring force will be released when covers are removed.

Be prepared to hold spring loaded covers as the bolts are loosened.

14. Remove four socket head bolts (35). Remove break off plug (34) from pump housing (33) .

Illustration 6 g00551323

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to download the complete manual.

Thank you so much for reading

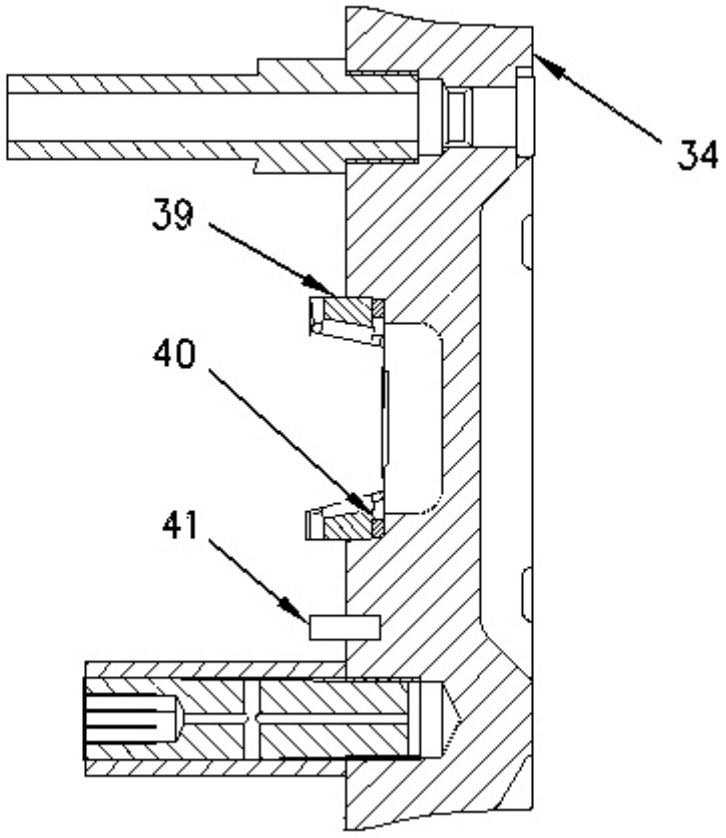

Illustration 7 g00603421

15. Remove four O-ring seals (37) from break off plug (34).
16. Remove piston guide (36) and plunger guide (38) from break off plug (34) .
17. Remove bearing cup (39) and spacer (40) from break off plug (34) .
18. Remove pin (41) from break off plug (34) .

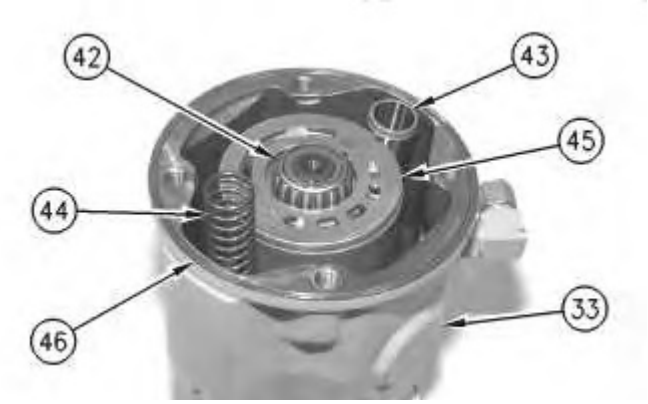

Illustration 8 g00551327