

Pressure Reducing Valves Service Instructions

NOTES

The entire servicing procedure must be done using contamination free methods. Clean the valve as necessary. Be careful to keep contamination and paint chips out of the charging valve.

Before removing the valve from the machine, make sure all stored energy has been relieved from the hydraulic pressure accumulators. See OEM Service Instructions to relieve stored energy.

The purpose of these instructions are for the replacement of the pressure reducing valve components located in Caterpillar part number 486-1155 accumulator charging valve.

Disassembly

(Refer to Figure 1)

1. Disassembly and assembly procedures below are for both cavity P1 and cavity P2.
2. Remove plugs (3), springs (7), and retainer assemblies (8) from housing.
3. Loosen nuts (1) on set screws (2). Use a hex key wrench and remove set screws (2) from plugs (3). For reassembly purposes, count and record the number of rotations to remove set screws (2).

Assembly

(Refer to Figure 1)

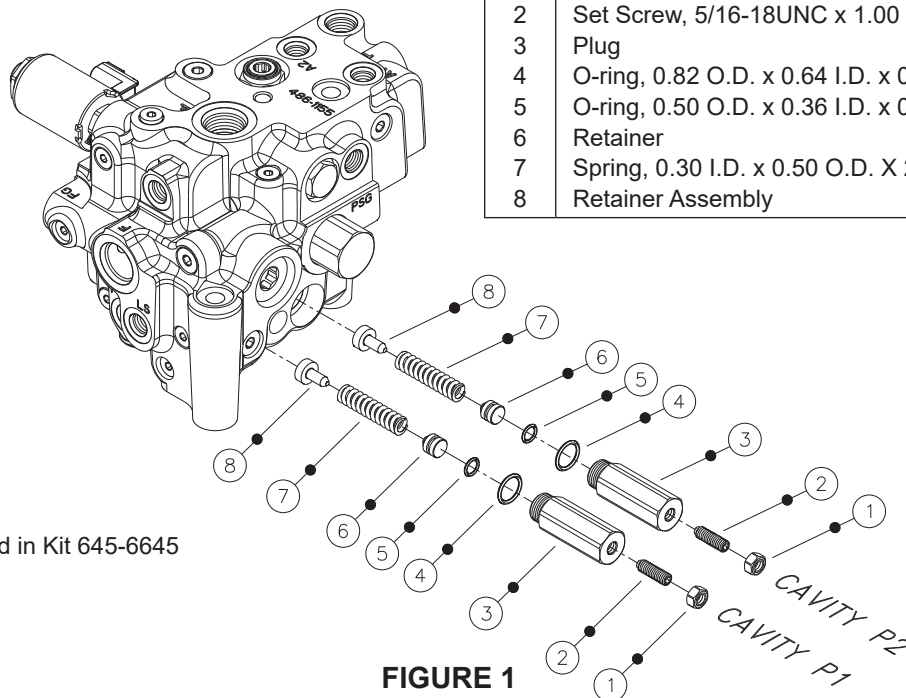
1. Install new o-rings (5) on new retainers (6). Install new o-rings (4) on new plugs (3).
2. Install new retainers (6) and new springs (7) in plugs (3). Note direction of retainers (6). Install new retainer assemblies (8) in springs (7) and install new plugs (3) in housing. Torque plugs (3) 47.5-54.2 N·m (35-40 lb·ft).
3. Install new set screws (2) in plugs (3). Turn set screws into plugs (3) the same number of rotations as were recorded during disassembly. Install new nuts (1) on the end of set screws (2). While holding set screws (2) with a hex key wrench, torque new nuts (1) 17.6-23.1 N·m (13-17 lb·ft).

Pressure Reducing Valve Adjustment

1. See machine servicing instructions to properly reinstall accumulator charging valve. Tee an accurate pressure gauge on each of the pilot pressure lines.
2. Start pump. Pilot pressure for Caterpillar part number 486-1155 at Port P1 is 41.4 ± 1.0 bar (600 ± 15 PSI) and Port P2 is 37.9 ± 1.0 bar (550 ± 15 PSI).
3. If pilot pressure is out of tolerance, loosen the appropriate nut (1) on set screw (2) and adjust the set screw clockwise to increase pilot pressure and counter-clockwise to decrease pilot pressure.
4. When pilot pressure is set, torque nut (1) on set screw (2) 17.6-23.1 N·m (13-17 lb·ft).
5. Repeat adjustment procedure as needed to obtain correct pressure setting.

Items included in kit

Item	Description	Qty
1	Hex Nut, 5/16-18UNC	2
2	Set Screw, 5/16-18UNC x 1.00	2
3	Plug	2
4	O-ring, 0.82 O.D. x 0.64 I.D. x 0.09 Thickness	2
5	O-ring, 0.50 O.D. x 0.36 I.D. x 0.07 Thickness	2
6	Retainer	2
7	Spring, 0.30 I.D. x 0.50 O.D. X 2.00 Length	2
8	Retainer Assembly	2



● Items included in Kit 645-6645

FIGURE 1
(Part Number 486-1155)

The purpose of this these intructions are for the replacement of the pressure reducing valve components located in Caterpillar part number 579-9586 accumulator charging valve.

Disassembly

(Refer to Figure 2)

- 1. From cavity P2 remove plug (3), spring (7), and retainer assembly (8) from housing.
- 2. Loosen nut (1) on set screw (2). Use a hex key wrench and remove set screw (2) from plug (3). For reassembly purposes, count and record the number of rotations to remove set screw (2).
- 3. From cavity P1 remove plug (10), spring (14), and retainer assembly (15) from housing.
- 4. Loosen nut (1) on set screw (9). Use a hex key wrench and remove set screw (9) from plug (10). For reassembly purposes, count and record the number of rotations to remove set screw (9).

Assembly

(Refer to Figure 2)

- 1. Install new o-ring (5) on new retainer (6). Install new o-ring (4) on new plug (3).
- 2. Install new retainer (6) and new spring (7) in new plug (3). Note direction of retainer (6). Install new retainer assembly (8) in spring (7) and install new plug (3) in housing cavity P2. Torque plug (3) 47.5-54.2 N·m (35-40 lb·ft).
- 3. Install new set screw (2) in plug (3). Turn set screw into plug (3) the same number of rotations as were recorded during disassembly. Install new nut (1) on the end of set screw (2). While holding set screw (2) with a hex key wrench, torque new nut (1) 17.6-23.1 N·m (13-17 lb·ft).

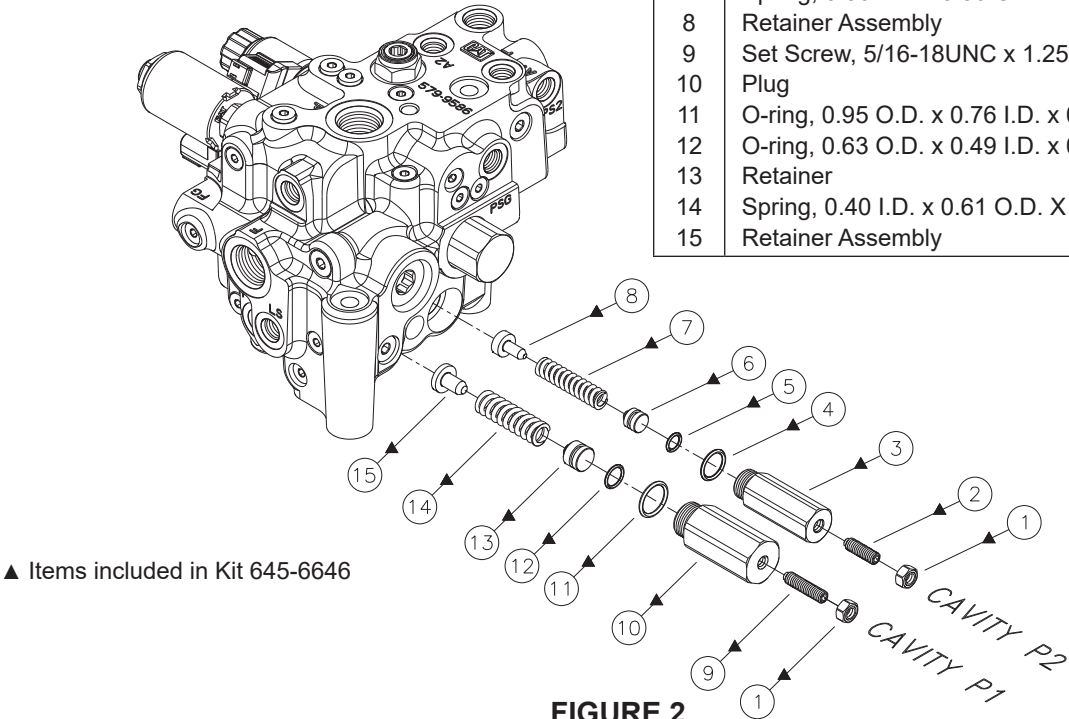
- 4. Install new o-ring (12) on new retainer (13). Install new o-ring (11) on new plug (10).
- 5. Install new retainer (13) and new spring (14) in new plug (10). Note direction of retainer (13). Install new retainer assembly (15) in spring (14) and install plug (10) in housing cavity P1. Torque plug (10) 47.5-54.2 N·m (35-40 lb·ft).
- 6. Install new set screw (9) in plug (3). Turn set screw into plug (10) the same number of rotations as were recorded during disassembly. Install new nut (1) on the end of set screw (9). While holding set screw (9) with a hex key wrench, torque new nut (1) 17.6-23.1 N·m (13-17 lb·ft).

Pressure Reducing Valve Adjustment

- 1. See machine servicing instructions to properly reinstall accumulator charging valve. Tee an accurate pressure gauge on each of the pilot pressure lines.
- 2. Start pump. Pilot pressure for Caterpillar part number 579-9586 at Port P1 is 60.0 ± 1.0 bar (870 ± 15 PSI) and Port P2 is 37.9 ± 1.0 bar (550 ± 15 PSI).
- 3. If pilot pressure is out of tolerance, loosen the appropriate nut (1) on set screw (2 or 9) and adjust the set screw clock-wise to increase pilot pressure and counter-clockwise to decrease pilot pressure.
- 4. When pilot pressure is set, torque nut (1) on set screw (2 or 9) 17.6-23.1 N·m (13-17 lb·ft).
- 5. Repeat adjustment procedure as needed to obtain correct pressure setting.

Items included in kit

Item	Description	Qty
1	Hex Nut, 5/16-18UNC	2
2	Set Screw, 5/16-18UNC x 1.00	1
3	Plug	1
4	O-ring, 0.82 O.D. x 0.64 I.D. x 0.09 Thickness	1
5	O-ring, 0.50 O.D. x 0.36 I.D. x 0.07 Thickness	1
6	Retainer	1
7	Spring, 0.30 I.D. x 0.50 O.D. X 2.00 Length	1
8	Retainer Assembly	1
9	Set Screw, 5/16-18UNC x 1.25	1
10	Plug	1
11	O-ring, 0.95 O.D. x 0.76 I.D. x 0.10 Thickness	1
12	O-ring, 0.63 O.D. x 0.49 I.D. x 0.07 Thickness	1
13	Retainer	1
14	Spring, 0.40 I.D. x 0.61 O.D. X 2.00 Length	1
15	Retainer Assembly	1



▲ Items included in Kit 645-6646

FIGURE 2
(Part Number 579-9586)