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ACCUMULATOR CHARGING VALVE AND FAN SPEED CONTROL

Product Explanation, Operating Information and Service Instructions

PRODUCT EXPLANATION

The accumulator charging and fan speed control valve is designed for installation in a load sensing hydraulic system. The valve senses pressure at the lower pressure of two accumulator ports. If the lower pressure is below a specified limit a load sense signal is sent to command flow to the accumulator ports. When pressure at the accumulator ports reaches a specified upper limit the load sense command signal ends.

The accumulator charging and fan speed control valve controls speed of a hydraulic motor used to drive a fan. This is done with an electrohydraulic pilot valve. The pilot valve sends a load sense signal to command flow to the fan port. Fan speed is reverse modulated. With the pilot valve off, load sense signal and fan speed are at maximum. Minimum fan speed is with the pilot valve fully energized.

Priority is given to sending flow to the accumulator ports. Flow to the fan port passes through a flow compensation spool valve to maintain fan speed at commanded level as system pressure changes.

The accumulator charging and fan speed control valve has a full flow pressure relief valve.

The accumulator charging and fan speed control valve may also include two pressure reducing valves for external pilot pressure. Each pressure reducing valve provides a pressure signal to an external port. One of the pressure reducing valves has a supplemental supply. Pressure and flow from the supplemental supply is used until supply pressure reaches a set threshold. This ensures there is an external pilot pressure when system pressure is not sufficient.

OPERATING INFORMATION

End user must provide proper maintenance of valve, should it become inoperable, by replacing the valve or servicing it with the proper repair kit. See TABLE 1 on page 5 or TABLE 2 on page 9 for proper repair kit number. Observe Service instruction procedures on the following the pages. See Warnings A, B, C and D below.

IMPORTANT INFORMATION

A

⚠ WARNING

Due to allowable operating temperature of accumulator charging valve avoid contact or burn injury may occur.

C

⚠ WARNING

Relief valve is preset at the factory. DO NOT READJUST or system damage or failure may occur.

B

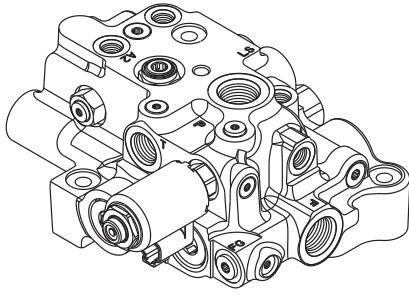
⚠ WARNING

Be sure system energy is relieved from accumulator charging valve before removing from machine. See machine operating instructions for procedures to relieve system energy.

D

⚠ WARNING

Do not exceed the high limit pressure setting indicated in TABLE 1 on page 5 or TABLE 2 on page 9 or system damage or failure may occur.



Part Numbers: 347-3251, 347-3252, 426-3507

NOTE

Locate the part number on the accumulator charging valve and compare it to the part number in TABLE 1 on page 5. Be sure you have the proper service instructions.

SERVICE INSTRUCTIONS

⚠ WARNING

Be sure system energy is relieved from accumulator charging valve before removing from machine. See machine servicing instructions for procedures to relieve system energy.

Disassembly

(Refer to Figure 1)

1. Disconnect fluid lines and electrical connections and remove accumulator charging valve from machine as recommended in the machine service manual.
2. Remove hex nut and washer from top of solenoid valve assembly (1). Remove coil from solenoid valve assembly (1). Remove solenoid valve assembly (1) from housing (58), cavity 8, by turning counter-clockwise on solenoid valve wrench flats.
3. **Directional spring (6) is attached to adjusting screw (4) by means of the small diameter end of spring (6) being snapped into a groove on the nose end of adjusting screw (4). See Figure 1a.** Remove nut (2) from adjusting screw (4). Remove adjusting screw (4)/spring (6) from housing (58) cavity 7. Remove o-ring (3) from adjusting screw (4) from nut (2) side of adjusting screw. Remove shim (5), steel ball (7), seat (8), o-ring (9), orifice (10), screen (11), and washer (12) from housing (58) cavity 7.
4. Remove plug (13) from housing (58), cavity 6. Remove o-ring (14) from plug (13).
5. Using a hex key wrench remove shuttle valve assembly (15) from housing (58), cavity 6. Turn hex key wrench counter-clockwise. Remove two back-up rings (16) and o-ring (17) from shuttle valve (18).
6. Remove plug (19) and spring (21) from housing (58), cavity 5a. Remove o-ring (20) from plug (19).
7. Remove plug (24) from housing (58), cavity 5b. Remove o-ring (20) from plug (24).
8. Using a 6.35-7.87 mm (0.25-0.31 in) diameter wood or plastic dowel, carefully remove spool (23) from cavity 5a side of housing (58). Remove quad ring (22) from spool (23).
9. **BEFORE moving screw (36), ACCURATELY MEASURE ITS DEPTH from the end of housing and record for reassembly purposes.** Remove screw (36) from housing (58), cavity 4b.

10. Remove spring (35), retainer (34), and ball (33) from housing (58), cavity 4b. Be sure to keep ball (33) separate from ball (28) for reassembly.
11. Remove pin (37) from screw (36) using a drive pin punch. **NOTE: Be careful not to damage threads of screw (36).**
12. Remove plug (25) from housing (58), cavity 4a. Remove o-ring (9) from plug (25).
13. Remove spring (26), stop (27), and ball (28) from housing (58), cavity 4a. Be sure to keep ball (28) separate from ball (33) for reassembly.
14. Place housing on a bench with cavity 4a end down. Spool (29) may or may not fall out at this point.
15. Using a 6.35-7.87 mm (0.25-0.31 in) diameter wood or plastic dowel, carefully remove insert (30) and spool (29) from housing (58), cavity 4a. Be careful not to scratch or mar valve seats on insert (30).
16. Remove spool (29) from insert (30). Remove o-rings (31 & 32) from insert (30).
17. Remove plug (41) from housing (58), cavity 3b. Remove o-ring (20) from plug (41).
18. Remove plug (38) and spring (39) from housing (58), cavity 3a. Remove o-ring (20) from plug (38).
19. Remove spool (40) from housing (58), cavity 3a. Remove quad ring (22) from spool (40).
20. Remove valve assembly (42) from housing (58), cavity 2a, by turning counter-clockwise on sleeve (47) hex flats. Remove dowel pin (50) from housing (58), cavity 2a.
21. Remove back-up ring (49), o-ring (48), and o-ring (9) from sleeve (47).
22. Remove plug (43), spring (45), and poppet (46) from sleeve (47). Remove o-ring (44) from plug (43).
23. Remove valve assembly (51) from housing (58), cavity 2b, by turning counter-clockwise on sleeve (52) hex flats.
24. Remove back-up ring (49), o-ring (48), and o-ring (9) from sleeve (52).
25. Remove plug (55), spring (54), and poppet (53) from sleeve (52). Remove o-ring (44) from plug (55).
26. Using a hex key wrench remove relief valve (56) from housing (58), cavity 1. Turn hex key wrench counter-clockwise.

⚠ WARNING

Relief valve is preset at the manufacturer. DO NOT READJUST or system damage or failure may occur.

27. Remove plug (57) from housing (58), cavity 9. Remove o-ring (44) from plug (57). **NOTE: See Figure 4 on page 5 to help locate plug (57).**

Assembly

(Refer to Figure 1)

NOTE

Observe torque specifications as indicated in assembly procedures or system damage or failure may occur.

WASH ALL PARTS WITH CLEAN SOLVENT AND DRY. LUBRICATE ALL RUBBER PARTS WITH CLEAN SYSTEM FLUID PRIOR TO ASSEMBLY. BE SURE ENTIRE ASSEMBLY PROCEDURE IS DONE WITH CONTAMINATION FREE METHODS.

1. Inspect internal orifices shown in Figure 4 on page 5 to be sure they are free of obstruction or contamination. Introduce pressurized air into these cavities to clear any contamination or debris. **NOTE: Do not attempt to remove the screw-in orifices.**
2. Install new o-ring (44) on plug (57). Install plug (57) in housing (58), cavity 9. Torque plug (57) 13.6-19.0 N·m (10-14 lb·ft).
3. Install relief valve (56) in housing (58), cavity 1. Torque relief valve (56) 50.2-55.6 N·m (37-41 lb·ft). **NOTE: Relief valve (56) o-ring is not included in repair kit. Contact machine manufacturer for proper replacement o-ring.**
4. Install new o-ring (44) on plug (55). Install new poppet (53), spring (54), and plug (55) in sleeve (52). Note direction of poppet (53). Torque plug (55) 13.6-19.0 N·m (10-14 lb·ft).
5. Install new o-ring (9), new o-ring (48), and new back-up ring (49) on sleeve (52). See Figure 1c.
6. Install valve assembly (51) in housing (58), cavity 2b. Torque valve assembly (51) 47.5-54.2 N·m (35-40 lb·ft).
7. Install new o-ring (44) on plug (43). Install new poppet (46), spring (45), and plug (43) in sleeve (47). Note direction of poppet (46). Torque plug (43) 13.6-19.0 N·m (10-14 lb·ft).
8. Install new o-ring (9), new o-ring (48) and new back-up ring (49) on sleeve (47). O-rings and back-up ring are in the same order as Figure 1c.
9. Install dowel pin (50) and valve assembly (42) in housing (58), cavity 2a. Torque valve assembly (42) 47.5-54.2 N·m (35-40 lb·ft).
10. Install new o-ring (20) on plug (41). Install plug (41) in housing (58), cavity 3b. Torque plug (41) 94.9-101.7 N·m (70-75 lb·ft).
11. Install new quad ring (22) on spool (40). Install new o-ring (20) on plug (38).
12. Lubricate spool (40) with clean system fluid. Install spool (40), spring (39), and plug (38) in housing (58), cavity 3a. Torque plug (38) 94.9-101.7 N·m (70-75 lb·ft).
13. Position housing with cavity 4a facing up. Install new o-rings (31 & 32) on insert (30) and install insert (30) in housing (58) cavity 4a. Note direction of insert (30). Seat insert (30) using a 12.7 mm (0.50 in) diameter wood or plastic dowel.
14. Insert spool (29) into insert (30) in housing (58), cavity 4a. Note direction of spool (29), long shoulder end faces end plug (25). See Figure 1b.
15. Install ball (28) on insert (30) in housing. Install stop (27) over ball (28) and spring (26) over stop (27).
16. Install new o-ring (9) on plug (25). Carefully install plug (25) into housing (58), cavity 4a. Be sure spring (26) is centered in plug (25). Torque plug (25) 47.5-54.2 N·m (35-40 lb·ft).
17. Position housing with cavity 4b facing up. Install ball (33) in housing (58), cavity 4b. Be sure ball (33) is centered in bottom of hole. Install retainer (34) and spring (35) into housing (58), cavity 4b.
18. Install new pin (37) in screw (36). Be sure pin (37) is aligned properly and is evenly driven into screw (36). **NOTE: Do not damage threads of screw (36).**
19. Thread screw (36) into housing (58), cavity 4b, TO THE DEPTH RECORDED during disassembly.
20. Install new o-ring (20) on plug (24). Install plug (24) in housing (58), cavity 5b, and torque 94.9-101.7 N·m (70-75 lb·ft).
21. Install new quad ring (22) on spool (23). Install new o-ring (20) on plug (19).
22. Lubricate spool (23) with clean system fluid. Install spool (23), spring (21), and plug (19) in housing (58), cavity 5a. Torque plug (19) 94.9-101.7 N·m (70-75 lb·ft).
23. Install two new back-up rings (16) and new o-ring (17) on shuttle valve (18). Note, new back-up rings (16) and o-ring (17) are in a separate bag within the repair kit.
24. Install shuttle valve assembly (15) in housing (58), cavity 6. Use a hex key wrench and torque shuttle valve assembly (15) 5.4-6.8 N·m (4-5 lb·ft).
25. Install new o-ring (14) on plug (13). Install plug (13) in housing (58), cavity 6, and torque 27.1-32.5 N·m (20-24 lb·ft).
26. **Directional spring (6) is attached to adjusting screw (4) by means of the small diameter end of spring (6) being snapped into a groove on the nose end of adjusting screw (4). If necessary, reattach the small diameter end of spring (6) into the groove on the nose end adjusting screw (4) using a slight twisting motion. See Figure 1a.** Position housing with cavity 7 facing up. Install new o-ring (3) on adjusting screw (4) from nut (2) side of adjusting screw. Install washer (12), new screen (11), orifice (10), new o-ring (9), seat (8), and steel ball (7) in housing (58) cavity 7. Fully lubricate shim (5) with clean system fluid and adhere shim (5) to the end of adjusting screw (4). Install adjusting screw (4)/spring (6) in housing (58) cavity 7. Torque adjusting screw (4) 24.4-29.8 N·m (18-22 lb·ft). Then install nut (2) on adjusting screw (4) and torque nut 43.4-51.5 N·m (32-38 lb·ft).
27. Install solenoid valve assembly (1) in housing (58), cavity 8. Torque solenoid valve assembly (1) on wrench flats 43.4-57.0 N·m (32-42 lb·ft). Install washer and nut. Torque the hex nut 23.0-31.2 N·m (17-23 lb·in). **NOTE: Solenoid valve assembly (1) seals are not included in repair kit. Contact machine manufacture for proper replacement seals.**
28. See machine servicing instructions to properly reinstall accumulator charging valve. See machine manufacture for additional service kits and replacement components for the accumulator charging valve.
29. To continue, refer to "Accumulator Charging Valve Adjustment" on page 5.

• Items included in Repair Kit Number 360-0517

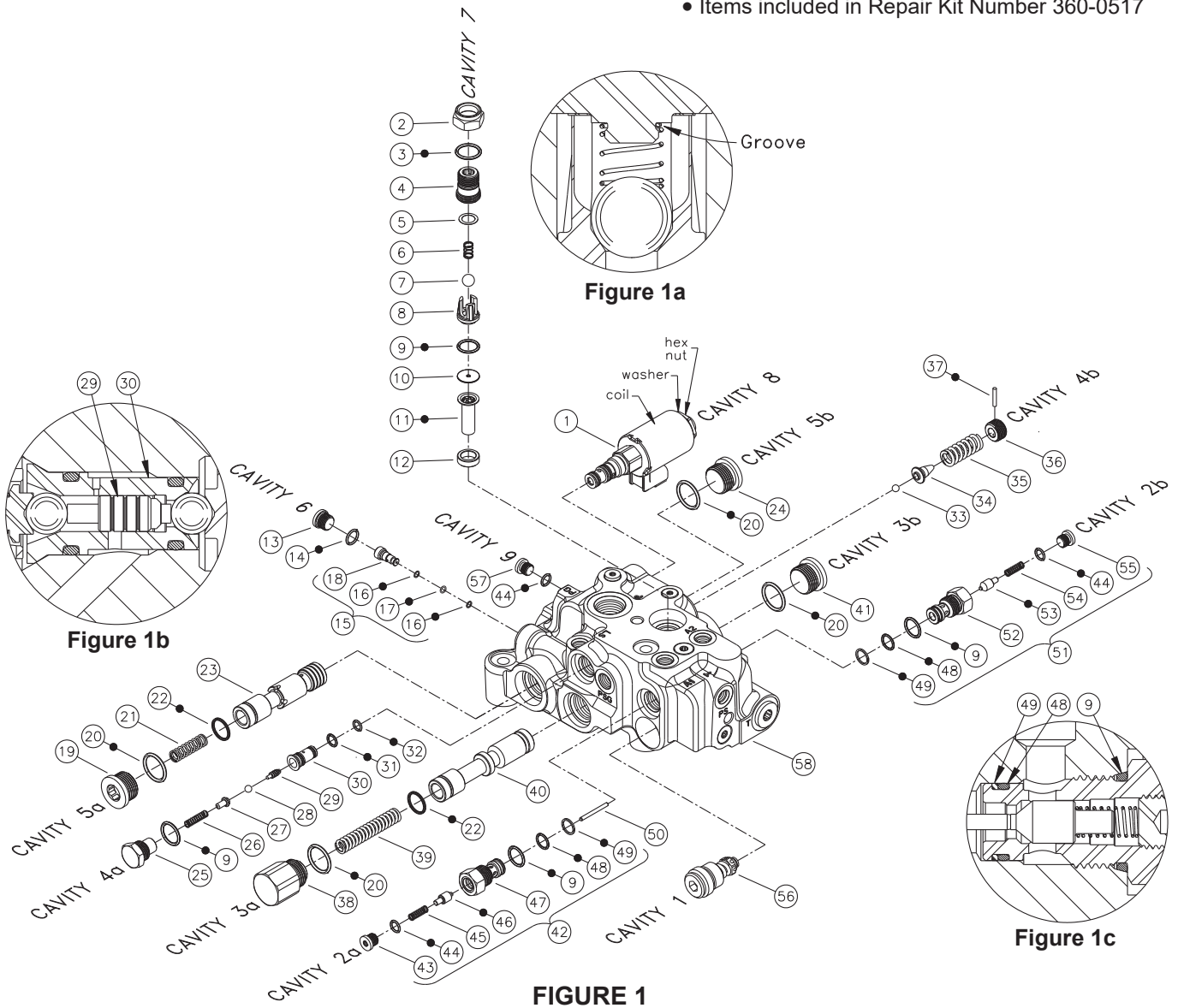


FIGURE 1

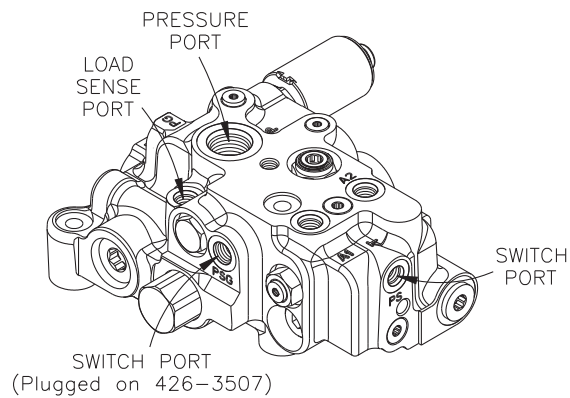


FIGURE 2

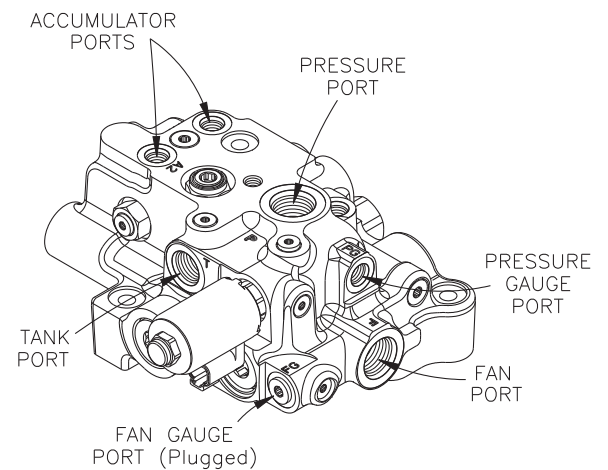


FIGURE 3

TABLE 1 (Specifications)

Caterpillar Part Number	Caterpillar Repair Kit Number	Accumulator High Limit (cut out)		Accumulator Low Limit (cut in)	
		bar	(PSI)	bar	(PSI)
347-3251	360-0517	172.4 ± 3.5	(2500 ± 50)	117.2 ± 3.5	(1700 ± 50)
347-3252	360-0517	151.7 +13.8/-3.5	(2200 +200/-50)	127.6 ± 3.5	(1850 ± 50)
426-3507	360-0517	155.1 +13.8/-3.5	(2250 +200/-50)	120.7 ± 3.5	(1750 ± 50)

Accumulator Charging Valve Adjustment

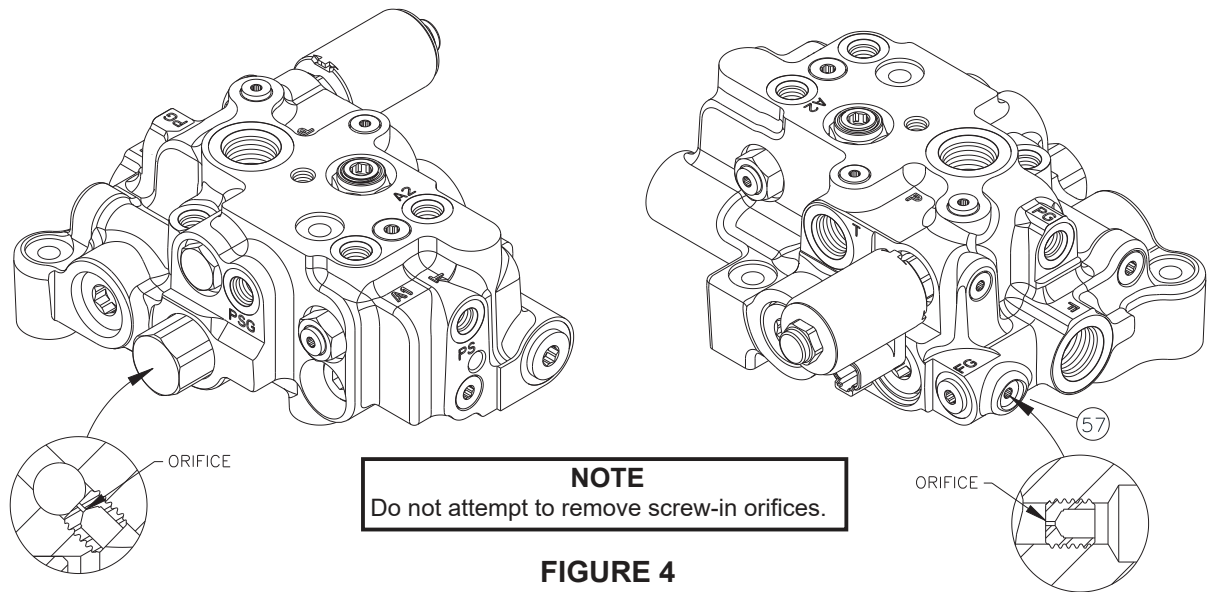
(Refer to Figure 1)

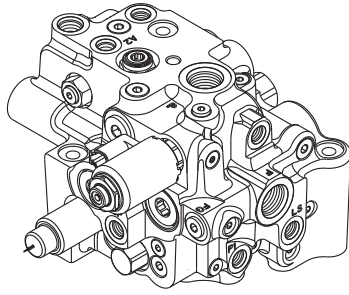
1. See machine servicing instructions to properly reinstall accumulator charging valve. Tee an accurate pressure gauge on an accumulator line.
2. Start pump and allow approximately one minute for charging to start (pressure in gauge will read accumulator precharge plus). If valve does not begin to charge turn screw (36) in, stopping when gauge shows an increase in pressure. Check the high limit specifications (see TABLE 1) and adjust screw (36) until the high limit setting is met. This pressure can be checked correctly only if after each

adjustment of screw (36) the accumulator pressure is reduced below the low limit setting and the system recharges the accumulator pressure to its high limit. Repeat process until high pressure setting is accurately adjusted.

⚠ WARNING

Do not exceed the high limit pressure setting indicated in TABLE 1 or system damage or failure may occur.





Part Numbers: 360-0505, 384-9314

NOTE

Locate the part number on the accumulator charging valve and compare it to the part number in TABLE 2 on page 9. Be sure you have the proper service instructions.

SERVICE INSTRUCTIONS

⚠ WARNING

Be sure system energy is relieved from accumulator charging valve before removing from machine. See machine servicing instructions for procedures to relieve system energy.

Disassembly

(Refer to Figure 5)

1. Disconnect fluid lines and electrical connections and remove accumulator charging valve from machine as recommended in the machine service manual.
2. Remove hex nut and washer from top of solenoid valve assembly (1). Remove coil from solenoid valve assembly (1). Remove solenoid valve assembly (1) from housing (58), cavity 5, by turning counter-clockwise on solenoid valve wrench flats.
3. **Directional spring (6) is attached to adjusting screw (4) by means of the small diameter end of spring (6) being snapped into a groove on the nose end of adjusting screw (4). See Figure 5b.** Remove nut (2) from adjusting screw (4). Remove adjusting screw (4)/spring (6) from housing (58) cavity 1. Remove o-ring (3) from adjusting screw (4) from nut (2) side of adjusting screw. Remove shim (5), steel ball (7), seat (8), o-ring (9), orifice (10), screen (11), and washer (12) from housing (58) cavity 1.
4. Remove plug (13) from housing (58), cavity 7. Remove o-ring (14) from plug (13).
5. Using a hex key wrench remove shuttle valve assembly (15) from housing (58), cavity 7. Turn hex key wrench counter-clockwise. Remove two back-up rings (16) and o-ring (17) from shuttle valve (18).
6. Remove plug (19) and spring (21) from housing (58), cavity 6a. Remove o-ring (20) from plug (19).
7. Remove plug (24) from housing (58), cavity 6b. Remove o-ring (20) from plug (24).
8. Using a 6.35-7.87 mm (0.25-0.31 in) diameter wood or plastic dowel, carefully remove spool (23) from cavity 6a side of housing (58). Remove quad ring (22) from spool (23).
9. Remove plug (38) from housing (58), cavity 3b.
10. **BEFORE** moving screw (37), **ACCURATELY MEASURE ITS DEPTH** from the end of housing and record for reassembly purposes. Remove screw (37) from housing (58), cavity 3b.
11. Remove spring (35), retainer (34), and ball (33) from housing (58), cavity 3b.
12. Remove pin (36) from screw (37) using a drive pin punch.
NOTE: Be careful not to damage threads of screw (37).
13. Remove plug (25) from housing (58), cavity 3a. Remove o-ring (9) from plug (25).
14. Remove spring (26), stop (27), and ball (28) from housing (58), cavity 3a.
15. Place housing on a bench with cavity 3a end down. Spool (29) may or may not fall out at this point.
16. Using a 6.35-7.87 mm (0.25-0.31 in) diameter wood or plastic dowel, carefully remove insert (30) and spool (29) from housing (58), cavity 3a. Be careful not to scratch or mar valve seats on insert (30).
17. Remove spool (29) from insert (30). Remove o-rings (31 & 32) from insert (30).
18. Remove plug (42) from housing (58), cavity 4b. Remove o-ring (20) from plug (42).
19. Remove plug (39) and spring (40) from housing (58), cavity 4a. Remove o-ring (20) from plug (39).
20. Remove spool (41) from housing (58), cavity 4a. Remove quad ring (22) from spool (41).
21. Remove valve assembly (43) from housing (58), cavity 2a, by turning counter-clockwise on sleeve (48) hex flats. Remove dowel pin (51) from housing (58), cavity 2a.
22. Remove back-up ring (50), o-ring (49), and o-ring (9) from sleeve (48).
23. Remove plug (44), spring (46), and poppet (47) from sleeve (48). Remove o-ring (45) from plug (44).
24. Remove valve assembly (52) from housing (58), cavity 2b, by turning counter-clockwise on sleeve (53) hex flats.
25. Remove back-up ring (50), o-ring (49), and o-ring (9) from sleeve (53).
26. Remove plug (56), spring (55), and poppet (54) from sleeve (53). Remove o-ring (45) from plug (56).
27. Remove plug (57) from housing (58), cavity 8. Remove o-ring (45) from plug (57).

NOTE

Observe torque specifications as indicated in assembly procedures or system damage or failure may occur.

WASH ALL PARTS WITH CLEAN SOLVENT AND DRY. LUBRICATE ALL RUBBER PARTS WITH CLEAN SYSTEM FLUID PRIOR TO ASSEMBLY. BE SURE ENTIRE ASSEMBLY PROCEDURE IS DONE WITH CONTAMINATION FREE METHODS.

1. Inspect internal orifices shown in Figure 8 on page 9 to be sure they are free of obstruction or contamination. Introduce pressurized air into these cavities to clear any contamination or debris. **NOTE: Do not attempt to remove the screw-in orifices.**
2. Install new o-ring (45) on plug (57). Install plug (57) in housing (58), cavity 8. Torque plug (57) 13.6-19.0 N·m (10-14 lb·ft).
3. Install new o-ring (45) on plug (56). Install new poppet (54), spring (55), and plug (56) in sleeve (53). Note direction of poppet (54). Torque plug (56) 13.6-19.0 N·m (10-14 lb·ft).
4. Install new o-ring (9), new o-ring (49) and new back-up ring (50) on sleeve (53). See Figure 5a.
5. Install valve assembly (52) in housing (58), cavity 2b. Torque valve assembly (52) 47.5-54.2 N·m (35-40 lb·ft).
6. Install new o-ring (45) on plug (44). Install new poppet (47), spring (46), and plug (44) in sleeve (48). Note direction of poppet (47). Torque plug (44) 13.6-19.0 N·m (10-14 lb·ft).
7. Install new o-ring (9), new o-ring (49) and new back-up ring (50) on sleeve (48). O-rings and back-up ring are in the same order as Figure 5a.
8. Install dowel pin (51) and valve assembly (43) in housing (58), cavity 2a. Torque valve assembly (43) 47.5-54.2 N·m (35-40 lb·ft).
9. Install new o-ring (20) on plug (42). Install plug (42) in housing (58), cavity 4b. Torque plug (42) 94.9-101.7 N·m (70-75 lb·ft).
10. Install new quad ring (22) on spool (41). Install new o-ring (20) on plug (39).
11. Lubricate spool (41) with clean system fluid. Install spool (41), spring (40) and plug (39) in housing (58), cavity 4a. Torque plug (39) 94.9-101.7 N·m (70-75 lb·ft).
12. Position housing with cavity 3a facing up. Install new o-rings (31 & 32) on insert (30) and install insert (30) in housing (58) cavity 3a. Note direction of insert (30). Seat insert (30) using a 12.7 mm (0.50 in) diameter wood or plastic dowel.
13. Insert spool (29) into insert (30) in housing (58), cavity 3a. Note direction of spool (29), long shoulder end faces end plug (25). See Figure 5c.
14. Install ball (28) on insert (30) in housing. Install stop (27) over ball (28) and spring (26) over stop (27).
15. Install new o-ring (9) on plug (25). Carefully install plug (25) into housing (58), cavity 3a. Be sure spring (26) is centered in plug (25). Torque plug (25) 47.5-54.2 N·m (35-40 lb·ft).
16. Position housing with cavity 3b facing up. Install ball (33) in housing (58), cavity 3b. Be sure ball (33) is centered in bottom of hole. Install retainer (34) and spring (35) into housing (58), cavity 3b.
17. Install new pin (36) in screw (37). Be sure pin (36) is aligned properly and is evenly driven into screw (37).
NOTE: Do not damage threads of screw (37).
18. Thread screw (37) into housing (58), cavity 3b, TO THE DEPTH RECORDED during disassembly.
19. Install plug (38) in housing (58), cavity 3b. Torque end plug (38) 54.2-61.0 N·m (40-45 lb·ft). **NOTE: End plug (38) o-ring is not included in repair kit. Contact machine manufacture for proper replacement o-ring.**
20. Install new o-ring (20) on plug (24). Install plug (24) in housing (58), cavity 6b, and torque 94.9-101.7 N·m (70-75 lb·ft).
21. Install new quad ring (22) on spool (23). Install new o-ring (20) on plug (19).
22. Lubricate spool (23) with clean system fluid. Install spool (23), spring (21) and plug (19) in housing (58), cavity 6a. Torque plug (19) 94.9-101.7 N·m (70-75 lb·ft).
23. Install two new back-up rings (16) and new o-ring (17) on shuttle valve (18). Note, new back-up rings (16) and o-ring (17) are in a separate bag within the repair kit.
24. Install shuttle valve assembly (15) in housing (58), cavity 7. Use a hex key wrench and torque shuttle valve assembly (15) 5.4-6.8 N·m (4-5 lb·ft).
25. Install new o-ring (14) on plug (13). Install plug (13) in housing (58), cavity 7, and torque 27.1-32.5 N·m (20-24 lb·ft).
26. **Directional spring (6) is attached to adjusting screw (4) by means of the small diameter end of spring (6) being snapped into a groove on the nose end of adjusting screw (4). If necessary, reattach the small diameter end of spring (6) into the groove on the nose end of adjusting screw (4) using a slight twisting motion. See Figure 5b.** Position housing with cavity 1 facing up. Install new o-ring (3) on adjusting screw (4) from nut (2) side of adjusting screw. Install washer (12), new screen (11), orifice (10), new o-ring (9), seat (8) and steel ball (7) in housing (58) cavity 1. Fully lubricate shim (5) with clean system fluid and adhere shim (5) to the end of adjusting screw (4). Install adjusting screw (4)/spring (6) in housing (58) cavity 7. Torque adjusting screw (4) 24.4-29.8 N·m (18-22 lb·ft). Then install nut (2) on adjusting screw (4) and torque nut 43.4-51.5 N·m (32-38 lb·ft).
27. Install solenoid valve assembly (1) in housing (58), cavity 5. Torque solenoid valve assembly (1) on wrench flats 43.4-57.0 N·m (32-42 lb·ft). Install washer and nut. Torque the hex nut 23.0-31.2 N·m (17-23 lb·in). **NOTE: Solenoid valve assembly (1) seals are not included in repair kit. Contact machine manufacture for proper replacement seals. Note orientation of solenoid valve assembly (1).**
28. See machine servicing instructions to properly reinstall accumulator charging valve. See machine manufacture for additional service kits and replacement components for the accumulator charging valve.
29. To continue, refer to "Accumulator Charging Valve Adjustment" on page 9.

- Items included in Repair Kit Number 360-0517

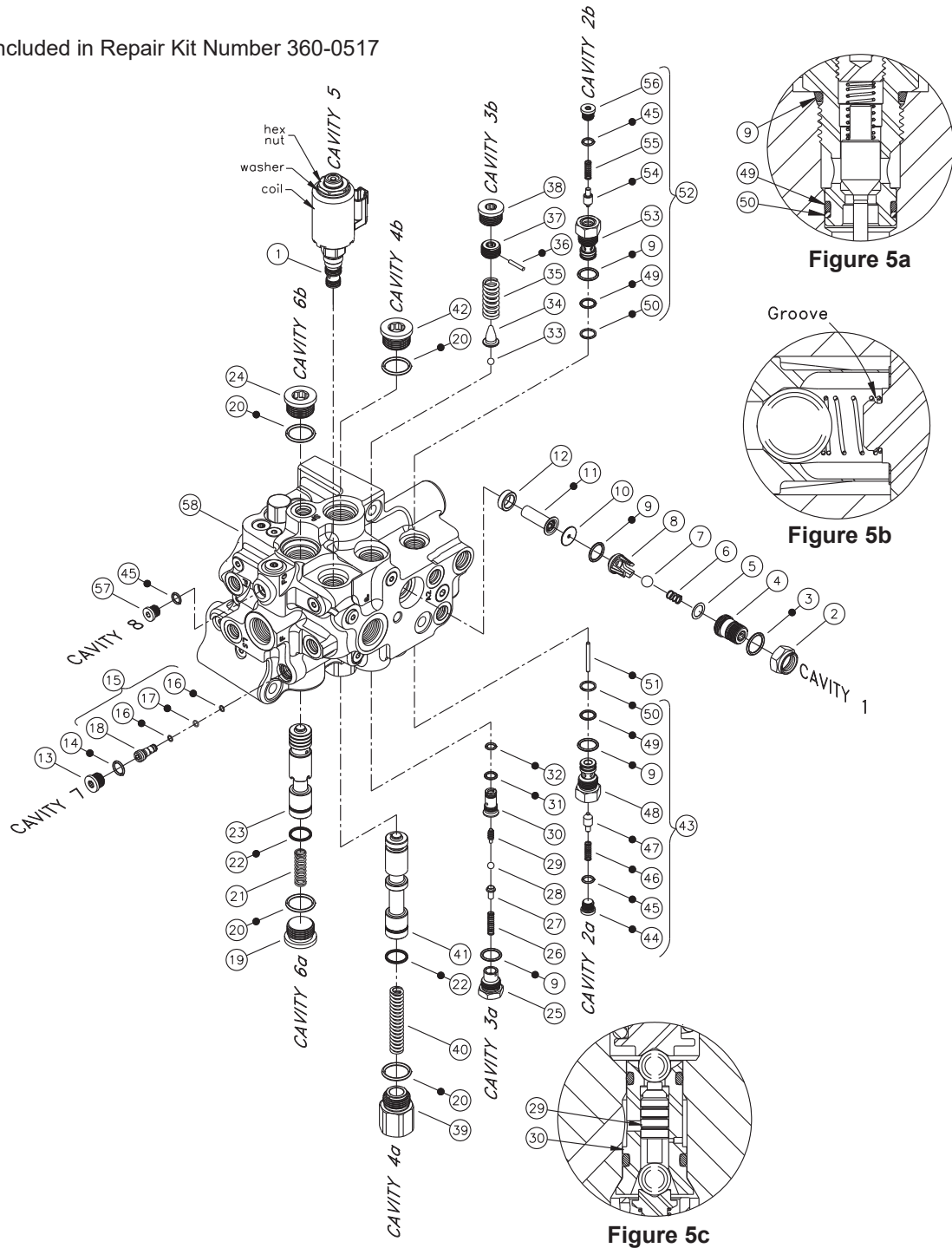


FIGURE 5

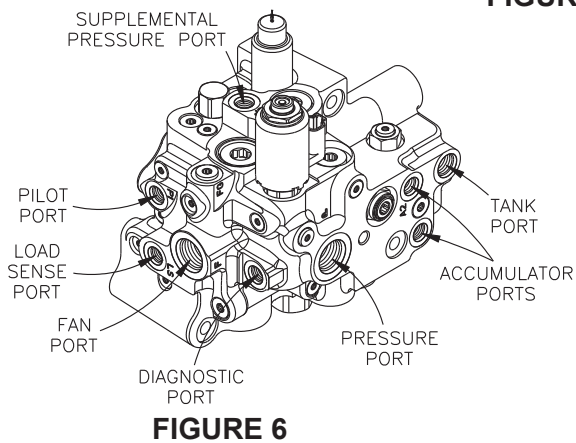


FIGURE 6

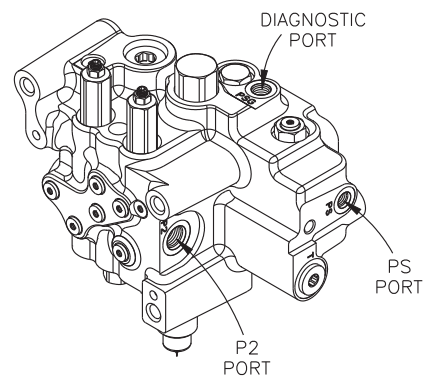


FIGURE 7

TABLE 2 (Specifications)

Caterpillar Part Number	Caterpillar Repair Kit Number	Accumulator High Limit (cut out)		Accumulator Low Limit (cut in)	
		bar	(PSI)	bar	(PSI)
360-0505	360-0517	151.7 ± 3.5	(2200 ± 50)	127.6 ± 3.5	(1850 ± 50)
384-9314	360-0517	151.7 ± 3.5	(2200 ± 50)	127.6 ± 3.5	(1850 ± 50)

Accumulator Charging Valve Adjustment
(Refer to Figure 5)

- 1. See machine servicing instructions to properly reinstall accumulator charging valve. Tee an accurate pressure gauge on an accumulator line.
- 2. Start pump and allow approximately one minute for charging to start (pressure in gauge will read accumulator precharge plus). If valve does not begin to charge remove end plug (38) and turn screw (37) in, stopping when gauge shows an increase in pressure. Check the high limit specifications (see TABLE 2) and adjust screw (37) until the high limit setting is met. Reinstall end plug (38).

This pressure can be checked correctly only if after each adjustment of screw (37) the accumulator pressure is reduced below the low limit setting and the system recharges the accumulator pressure to its high limit. Repeat process until high pressure setting is accurately adjusted. **NOTE: Be sure to reinstall plug (38) before starting pump.**

⚠ WARNING

Do not exceed the high limit pressure setting indicated in TABLE 2 or system damage or failure may occur.

- 3. Torque end plug (38) 54.2-61.0 N·m (40-45 lb·ft).

