



DUAL ACCUMULATOR CHARGING VALVE with Relief Valve

Product Explanation, Operating Information, and Service Instructions

PRODUCT EXPLANATION

The accumulator charging valve is designed for installation in an open center hydraulic system between the pump and the downstream secondary hydraulic devices.

The accumulator charging valve supplies oil on demand to the accumulators from the open center circuit. Accumulator charging is controlled electronically with a maximum rating (GPM).

The flow to the downstream secondary hydraulic devices will be reduced when the accumulators are charging. Full system pressure is available to the downstream secondary hydraulic devices at all times provided oil delivery and pressure from the pump is not impeded.

The accumulator charging valve incorporates a full flow relief valve to limit the maximum pressure in the hydraulic system.

Pressure at accumulator ports A1 and A2 is isolated from accumulator port A3 by internal check valves.

The relief valve setting, is set at the time of manufacture and cannot be adjusted.

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 3 for proper repair kit number. Observe Service Instruction procedures on following pages. See Warnings A, B and C, below.

IMPORTANT INFORMATION

A **⚠ WARNING**

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

C **⚠ WARNING**

Relief valves are preset at the factory. DO NOT READJUST or system damage or failure may occur.

SERVICE INSTRUCTIONS

Komatsu Part Number: 421-43-87691

⚠ 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.

Disassembly

(Refer to Figure 1)

1. Remove plug (1) from housing (32) cavity 1a. Remove plug (6) from housing (32) cavity 1b. Remove o-rings (2) from plugs (1 & 6).
2. Remove springs (3 & 5) and poppets (4) from housing (32) through cavities 1a and 1b.
3. Remove plug (7), spring (9), shim(s) (10), and retainer assembly (11) from housing (32) cavity 2a. Remove o-ring (8) from plug (7). Note the number of shim(s) removed for reassembly purposes. **NOTE: Plug (7) is under spring tension.**
4. Remove plug (14) from housing (32) cavity 2b. Remove o-ring (13) from plug (14).
5. Remove spool (12) from housing (32) through cavity 2b. **NOTE: Be careful not to damage spool (12) or housing bore.**
6. Remove plug (15) from housing (32) cavity 3a. Remove o-ring (8) from plug (15).
7. Remove plug (22), shim(s) (23), springs (19 & 18), and spring seat (17) from housing (32) cavity 3b. Remove o-ring (21) from plug (22). **NOTE: Plug (22) is under spring tension.**
8. Remove spool (16) from housing (32) through cavity 3b end ONLY. **NOTE: Be careful not to damage spool (16) or housing bore.**
9. **Directional spring (25) is attached to adjusting screw (24) by means of the small diameter end of spring (25) being snapped in a groove on the nose end of adjusting screw (24). See Figure 1a.** Remove nut (23) and remove adjusting screw (23)/spring (25) from housing (32) cavity 4. Remove o-ring (8) from adjusting screw (24) from nut (23) side of adjusting screw. Remove steel ball (26), seat (27), o-ring (28), spacer (29), orifice (30), and screen (31) from housing (32).

Assembly

(Refer to Figure 1)

NOTE

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

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

1. Install new o-ring (2) on plug (1). Install poppet (4), spring (3), and plug (1) in housing (32) cavity 1a. Torque plug (1) 24.4-29.8 N·m (18-22 lb·ft).
2. Install new o-ring (2) on plug (6). Install poppet (4), spring (5), and plug (6) in housing (32) cavity 1b. Torque plug (6) 24.4-29.8 N·m (18-22 lb·ft).
3. Install new o-ring (8) on plug (7). Install spring (9), shim(s) (10), and retainer assembly (11) into plug (7). Be sure to install the same number of shim(s) as were removed. Install plug (7) in housing (32) cavity 2a and torque 67.8-81.3 N·m (50-60 lb·ft).
4. Install new o-ring (13) on plug (14). Lubricate spool (12) with clean system fluid and install spool (12) in housing (32) cavity 2b. Note the direction of spool (12). Install plug (14) in housing (32) cavity 2b and torque 13.6-19.0 N·m (10-14 lb·ft). **NOTE: Be careful not to damage spool (12) or housing bore.**
5. Install new o-ring (8) on plug (15). Install plug (15) in housing (32) cavity 3a and torque 54.2-61.0 N·m (40-45 lb·ft).
6. Lubricate spool (16) with clean system fluid and install in housing (32) cavity 3b. Note direction of spool (16). Install spring seat (17) in housing (32) cavity 3b on the end of spool (16).
7. Install new o-ring (21) on plug (22). Install shim(s) (20) and springs (18 & 19) in plug (22). Install plug (22) in housing (32) cavity 3b and torque 94.9-101.7 N·m (70-75 lb·ft).
8. Directional spring (25) is attached to screw (24) by means of the small diameter end of spring (25) being snapped into a groove on the nose end of screw (24). If necessary, reattach the small diameter end of spring (25) into the groove on the nose end of screw (24) using a slight twisting motion. See Figure 1a. Install new o-ring (8) on screw (24) from nut (23) side of screw (24). Install screen assembly (31), orifice (30), spacer (29), new o-ring (28), seat (27), and steel ball (26) in housing (32) cavity 4. Install screw (24)/spring (25) in housing (32) cavity 4. Torque screw (24) 24.4-29.8 N·m (18-22 lb·ft). Then install nut (23) on screw (24) and torque 43.4-51.5 N·m (32-38 lb·ft).

TABLE 1

Item Number	Description	Qty
Repair Kit items (kit part number 4071013262)		
2	O-ring, 0.468 I.D. x 0.624 O.D.	2
8	O-ring, 0.755 I.D. x 0.949 O.D.	3
13	O-ring, 0.351 I.D. x 0.495 O.D.	1
21	O-ring, 0.924 I.D. x 1.156 O.D.	1
28	O-ring, 0.644 I.D. x 0.818 O.D.	1
Screen Kit items (kit part number 4071013272)		
4	Poppet	2
31	Screen Assembly	1



