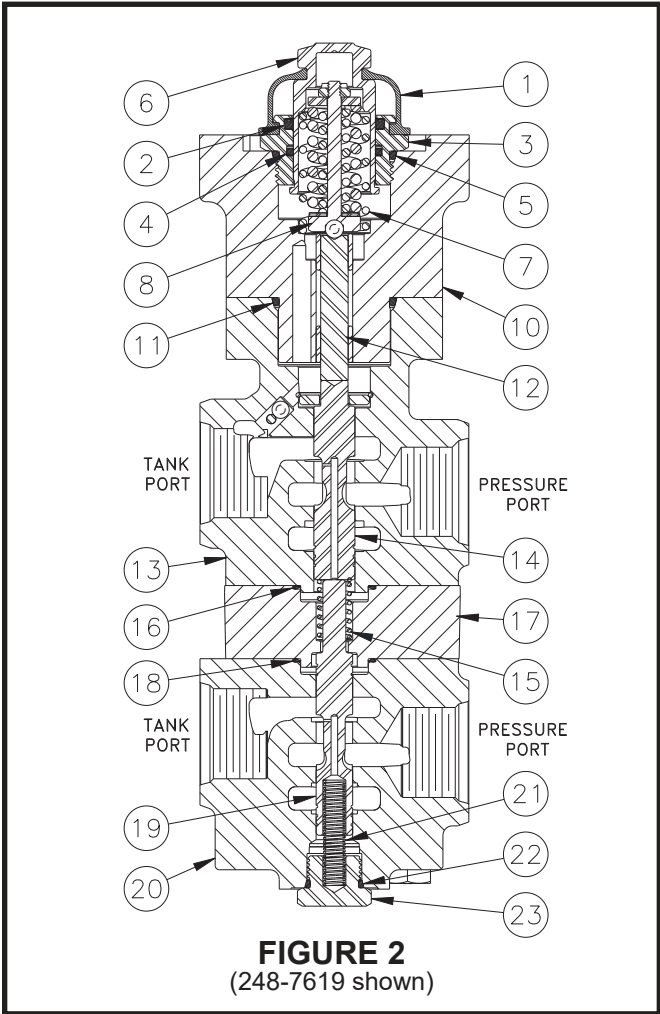
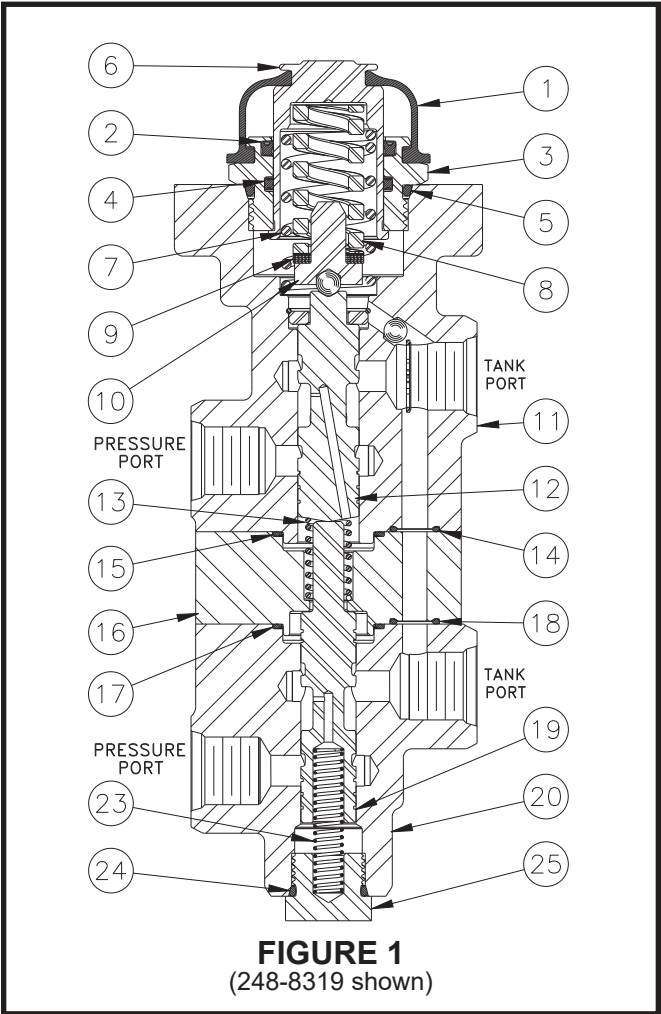


TANDEM POWER BRAKE VALVE

Service Instructions

TABLE 1 (Specifications)

Caterpillar Valve Part Number	Caterpillar Repair Kit Part Number	Brake Pressure Setting	
		bar	(PSI)
248-7619	266-0378	48.3 ± 3.4	(500 ± 25)
248-8319	266-0378	50.3 ± 3.4	(720 ± 50)
259-0589	266-0378	$34.5 + 1.0/-3.4$	$(500 + 15/-50)$
279-5719	266-0378	$34.5 + 1.0/-3.4$	$(500 + 15/-50)$



NOTE

Housings (11 & 20) and spools (12 & 19) are manufactured as matched sets. These sets must not be intermixed with other parts.

Model 279-5719 uses a plug in the lower tank port. This plug need not be removed during servicing.

DISASSEMBLY

(Refer to Figures 1 and 3)

1. Remove boot (1) from retainer (3) and piston (6).
2. Remove retainer (3), piston (6), springs (7 & 8), shim(s) (9), and retainer assembly (10) from housing (11). **NOTE: Be aware of the number of shim(s) that are removed from housing.**
3. Carefully remove cup (2), quad ring (4), and o-ring (5) from retainer (3). **NOTE: Be careful not to scratch or mar retainer bore.**
4. Remove end plug (25) and spring (23) from housing (20). Remove o-ring (24) from end plug (25).
5. Separate housings (11 & 20) and spacer (16) by removing cap screws (22) and washers (21).
6. Remove spring (13) and o-rings (14, 15, 17, & 18) from housings (11 & 20).
7. Carefully remove spools (12 & 19) from housings (11 & 20). **NOTE: Be careful not to damage spools or housing bores.**

CAUTION

Do not intermix spools and housings. Spool (12) and housing (11) are a matched set, as well as spool (19) and housing (20).

ASSEMBLY

(Refer to Figures 1 and 3)

LUBRICATE ALL RUBBER COMPONENTS FROM REPAIR KIT WITH CLEAN TYPE FLUID USED IN THE SYSTEM.

1. Clean all parts thoroughly before assembling.
2. Lubricate spool (12) with clean system fluid and carefully slide into bottom end of housing (11) bore. Note direction of spool (12). **NOTE: Spool must slide freely into housing bore. If either part is damaged, a new valve assembly may be required.**
3. Install new o-rings (14, 15, 17, & 18) in proper o-ring pockets on housings (11 & 20).
4. Install spring (13) in spacer (16) bore and reassemble housings (11 & 20) and spacer (16) using cap screws (22) and washers (21). Use Loctite 242 or equivalent on cap screws (22) and torque 27.1-33.9 N·m (22-25 lb·ft). **NOTE: Make sure housings line-up correctly and that o-rings (14, 15, 17, & 18) remain in the pockets during assembly.**
5. Lubricate spool (19) with clean system fluid and carefully slide into housing (20) bore. Note direction of spool (19). **NOTE: Spool must slide freely into housing bore. If either part is damaged, a new valve assembly may be required.**
6. Install new o-ring (24) on end plug (25).

● Items included in Repair Kit

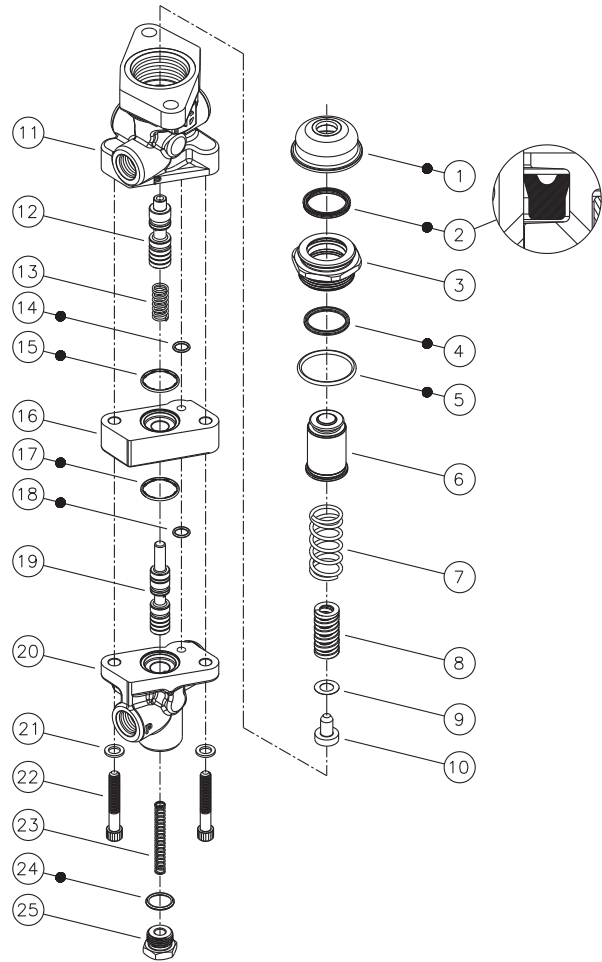


FIGURE 3

7. Install spring (23) and end plug (25) into housing (20). Torque end plug 47.5-54.2 N·m (35-40 lb·ft).
8. Carefully install new cup (2), new quad ring (4), and new o-ring (5) on retainer (3). Note direction and order of cup and quad ring. **NOTE: Be careful not to scratch or mar retainer bore.**
9. Assemble springs (7 & 8), shim(s) (9), and retainer assembly (10) in piston (6). **NOTE: Be sure to install the same number of shim(s) as were removed.**
10. Carefully install retainer (3) over piston (6) and install retainer (3) assembly into housing (11). Torque retainer 81.4-94.9 N·m (60-70 lb·ft).
11. Install new boot (1) on retainer (3) and piston (6).

NOTE

After service, the valve must develop the brake pressure indicated in the specifications, TABLE 1 on page 1. Shim(s) (9) are used to obtain the correct pressure setting. Contact dealer if brake pressure setting is not able to be obtained.

NOTE

Housings (13 & 20) and spools (14 & 19) are manufactured as matched sets. These sets must not be intermixed with other parts.

DISASSEMBLY

(Refer to Figures 2 and 4)

1. Remove boot (1) from retainer (3) and piston (6).
2. Remove retainer (3), piston (6), spring (7), and spring assembly (8) from spacer (10). **NOTE: Do not disassemble spring assembly (8).**
3. Carefully remove cup (2), quad ring (4), and o-ring (5) from retainer (3). **NOTE: Be careful not to scratch or mar retainer bore.**
4. Remove cap screws (9) and separate spacer (10) from housing (13).
5. Remove o-ring (11) and push rod (12) from spacer (10).
6. Remove end plug (23) and spring (21) from housing (20). Remove o-ring (22) from end plug (23).
7. Separate housings (13 & 20) and spacer (17) by removing cap screws (25) and washers (24).
8. Remove spring (15) and o-rings (16 & 18) from housings (13 & 20).
9. Carefully remove spools (14 & 19) from housings (13 & 20). **NOTE: Be careful not to damage spools or housing bores.**

CAUTION

Do not intermix spools and housings. Spool (14) and housing (13) are a matched set, as well as spool (19) and housing (20).

ASSEMBLY

(Refer to Figures 2 and 4)

LUBRICATE ALL RUBBER COMPONENTS FROM REPAIR KIT WITH CLEAN TYPE FLUID USED IN THE SYSTEM.

1. Clean all parts thoroughly before assembling.
2. Lubricate spool (14) with clean system fluid and carefully slide into bottom end of housing (13) bore. Note direction of spool (14). **NOTE: Spool must slide freely into housing bore. If either part is damaged, a new valve assembly may be required.**
3. Install new o-rings (16 & 18) in proper o-ring pockets on housings (13 & 20).
4. Install spring (15) in spacer (17) bore and reassemble housings (13 & 20) and spacer (17) using cap screws (25) and washers (24). Use Loctite 242 or equivalent on cap screws (25) and torque 27.1-33.9 N·m (22-25 lb·ft). **NOTE: Make sure housings line-up correctly and that o-rings (16 & 18) remain in the pockets during assembly.**
5. Lubricate spool (19) with clean system fluid and carefully slide into housing (20) bore. Note direction of spool (19). **NOTE: Spool must slide freely into housing (bore. If either part is damaged, a new valve assembly may be required.**
6. Install new o-ring (22) on end plug (23).

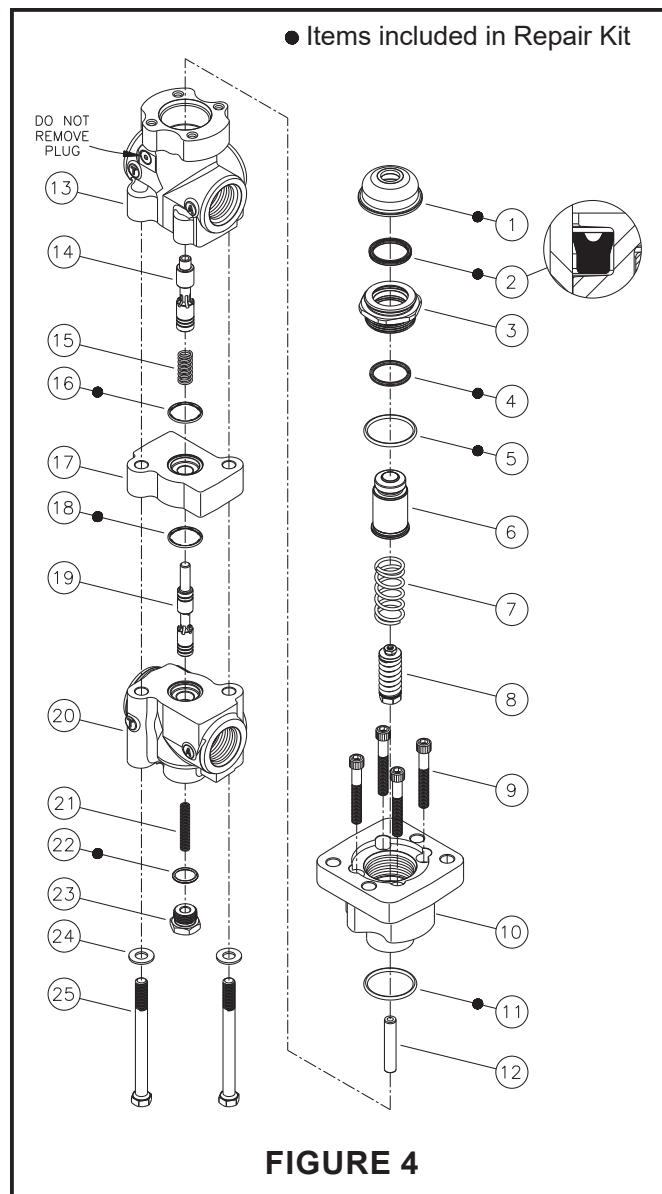


FIGURE 4

7. Install spring (21) and end plug (23) into housing (20). Torque end plug 47.5-54.2 N·m (35-40 lb·ft).
8. Install new o-ring (11) on spacer (10). Install push rod (12) in spacer (10). **NOTE: Be sure push rod (12) is installed in the proper direction.**
9. Attach spacer (10) to housing (13) using cap screws (9). Torque cap screws (9) 24.4-29.8 N·m (18-22 lb·ft).
10. Carefully install new cup (2), new quad ring (4), and new o-ring (5) on retainer (3). Note direction and order of cup and quad ring. **NOTE: Be careful not to scratch or mar retainer bore.**
11. Assemble spring (7) and spring assembly (8) in piston (6).
12. Carefully install retainer (3) over piston (6) and install retainer (3) assembly into spacer (10). Torque retainer 81.4-94.9 N·m (60-70 lb·ft).
13. Install new boot (1) on retainer (3) and piston (6).

NOTE

After service, the valve must develop the brake pressure indicated in the specifications, TABLE 1 on page 1. Contact dealer if brake pressure setting is not able to be obtained.