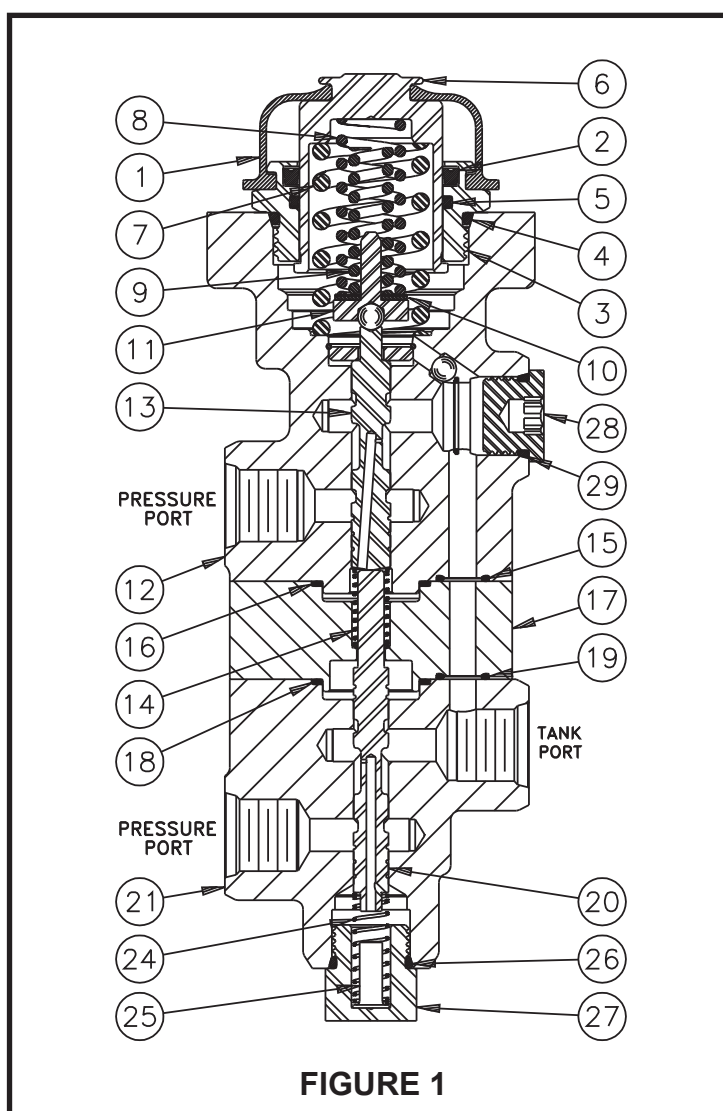


Tandem POWER BRAKE VALVE Service Instructions

TABLE 1 (Specifications)

Valve Part Number	Repair Kit Number	Brake Pressure Setting	
		bar	(PSI)
311-6512	394-8471	46.9 ± 2.8	(680 ± 40)



NOTE

Housings (12 & 21) and spools (13 & 20) are manufactured as matched sets. These sets must not be intermixed with other parts.

DISASSEMBLY

(Refer to Figures 1 and 2)

1. Remove boot (1) from retainer (3) and piston (6).
2. Remove retainer (3), piston (6), springs (7, 8 & 9), shim(s) (10), and retainer assembly (11) from housing (12). **NOTE: Be aware of the number of shim(s) that are being removed from housing.**
3. Carefully remove cup (2), quad ring (4), and o-ring (5) from retainer (3). Note direction and order of cup and quad ring. **NOTE: Be careful not to scratch or mar retainer bore.**
4. Remove end plug (27) retainer (25) and spring (24) from housing (21). Remove o-ring (26) from end plug (27).
5. Separate housings (12 & 21) and spacer (17) by removing cap screws (23) and washers (22).
6. Remove spring (14) and o-rings (15, 16, 18 & 19) from housings (12 & 21).
7. Carefully remove spools (13 & 20) from housings (12 & 21). **NOTE: Be careful not to damage spools or housing bores.**

CAUTION

Do not intermix spools & housings. Spool (13) and housing (12) are a matched set, as well as spool (20) and housing (21).

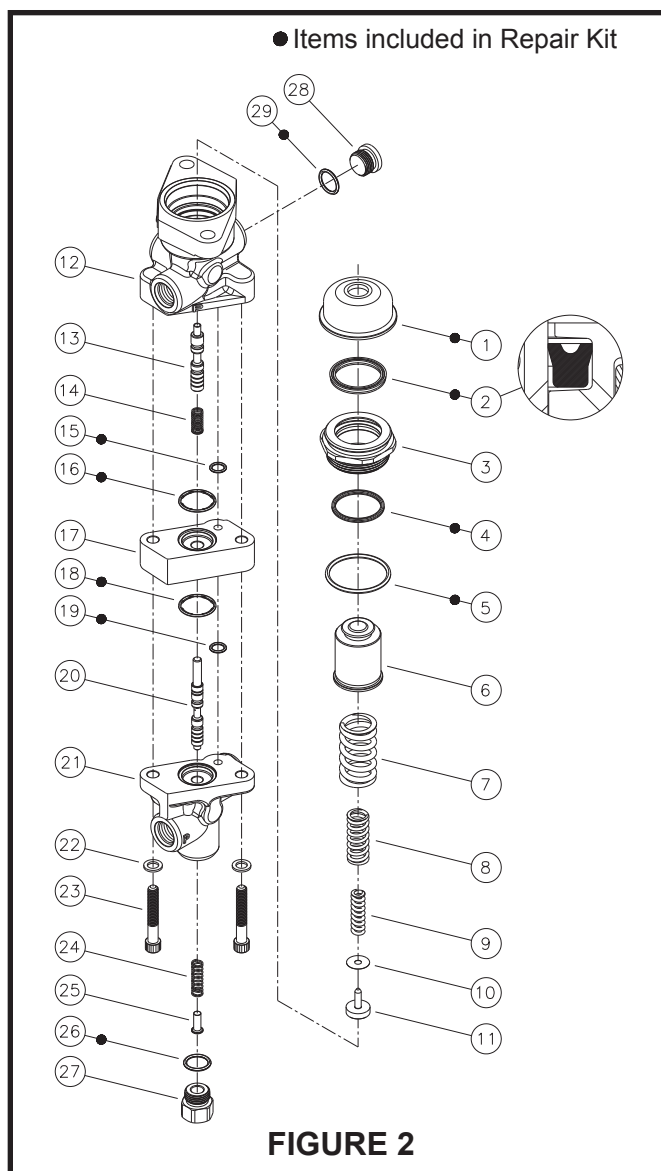
8. Remove plug (28) from housing (12). Remove o-ring (29) from plug (28).

ASSEMBLY

(Refer to Figures 1 and 2)

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 (13) with clean system fluid and carefully slide into bottom end of housing (12) bore. Note direction of spool (13). **NOTE: Spool must slide freely into bore. If spool or housing bore are damaged, a new spool/housing assembly may be required.**
3. Install new o-ring (15, 16, 18 & 19) in proper o-ring pockets on housings (12 & 21).
4. Install spring (14) in spacer (17) bore and reassemble housings (12 & 21) and spacer (17) using cap screws (23) and washers (22). Use Loctite 242 or equivalent on cap screws (23) and torque 27.1-33.9 N·m (22-25 lb·ft). **NOTE: Make sure housings lineup correctly and that o-rings (15, 16, 18, & 19) remain in their pockets during assembly.**
5. Lubricate spool (20) with clean system fluid and carefully slide into housing (21) bore. Note direction of spool (20). **NOTE: If spool or housing bore are damaged, a new spool/housing assembly may be required.**
6. Install new o-ring (26) on end plug (27).



7. Install spring (24), retainer (25) and end plug (27) into housing (21). 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 & 9), shim(s) (10), and retainer assembly (11) in piston (6). 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 (12). Torque retainer 81.4-94.9 N·m (60-70 lb·ft).
11. Install new boot (1) on retainer (3) and piston (6).
12. Install new o-ring (29) on plug (28). Install plug (28) in housing (12) and torque 27.1-32.5 N·m (20-24 lb·ft).

NOTE

After service, the valve must develop the brake pressure indicated in the specifications. Shim(s) (10) may be added or removed to obtain the correct pressure settings.