

# Tandem Power Brake Valve



## Service Instructions

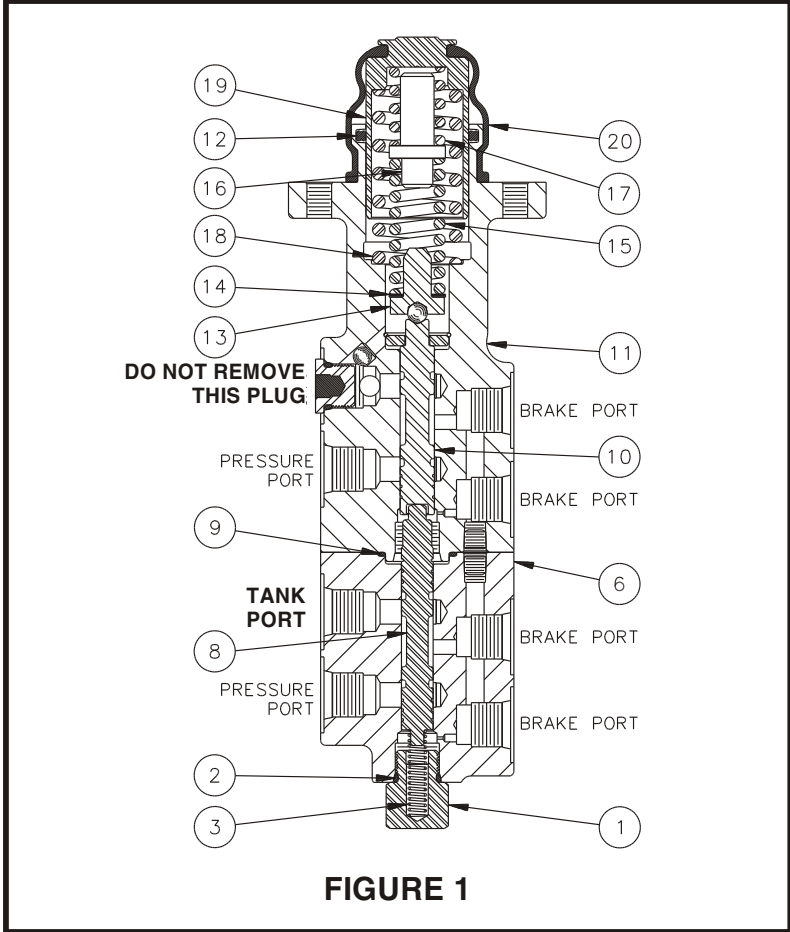
### SPECIFICATIONS

Model Number	Brake Pressure Setting	
	bar	(PSI)
03-468-206	80.0 ± 5.2	(1160 ± 75)

NOTE: If your product number is not listed, please contact ZF Off-Highway Solutions Minnesota Inc. for information.

**⚠ WARNING**

Installation and test note: Piston (19) must be retained mechanically. This will prevent it from blowing out at high velocity if an incorrect connection occurs from power source to tank ports. **Be sure the tank port is connected directly to tank.** Failure to do this could result in death or serious injury.



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## DISASSEMBLY

### NOTE

Housings (6 & 11) and spools (8 & 10) are manufactured as matched sets. These sets (Housing & Spool) must not be intermixed with other parts.

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

### CAUTION

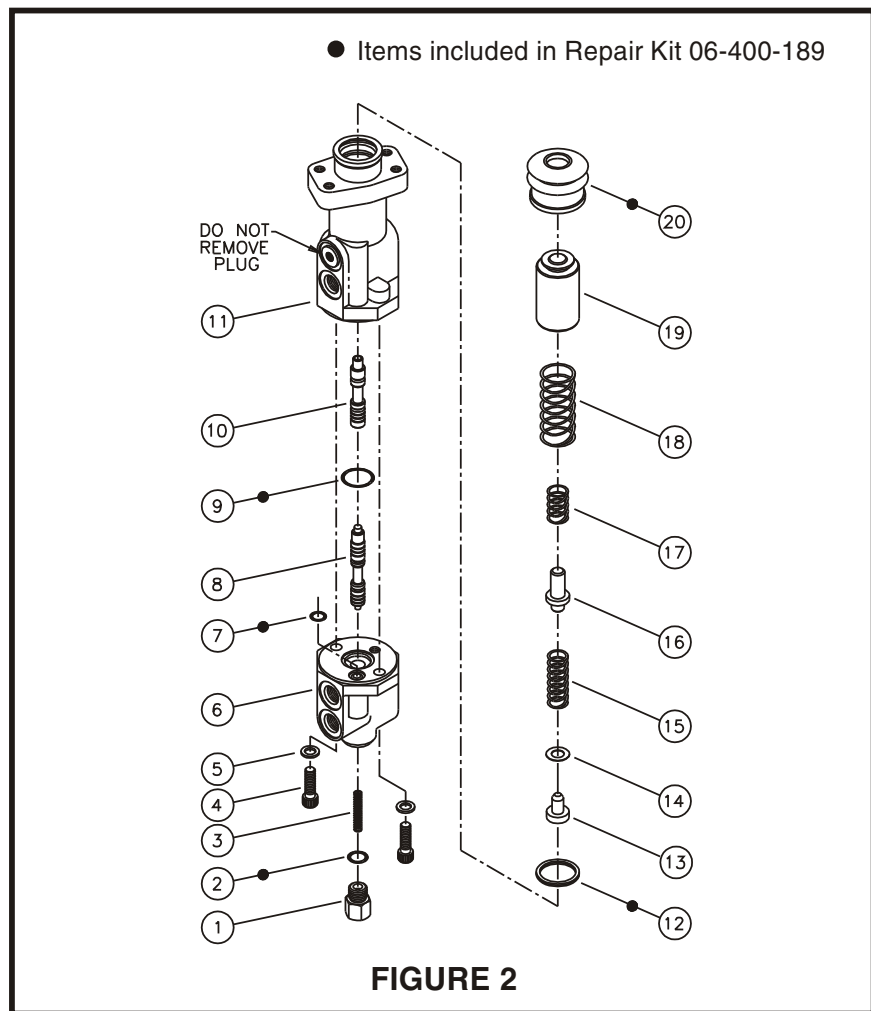
Do not intermix spools and housings. Spool (8) and housing (6) are a matched set as are spool (10) and housing (11).

6. Remove end plug (1) and spring (3) from housing (6). Remove o-ring (2) from end plug (1).

## ASSEMBLY

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

1. Clean all parts thoroughly before assembling. **NOTE: Inspect spools (8 & 10) for any damage or wear.**
2. Install new o-ring (2) on end plug (1).
3. Lubricate spool (10) with clean system fluid and carefully slide into bottom end of housing (11) bore. Note direction of spool (10). **NOTE: Spool must slide freely into bore. If either part**



4. Lubricate spool (8) with clean system fluid and carefully slide into housing (6) bore. Note direction of spool (8). **NOTE: Spool must slide freely into bore. If either part is damaged, a new spool/housing assembly may be required.**
5. Install new o-rings (7 & 9) in proper o-ring pockets on housing (6).
6. Reassemble housings (6 & 11) using cap screws (4) and washers (5). Apply Loctite 242 to threads of cap screws (4) and torque 29.8-33.9 N·m (22-25 lb·ft). **NOTE: Make sure housings and spools line up correctly and that o-rings (7 & 9) are properly sealed. After screws are torqued, spools must slide freely in both housings. Make sure this occurs.**
7. Install spring (3) and end plug (1) into housing (6). Torque 27.1-32.5 N·m (20-24 lb·ft).
8. Carefully install new quad ring (12) into housing (11) bore. Note direction of quad ring (12). **NOTE: Be careful not to scratch or mar housing bore.**
9. Assemble springs (18 & 17), retainer (16), spring (15), shim(s) (14) and retainer assembly (13) in piston (19). Note direction of retainer (16). Be sure to install the same number of shim(s) as were removed.
10. Carefully install piston (19) assembly into housing (11) bore.
11. Install new boot (20) on housing (11) and piston (19).

### NOTE

After service, the valve must develop the pressure indicated in the specifications. Shim(s) (14) can be added or removed to obtain the correct pressure setting.