



SINGLE MODULATING VALVE

Service Instructions

TABLE 1 (Specifications)

Model Number	Repair Kit Number	Brake Pressure Setting	
		bar	(PSI)
03-466-108	06-400-304	69.0 ± 3.5	(1000 ± 50)

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

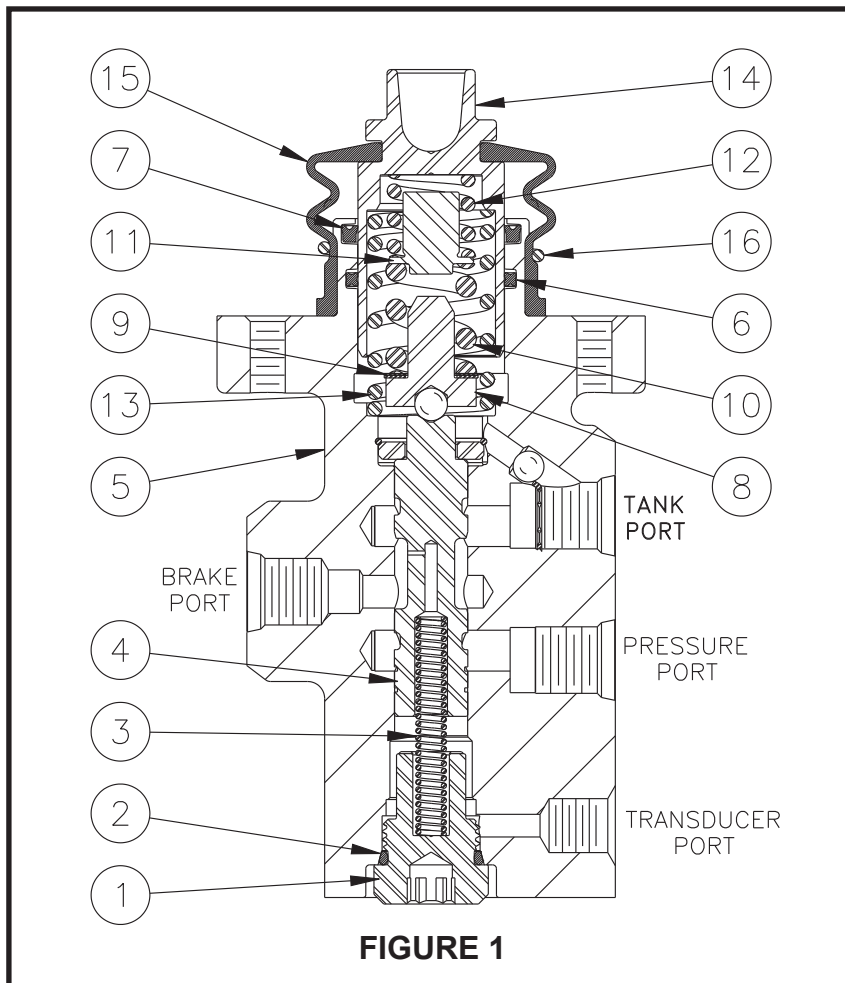


FIGURE 1

⚠ WARNING

Installation and test note: Piston (14) must be retained mechanically. This will prevent it from blowing out at high velocity if an incorrect connection occurs from the power source to the tank ports. **Be sure the tank ports are connected to tank.** Failure to do this can result in serious injury or death.

DISASSEMBLY

(Refer to Figures 1 and 2)

NOTE

Housing (5) and spool (4) are manufactured as a matched set. This set, housing and spool, must not be intermixed with other parts.

1. Remove retaining ring (16). Remove boot (15) from piston (14) and housing (5).
2. Remove piston (14), springs (12 & 13), retainer (11), spring (10), shim(s) (9), and retainer assembly (8) from housing (5). **NOTE: Be aware of the number of shim(s) being removed from the housing.**
3. Carefully remove cup (7) and seal (6) from housing (5) bore. **NOTE: Be careful not to scratch or mar housing bore.**
4. Remove end plug (1) and spring (3) from housing (5). Remove o-ring (2) from end plug (1).
5. Carefully remove spool (4) from end plug (1) side of housing (5). **NOTE: Be careful not to damage spool or housing bore.**

ASSEMBLY

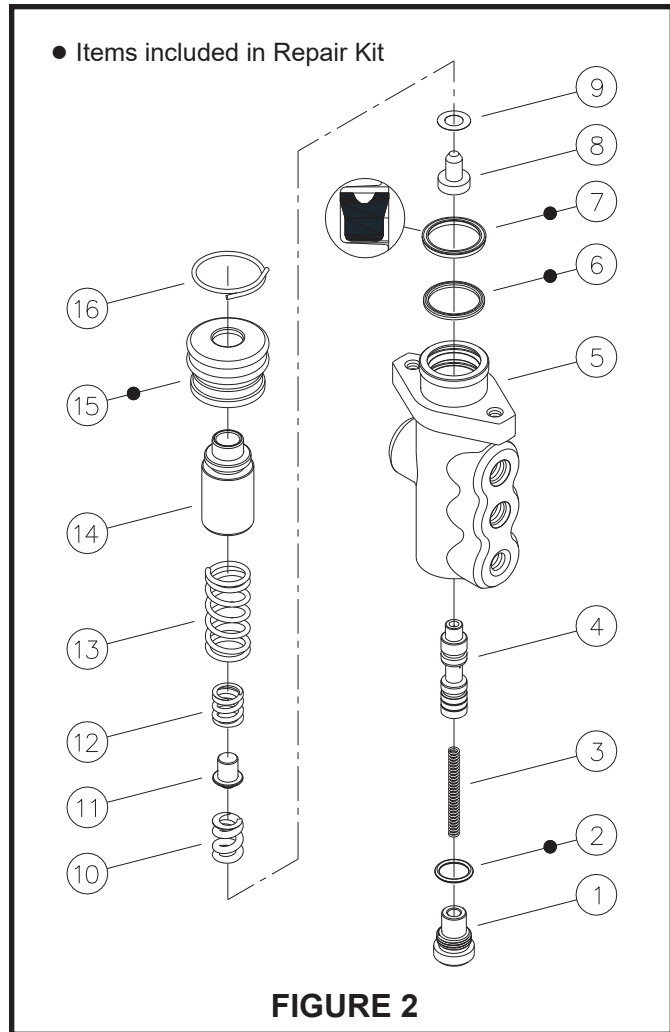
(Refer to Figures 1 and 2)

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 (4) with clean system fluid and carefully slide into plug (1) side of housing (5) bore. Note direction of spool (4). **NOTE: Spool must slide freely into bore. If either part is damaged, a new valve assembly may be required.**
3. Install new o-ring (2) on end plug (1).
4. Install spring (3) and end plug (1) into housing (5). Torque end plug (1) 47.5-54.2 N·m (35-40 lb·ft).
5. Carefully install new seal (6) and new cup (7) into housing (5) bore. Note direction and order of seal (6) and cup (7). **NOTE: Be careful not to scratch or mar housing bore.**
6. Install springs (12 & 13), retainer (11), spring (10), shim(s) (9), and retainer assembly (8) in piston (14). Be sure to install the same number of shim(s) as were removed.
7. Carefully install piston (14) assembly into housing (5) bore.
8. Install new boot (15) on housing (5) and piston (14). Install retaining ring (16).

NOTE

After service, that valve must develop the pressure indicated in the specifications, TABLE 1. Shim(s) (9) are used to obtain the correct pressure setting. Contact ZF Off-Highway Solutions Minnesota Inc. if brake pressure setting is not able to be obtained.



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