# **RELAY VALVE**



# Service Instructions

#### NOTE

The components shown in Figure 1 may appear slightly different than what is found in your relay valve.

### DISASSEMBLY

(Refer to Figure 1)

- 1. Separate base (16) from housing (11) by removing cap screws (17).
- 2. Carefully remove sleeve (15), spool (13), and ball (12). Separate spool (13) from sleeve (15). **NOTE:**Be careful not to scratch or mar spool (13) or sleeve (15) bore.
- 3. Remove o-rings (14) from sleeve (15).
- 4. Loosen nut (1) and remove end plug (4) from housing (11). Remove spring (5), nut (1), washer (2), and o-ring (3) from end plug (4).
- 5. Using a wooden dowel, remove spacer (10), sleeve (7), and spool (9) assembly from housing (11) bore. NOTE: Be careful not to scratch or mar sleeve (7) or housing (11) bore).

## **A** CAUTION

Spool (9) and sleeve (7) are manufactured as a matched set. Do not intermix these parts.

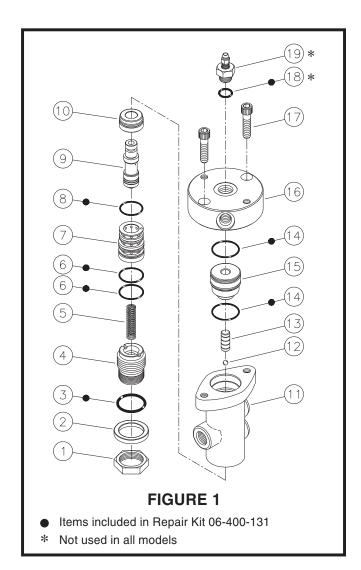
- 6. Separate spacer (10) and spool (9) from sleeve (7). NOTE: Excessive wear on either spool (9) or sleeve (7) may require replacement.
- 7. Remove o-rings (6 & 8) from sleeve (7).
- 8. Remove bleeder screw (19). Remove o-ring (18) from bleeder screw (19). **NOTE: Not all models** use bleeder screw (19) or o-ring (18).

#### **ASSEMBLY**

(Refer to Figure 1)

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

- 1. Clean all parts thoroughly before assembling. Lubricate spools (9 & 13) with clean type fluid used in the system.
- 2. Install new o-rings (6) on large diameter end of sleeve (7) and new o-ring (8) on smaller diameter end of sleeve (7).
- 3. Carefully insert spool (9) into sleeve (7). Note direction of spool.
- 4. Insert spacer (10) into housing (11) bore through end plug (4) end of housing. Note direction of spacer.
- Carefully insert sleeve (7) and spool (9) assembly into housing (11) bore using a wooden dowel. Note direction of assembly.
- 6. Install spring (5) into housing (11) bore.



- 7. Install end plug (4) and torque 10.9-20.3 N·m (96-180 lb·in) to seat sleeve. Then loosen end plug (4) 1/4 turn and torque 1.1-6.0 N·m (10-60 lb·in).
- 8. Install new o-ring (3), washer (2) and nut (1). Hold end plug (4) with a wrench and torque nut 67.8-81.4 N·m (50-60 lb·ft).
- 9. Install new o-rings (14) on sleeve (15). Carefully insert spool (13) into sleeve (15).
- 10. Install ball (12) on the top of spool (9) already in housing. Install sleeve (15) assembly in housing (11) bore.
- 11. Carefully install base (16) over sleeve (15) while aligning cap screws (17) with holes in housing (11). Torque cap screws 29.8-33.9 N·m (22-25 lb·ft).
- 12. Install new o-ring (18) on bleeder screw (19). Install bleeder screw (19) in base (16) and torque 39.3-43.4 N·m (29-32 lb·ft). NOTE: Not all models use bleeder screw (19) or o-ring (18).

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