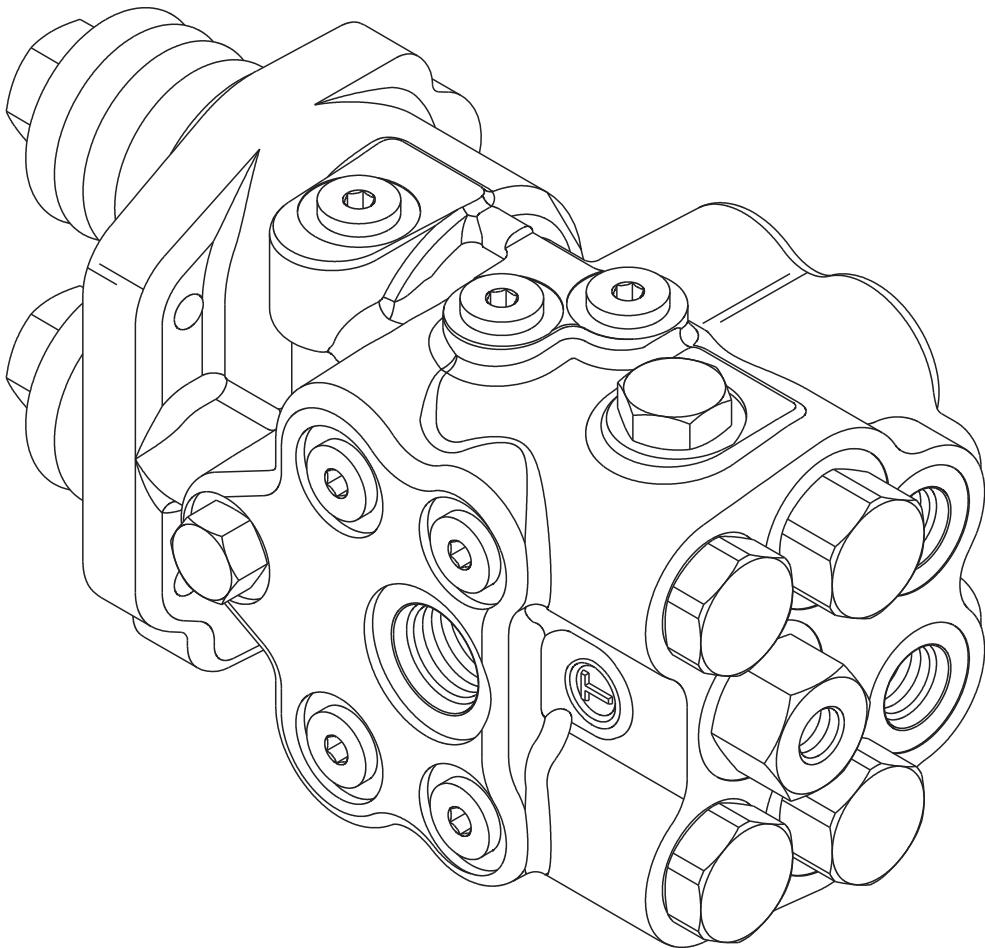


DUAL STEERING ASSIST VALVE



Service Instructions



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REFER TO MACHINE MANUFACTURER PROCEDURES AND RECOMMENDATIONS BEFORE REMOVING VALVE FROM VEHICLE.

NOTE

For reassembly purposes, arrange the parts in the order in which they are removed while disassembling this valve. Each part is specific to the housing bore from which it is removed. DO NOT INTERMIX SIMILAR PARTS. This literature services various models of dual steering assist valves. The components shown in Figure 1 may appear different than what is found in your valve.

VALVE DISASSEMBLY

(Refer to Figure 1)

1. Refer to machine manufacturer's service manual to remove the steering assist valve from the machine.
2. Remove boot/retainer assemblies (1 & 10) from the push rods. **NOTE: Push rods need not be removed unless they are being replaced.**
3. Separate boots (2) from retainers (3 & 11).
4. Remove piston (4), springs (5 & 6), shim(s) (7) and retainer (8) from housing (42). **NOTE: Be aware of the number of shim(s) removed.**
5. Remove piston (12), springs (13 & 14), shim(s) (15) and retainer (16) from housing (42). **NOTE: Be aware of the number of shim(s) removed.**
6. Carefully remove two quad-rings (9) from housing (42) bores. **NOTE: Be careful not to scratch or mar housing bores.**
7. Remove plug (21) from housing (42). Remove o-ring (20) from plug (21).
8. Remove retainer (19), spring (18) and spool (17) from housing (42). **NOTE: Be careful not to damage spool (17) or housing bore.**

⚠ CAUTION

Spool (17) and housing (42) bore are manufactured as a matched set and cannot be intermixed with other parts.

9. Remove plug (25) from housing (42). Remove o-ring (20) from plug (25).
10. Remove retainer (24), spring (23) and spool (22) from housing (42). **NOTE: Be careful not to damage spool (22) or housing bore.**

⚠ CAUTION

Spool (22) and housing (42) bore are manufactured as a matched set and cannot be intermixed with other parts.

11. Remove check valve (26) from housing (42). Remove o-rings (27 & 20) from check valve (26). **NOTE: Check valve (26) is not field serviceable. Do not tamper with check valve setting.**
12. Remove check valve (28) from housing (42). Remove o-rings (27 & 20) from check valve (28). **NOTE: Check valve (28) is not field serviceable. Do not tamper with check valve setting.**
13. Remove adaptor (29) from housing (42). Remove o-ring (20) from adaptor (29).
14. Remove plug (30) and ball (33) from housing (42). Remove o-rings (31 & 32) from plug (30).
15. Remove plug (34) from housing (42). Remove o-rings (32 & 31) from plug (34).
16. Remove plug (35) and ball (37) from housing (42). Remove o-ring (36) from plug (35).

17. Remove plug (38) from housing (42). Remove o-ring (20) from plug (38).
18. Remove ten plugs (39). Remove ten o-rings (36) from plugs (39).

VALVE ASSEMBLY

(Refer to Figure 1 and Table 1)

LUBRICATE ALL RUBBER COMPONENTS FROM REPAIR KIT WITH CLEAN TYPE FLUID USED IN THE SYSTEM. BE SURE ENTIRE ASSEMBLY PROCEDURE IS DONE WITH CONTAMINATION FREE METHODS.

FOR EASE OF REASSEMBLY, SEPARATE AND MATCH NEW O-RINGS TO OLD O-RINGS. USE TABLE 1 TO IDENTIFY O-RING SIZES.

1. Thoroughly clean housing and all parts with clean solvent and allow to dry before proceeding. Lubricate all parts and housing bores with clean type fluid used in the system.
2. Install ten new o-rings (36) on ten plugs (39). Install plugs (39) in housing (42) and torque 13.6-20.3 N·m (120-180 lb·in).
3. Install new o-ring (20) on plug (38). Install plug (38) in housing (42) and torque 47.5-54.2 N·m (35-40 lb·ft).
4. Install new o-ring (36) on plug (35). Install ball (37) and plug (35) in housing (42). Torque plug (35) 13.6-20.3 N·m (120-180 lb·in).
5. Install new o-rings (31 & 32) on plug (34). Install plug (34) in housing (42) and torque 27.1-32.5 N·m (20-24 lb·ft).
6. Install new o-rings (31 & 32) on plug (30). Install ball (33) and plug (30) in housing (42). Torque plug (30) 27.1-32.5 N·m (20-24 lb·ft).
7. Install new o-ring (20) on adaptor (29). Install adaptor (29) in housing (42) and torque 47.5-54.2 N·m (35-40 lb·ft).
8. Install new o-rings (20 & 27) on check valve (28). Install check valve (28) in housing (42) and torque 47.5-54.2 N·m (35-40 lb·ft).
9. Install new o-rings (20 & 27) on check valve (26). Install check valve (26) in housing (42) and torque 47.5-54.2 N·m (35-40 lb·ft).
10. Install new o-ring (20) on plug (25). Carefully install spool (22), spring (23), retainer (24) and plug (25) in housing (42). Torque plug (25) 47.5-54.2 N·m (35-40 lb·ft). Note direction of spool (22). **NOTE: Spool must slide freely into housing bore. If either the spool or housing bore are damaged, a new spool/housing matched set may be required.**

⚠ CAUTION

Spool (22) and housing (42) bore are manufactured as a matched set and cannot be intermixed with other parts.

11. Install new o-ring (20) on plug (21). Carefully install spool (17), spring (18), retainer (19) and plug (21) in housing (42). Torque plug (21) 47.5-54.2 N·m (35-40 lb·ft). Note direction of spool (17). **NOTE: Spool must slide freely into housing bore. If either the spool or housing bore are damaged, a new spool/housing matched set may be required.**

⚠ CAUTION

Spool (17) and housing (42) bore are manufactured as a matched set and cannot be intermixed with other parts.

12. Carefully install two new quad rings (9) in housing (42) bores. **NOTE: Be careful not to scratch or mar housing bores.**

TABLE 1 O-ring Identification

Item Number	Description	Quantity
20	O-ring, 0.644 I.D. x 0.818 O.D. x 0.087 thick	6
27	O-ring, 0.489 I.D. x 0.629 O.D. x 0.070 thick	2
31	O-ring, 0.478 I.D. x 0.629 O.D. x 0.078 thick	2
32	O-ring, 0.301 I.D. x 0.441 O.D. x 0.070 thick	2
36	O-ring, 0.351 I.D. x 0.495 O.D. x 0.072 thick	11

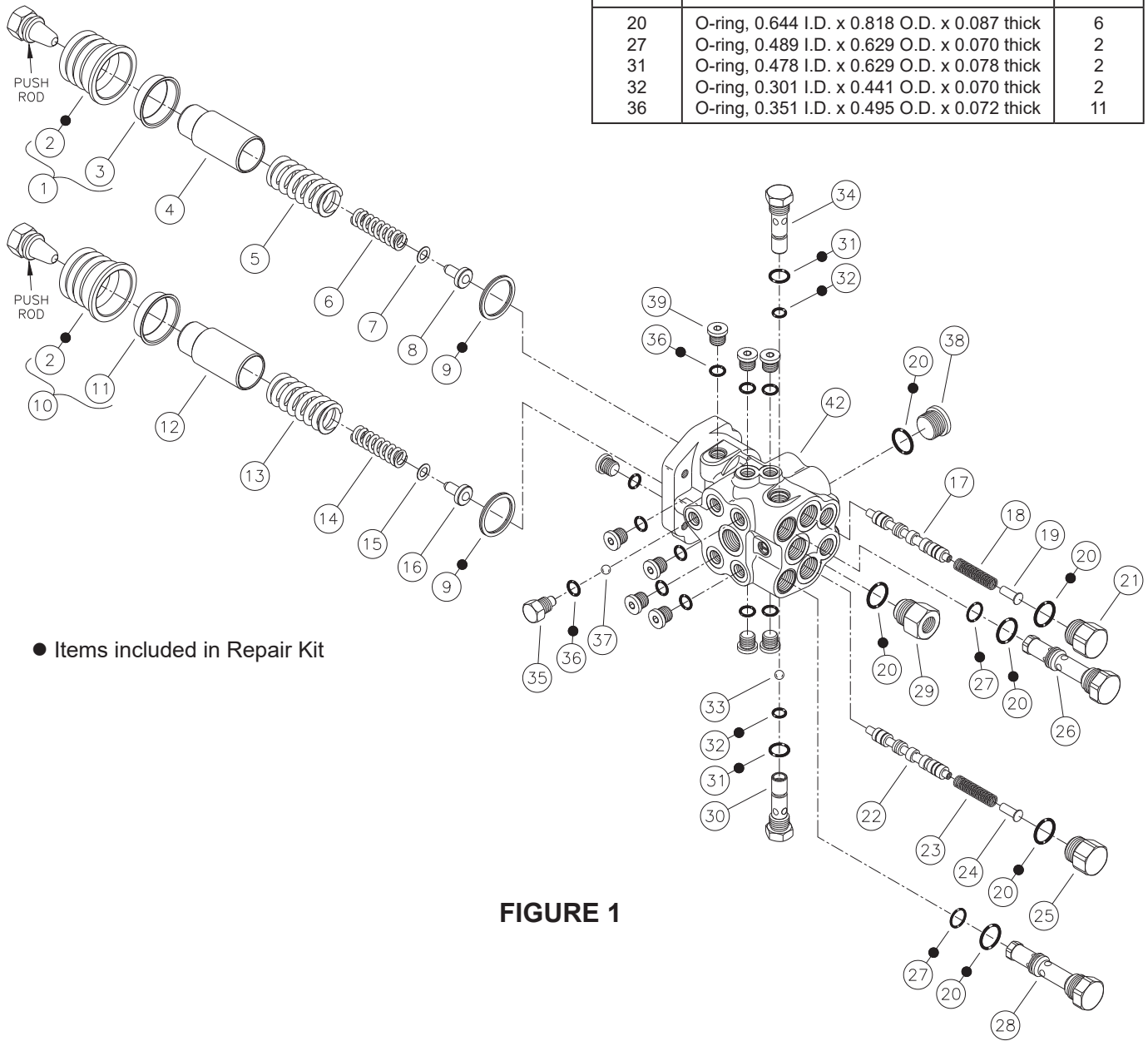


FIGURE 1

13. Install retainer (16), shim(s) (15), springs (13 & 14), and piston (12). Be sure to install the same number of shim(s) as were removed.
14. Install retainer (8), shim(s) (7), springs (5 & 6), and piston (4). Be sure to install the same number of shim(s) as were removed.
15. Install retainers (3 & 11) in new boots (2). Install boot/retainer assemblies (1 & 10) on push rods.
16. Properly reinstall steering assist valve on machine according to machine manufacturer's service manual. Be sure all lines are properly connected and do not leak. Hold machine from moving. See machine manufactures recommendations for start up. Be sure brakes and valve are fully operational in accordance with machine manufacturers recommendations before moving the machine.