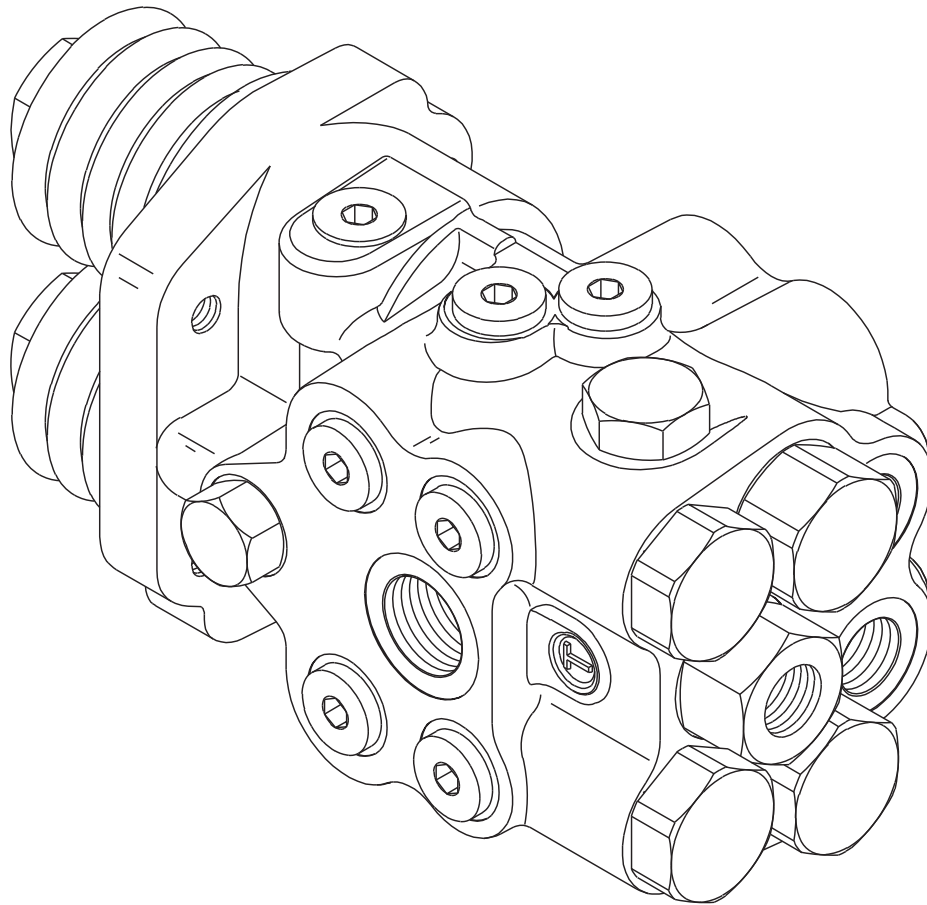


John Deere

DUAL BRAKE VALVE

Service Instructions



John Deere Part Numbers: AT187423, AT431633, AT541198

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

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.

VALVE DISASSEMBLY

(Refer to Figure 1)

⚠ CAUTION

Do not tamper with pushrod/clevis assemblies (1 & 12). These pushrod/clevis assemblies are adjusted to a specific length for each half of each valve. DO NOT INTERMIX.

NOTE

Boots (2) and retainers (3 & 13) can remain attached to pedal assembly unless replacement is necessary

1. Remove piston (4), springs (5 & 6), shim(s) (7), retainer (8), spring (9) and retainer (10) from housing (45).

NOTE: Be aware of the number of shim(s) removed.

2. Remove piston (14), springs (15 & 16), shim(s) (17), retainer (18), spring (19), and retainer (20) from housing (45). **NOTE: Be aware of the quantity of shim(s) removed.**
3. Carefully remove quad-rings (11) from housing (45) bores. **NOTE: Be careful not to scratch or mar housing bores.**
4. Remove end plug (25) from housing (45). Remove o-ring (24) from end plug (25).
5. Remove retainer (23), spring (22), and spool (21) from housing (45). **NOTE: Be careful not to damage spool (21) or housing bore.**

⚠ CAUTION

Spool (21) and housing (45) bore are manufactured as a matched set and cannot be intermixed with other parts.

6. Remove end plug (29) from housing (45). Remove o-ring (24) from end plug.
7. Remove retainer (28), spring (27), and spool (26) from housing. **NOTE: Be careful not to damage spool (26) or housing bore.**

⚠ CAUTION

Spool (26) and housing (45) bore are manufactured as a matched set and cannot be intermixed with other parts.

8. Remove check valve (30) from housing (45). Remove o-rings (31 & 24) from check valve (30). **NOTE: Check valve (30) is not field serviceable. Do not tamper with check valve setting.**
9. Remove check valve (32) from housing (45). Remove o-rings (31 & 24) from check valve (30). **NOTE: Check valve (30) is not field serviceable. Do not tamper with check valve setting.**

10. Remove adaptor (33) from housing (45). Remove o-ring (24) from adaptor (33).
11. Remove end plug (34) and ball (37) from housing (45). Remove o-rings (36 & 35) from end plug (34).
12. Remove end plug (38) from housing (45). Remove o-rings (36 & 35) from end plug (38).
13. Remove plug (39) and ball (37) from housing (45). Remove o-ring (40) from plug (39).
14. Remove plug (41) from housing (45). Remove o-ring (24) from plug (41).
15. Remove nine plugs (42). Remove nine o-rings (40) from plugs (42).
16. Remove plug (43) from housing (45). Remove o-ring (44) from plug (43).

VALVE ASSEMBLY

(Refer to Figure 1)

THE SEAL KIT DOES NOT INCLUDE ALL O-RINGS TO SERVICE THIS VALVE. THE CUSTOMER IS TO PROVIDE STANDARD SAE SIZE O-RINGS THAT ARE COMPATIBLE WITH MINERAL BASE HYDRAULIC OIL.

LUBRICATE ALL RUBBER COMPONENTS FROM SEAL KIT AND CUSTOMER SUPPLIED O-RINGS WITH CLEAN TYPE FLUID USED IN THE SYSTEM.

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 new o-ring (44) on plug (43). Install plug (43) in housing (45) and torque 5.1-6.2 N·m (45-55 lb·in).
3. Install nine new o-rings (40) on nine plugs (42). Install plugs (42) in housing (45) and torque 13.6-20.3 N·m (120-180 lb·in).
4. Install new o-ring (24) on plug (41). Install plug (41) in housing (45) and torque 47.5-54.2 N·m (35-40 lb·ft).
5. Install new o-ring (40) on plug (39). Install new ball (37), and plug (39) in housing (45). Torque plug (39) 13.6-20.3 N·m (120-180 lb·in).
6. Install new o-rings (35 & 36) on plug (38). Install plug (38) in housing (45) and torque 27.1-32.5 N·m (20-24 lb·ft).
7. Install new o-rings (35 & 36) on plug (34). Install new ball (37), and plug (34) in housing (45) and torque plug 27.1-32.5 N·m (20-24 lb·ft).
8. Install new o-ring (24) on adaptor (33). Install adaptor (33) in housing (45) and torque 47.5-54.2 N·m (35-40 lb·ft).
9. Install new o-rings (24 & 31) on check valve (32). Install check valve (32) in housing (45) and torque 47.5-54.2 N·m (35-40 lb·ft).
10. Install new o-rings (24 & 31) on check valve (30). Install check valve in housing (45) and torque 47.5-54.2 N·m (35-40 lb·ft).

TABLE 1 O-Ring Identification

Item Number	Description	Quantity
*24	O-Ring, .644 I.D. x 0.818 O.D. x .087 Thick	5
31	O-Ring, .489 I.D. x 0.629 O.D. x .070 Thick	2
*35	O-Ring, .478 I.D. x 0.629 O.D. x .078 Thick	2
36	O-Ring, .301 I.D. x 0.441 O.D. x .070 Thick	2
*40	O-Ring, .351 I.D. x 0.495 O.D. x .072 Thick	10

* Customer supplied standard SAE o-rings, mineral base hydraulic oil compatible.

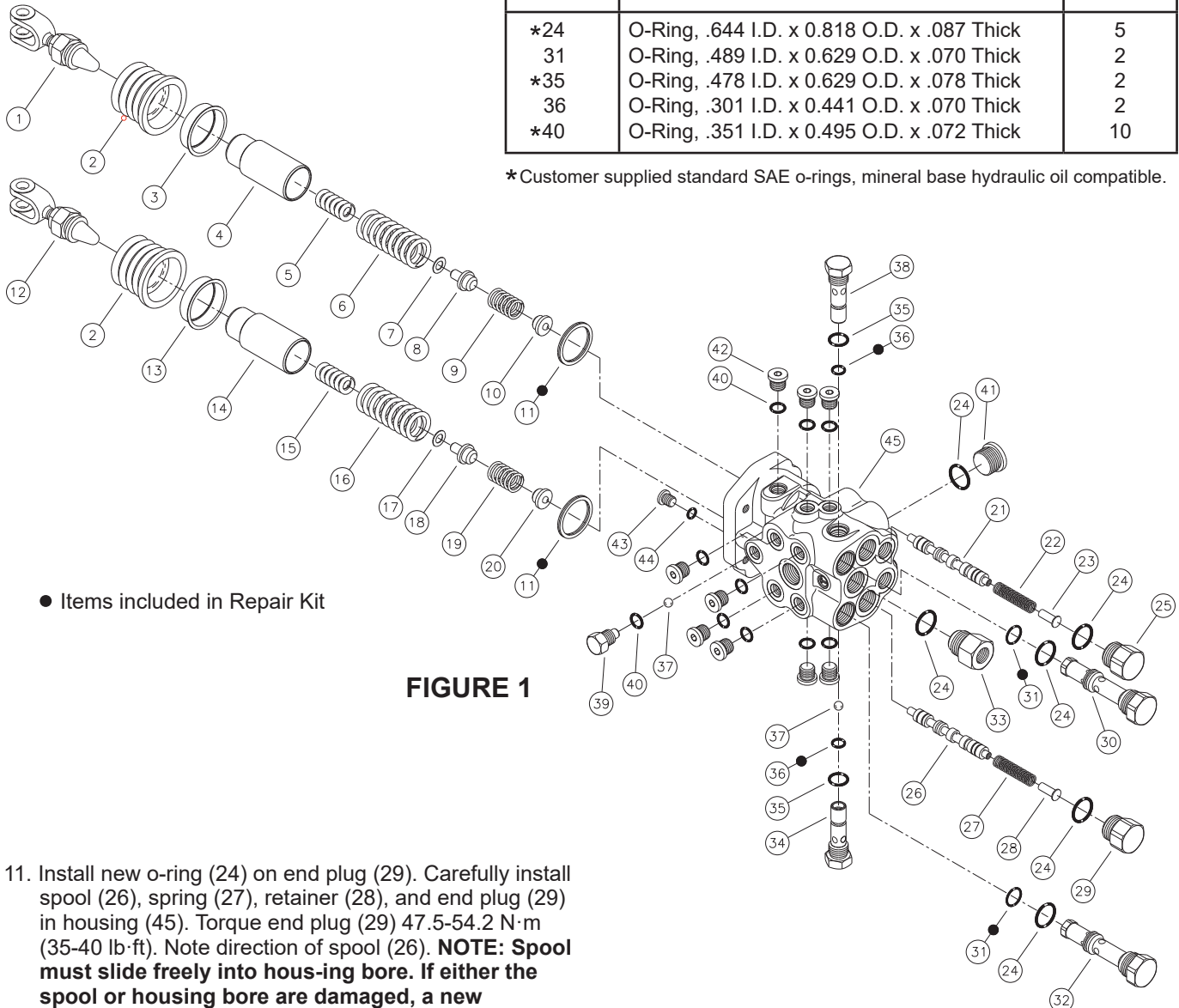


FIGURE 1

11. Install new o-ring (24) on end plug (29). Carefully install spool (26), spring (27), retainer (28), and end plug (29) in housing (45). Torque end plug (29) 47.5-54.2 N·m (35-40 lb·ft). Note direction of spool (26). **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 (26) and housing (45) bore are manufactured as a matched set and cannot be intermixed with other parts.

12. Install new o-ring (24) on end plug (25). Carefully install spool (21), spring (22), retainer (23), and end plug (25) in housing (45). Torque end plug (25) 47.5-54.2 N·m (35-40 lb·ft). Note direction of spool (21). **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 (21) and housing (45) bore are manufactured as a matched set and cannot be intermixed with other parts.

13. Carefully install new quad rings (11) in housing (45) bores. **NOTE: Be careful not to scratch or mar housing bores.**
14. Install retainer (20), spring (19), retainer (18), shim(s) (17), springs (16 & 15), and piston (14). Be sure to install the same quantity of shim(s) as were removed.
15. Install retainer (10), spring (9), retainer (8), shim(s) (7), springs (6 & 5), and piston (4). Be sure to install the same number of shim(s) as were removed.
16. Properly reinstall valve on machine. Be sure all lines are properly connected and do not leak. Hold machine from moving. See machine manufacture recommendations for start up. Be sure brakes and valve are fully operational in accordance with machine manufacture recommendations before moving the machine.