

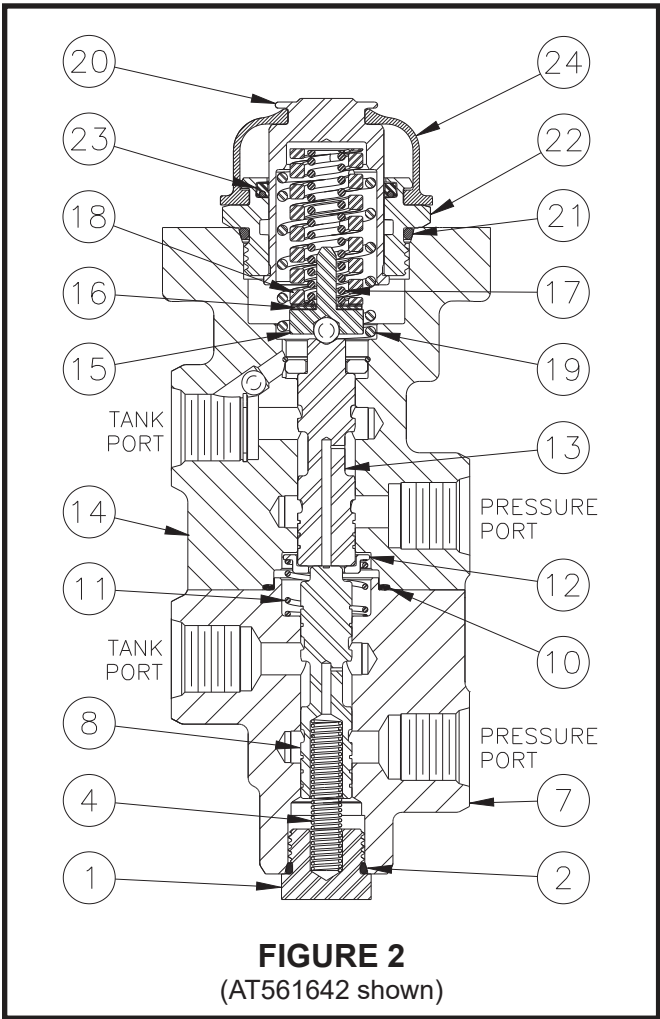
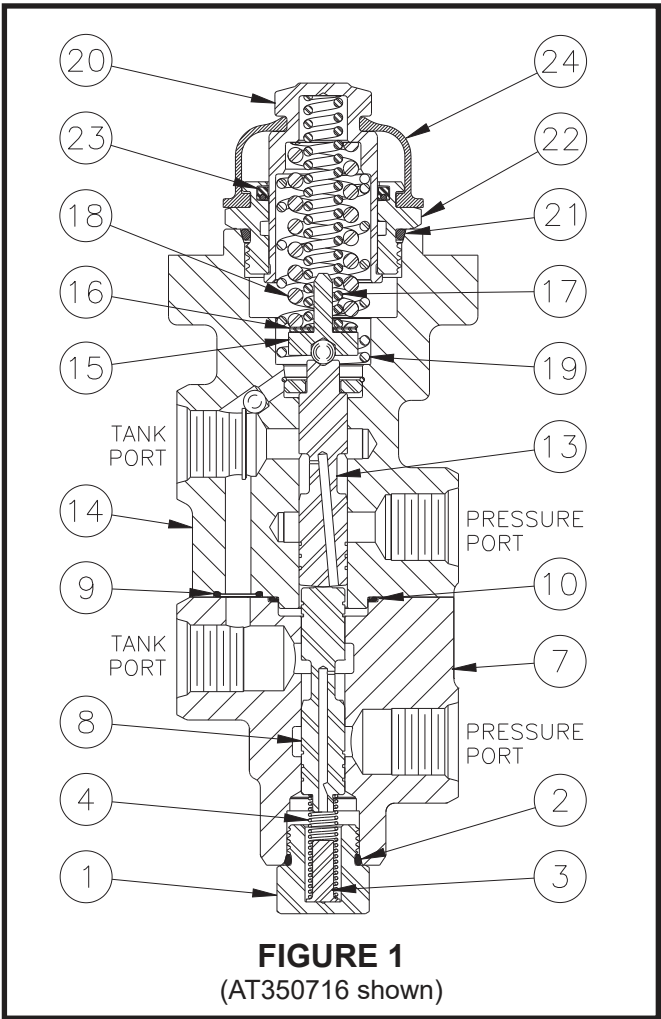
Service Instructions

TANDEM

MODULATING VALVE

TABLE 1 (Specifications)

John Deere Part Number	John Deere Repair Kit Number	Brake Pressure Setting		Refer to Figures
		bar	(PSI)	
AT350716	AT350715	62.1 +3.1/-0.7	(900 +45/-10)	1 & 3
AT393343	AT350715	55.2 ± 2.8	(800 ± 40)	1 & 3
AT407519	AT350715	71.0 +3.5/-1.4	(1030 +50/-20)	1 & 3
AT512188	AT350715	71.0 +3.5/-1.4	(1030 +50/-20)	1 & 3
AT561642	AT350715	71.0 ± 2.1	(1030 ± 30)	2 & 4



NOTE

Housings (7 & 14) and spools (8 & 13) are manufactured as matched sets. These sets must not be intermixed with other parts.

DISASSEMBLY

(Refer to Figures 1, 2, and 3)

1. Remove boot (24) from retainer (22) and piston (20).
2. Remove retainer (22), piston (20), springs (17, 18, & 19), shim(s) (16), and retainer assembly (15) from housing (14). **NOTE: Be aware of the number of shim(s) (16) being removed from housing (14).**
3. Carefully remove cup (23) and o-ring (21) from retainer (22). Note direction of cup (23) as well as its location. **NOTE: Be careful not to scratch or mar retainer bore.**
4. Remove end plug (1), retainer (3), and spring (4) from housing (7). Remove o-ring (2) from end plug (1). Not all models use retainer (3).
5. Separate housings (7 & 14) by removing cap screws (5) and washers (6). Remove o-rings (9 & 10), spring (11), and retainer (12) from housings (7 & 14). Not all models use o-ring (9), spring (11), or retainer (12).
6. Carefully remove spools (8 & 13) from housings (7 & 14). **NOTE: Be careful not to damage spools or housing bores.**

CAUTION

Do not intermix spools and housings. Spool (8) and housing (7) are a matched set, as well as spool (13) and housing (14).

ASSEMBLY

(Refer to Figures 1, 2, and 3)

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 (13) with clean system fluid and carefully slide into bottom end of housing (14) bore. Note direction of spool (13). **NOTE: Spool must slide freely into bore. If either part is damaged, a new valve assembly may be required.**
3. Install new o-rings (9 & 10) in proper o-ring pockets on housings (7 & 14). Install spring (11) and retainer (12). Not all models use o-ring (9), spring (11), or retainer (12). **NOTE: Model AT561642 uses new o-ring (10) with the smooth inside diameter.**
4. Reassemble housings (7 & 14) using cap screws (5) and washers (6). Use Loctite 242 or equivalent on cap screws and torque 29.8-33.9 N·m (22-25 lb·ft). **NOTE: Make sure housings line up correctly and that o-rings (9 & 10), spring (11), and retainer (12) remain in place during assembly.**
5. Lubricate spool (8) with clean system fluid and carefully slide into housing (7) bore. Note direction of spool (8). **NOTE: Spool must slide freely into bore. If either part is damaged, a new valve assembly may be required.**
6. Install new o-ring (2) on end plug (1).
7. Install spring (4), retainer (3), and end plug (1) into housing (7). Torque end plug (1) 47.5-54.2 N·m (35-40 lb·ft). Not all models use retainer (3).
8. Carefully install new cup (23) and new o-ring (21) on retainer (22). Note direction of cup (23). See Figures 1 and 2 on page 1 for cup location in retainer (22) bore. **NOTE: Be careful not to scratch or mar retainer bore.**

● Items included in Repair Kit

* Not used in all models

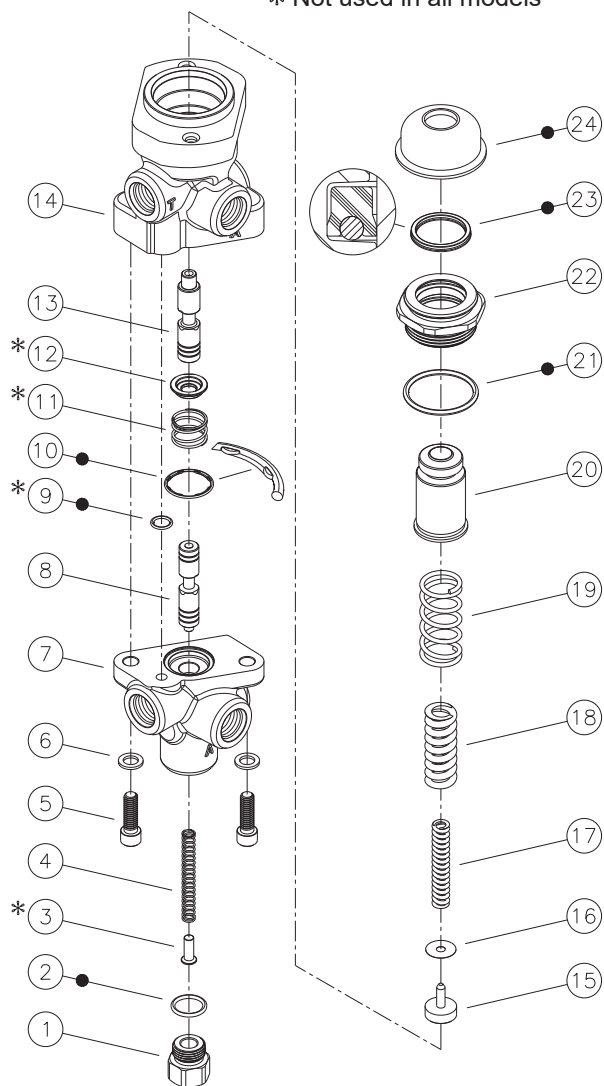


FIGURE 3

9. Assemble springs (17, 18, & 19), shim(s) (16), and retainer assembly (15) in piston (20).
10. Carefully install piston (20) assembly and retainer (22) into housing (14). Torque retainer (22) 81.4-94.9 N·m (60-70 lb·ft).
11. Install new boot (24) on retainer (22) and piston (20).

NOTE

After service, the valve must develop the pressure as indicated in the specifications, TABLE 1 on page 1. Shim(s) (16) 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.