42-47RH/RE, 48RE

PART NUMBERS 22771A-13, -TL13

Oversized 4-Spool Switch Valve

22771A-13

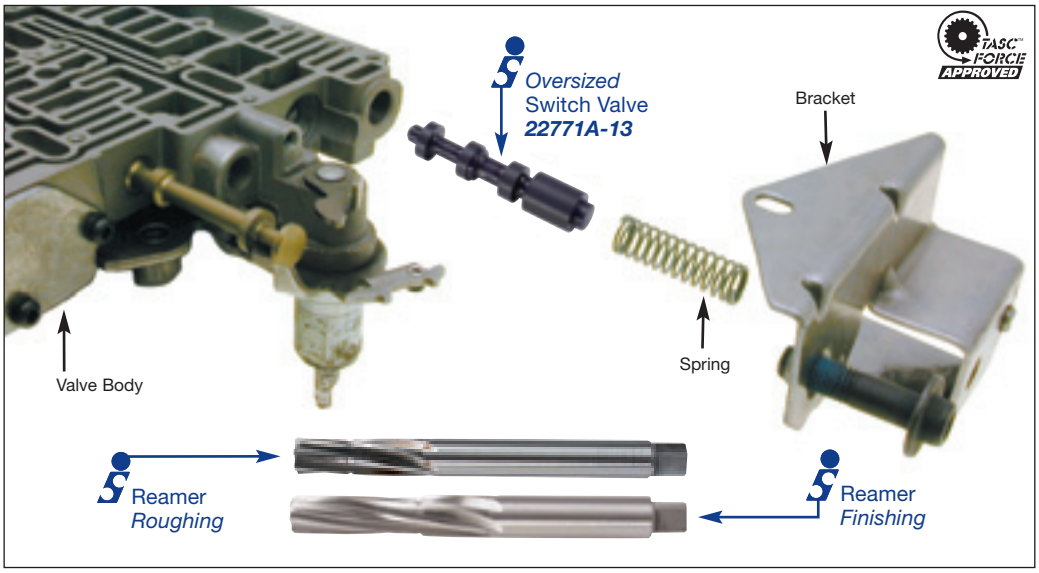
Oversized

1 Switch Valve

22771A-TL13

1 Reamer — Roughing
1 Reamer — Finishing

Notes: This kit can only be used to replace 4-spool design or OEM valves or bore repair with OEM 4-spool design.



WET AIR TEST:

Perform these two Wet Air ests with the valve, spring and bracket still in position.They are shown removed in the photo at right to help locate the slots. Add oil, followed by regulated shop air to the 2nd or 3rd slot at the balance end, while sealing the other. No leakage should be seen at the 1st or 4th slots. Repeat the test, applying oil and air to the second slot at the spring end of the valve. No leakage should be seen at the slots to either side.

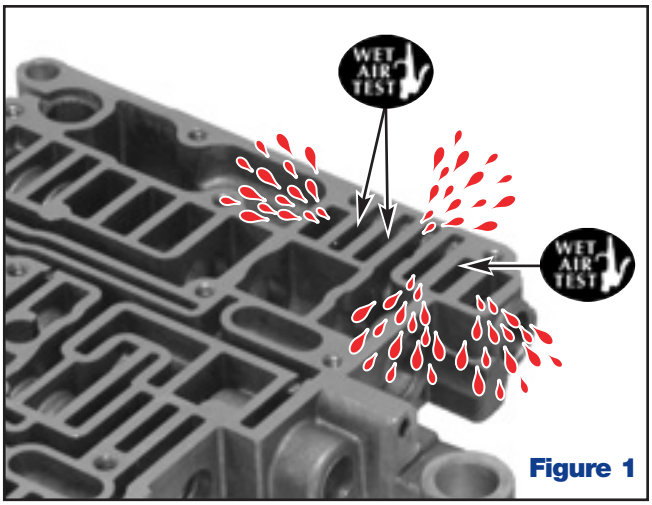


Figure 1

DISASSEMBLY:

Remove the OEM switch valve and spring.

VALVE BODY PREPARATION:

Clean valve body bore with solvent to remove any sludge or metal shavings. Clamp valve body to bench or **VB-FIX**, horizontally with open circuits up. Do not clamp directly over the bore to be reamed as this may distort the bore.

REAMING INSTRUCTIONS:

1. Ream the switch valve bore with the stepped reamer marked "**22771A-RM13**."
   Note: This piloted reamer does not require a reamer guide. Lubricate reamer and valve body bore with cutting fluid.
2. Insert reamer into bore until chamfered cutting tip contacts inner bore opening. Using a speed handle, ream bore clockwise at 1 to 2 turns per second. This reaming operation should take approximately 1 minute.
3. With low air pressure and reamer still in bore, blow chips out of bore.
4. Turning clockwise, remove the reamer from the bore. Clean the remaining chips from the bore.
5. Insert Sonnax reamer marked "**22771A-RM14**" into bore until chamfered cutting tip contacts inner bore opening.
   Note: This piloted reamer does not require a reamer guide. Lubricate reamer and valve body bore with cutting fluid.

(Reaming Instructions continued on page 2)

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REAMING INSTRUCTIONS: *(continued from page 1)*

6. Using same procedure as above, ream bore. This second reaming operation should take approximately 1 minute as well.
7. Clean the valve body thoroughly before assembly.

INSTALLATION:

Install new switch valve reusing the OEM spring.

Modify separator plate per instructions below.

Separator Plate Modifications Information

Open the exhaust port/slot cut in the plate. The exhaust should be .350"-.400" wide on gas or .450"-.500" wide on diesel.

The wider the slot, the faster the release oil exhausts and a firmer apply is felt.

Open the TRE orifice that was originally .042" to .062". This is the .042" orifice inboard of the slot mentioned above. **Going larger than .062" will create a bump on TCC apply.**

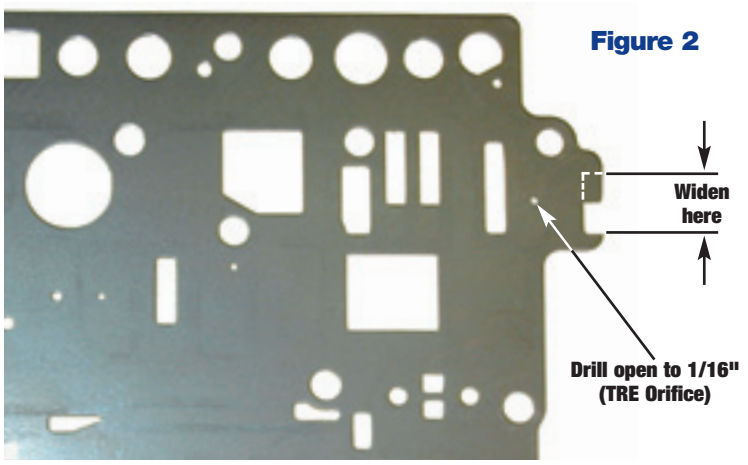
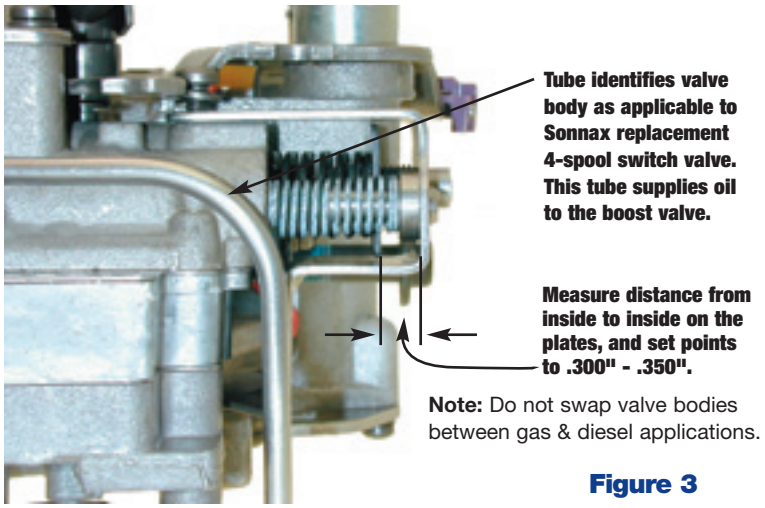


Figure 2

Pressure Regulator Spring Adjustment

Each full clockwise turn of the adjuster will distance the plate by .050". Adjust to obtain a distance of .300"-.350" (see illustration).

Adjust the pressure regulation spring to obtain a setting of 60-65 psi at idle in drive. Verify by installing gauge into line pressure tap (passenger side, middle of case, between accumulators). Line pressure will be boosted at TCC apply and 4th gear. Use caution adjusting the spring or high pressure will create bind-ups from cross leaks and increase throttle sensitivity. Distance measurement for spring setting will approximate correct line pressure only if black OEM spring (.062" wire gauge) is used. Aftermarket springs will require pressure gauge reading and subsequent readjustment of the distance setting to obtain the correct line pressure.



Note: Do not swap valve bodies between gas & diesel applications.

Figure 3