

# 8L90-S1REG-OS

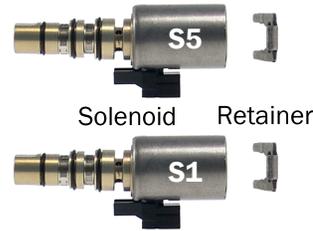
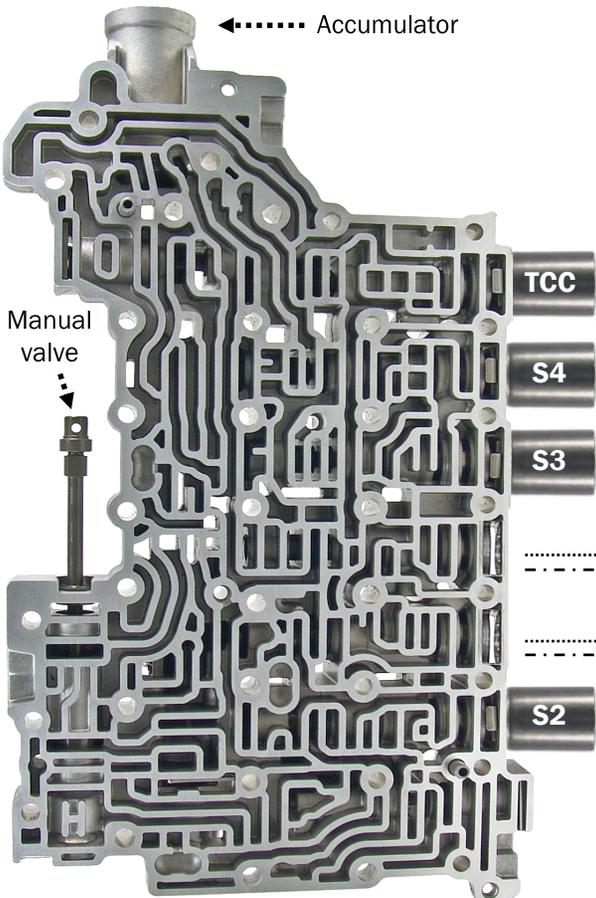
Oversize S1 and S5 regulator valve  
Fits GEN1 8L45, 8L90

Requires #8L90-S1REG-TK Tool Kit



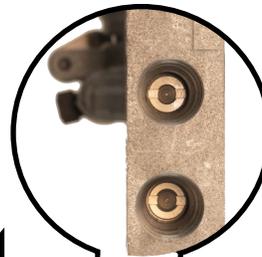
## Corrects/Prevents/Reduces:

- Harsh, delayed reverse engagement
- Harsh, slipping, or missing 2-3, 3-4, or 6-7 shifts
- Coast downshift clunks 3-2, 4-3, or 7-6
- Transmission Control Solenoid Valve 1 or 5 Stuck Off (P0746, P2723)  
Stuck On (P0747, P2724)



**Step 1.** Prior to removing solenoids, make sure to mark them so to know which bore they go in. Even those with the same code number on them have different flowrates. They must go back into the same bore they came out of. With the valve body orientation as shown, with the accumulator at the top, and manual valve on the left, remove **S1** and **S5** retainer and solenoid and set them aside.

**Listen-up!** It's easy to get confused and take out the wrong valves. Once the solenoids have been removed, double check to confirm you are working on the correct bores. Both **S1** and **S5** have a circle with one line across as shown on the left and in the chart below. If the valves do not have a circle with one line across, you removed the wrong solenoid.

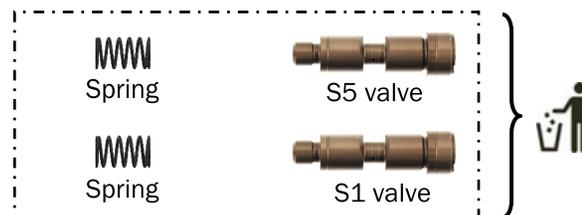


Look here

## Regulator valves identification

- S1 and S5**
- TCC-S2-S3-S4 (Early) Use #8L90-REG-OS, see last page for details.
- S4 Late Use #8L90-S4LATE-OS, see last page for details.

**Step 2.** Once S1 and S5 valves have been identified, discard springs and valves.



## Listen up!

Should you mistakenly use the wrong reamer **you will do irreparable damage to your valve body!**

There is less than 0.020" difference in diameter between the reamer for S1 and S5 regulator valves and the TCC-S4-S3-S2 regulator valves. The two look similar to the naked eye. **Double check** the reamer you are about to use has **8L9-S1-RMR** inscribed on it.

With the valve body turned over and oriented as shown below with the accumulator side at the top and the manual valve on the right, you need to see the letter **D** and **E** above the two bores on the valve body casting itself.

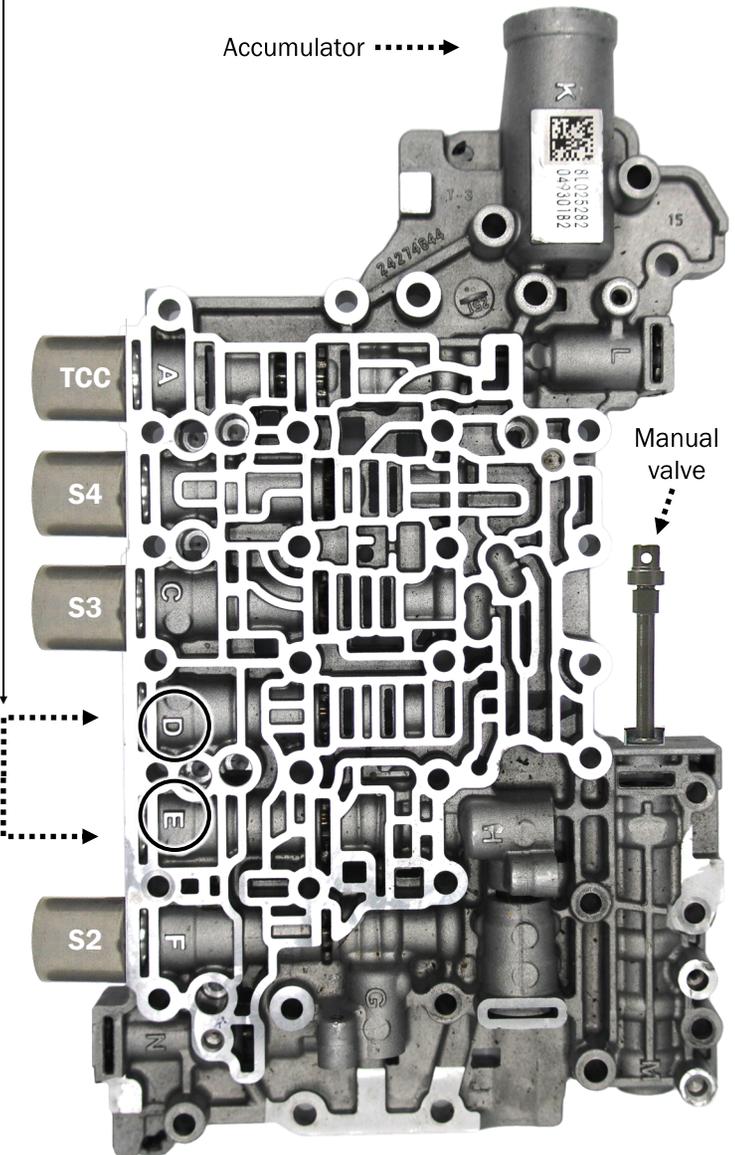
**Step 3.** Slide the **reamer guide** onto the reamer **large opening** until it bottoms out on the **reamer's flutes**.

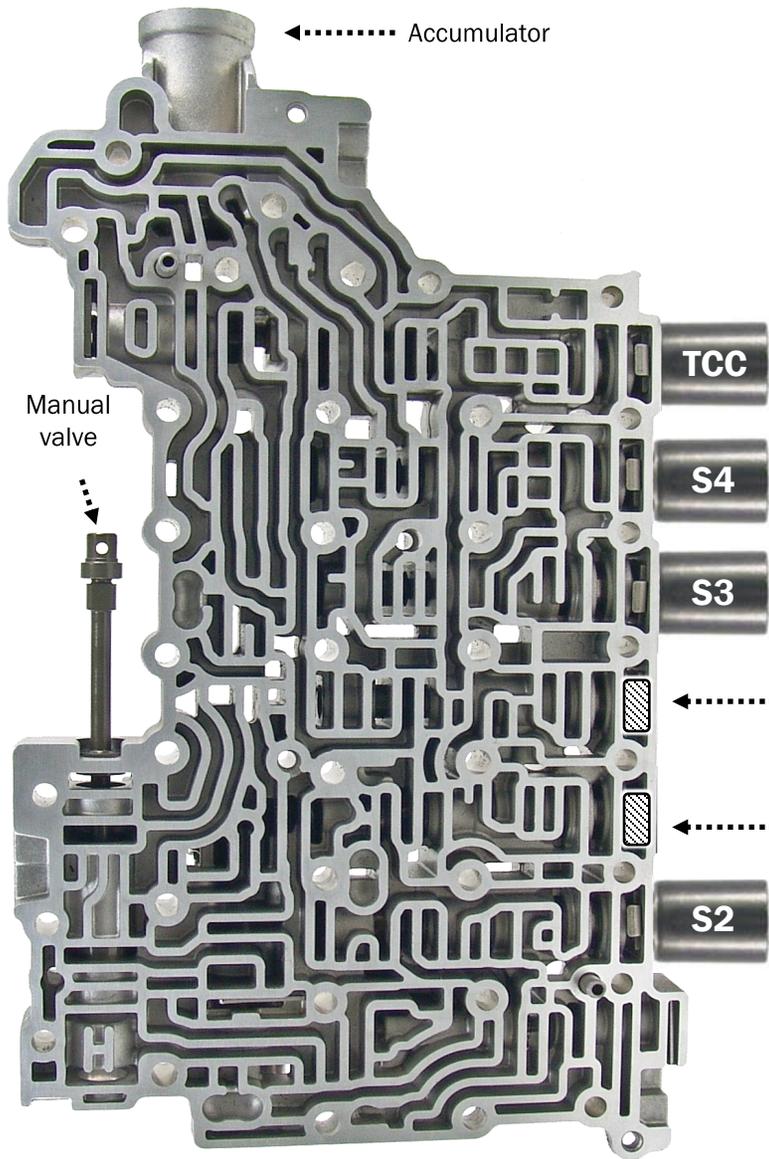


**Step 4.** Insert the reamer and guide assembled in the previous step into the bores D and E. Using plenty of WD-40<sup>®</sup>, ream the bore using a hand drill at low speed and let the reamer do the cutting. Don't force it!



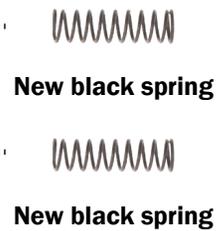
**Step 5.** Remove the reamer and guide, thoroughly clean the valve body bore using solvent and compressed air.





**Step 6.** Return the valve body to original position, with accumulator at the top and manual valve on the left. Install **new black springs** and **new regulator valves** and make sure they move freely.

**Step 7.** Lubricate the solenoid O-rings and insert each solenoid back into the same bore it came out originally and secure them in place with the retainer inserted the location marked with a → .



**Listen up!**

Once done with the installation, always clear all DTCs, then perform the fast learn procedure using a capable scan tool. Follow the instructions provided by the tool. The procedure will not be completed or will abort if the fluid temperature is not within the correct range, if there are any codes, or if any other conditions listed in the procedure instructions are not met.

Next, conduct an extensive road test to allow for the fine-tuning of each shift. The transmission adapts best under normal driving conditions, so avoid extremely light or heavy-footed driving.

If one or more gear changes do not smooth out, verify the transmission is at normal operating temperature and there are no engine, transmission, traction control, or anti-lock DTCs. Numerous codes can cause the computer to pause adaptation. Finally, ensure the vehicle is neither low on fuel nor has a completely full tank. Adaptation may not occur if the fuel level is not between 1/4 and 3/4 of a tank.