

### TCC Regulator & Isolator Valve Kit

**Part No.**  
**77754-03K**



- Isolator Valve
- Spring
- Regulator Valve
- Regulator Sleeve

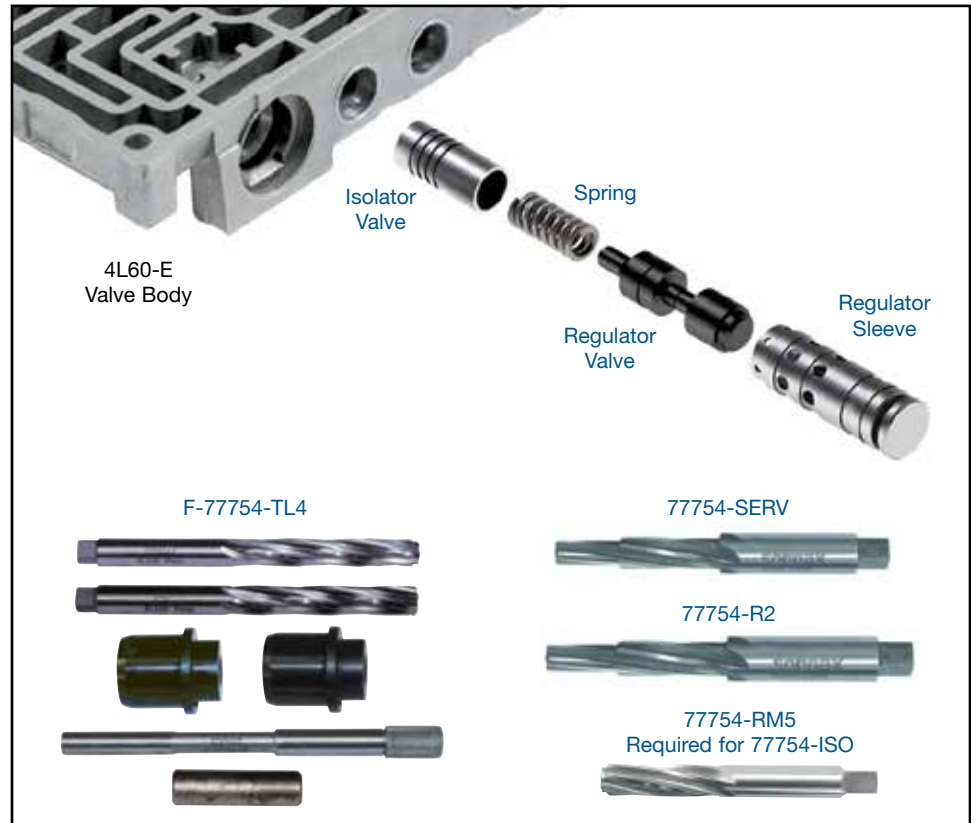
Patent Nos. 6,990,996 & 7,104,273

**NOTE:** 4L60-E '97-earlier only, non-EC3 units.



**NOTE:** See "Part Selection" on this page and "Reaming Options" on page 2 for usage & tooling requirements.

### GM 4L60-E, 4L65-E, 4L70-E



#### 1. Part Selection

**a. There are two TCC regulator valve kit options. Selection is based on the application year and TCC apply strategy.**

- **77754-04K** matches the OE apply rate. It can be used in any application and is required in '98-later vehicles using EC3 apply strategy.
- **77754-03K** has an increased apply rate and should only be used in '97-earlier vehicles which do not use EC3 apply strategy, though it can be used in PWM applications.

**b. Measure OE Isolator Valve Diameter & Evaluate Isolator Section of Bore for Wear**

OE Isolator Valve Diameter	Isolator Bore Worn?	Use Reaming Option	Install Sonnax Part Number
.441"	No	Reaming Option <b>A</b>	<b>77754-03K</b> or <b>77754-04K</b>
.441"	Yes	Reaming Option <b>B</b>	<b>77754-03K</b> or <b>77754-04K</b> and <b>77754-ISO</b>
.473"	N/A	Reaming Option <b>C</b>	<b>77754-03K</b> or <b>77754-04K</b> and <b>77754-ISO</b>

## Tool Kits

### Part No.

**77754-R2**

Reamer For Non-Serviced VB

### Part No.

**77754-SERV**

Reamer For GM-Serviced VB

### Part No.

**77754-RM5**

Reamer Use with 77754-ISO



### Part No.

**F-77754-TL4**

- Reamers (2)
- Reamer Jigs (2)
- Guide Pin
- Stop Pin

**NOTE:** Sonnax "F-Tool" kits designed to service a specific bore require the **VB-FIX**, a self-aligning valve body reaming fixture. More information and instructions can be found online at [www.sonnax.com](http://www.sonnax.com).

## 2. Reaming Options

### a. Isolator valve was .441" dia. and isolator bore is not worn:

- Bench Tool Option – use **77754-R2**
- F-Tool Option – use **F-77754-TL4** and **VB-FIX**

### b. Isolator valve was .441" dia. but isolator bore is worn:

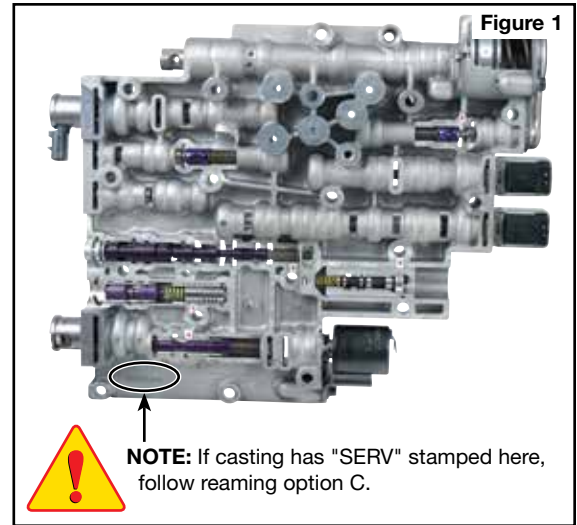
- Bench Tool Option – use **77754-R2** followed by **77754-RM5**
- F-Tool Option – use **F-77754-TL4** and **VB-FIX**

### c. Isolator valve was .473" dia. – GM Service valve body (Figure 1):

- Bench Tool Option – use **77754-SERV** followed by **77754-RM5**
- F-Tool Option – use **F-77754-SERV** followed by **F-77754-TL4**, each using **VB-FIX**



**NOTE:** Tool kit **F-77754-SERV** is no longer in production but may be available from distributor inventory.



**NOTE:** If casting has "SERV" stamped here, follow reaming option C.

## 3. Disassembly

Remove and discard OE valve train. Save OE retainer for reuse.

## 4. Reaming Instructions



**NOTE:** The following reaming instructions are for bench tool reaming only (see reaming options A, B or C above). Reaming directions for F-tool kits that utilize the VB-FIX can be found on those individual tool kit instructions.

### CAUTIONS & SUGGESTIONS:

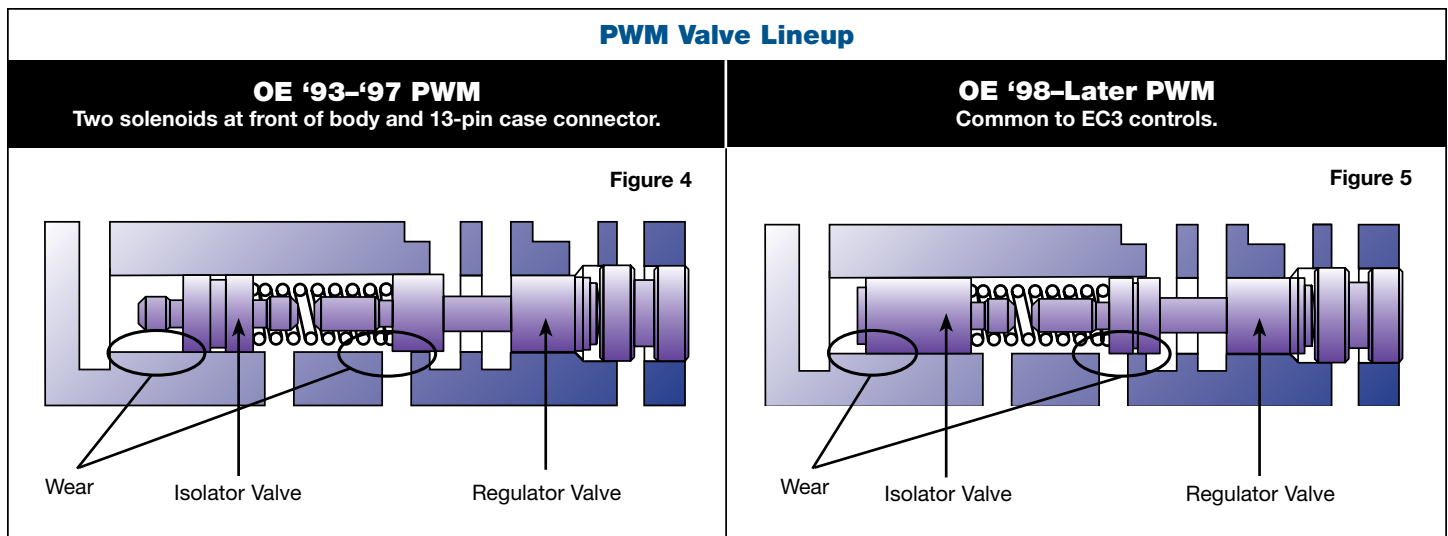
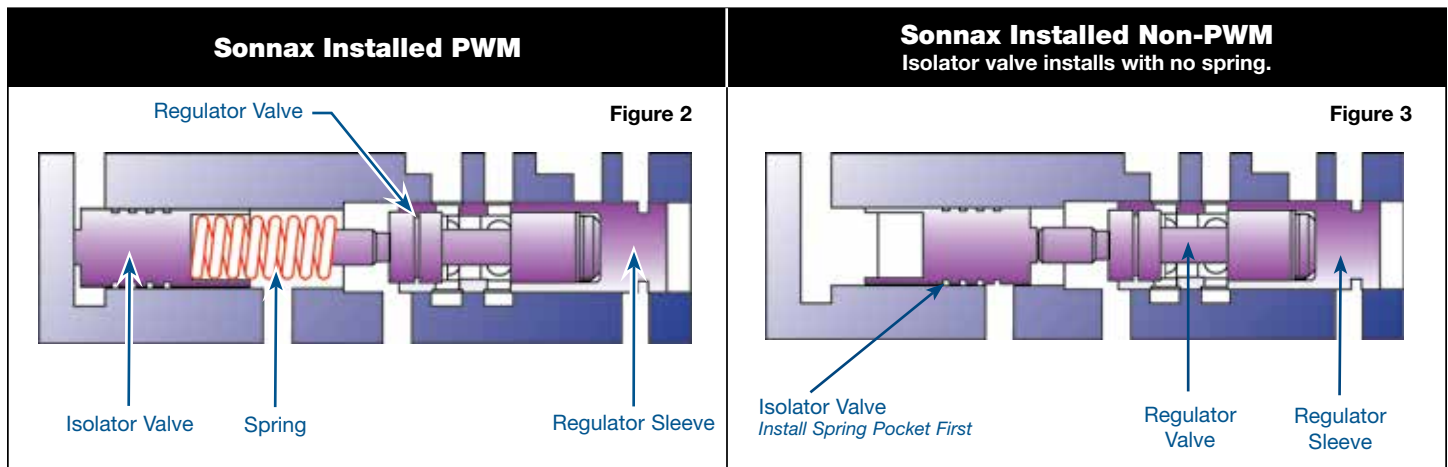
- Turning the reamer backward will dull it prematurely.
- Pushing on the reamer will result in poor surface finish and inadequate and sporadic material removal.
- Never use a crescent wrench, ratchet or pliers to turn the reamer.
- A dull reamer will cut a smaller hole. Reamers can be sharpened, but should only be done by a professional tool sharpener. Actual life of a Sonnax reamer before resharpening or replacing averages 50-70 bores.
  - a. Clean bore thoroughly in a solvent tank.
  - b. Generously lubricate the bore and reamer with cutting fluid (i.e. Mobilmet S-122, Lubegard® Bio-Tap, Tap Magic™, etc.). For best results, provide a continuous flow of cutting fluid during the reaming process.
  - c. Gently insert the proper reamer into the bore until the cutting tip contacts the first land to be reamed. For Bench Tool options A or B, use **77754-R2** for this step. For Bench Tool option C, use **77754-SERV** for this step.
  - d. Use a loose-fitting reamer socket and a wobble adapter to ream the bore. The reamer can be turned by using a speed handle or with a low-RPM, high-torque drill regulated to a maximum of 200 RPM. The reaming actions must be clockwise in smooth and continuous motion at 60-200 RPM. Continue reaming until the reamer stop is reached.

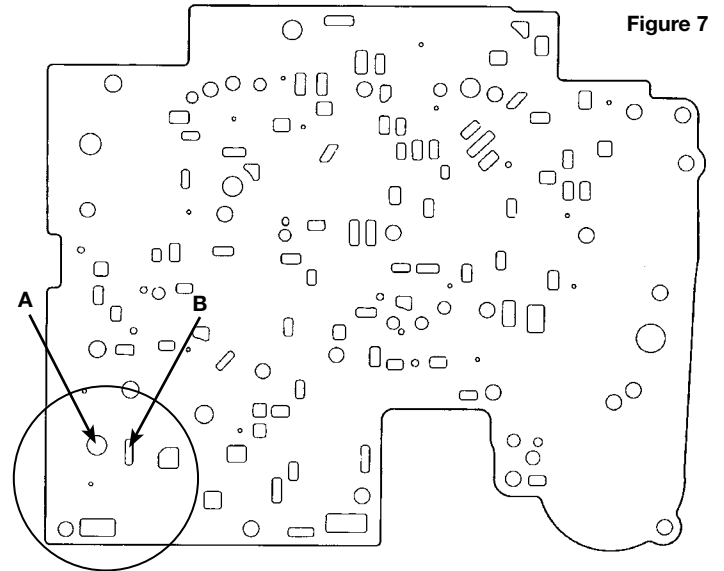
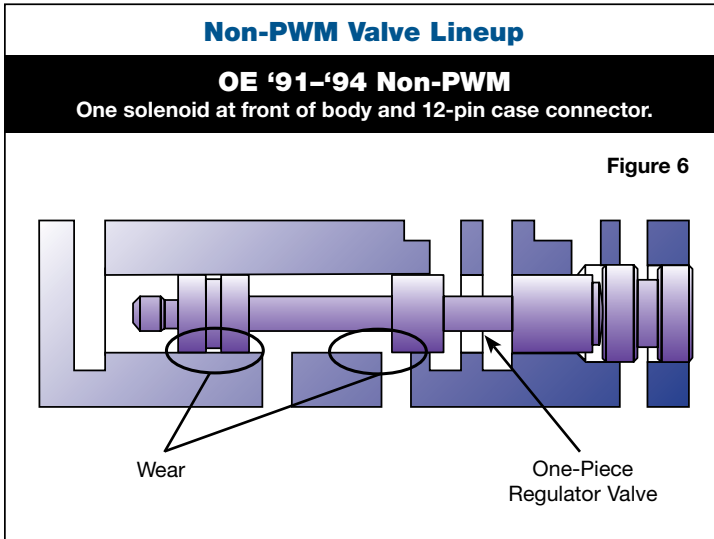
### 4. Reaming Instructions (continued)

- e. Using low air pressure, blow the chips free before removing reamer.
- f. To remove the reamer, turn clockwise while slowly pulling outward.
- g. If performing bench reaming option A, proceed to step 5, "Installation & Assembly". If performing bench reaming option B or C, repeat steps "a" through "f" with reamer 77754-RM5.

### 5. Installation & Assembly

- a. Ensure valve bore and body is clean and cleared of dirt and debris.
- b. Refer to **Figures 2** and **3** for correct Sonnax valve train installation lineup. Consult **Figures 4, 5** and **6** to determine whether your original lineup was PWM or non-PWM.
- c. **For PWM applications:** Install Sonnax valve lineup as pictured in **Figure 2**. Use transjel to retain spring in the isolator valve during installation.
- For non-PWM applications:** Install Sonnax valve lineup as pictured in **Figure 3**.
- d. Insert valve/sleeve assembly into the valve body, just deep enough to reinstall OE retaining clip around sleeve.





**NOTE:** Since the castings for PWM and non-PWM valve bodies are identical, this kit can be used when updating a non-PWM valve body for use in a PWM unit or retrofitting a PWM valve body for use in a non-PWM unit. The separator plate must also be changed when this is done (Figure 7).

**PWM plates** have "A" & "B" holes (Figure 7).

**Non-PWM plates** do not have holes "A" & "B" (Figure 7).