

TCC Regulator & Isolator Valve Kit

Part No.
77754-04K



- Isolator Valve
- Spring
- Regulator Valve
- Regulator Sleeve

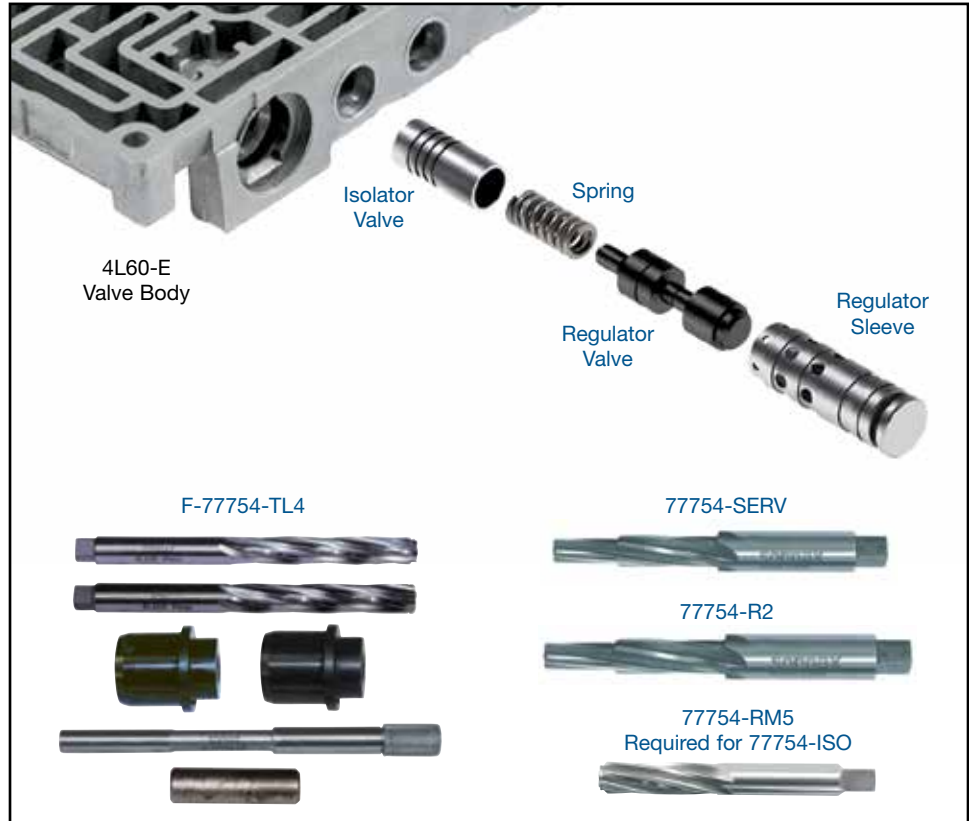
Patent Nos. 6,990,996 & 7,104,273

NOTE: Use in any application including '98-Later EC3 units. Compatible with all PWM and non-PWM 4L60-E 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 A | 77754-03K or 77754-04K |
| .441" | Yes | Reaming Option B | 77754-03K or 77754-04K and 77754-ISO |
| .473" | N/A | Reaming Option C | 77754-03K or 77754-04K and 77754-ISO |

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.

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.

3. Disassembly

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

4. Reaming Instructions

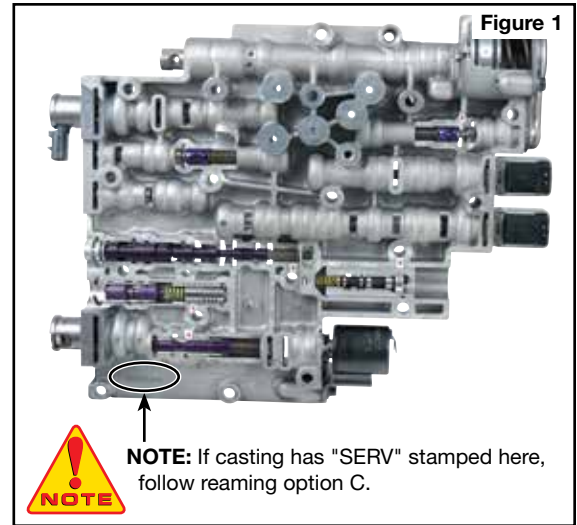


NOTE: The following reaming instructions are for Bench Tool reaming only (see reaming options A, B or C above). Reaming directions for F-tool kits that utilize the VB-FIX can be found on those individual tool kit instructions.

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.

- Clean bore thoroughly in a solvent tank.
- 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.
- 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.
- 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.

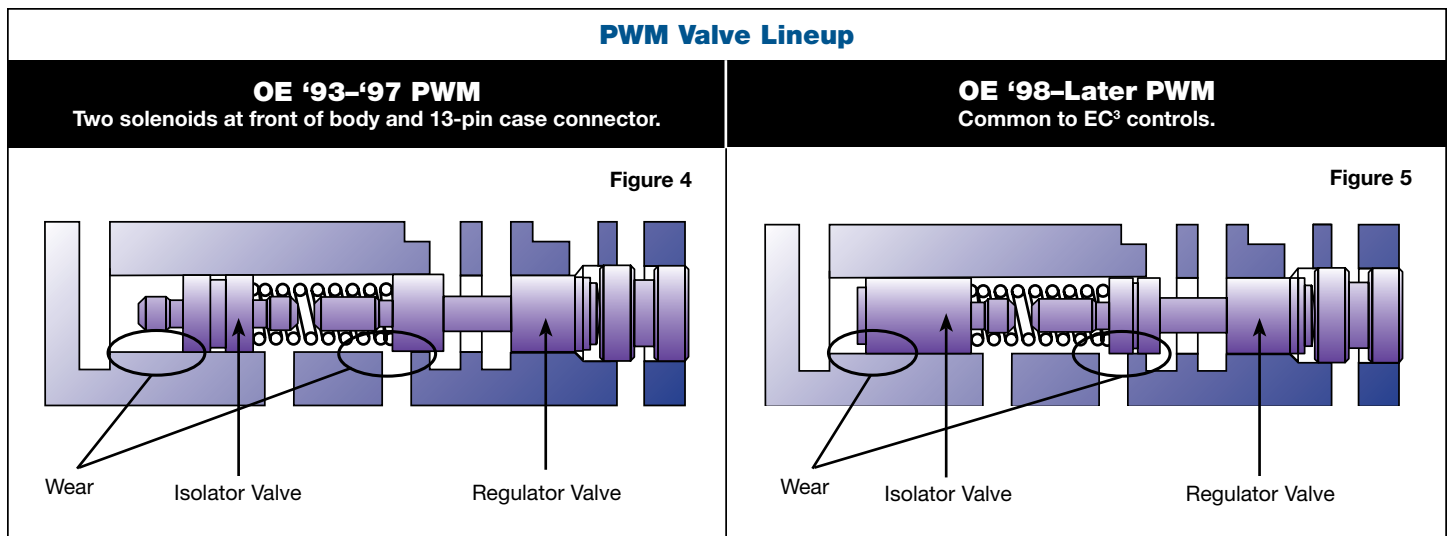
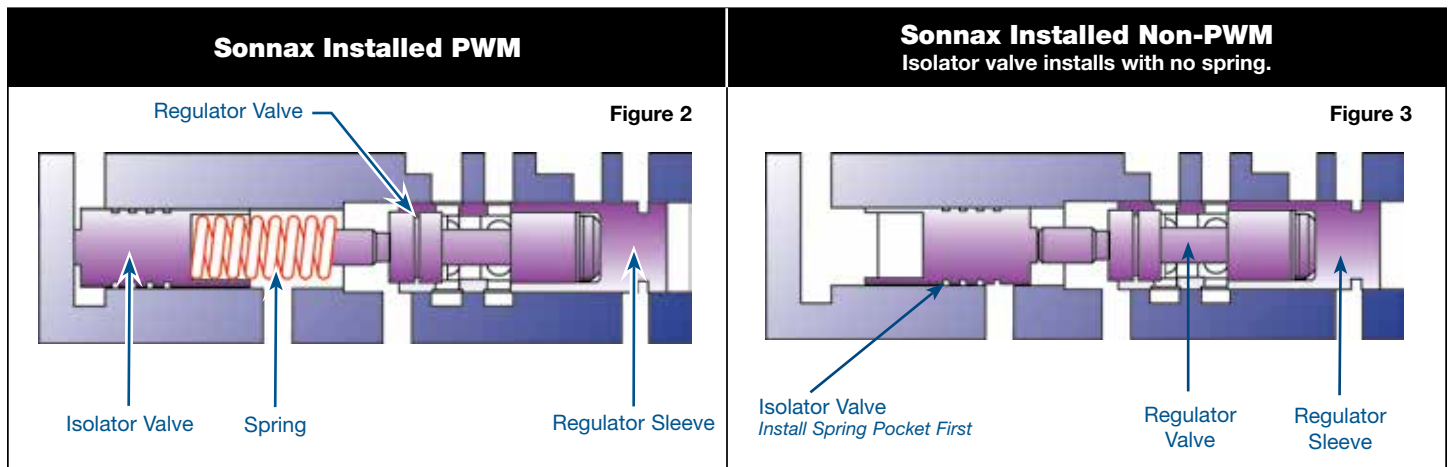


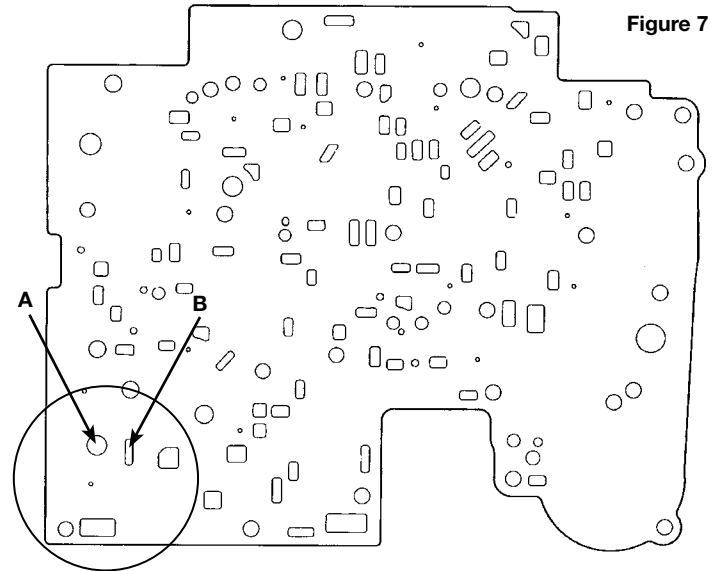
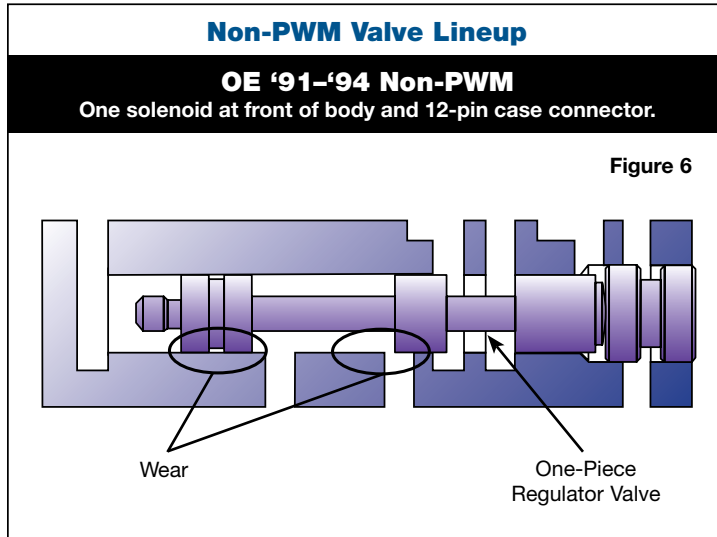
4. Reaming Instructions (continued)

- 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).